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edited by Joachim Krause
and Andreas Wenger /
With the assistance of
Lisa Watanabe

**Nuclear Weapons
into the 21st Century**

Current Trends and
Future Prospects

Peter Lang

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Abbreviations

AMB	Anti-Ballistic Missile treaty
ARF	ASEAN Regional Forum
ASEAN	Association of Southeast Asian Nations
ASW	Anti-Submarine Warfare
BJP	Bharatya Janata Party (India)
BMD	Ballistic Missile Defense
C ³ I	Command, Control, Communication and Intelligence Systems
C ⁴ I	Command, Control, Communications, Computers and Intelligence Systems
CBM	Confidence-Building Measure
CD	Conference on Disarmament
CDS	Chief of Defense Staff (India)
CFSP	Common Foreign and Security Policy
CISAC	Committee on International Security and Arms Control (US)
CTBT	Comprehensive Test Ban Treaty
DOE	Department of Energy (US)
DPRK	Democratic Peoples' Republic of Korea
DRDO	Defense Research and Development Organization (India)
EU	European Union
FMCT	Fissile Material Cut-Off Treaty

FRP	Fire Resistant Pit
GAN	Gosatomnazor (Russian State Nuclear Regulatory)
GAO	General Accounting Office (US)
HEU	Highly Enriched Uranium
IAEA	International Atomic-Energy Agency
IAF	Indian Air Force
ICBM	Intercontinental Ballistic Missile
ICJ	International Court of Justice
IEU	Insensitive High Explosives
INF	Intermediate Nuclear Force treaty
IRBM	Intermediate Range Ballistic Missile
ISTC	International Science and Technology Center (Moscow)
KEDO	Korean Economic Development Organization
LEU	Lowly Enriched Uranium
LOW	launch-on-warning
MAD	Mutually Assured Destruction
MAO	Massive Attack Option
MAS	Mutually Assured Security
MINATOM	Ministry for Atomic Energy (Russia)
MIRVs	Multiple Independently Targetable Reentry Vehicles
MPC&A	Material Protection, Control and Accounting
MTCR	Missile Technology Control Regime
NAC	New Agenda Coalition

NAM	Non-Aligned Movement
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological and chemical weapons
NCA	Nuclear Command Authority (Pakistan)
NFU	No-First-Use
NGO	non-governmental organization
NMD	National Missile Defense
NNWS	Non-Nuclear Weapon States
NPR	Nuclear Posture Review (US)
NPT	Nuclear Non-Proliferation Treaty
NWFW	Nuclear Weapon-Free World
NWFZ	Nuclear Weapon-Free Zone
NWS	Nuclear Weapon States
PALs	Permissive Action Links
PAROS	Prevention of Arms Race in Outer Space
PLA	People's Liberation Army
PRC	People's Republic of China
REACT	Rapid Execution and Combat Targeting (REACT)
REVCON	NPT Review Conference
RMA	revolution in military affairs
ROK	Republic of Korea
RPR	Rassemblement pour la République
SAARC	South Asian Association of Regional Cooperation
SALT	Strategic Arms Limitations Talks

SDR	Strategic Defence Review (UK)
SIOP	Single Integrated Operational Plan
SLBM	Sea-Launched Ballistic Missile
SNEP	Subterranean Nuclear Explosive Program
SRAM	Short Range Attack Missiles
SSBN	ballistic missile submarine
SSP	Stockpile Stewardship Program (US)
START I	Strategic Arms Reduction Talks
TICOG	Trilateral Coordinating Group (US, Japan and Republic of Korea)
TMD	Theater Missile Defense
UDF	Union Démocratique Française
UN	United Nations
UNMOVIC	UN Monitoring Verification and Inspection Commission
UNSCOM	UN Special Commission
WMD	Weapons of Mass Destruction
WTO	World Trade Organization

Preface

In 1997, the Center for Security Studies and Conflict Research at the ETH Zürich and the Research Institute of the German Council on Foreign Relations in Berlin began a project aimed at facilitating an international approach to understanding and analyzing international and regional security problems. The specific goal of the project is to involve young scholars and new elites in debates on international foreign policy subjects.

For many years, the International Institute for Strategic Studies (IISS) in London has pursued a similar concept to that underlying the New Faces Conferences. However, unlike the traditional IISS concept, the New Faces Conferences are not only intended to bring together new and promising scholars and to let them practice their skills in an international conference, but also to provide them with an opportunity to have an impact in terms of substance, creativity and innovation. For this reason, we look for candidates with expertise in specific areas, who promise to bring in innovative thinking. Since 1997, we have been inviting young scholars from across the globe to these annual conferences. The chapters of this book originate from papers presented at the last New Faces Conference, held in Chexbres near Lausanne in October 2000.

The editors would like to thank the Robert Bosch Foundation for its support of the Forum for European Foreign Policy, within which the New Faces Conference took place. They would also like to extend their thanks to all the conference participants for their contributions and, in particular, for their efforts in revising and updating their papers. For the organization of the conference, special thanks go to the editors' staff, particularly to Barbara Gleich and Claude Nicolet.

With regard to the organization and the scope of this book, Lisa Watanabe merits special attention and gratitude. The editors would also

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The views expressed in the following chapters are those of the authors and do not necessarily reflect the opinions of the institutions and individuals they are associated with.

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Prof. Joachim Krause

Research Institute of the German
Council on Foreign Relations,
Berlin

Prof. Andreas Wenger

Center for Security Studies
and Conflict Research,
ETH Zürich

General Introduction

With the end of the Cold War, many observers had expressed the hope that the role of nuclear weapons in shaping the international system and global or regional order might become less relevant. Some people even expected nuclear weapons to become marginalized or abolished. Yet, more than a decade after the end of the Cold War, nuclear weapons still have a major relevance in world politics. While the former superpowers have reduced their nuclear weapons arsenals, they continue to hold a huge number of nuclear strategic offensive weapons, which could readily destroy Russian or American society. Moreover, new Nuclear Weapon States (NWS) have emerged, such as India, Pakistan, Israel and a few candidates whose progress cannot be established with certainty. This may not be the world that was predicted in the early 1960's, with 40 or more NWS, but the possibility of nuclear proliferation gaining further ground and jeopardizing regional and global stability is very real.

During the Cold War an international framework was established within which the possession and further proliferation of nuclear weapons were regulated. The resultant international nuclear order was fragile, but was by and large resilient enough to maintain stability under conditions of global superpower rivalry. Its main elements were:

- The Nuclear Nonproliferation Treaty (NPT) of 1968, which banned possession and control of nuclear weapons to all states, except five NWS (namely the US, the former Soviet Union, Russia, Great Britain, France and China) that already existed at that time. Under the NPT the NWS were under some obligation to strive for nuclear weapons disarmament as part of a global disarmament effort;
- The ABM treaty of 1972, which codified for the US and the Soviet Union the principle of Mutual Assured Destruction (MAD). Under MAD the superpowers maintained invulnerable and massive nuclear weapons arsenals (preferably on bombers, ships and submarines) and renounced the possession of national missile defenses. The combined effect of the lack of missile defense systems and the possession of large and relatively secure strategic offensive nuclear forces was said to create crisis stability and to prevent an arms race between defensive and offensive systems;

- Various attempts by the US and the Soviet Union to curtail the dynamics of the arms race, which were only partially effective (such as the SALT-Interim Agreement of 1972 and the SALT-II treaty of 1979), since they did not address the dynamics of the nuclear arms race.

Since 1990 many new initiatives, deemed to augment this existing structure of international nuclear weapons control, have been launched. The most relevant developments are:

- Efforts by the US and the late Soviet Union (now Russia) to reduce their oversized nuclear weapons arsenals as part of the START I and START II treaties;
- The indefinite extension of the NPT in 1995, with a final document containing language according to which the abolition of nuclear weapons was the stated final goal of nuclear arms control diplomacy;
- The US assistance given to Russia, the Ukraine, Belarus, and Kazakhstan in the field of nuclear weapons safety and security under the Cooperative Threat Reduction (CTR) Program, which was the most important preventive diplomacy contribution in the field of nuclear non-proliferation in the 1990s and beyond;
- The conclusion of the Comprehensive Test Ban Treaty (CTBT) in 1996, which was intended to facilitate more determined multilateral efforts in the field of nuclear disarmament;
- The improvement of multilateral export control instruments in the field of nuclear technology (NSG and Zangger-Group) and of missile technology.

However, many of the hopes that were attached to these developments in the 1990s have since faded. The Indian and Pakistani nuclear weapons tests of 1998, the continuing tensions in the Middle East and the modernization of China's nuclear weapons arsenal have demonstrated that regional security balances in crucial areas of the world remain precarious, due to renewed proliferation and ensuing instability.

Indeed, the avowed goal of nuclear abolition is not actually shared by many regional actors.

With the demise of the Cold War bipolar structure, a more complex world has emerged and there no longer exists a clear consensus on how best to ensure global stability, which had enabled the international community of states to move forward on the issues of arms control and non-proliferation. A number of new players have entered the international arena, some of which are intent on exerting their presence more vigorously through the development or acquisition of nuclear weapons. This development has posed significant difficulties for the non-proliferation regime, which has visibly failed to prevent India, Pakistan, Israel, Iraq, and perhaps also Iran and The Democratic People's Republic of Korea (DPRK) from developing nuclear weapons programs.

Yet, responsibility for this turn of events lays at least in part with the *de jure* NWS. Their continued adherence to controlled nuclear competition clearly renders their commitments under the NPT hollow in the eyes of Non-Nuclear Weapons States (NNWS), which have agreed to restrict their own military build-up in the expectation that the NWS will continue to work towards the elimination of nuclear weapons. The nuclear tests carried-out by India and Pakistan in 1998, for many observers, exemplify the spirit of defiance this perception of discrimination is creating. Concerns about the stability of the new deterrence relationship in South Asia, with the possible emergence of new NWS in East Asia and the Middle East, have given rise to renewed fears about a nuclear future not dissimilar to that envisioned in the 1960s.

This prevailing sense of crisis in non-proliferation has prompted a response from the US that so far seems to have intensified the gravity of the situation. The US plan to deploy a National Missile Defense (NMD) system threatens to imperil the existing gamut of arms control measures, further aggravating tensions. The fate of the START process is now uncertain, since US NMD plans call into question the continued existence of the ABM treaty, which Russia has made a condition for the implementation of START II. If the bilateral arms reduction process is derailed, an important gesture towards the NNWS could be lost along

with it. Moreover, the floundering of Russian-American nuclear arms reductions will make it unlikely that other *de jure* NWS will engage in a multilateral disarmament process, which might otherwise have taken place once US and Russian arsenals were reduced to comparable levels under START II. In turn, such developments might radically reduce the likelihood of India, Pakistan and The Democratic People's Republic of Korea (DPRK) signing the CTBT in the near future, which itself has recently suffered a serious blow after its rejection in the US Senate.

There is, thus, a danger that a vicious cycle in nuclear arms control and disarmament diplomacy might prompt new efforts at problem solving that will only further aggravate existing problems. This book is intended to facilitate a redefinition of the current situation in such a way that alternative solutions might become visible. In an effort to better understand the various dimensions of the this turning-point and to posit possible paths that could be taken to move in a positive direction beyond the stalemate, we have identified four major areas of inquiry:

- The characterization and transcendence of the impasse in arms control;
- The role of nuclear weapons in contemporary strategic thinking and military doctrines;
- The impact of nuclear weapons on regional security balances;
- The present challenges and future prospects of nuclear non-proliferation.

The collection of chapters that follow are the result of an invitation to the contributing scholars to present analyses pertaining to each of these four areas. Part one of the book addresses the legacy of East-West nuclear excess. The chapter by *Joachim Krause* discusses the current gridlock in arms control and points towards a fundamental contradiction underlying the current arms control regime: a nuclear orthodoxy, which refers to the predominance of various attempts to keep as much of the old nuclear posture and nuclear warfare establishments intact, and a nuclear arms control orthodoxy that insists on abolition, instead of the gradual marginalization of nuclear weapons. His main argument

is that one has to overcome the traditional logic of arms control and nonproliferation and to arrive at a new understanding of strategic stability based on defensive rather than on offensive systems. In the following chapter, *Morten Bremer Maerli* reminds us—using Russia as example—that the practical problems of managing excess nuclear materials are staggering. A decade after the end of the Cold War and years of US-Russian nuclear security cooperation, substantial parts of Russia's nuclear potential remain without adequate security upgrades and the accountability of nuclear material in Russia continues to be uncertain.

Part two is a compilation of studies, focused on the evolving role of nuclear weapons in the strategic thinking and military doctrines of several key countries. Taken together, they provide a vivid illustration of the contradiction outlined in part one. In the opening chapter of this section, *Tom Sauer* provides an overview of the “nuclear inertia” currently besetting the US. He contends that little has changed in the US nuclear posture since the fall of the Berlin Wall. While the same might be said with regard to Russia, *Josefine Wallat* emphasizes that the crucial difference is that the role attributed to nuclear weapons in today's Russia is one borne out of weakness, rather than out of strength. The changes and continuities in the nuclear weapons policies of two “second-tier” NWS, France and Britain, are then sketched by *Simone Wisotski*, who suggests that while progress on disarmament has been slow, a qualitative change in the language of the debate between NWS and NNWS has taken place, in large part due to the efforts of a new coalition of states with an explicitly non-nuclear culture. However, whether such a progress on disarmament is allowed to continue will be crucially dependent on the willingness of the US to compromise on the issue of NMD. The last two chapters by *Zheng Wang* and *Bhashyam Kasturi*, which focus on the nuclear weapons policies of China and India, respectively, validate this point.

The third part of the book focuses on the regional manifestations of the deadlock. *Moonis Ahmar's* chapter assesses impact of nuclear weapons on the regional security environment of South Asia and the role that the international community might play in preventing the use of nuclear weapons in the area. Whilst the Indian and Pakistani confrontation over

Kashmir has caused the most concern about a possible nuclear exchange and debate about the stabilizing or destabilizing effects of nuclear weapons on the region, *Satu Limaye* reminds us that the future role of nuclear weapons in Asia as a whole needs to be studied. Taking East Asia as his focus, Limaye warns against transposing the “nuclear logic” that characterized the US-Soviet deterrence relationship onto East Asian countries, pointing to North Korea and China as examples of outliers in terms of nuclear behavior. What these two chapters suggest is that the diverse and complex driving forces behind nuclear weapons policies have to be appreciated before a better understanding of the implications of nuclear weapons on regional security can be ascertained.

The final part of the book assesses the health of the nuclear non-proliferation regime. The chapter by *Nicolas Kasprzyk* analyses how the basic principles of the NPT are being challenged by regional proliferation and discusses the implications of the US response to the new panorama of proliferation. The tensions between NWS and NNWS, of which regional proliferation may be seen as a symptom, is clearly brought out in the next chapter by *Thanos Dokos*, whose major concern is whether the NPT can be kept together without the abolition of nuclear weapons. Dokos suggests that while disarmament processes must continue a more realistic goal of gradual reductions should be adopted, in order to keep the NPT alive. In short, the future of the NPT, as well as global arms control, is dependent upon finding a pragmatic balance between support for non-proliferation and pressure on NWS to disarm.

As an ensemble, these contributions provide a good overview of the issues at stake in the crisis in arms control and non-proliferation and offer an excellent illustration of the backdrop against which the role of nuclear weapons in the twenty-first century is being written.

Part I
The Legacy of East-West Excess

JOACHIM KRAUSE

The Crisis in Nuclear Arms Control

Introduction

Nuclear arms control is in a state of crisis. While most observers agree on this point, there are marked differences as to the nature of this crisis. Some even doubt whether there is a severe crisis, since there have been major reductions in the nuclear weapons arsenals on both sides (the US on the one side and Russia, Ukraine, Belarus and Kazakhstan on the other) and co-operation in the field of material protection, control and accounting (MPC&A) and other areas covered under the Cooperative Threat Reduction (CTR)-program. Even if one could agree that there are both positive and negative crisis developments in the field of nuclear arms control, most observers would not agree on the symptoms and causes of that crisis.

There is a majority view among the scholarly community that the current crisis can be defined by the stalemate in the START-II process, the absence of the ratification of the Comprehensive Test Ban Treaty (CTBT) and by the current US plans for National Missile Defense (NMD) and Theatre Missile Defense (TMD). Many also cite the Indian and the Pakistani nuclear weapons tests as symptoms of a crisis that, if it were to continue uninhibited, would result in the break-up of the international consensus about the desirability of nuclear non-proliferation and nuclear disarmament.¹ In terms of remedies, usually the line of argumentation is that more dedicated attempts towards constructive co-operation are needed in order to overcome the crisis, and that the concept of ballistic missile defense should be discarded. Another school of thought, which in the meantime is also represented in the Bush

¹ See *Facing Nuclear Dangers: An Action Plan for the 21st Century. The Report of the Tokyo Forum for Nuclear Non-Proliferation and Disarmament*. Tokyo, 1999.

administration, argues that the crisis of nuclear arms control can be defined as the inability to move away from the oversized Cold War nuclear weapons arsenals and that clinging to established modes of nuclear weapons arms control—and to the notion that mutually assured destruction holds any potential for stability after the end of the Cold War—is preventing the US and Russia from further reductions and from the adaptations of their strategic nuclear arsenals that were deemed necessary after the end of the Cold War.²

The latter argument, however, is gaining support in US politics, as the passing of the National Missile Defense Act of 1999³ in Senate with a majority of 97 to three demonstrated. There is a growing uneasiness in the US about maintaining a huge nuclear arsenal against the remote possibility of a deliberate Russian nuclear attack, while, on the other hand, it should remain incapable of defending the US against incoming missiles—be it from a rogue actor or an accidentally launched Russian missile (the likelihood of which is increasing, due to the deplorable state of the Russian military infrastructure).

In fact, it seems reasonable to follow the second line of argument and to concur that a broader view of nuclear arms control is needed, a view that moves away from established modes of defining arms control goals and that takes the new strategic realities into account. It is argued here that at the heart of the current crisis is something that might be dubbed “nuclear orthodoxy.” Without overcoming nuclear orthodoxy, no major progress in arms reductions and non-proliferation will be feasible. This orthodoxy is not confined to those who are traditionally supposed to be orthodox: the members of the nuclear establishments in Russia and in the US, be they among the military, in industry, in politics, among journalists or among conservative think-tank experts. The strange thing is that those who are usually critical of the nuclear establishment and of the “military industrial complex,” are joining the nuclear weapons establishments in their orthodoxy by espousing another orthodoxy—nuclear arms control orthodoxy. Both orthodoxies

2 See Krepon, Michael. “Moving away from MAD.” *Survival* 43, no. 2 (2001): 91–95.

3 *Public Law 106–38*.

so far together have been a perfect fit, and as a result, conservative generals and adherents of the liberal arms control school find themselves working together. In doing so, they have contributed towards the continuation of the huge current nuclear arsenals and towards the prevention of further deep cuts in nuclear arsenals. The consequences could be disastrous: they could range from other countries feeling encouraged to continue with nuclear weapons build-ups and modernization (such as China, India, Pakistan and Israel) to the emergence of serious crises between Russia and the US as a consequence of technical malfunctions caused by the ailing Russian strategic warfare establishment.

The Nature of Nuclear Orthodoxy

What is meant by *nuclear orthodoxy* and *nuclear arms control orthodoxy*, and how do they fit together so well? And, how do they prevent further reductions of nuclear weapons?

Nuclear weapons orthodoxy can be found both in the US and in Russia; yet, the degree of orthodoxy espoused by Russians is considerably larger and more dogmatic than in the US. As the reactions of the Russian military to the sinking of the submarine *Kursk* in August 2000 demonstrated, many of their leading figures still live in a virtual Cold War world. The salient feature of nuclear orthodoxy is the existence of various attempts intended to save—after the end of the Cold War—as much as possible of the old nuclear posture and to keep nuclear warfare establishments (Command, Control, and Communication Centers, Early Warning Facilities) and their weaponry intact as much as possible. This was already observed by a study group of the Center for Strategic and International Studies (CSIS) in 1994, where the authors stated:

Most arms control specialists in the United States as well as officials in Europe and other regions with a stake in US-Russian relations, had agreed that reductions to roughly 3,000 warheads on each side were a good idea (...). Once one began talking about reductions below 3,000

warheads, however (...) that consensus broke down. The US Air Force, backed by an influential outside report prepared at the Defense Department's request, argued that US world responsibilities demanded the indefinite maintenance of a nuclear arsenal close to 3,000 warheads in size, supported by continued modernization and a robust modernization program.⁴

A stockpile of 3,000 or even 2,500 warheads is still very high. It would be higher than the arsenals of the Soviet Union in the early 1970s, i.e. during the high times of the Cold War and the US-Russian arms race. It would be sufficient to eliminate major segments of the Russian population or of its economy. One should ask what strategic goals are pursued with the possession of such oversized arsenals at a time when the Cold War is over and when the US enjoys superiority in almost all categories of weapons and is able to project superior conventional military power to almost all corners of the world? The current high numbers can only be understood against the backdrop of Cold War history.

In looking back, one should remember that the so-called nuclear arms race of the Cold War was in fact a multi-dimensional armaments competition that had evolved originally around the European theater. Here, NATO (especially the US as the dominant power) was seeking since the 1950s to balance the offensively oriented, overwhelming conventional force of the Warsaw Pact by resorting to nuclear weapons as a means to either prevent the war or—through a strategy of deliberate escalation—to make the aggressor pay a high price both at home and on the battlefield. The Soviet Union responded by not only deploying tactical nuclear weapons to counterweigh any Western advantage, but also by threatening the US homeland with nuclear weapons on a massive scale. The resultant race, during which each side tried to maintain a quantitative and qualitative edge over the other in order to remain able to pursue their respective strategic concepts (a defensive one on the Western side, an offensive one on the Eastern side) led to the build-up of enormous nuclear arsenals and related establishments in the US and the Soviet Union. Without the decades-long conflict over Europe

4 Mazarr, Michael J. and Alexander T. Lennon, eds. *Towards a Nuclear Peace: The Future of Nuclear Weapons*. London etc.: Macmillan, 1994, 3–4.

caused by the offensive thrust of Soviet policy and its equally offensive military strategy, nuclear weapons would never have become so numerous and variegated and most likely, the many debates about the logic or the folly of battlefield nuclear weapons would not have happened.

It might seem for many to be a futile exercise to ponder the role nuclear weapons would have played during the past 55 years had there been no Cold War. However, in order to think about the future, we must have at least an idea of what the world might have looked like under different circumstances. Most likely, the role of nuclear weapons would have been much more limited in terms of numbers and qualities, and their main function might have been to serve as an instrument to deter from war in general. Some clues to such thinking can be found in the early strategic literature that appeared shortly after World War II but before the outbreak of the Cold War.⁵ There would have been no inventories numbering tens of thousands of nuclear weapons. Rather, small inventories such as the French or the British ones, designed to guarantee existential deterrence, would have been the most likely form.

It would have been unrealistic to assume that after the end of the Cold War both former superpowers as well as the other states with nuclear capability would agree to simply abandon nuclear weapons. They promised to do so, in effect, in documents signed on the occasion of the last Review Conference to the NPT, but again, with qualifications that might prevent such a process forever. Given the unparalleled physical properties of nuclear weapons and their value in terms of status, it seems rather romantic to assume that they were ready to give them up. Even if the nuclear powers publicly vow to do so, there will always be obstacles (such as in the field of verification) that make it impossible for at least one side to totally abandon nuclear weapons. Besides, the genie has been let out of the bottle, and not only the benefits of nuclear abolition, but also the resultant risks would have to be taken into account. In a world without major nuclear powers to guard international peace and stability, a ruler like Saddam Hussein could make a

5 Brodie, Bernard. *The Absolute Weapon: Atomic Power and the World Order*. New York, 1946.

much bigger difference if he was successful in secretly building nuclear weapons. The issue is rather how much marginalization of nuclear weapons is needed and how much is possible. Another important question is what should be the residual role of nuclear weapons in Western security policy and how could this fit into a global consensus about nuclear arms control and non-proliferation?⁶

Looking back at the debates that have taken place and the decisions that were made in the Nuclear Weapons States (NWS) over the past ten years, the record is different and to a great deal it is disappointing. To varying degrees, all of them had very strong institutional forces that were looking for new rationales to maintain existing postures or to limit marginalization as much as possible. Serious strategic debates took place within the US, Britain and France, and within Russia. However, there was no serious attempt to foster such a debate between NWS and Non-Nuclear Weapon States (NNWS) as part of the Nuclear Non-Proliferation Treaty (NPT) Review mechanism.

The nuclear weapons debate in Britain started in the early 1990s and resulted in the *Strategic Review* of 1997. It confined nuclear weapons to a purely deterrent role, both against an enemy threatening the British homeland and in cases involving new, unforeseen dangers.⁷ In France a similar if less public debate had comparable results. Here, however, the salient function of deterrence as a means to prevent war completely was much more emphasized.⁸ In the US, a Nuclear Posture Review debate was initiated in 1993 as part of the Bottom-Up Review. This debate was held with great secrecy within the Pentagon. One of its main features was the insistence of the military establishment on as much flexibility as possible in strategic target planning. On the other hand, new concepts pointing in the direction of a considerably smaller

6 Freedman, Lawrence. "Great Powers, Vital Interests and Nuclear Weapons." *Survival* 36, no. 4 (1994-95): 35-52; Mazarr, Michael. "Virtual Nuclear Arsenals." *Survival* 27, no. 3 (1995): 7-26.

7 Witney, Nicolas K. J. "British Nuclear Policy After the Cold War." *Survival* 36, no. 4 (1994-95): 96-112.

8 Yost, David. "Nuclear Debates in France." *Survival* 36, no. 4 (1994-95): 113-139.

role for nuclear forces were voiced, but had no impact on policy because of uncertainties over developments in Russia and the possibility of new nuclear threats. In the end, due to lack of political leadership by the president, a compromise solution was found that was vague and ambiguous, but left room for flexibility in case of negotiated changes in Russian postures.⁹ The US currently has a policy of maintaining around 10,000 nuclear warheads, some of them as operational weapons (i.e., available within minutes, hours or days), some as “augmentation stockpile” (i.e., available within weeks or months) and some as a kind of strategic reserve (i.e., available within months and years, for instance storage of pits or weapons grade material). In principle, the assignment of nuclear weapons or of nuclear weapons material to either of these categories is contingent upon political circumstances, leaving room for negotiated reductions of operational nuclear weapons. During the Clinton administration’s Nuclear Weapons Posture Review, a total of 3,000 to 3,500 individual strategic nuclear warheads were defined as having to be kept on permanent operational status, that is, ready within minutes, hours or days.

Only the recent debate, which was stirred by the US NMD legislation of 1999 and the emergence of a broad consensus within the public on the necessity of having a form of national missile defense, has given new impulses. The discussion has shown that the will to maintain such a huge operational strategic nuclear arsenal is decreasing. US forces today are by far the most powerful in the world in terms of technology, mobility, versatility and intelligence. The US is able to project superior conventional military forces to almost all parts of the world. Nuclear weapons are no longer needed for deterrence against large-scale conventional aggression. Their deployment is debated mainly in the context of regional scenarios, in which the US is the stronger part.

9 Ottaway, David and Steve Coll. “Unplugging the War Machine.” *Washington Post*, 12 April 1995. The results of the *Nuclear Posture Review* (Presidential Directive PDD-31) were not published. Its content was hinted at in a speech by the then Secretary of Defense, William Perry, at the Stimson Center in Washington, D.C. on 20 September 1994 and in briefing papers issued by the Pentagon on the same day. See Department of Defense. *Remarks Prepared for Delivery by Secretary of Defense William J. Perry to the Henry L. Stimson Center, 20.9.1994*. Washington, D.C.: Department of Defense, 1994.

In Russia, the debate about nuclear weapons has become hostage to the obsession of the new (and often old) political elite with Russia's super-power role. As Zbigniew Brzezinski put it in his book "The Grand Chessboard," the Russian debate since 1992 has centered around three options: (1) the notion of a "mature strategic partnership," actually describing a Russian-American global condominium; (2) the emphasis on the "near abroad" as the cornerstone of Russian foreign policy, and (3) the Eurasian option, involving some sort of Eurasian counterbalance against the US in order to reduce Washington's preponderance in Eurasia.¹⁰ It seems that Moscow has more or less oscillated between these different options since the end of the Cold War, each of them demanding at least strategic nuclear forces comparable to those of the US. The unsettling problem with these "options," however, has always been that Russia lacks the financial and human resources to maintain a huge strategic nuclear weapons establishment.¹¹ Russia today has a GNP the size of the Netherlands, with military expenditures slightly in excess of five billion US dollars per annum. This is not enough by far to sustain and maintain the military posture of a great power equal to the US. The consequences are well known: huge graveyards of rusting tanks, aircraft, naval craft, of missiles and missile components, of nuclear fuel and irradiated fuel-rods being stored under unsafe conditions, lack of basic equipment, and failing control and command facilities. Worst of all, Russia's strategic early warning capability is constantly decreasing and is not adequately upgraded for lack of funds. As a result, Russia's ability to exercise the kind of control that is needed in order to wage a strategic nuclear exchange—and to terminate or to avoid it—is eroding.¹² The ailing Russian military establishment is becoming hazardous both to those who work in it and to those who might inadvertently become affected by the direct or indirect consequences of its decay.

10 Brzezinski, Zbigniew. *The Grand Chessboard. American Primacy and its Geostrategic Imperatives*. New York: Basic Books, 1997, 98–99.

11 Wilkening, Dean A. "The Future of Russia's Strategic Nuclear Force." *Survival* 40, no. 3 (1998): 89–111.

12 Editorial. "Russia 'Blind' to Attack by US Missiles." *Washington Post*, 31 May 2000.

Western observers like to point to the increased importance given to nuclear weapons under the new Russian military doctrine of 1997 and under the new strategic concept of 1999. It is true that in the light of decaying conventional weapons arsenals, and in view of the ever-increasing technological superiority of the US, there is little hope in Russia of ever being able to match the US. However, besides the fact that the supposedly lesser importance of nuclear weapons in Soviet military doctrine is wrong—in fact, theater nuclear weapons played a significant role in Soviet doctrine, even if the political rhetoric indicated otherwise—the significance of such statements is questionable. The weaknesses of the Russian army, navy and air force are so obvious that even resorting to nuclear weapons will not help. Besides, Russia's ability to maintain nuclear weapons is constantly decreasing. The majority of Russia's strategic nuclear forces will become obsolete shortly after 2000.¹³ Only with a major modernization program—for which funding is unavailable—can Russia remain on a par with the US. It is estimated that Russia will be able to maintain between 350 and 400 delivery systems and between 800 and 1,600 nuclear warheads in the coming two decades. In light of the fact that Russia's economy is still far away from recovering and that the country is crippled by corruption, over-bureaucratization, Soviet-nostalgia, and cronyism, the broader perspectives are bleak.

Given the nature of the debate on nuclear weapons in Russia and the reluctance of the US nuclear weapons establishment to consider really radical reductions of nuclear weapons, it is no surprise that China, as well as India, increasingly consider nuclear weapons possession and modernization to be attributes of major power status. The Chinese modernization program is especially unsettling as it points to regional ambitions (first of all against Taiwan, but also against Japan and the ASEAN states) that might set off a wave of nuclear proliferation in the area. It is being implemented in defiance of the US, which is China's most important export market and supplier of technology, capital and investment. However, the picture might be somewhat broader, since China's leadership is not only interested in regional hegemony and

13 Wilkening, "The Future of Russia's Strategic Nuclear Force," 107.

strategic relations of traditional kind. In fact, there are different trends that might at least have some bearing on how the political leadership in Beijing views China's future. Nationalist rhetoric and saber-rattling notwithstanding, it is difficult to imagine that the current Chinese leadership would dare to pick a quarrel of possibly strategic dimensions with the US and the West as a whole that would lead to its economic ruin and that would promise no strategic gains. Hence, the dimensions and the aspirations of China's strategic modernization efforts are still open.

Nuclear weapons orthodoxy, in conclusion, is a fact of life ten years after the end of the Cold War. Its main driving factors have been the inertia of the nuclear weapons establishments and the attractiveness of nuclear power status for politicians and military leaders alike. However, one should not give up hope that this state of affairs may be changed. In fact, not only in Paris and London, but also in the US, Russia, and possibly also in China, political conditions for a major reconsideration of the basic tenets of nuclear weapons orthodoxy and for a fresh look at the possibilities of reducing the role of nuclear weapons, or even of marginalizing them, are not completely bleak. The most important factors today are fresh impulses and ideas for nuclear disarmament between Russia and the US and for the inclusion of China, France, Great Britain, India and others into this process. The Bush administration is at least willing to turn the tables and to adapt the nuclear weapons arsenals to global strategic necessities—involving deep cuts in strategic nuclear weaponry—and it remains to be seen how far the US government is ready to go. However, what stands against this is the prevalent orthodoxy within the arms control community, which has formed the basis of the arms control policy of the Clinton administration and of many Western governments.

Nuclear Arms Control Orthodoxy

Today's arms control orthodoxy has two elements: (1) the predominance of the goal of nuclear abolition instead of feasible pragmatic steps towards a further marginalization of nuclear weapons; and (2) disapproval of ballistic missile defense and insistence on the continuation of the ABM treaty as the "cornerstone of strategic stability." Both taken together help to preserve the nuclear status quo and can prevent much deeper cuts. They also have a negative impact on the global consensus on nuclear non-proliferation.

The *insistence on nuclear abolition* within the arms control community has grown during the 1990s as a consequence of expert commissions' findings, according to which a global ban on nuclear weapons possession, production and development modeled on the Chemical Weapons Convention was possible.¹⁴ Many Western governments—among them Canada, Australia, Germany and the Netherlands—and especially many non-aligned states have insisted that the NWS commit themselves to the notion that under Article VI of the Nuclear Non-Proliferation Treaty (NPT), nuclear disarmament (i.e., the abolition of nuclear weapons) is the goal and that they fix a date for the conclusion of negotiations towards that goal. It was even argued in 1994 that the NNWS should make their vote for the indefinite extension of the NPT contingent upon a clear-cut commitment by the five NWS to abolish nuclear weapons by a certain date.¹⁵ Indeed, some momentum was gained through these efforts. During the Review and Extension Conference of 1995 and during the Review Conference of 2000, all

14 The Canberra Commission. *Report on the Elimination of Nuclear Weapons*. Canberra, 14 August 1996; The Henry L. Stimson Center, *An Evolving US Nuclear Posture—Second Report of the Steering Committee Project on Eliminating Weapons of Mass Destruction (Chair: General Andrew J. Goodpaster)*. Washington, D.C.: The Henry L. Stimson Center, 1995.

15 Imai, Ryukichi. "Post-Cold War Nuclear Nonproliferation and Japan." In *The United States, Japan, and the Future of Nuclear Weapons*. US-Japan Study Group on Nuclear Arms Control and Non-Proliferation after the Cold War, 119–138. Washington, D.C.: Carnegie Endowment, 1995.

five NWS signed documents committing them to the final goal of nuclear abolition. This has appeared to many as the beginning of an almost irreversible movement that could lead to the ultimate abolition of nuclear weapons.¹⁶ But the net value of these commitments is zero. For all NWS, the possession of nuclear weapons still holds some benefits and the repertoire of escapes and excuses from politicians and diplomats to avoid actually living up to these promises is almost inexhaustible. For the three Western NWS, possession of nuclear weapons is still highly valued, because during the Cold War they were the essential part of a deterrence strategy against the Soviet Union. Others might consider them as a force multiplier or something guaranteeing a high international status, or there may be simply strong institutional or bureaucratic interests in favor of retaining nuclear weapons. This will remain a fact of life for a considerable time.

The tragic consequence of wishing and demanding too much is that one often misses workable opportunities for intermediate solutions, which might be better than ending up with nothing. Unfortunately, the preponderance of nuclear abolition in arms control theory and arms control diplomacy continues and has exactly this negative side effect. Too much attention is given to endless debates about nuclear *abolition*, while not enough attention is being given to actual pragmatic steps, which might lead further on the road towards nuclear weapons *marginalization*. These debates—especially if led in the Conference on Disarmament or in the United Nations General Assembly—even have a deterring effect. They often create the impression that nuclear disarmament diplomacy is for many governments—or for their

16 Wibsono, Makarim. “Approaches to Nuclear Disarmament: An Indonesian Perspective.” Programme for Promoting Nuclear Non-Proliferation (PPNN), issue review, no. 12 (1998): 7–12; for further details on the incremental nature of the whole process, see Müller, Harald. “An Incremental Strategy for Nuclear Disarmament: Rationale and Practical Considerations.” *Programme for Promoting Nuclear Non-Proliferation (PPNN)*, issue review, no. 12 (1998), 1–7; Müller, Harald, Alexander Kelle, Katja Frank, Sylvia Meier, Annette Schaper. *Nuclear Disarmament: With What end in View? The international Discourse about Nuclear Arms control and the Vision of a Nuclear-Weapon-Free-World*. PRIF Report, no 46. Frankfurt: Peace Research Institute, 1996.

representatives in multilateral institutions—rather a propaganda plot to put the nuclear weapons states on the spot than a serious matter for discussion.

The second element, *disapproval* of ballistic missile defense and insistence on the continuation of the ABM treaty as the cornerstone of strategic stability, is even worse, because it works into the hands of those in the military establishments who have traditionally been in favor of keeping sizeable arsenals. Since the debate in the US on ballistic missile defense has been fought by its supporters from the Republican Party in a very aggressive and ideological way, criticizing the ABM treaty as either flawed from the beginning or already dead, defenders of this treaty have also entrenched themselves in a way that is counterproductive. There should be no doubt that the ABM treaty and the Interim Agreement of SALT-I contributed to stability between the US and the Soviet Union during the Cold War. However, more than ten years after the end of the Cold War, it sounds rather odd to hear that the ABM treaty is considered still to be a “cornerstone of stability.” Worst of all, such language still makes it into important international documents such as the *Final Document of the 2000 NPT Review Conference*. As part of an enumeration of steps required in the near future to improve the situation under Article VI, the text stipulates the following:

The early entry into force and full implementation of START II and the conclusion of START III as soon as possible while preserving and strengthening the Treaty on the Limitation of Anti-Ballistic Missile Systems as a cornerstone of strategic stability and as a basis for further reductions of strategic offensive weapons, in accordance with its provisions.¹⁷

This was intended as a well-meant sign that the international community rejects the notion of unilateral renunciation of the ABM treaty by the US and the subsequent build-up of a US National Missile Defense (NMD) system. However, strictly speaking, to call the ABM treaty a

17 *Final Document of the 2000 NPT Review Conference*.

cornerstone of stability and—by the same token—to demand further reductions (with the ultimate goal of abolition) is a contradiction in terms. Most analysts who today demand the continuation of the ABM treaty in lofty words do not seem not to understand the full implications of their argument. The ABM treaty was intended to establish a certain concept of strategic stability based on the notion that Mutually Assured Destruction (MAD) would lead to co-operative behavior instead of nuclear brinkmanship in US-Soviet relations. This logic of strategic stability, however, has implications for the control of nuclear arms, which are clearly a limiting factor for deep cuts. Its crude logic is that “who fires first will have to die second.” This means that each side must have a sufficiently robust and survivable offensive nuclear capability to allow it to ride out a first strike of the other side while keeping enough forces to deal the attacker a deadly blow. Mutually Assured Destruction means the prevention of nuclear war by threatening a massive nuclear response, most likely against political, economic and population targets (counter-value) and against military targets (counter-force when offensive nuclear installations are concerned, counter-power meaning other military targets). In the case of such huge and sizeable states as the US and the Soviet Union (or Russia), MAD constrains military planners to maintain arsenals of much more than 2,000 warheads. It is also fraught with stability risks due to technological developments such as the growing vulnerability of land-based Intercontinental Ballistic Missile (ICBM) silos, and of submarines to Anti-Submarine Warfare (ASW), which in the past has translated into requests for larger quantities to make-up for qualitative changes or for adaptations of the regulatory framework of arms control.

Hence, insisting on the ABM treaty and on the logic of MAD as the core of stability between the US and Russia means the acceptance of offensive strategic arsenals with no less than 2,000 or 2,500 individual warheads on high alert status on each side. There have been attempts within a CSIS-study group in 1994 to find out whether a lower ceiling in the range of 500 to 1,000 warheads might be feasible without giving up the notion of MAD; however, given the vast area of both Russia and the US, and the huge number of possible targets for a counter-value (or

even for a counter-power) strategy, such calculations have not convinced a broader audience.¹⁸

Overcoming the Nuclear Orthodoxy

The only way to overcome nuclear orthodoxy is to find new approaches to combine the search for strategic stability in the post-Cold War era—and before the dawning of any new era of global strategic competition—with opportunities to reduce and marginalize nuclear weapons. The goal must be mutually assured security instead of mutually assured destruction.¹⁹ As a starting point, it might be useful to revive the debate that was initiated by such distinguished experts and political thinkers as Paul Nitze, Fred Iklé or former Air Force General Charles Horner in the early 1990s, who argued that, from a US perspective, progress in conventional warfare (revolution in military affairs—RMA) had drastically reduced the usefulness of nuclear weapons, thus opening up opportunities for unparalleled nuclear arms reductions.²⁰ They and many others also argued that given the danger of nuclear proliferation, rapid progress in this field was necessary. Unfortunately, this discussion died away after 1996 with the release of the *Canberra Commission Report* that suggested the feasibility of nuclear abolition instead. It is high time to rejoin this debate, since it contains important elements to be considered. A possible key might be to combine that debate with two

18 Mazzar, Michael J. and Alexander T. Lennon, eds. *Toward a Nuclear Peace. The Future of Nuclear Weapons*. Houndsmill and London: MacMillan, 1994.

19 Krepon, Michael. “Moving from Mutually Assured Destruction to Mutually Assured Security.” *The Henry L. Stimson Center Issue Commentary*. Washington, D.C.: The Henry L. Stimson Center, 2000.

20 Nitze, Paul. “Is it time to junk our nukes?” *Washington Post*, 16 January 1994, C1–C2; Iklé, Fred C. and Karaganov, Sergei A. *Harmonizing the Evolution of US and Russian Defense Policies*. Washington, D.C. and Moscow: Center for Strategic and International Studies and the Council on Foreign and Defence Policy, 1993, 23–31.

other debates: the debate on virtual nuclear arsenals and the one on national ballistic missile defense.

In 1995, Michael Mazarr, continuing the debates set-off by Nitze and Iklè, combined their thoughts with the concept of *virtual nuclear arsenals*, a notion that had been devised first by Jonathan Schell in 1984. Schell had argued for a world in which nuclear weapons were dismantled but where some particular, defined levels of rearmament within weeks or months were allowed.²¹ Mazarr's basic argument was that at a time of unparalleled US military superiority and of a broader international consensus on the need to marginalize nuclear weapons without abolishing them totally, the time might have come to take this idea into serious consideration. He quoted four basic arguments in favor of virtual nuclear arsenals, which still hold true for the current situation:

- Virtual nuclear arsenals would help to marginalize the role of nuclear weapons in Russian-American relations as well as elsewhere in the world and would reduce the overall risk of nuclear use in a time of crisis.
- They would eliminate the risk of nuclear accident or misuse.
- They would help to control Russian nuclear forces and materials.
- They would reinforce the non-proliferation regime and provide solutions to remaining proliferation issues, especially in South Asia.²²

Under such a regime, both the US and Russia would agree to reduce their operational nuclear attack forces to a degree that no nuclear weapon would be deployed and ready for use.²³ However, each side would be able to rebuild nuclear weapons—but only within weeks or months. The concomitant technical and verification problems notwithstanding, such a concept at least offers a totally new perspective—a paradigm-shift—in nuclear arms control. Unfortunately, the concept of virtual arsenals never made it into political debates. Neither the Clinton administration nor any European government took up this idea. In the

21 Schell, Jonathan. *The Abolition*. New York: A. Knopf, 1984, 118–120.

22 Mazarr, *Virtual Nuclear Arsenals*, 22.

23 Mazarr, *Ibid.*, 19.

US, the main reason for this may have been that given the difficult nature of the intra-bureaucratic process over nuclear strategy issues, such a revolutionary concept can never make it into the mainstream of debate without the blessing from the very top of the political spectrum—i.e., the US president himself indicating interest. This was definitely not the case.

Another reason for the absence of the subject of virtual nuclear arsenals in political discourse was the unresolved problem of how to deal with cheating. Mazarr had argued in his article that a strategy of making virtual nuclear arsenals survivable would be the best way to overcome that problem. He also pointed to the potential of ballistic missile defense as an insurance policy.²⁴ While the technicalities of making virtual nuclear arsenals survivable might be somewhat difficult but still feasible, the outlook for national ballistic missile defense in 1995 seemed to be rather remote. Today, the situation is quite different. There is a broad consensus in the US on the need for some form of national missile defense, even if there has been no agreement so far on the exact thrust of such a defense shield or the degree to which international co-operation is needed. The concept of virtual nuclear arsenals—at least as a general idea, as a paradigm that needs to be further elaborated—could be helpful in solving this dilemma.

The current US debate is between two political and ideological camps as far as NMD is concerned. The one camp, mainly confined to the Democratic Party, considers NMD problematic and dangerous in principle; however, it is ready to provide some protection against individual attacks by states of concern such as North Korea, Iran or Iraq that might be possible in five to ten years from now. National Missile Defense in that line of argument is just an extension of Theatre Missile Defense (TMD), the main purpose of which was to make US troops less vulnerable under scenarios of regional warfare in the Gulf or other global hotspots.²⁵ Deployment of a limited NMD system should be done in agreement with Russia, most preferably within the limits of the ABM

24 Mazarr, *Ibid.*, 19.

25 Krause, Joachim. "The New Crisis over National Missile Defense." *Internationale Politik—Transatlantic Edition* 1, no. 2 (2000): 35–39.

treaty, or, if this should prove impossible, by way of an amendment to the Treaty, which is still considered a cornerstone of stability in US-Russian relations. The Clinton administration followed this line. The second camp, which is more closer to the ranks of the Republican Party, feels that the US government can no longer deny its population the capability to defend itself against incoming missiles and that international commitments concluded almost 30 years ago under totally different conditions should not prevent the US from proceeding as it sees fit.

The problem with the first camp is that this position is no longer supported by a majority in Congress. This is true especially with regard to the international arms control agreements the Clinton administration concluded with Russia in 1997. In terms of domestic US policy, the strategy pursued by the Clinton administration eventually led their nuclear arms control policy into a dead-end street. The degree of orthodoxy involved was no longer acceptable or comprehensible to the majority of the US electorate and definitely not for the vast majority of Republicans in both the Senate and the House of Representatives.

The policy of the Clinton administration was also counter-productive if the goal was to advance drastic and deep nuclear weapons cuts. In the long run, such an attitude might also face some erosion on the liberal side of the political spectrum. The problem with the current Republican positions is, however, that there are elements of unilateralism involved that alienate US friends and allies all around the world, and it complicates relations with China and Russia, in particular, to a considerable degree. However, there are differences among Republicans as to how far the US should proceed unilaterally (for instance, in abrogating the ABM treaty) and as to how far NMD should be accompanied by a major initiative towards reducing existing offensive arsenals.

To sum it up, the overall picture is even broader. For the time being, one can distinguish four different positions in the US:

- The traditional rejection of BMD and, in particular, of NMD without any qualifications and the insistence on nuclear abolition at best or a continuation of the process of weapons reduction at the least;

this position can be found among the liberal academic arms control community and has limited political support in the political sphere.

- The rejection in principle of NMD together with support for TMD and a limited NMD to fend off states of concern (as was the position of the Clinton administration); this camp presupposes, however, successful negotiations with the Russians over amending the ABM treaty and the acceptance of such agreements by a two-thirds majority in the Senate.
- The wish to establish an NMD system as soon as possible without paying too much attention to the ABM treaty or to the concerns of the Russians, European allies or the Chinese; usually the construction of NMD is envisaged as being accompanied by unspecified reductions in the offensive arsenals (this is an often heard position within the Republican Party).
- There is a position according to which limited BMD and radical reductions of operational strategic offensive weapons might continue in order to create a new stability between the US and Russia; this stability should be organized around mutual defense rather than on the principle of mutual deterrence and is often referred to as Mutually Assured Security (i.e., MAS instead of MAD). This position has been proposed by liberal intellectuals from the Stimson Center in Washington, D.C., but has also been partly adopted by the Bush administration.

As for the first two positions, neither is able to win the necessary majorities in the US political system. The third position could be adopted by the Bush administration; however, it will meet with considerable opposition both within the US political establishment and within the alliance. Hence, the last position outlined above may become a new paradigm for creating a broader consensus within the deeply divided US political spectrum.

In essence, this position means linking national missile defense with sweeping arms reduction proposals and with offers to share BMD technology. Bush has made it clear—both in his campaign statements and in his presidency—that he leans towards that direction, subject to a

major strategic review. As early as May 2000, he vowed to combine enhanced efforts towards building up an NMD capacity while reducing the nuclear arsenal to the lowest possible level consistent with national security. While he did not cite numbers, he and his advisors made it clear that the size of the US's strategic nuclear attack forces would be reduced unilaterally to far below the 3,000 to 3,500 warheads under discussion since 1997. He declared that he was looking for "positive, practical ways to demonstrate to Russia that we are no longer enemies."²⁶

What this might boil down to is a new concept of combining deep cuts with limited missile defense as part of a co-operative effort under US leadership. If successful, this could offer an opportunity to shake off the Cold War standoff situation in the field of nuclear weapons and to usher into a new era of Mutually Assured Security. In any case, the concept would offer a chance to re-establish a broad consensus on the basic goals of strategic arms control in the US. Michael Krepon, in his testimony to the House of Representatives in October 1999, called for "a new strategic synthesis of deep cuts in offensive nuclear forces, much reduced launch readiness, and some missile defenses." He continued by stating that a new consensus had to be reached: "Many arms control advocates equate missile defenses with instability, while many supporters of strategic defenses oppose treaties. Unless the next administration, with help from the Congress, can create synthesis out of division, nuclear dangers are sure to grow."²⁷

It seems that the current US administration is determined to head in that direction. Whether or not they will succeed depends on the leadership qualities of the president, i.e., his ability to resist the strong forces of resistance within the Pentagon and Congress and from parts of the liberal arms control community, which are trying to gain ground among Democrats after having lost the White House in November 2000.

26 Editorial. "Bush Vows to Reduce Nuke Arsenals." *Washington Post*, 23 May 2000.

27 Testimony of Michael Krepon, President, Henry L. Stimson Center. "Missile Defenses and US National Security," 13 October 1999, composed by the Committee on Armed Services, US House of Representatives: <http://www.stimson.org/resource/bmdtestimony.htm>.

Success also depends on the ability and readiness of European leaders to fully understand the nature and the thrust of that debate, and to rightly assess the dangers of clinging to Cold War notions of stability while forfeiting the opportunities of reducing and marginalizing nuclear weapons by simply standing by.

MORTEN BREMER MAERLI

Managing Excess Nuclear Materials in Russia

Introduction

Proper management of plutonium and highly enriched uranium, the essential ingredients of nuclear weapons, is fundamental for controlling nuclear proliferation and for providing a basis for deep, transparent and irreversible reductions in nuclear weapons stockpiles. However, the vast quantities of fissile materials produced since the dawn of the atomic era and the political and socio-economical turmoil following the collapse of the Soviet Union, have put existing systems for managing fissile materials in Russia under unprecedented stress.

Inadequately protected and poorly controlled weapons-usable materials could end up in crude nuclear weapons of “states of concern” or a terrorist organization. While the potential proliferation threats and the consequences of such chilling scenarios are fairly easy to understand, the problems of fissile weapons-usable materials management in Russia have proven anything but simple to solve.¹

I will attempt to present some of the current security challenges associated with the protection and control of fissile materials in Russia and to put forward recommendations for future fissile materials management. I will do so by first discussing the potential threats of direct-use fissile materials and by presenting former approaches for protection and control of fissile materials in the Soviet Union. In so doing, I hope to show that security upgrades are complex and comprehensive tasks, requiring more than quick technical fixes. With this in mind, I then assess the ongoing efforts to secure fissile material stockpiles and,

¹ Daughtry, Emily E. and Fred Wehling. “Cooperative Efforts to Secure Fissile Material in the NIS.” *The Nonproliferation Review* 7, special report (2000): 97.

finally, I put forward recommendations for future cooperation in nuclear security.

In writing this chapter, some basic assumptions will be made. First, due to the huge stockpiles in Russia, well in excess of any national security need, *all* Russian weapons-usable nuclear materials are regarded as “Excess Nuclear Materials.” All of the stockpiles pose a potential proliferation threat and should be protected accordingly. Second, and perhaps somewhat narrowly, the “managing” of the stocks of Russian fissile materials will be limited to cover the *material protection, control and accounting* (MPC&A) only.² Persistent problems, for instance in transforming the huge excessive Russian nuclear complex, will only be addressed briefly, as will the efforts for reducing the existing stockpiles of fissile materials.³ As for the analysis itself, I will not present any detailed assessment of the numerous programs for the management of Russian fissile materials, but rather try to give an overview of the current situation and where to go from here.

2 MPC&A systems are intended to protect material against theft or diversion and to detect such events if they occur. Physical protection systems should allow for the detection of any unauthorized penetration of barriers and portals, thereby triggering an immediate response. The system should delay intruders long enough to allow for an effective response. Control and containment systems should prevent unauthorized movement of materials and allow for the prompt detection of the theft and diversion of material. Material accounting systems should ensure all material is accounted for, enable the measurement of losses, and provide information for follow-up investigations for irregularities: The National Research Council. *Protecting Nuclear Weapons Materials in Russia*. Washington D.C.: National Academy Press, 1999, 12.

3 Efforts at transforming the Russian nuclear weapon complex include, for example, the Nuclear Cities Initiative and the Initiatives for Proliferation Prevention program, which are two US activities aimed at preventing the “brain drain.” Under the 1993 US-Russian HEU Purchase Agreement, the United States will buy a total of 500 tons of HEU to be down-blended and used in commercial US power plants, in order to reduce the excessive stockpiles of fissile material. The Agreement remains one of the most important non-proliferation achievements of the last decade. For further details, please refer to the concluding recommendations of this chapter, in particular to the section “Maintain MPC&A financial support.”

Direct-usable Fissile Materials

The materials that make nuclear bombs possible are those few isotopes capable of sustaining an explosive, exponentially growing, chain reaction. Two isotopes of uranium, U-233 and U-235, and all isotopes of plutonium (most importantly Pu-239, Pu-240, Pu-241 and Pu-242) fit this description, and are denoted direct-usable materials.⁴ The materials themselves are not radioactive enough to deter theft and handling of them. Because of the long half-lives of the isotopes, the dose rates are several orders of magnitude below the dose rates from spent fuel when it is unloaded from a reactor.

The quantities of weapons-usable materials needed to make a nuclear weapon depend on the technical sophistication and desired yield of the device. The minimum requirements are, however, not large. The amounts used in specific nuclear weapons designs are classified, but amounts in the range of four to six kilos of plutonium metal is widely cited in the open literature as typical.⁵ For a simple pure fission weapon, as low as one to two kilos of plutonium has been suggested as sufficient.⁶ The amounts of uranium needed are two to three times

4 For fission explosives, nuclear weapons designers prefer a U-235 fraction of more than 90 percent, normally denoted “weapon-grade uranium.” For plutonium, more than 90 percent Pu-239, denoted “weapon-grade plutonium,” will normally be preferred in the designs, although virtually all combinations of plutonium isotopes can be used to manufacture nuclear explosives. An exception is plutonium containing substantial quantities of Pu-238, which generates so much heat and gamma radiation that it is not practical to make nuclear explosives out of it. Even reactor-grade plutonium is considered by the International Atomic Energy Agency as a weapons-usable material. Recently declassified US documents reveal that, in 1962, a nuclear test explosion was carried-out with reactor plutonium, producing a significant, but still classified yield.

5 This figure would not be very different if reactor grade, rather than weapons grade, plutonium were used. See Bunn, Matthew and Holdren, John P. “Managing Military Uranium and Plutonium in the United States and the Former Soviet Union.” *Energy Environment* 22, annual review (1997): 403–86.

6 Cochran, Thomas B. and Christopher E. Paine. *The Amount of Plutonium and Highly Enriched Uranium Needed for Pure Fission Nuclear Weapons*. Nuclear Weapons Databook. Washington, D.C.: Natural Resources Defense Council Inc., 1995.

higher. Anyhow, the quantities of fissile material needed for a nuclear device could easily be carried and concealed by one person.

Nuclear weapon wannabes face a wide range of new, technical challenges. Unsuccessful state nuclear programs, for example the Iraqi, are often cited as an indicator of the difficulties of establishing reliable nuclear weapons programs. In contrast to this, however, is the successful nuclear weapon program of South Africa. This clandestine program relied solely on domestic resources and the weapons were to become operational without any testing, and could be indicative of the possible prospects of states wishing to embark on a nuclear track.⁷

While stressing the technical challenges, a group of US nuclear weapons designers concluded in the late 1980s that it *could* be possible for a terrorist group to make a crude nuclear explosive.⁸ Others are even more explicit, claiming that “a significantly large terrorist group would have little difficulties in building a crude or primitive nuclear explosive using Highly Enriched Uranium.”⁹ The technical requirements for a crude terrorist weapon may, in fact, be lower than for a nuclear weapon possessed by states.¹⁰ This is due to simpler means of delivery (e.g. a truck bomb instead of a missile) and lesser concerns

7 The low neutron background make nuclear weapons with HEU as the core fissile ingredient reliable, even without testing.

8 Carson, Mark, Theodore Taylor, Eugene Eyster, William Maraman and Jacob Wechsler. “Can Terrorists Build Nuclear Weapons?” In *Preventing Nuclear Terrorism—The Report and Papers of the International Task Force on Prevention of Nuclear Terrorism*, eds. Paul Levental and Y. Alexander, Massachusetts: The Nuclear Control Institute, 1987, 55–65. The text is also available at <http://www.nci.org/makeab.htm>.

9 Barnaby, Frank. “Nuclear-Explosive Devices by Sub-National Groups.” In *Crude Nuclear Weapons. Proliferation and the Terrorist Threat*. IPPNW Global Health Watch Report, no. 1. Cambridge: International Physicians for the Prevention of Nuclear War, 1996, 7; Barnaby, Frank. *Instruments of Terror*. London: Vision Paperbacks, 1996, 166.

10 For a discussion on terrorist versus military nuclear weapons requirements, see Maerli, Morten B. “Relearning the ABCs: Terrorists and Weapons of Mass Destruction,” 111–113, and Falkenrath, Richard A., Robert D. Newman and Bradley A. Thayer. *America’s Achilles’ Heel. Nuclear, Biological and Chemical Terrorism and Covert Attack*. Cambridge, Mass.: The MIT Press, 1998, 100.

about safety, reliability and optimization of the yield. For a terrorist group, even a “fizzle yield,” perhaps in the range of one kiloton, would be more than sufficient.¹¹ Thus, technical hurdles should not be regarded the major obstacle to successful nuclear weapons acquisition. The main challenge will rather be to get access to sufficient quantities of materials.¹²

Russian Illicit Trafficking in Nuclear Materials

Anecdotal reports of missing Russian nuclear warheads from the former Soviet Union and seizures of fissile material destined for countries like Iraq, Iran, and Libya have surfaced regularly in the media during the 1990s.¹³ The credibility of such reports is often questionable.

11 Such yields are likely, even for poorly assembled nuclear weapons. Even if a weapon with a design identical to the Nagasaki bomb goes off prematurely, at the worst possible moment, the yield would be in the range of a kiloton. The estimated radius of destruction is between a third and a half of the Hiroshima bomb. See National Academy of Sciences. Committee on International Security and Arms Control. *Management and Disposition of Excess Weapons Plutonium*. Washington, D.C.: National Academy Press, 1994, 33.

12 For example, see von Hippel, Frank. “Fissile Material Security in the Post-Cold War World.” *Physics Today* 48, no. 6 (1995): 26–31; *id.* “Part II: Weapons of Mass Destruction Technologies (WMD),” 1997, composed by Military Critical Technologies, December 1999: <http://www.dtic.mil/mctl/>, 8 August 2000, II-5-1.

13 For example, see “US Report Says Iran Has Soviet Nuclear Weapons.” *The Guardian*, 3 September 1992; “Kazakh Nukes Found.” *Mednews*, 8 July 1992; “Libya Attempts to Use the Service of Russian Nuclear Scientists.” *STERN* (TASS), 28 January 1992; “Russian Dealers Selling Plutonium.” *Reuters*, 14 July 1993. The news sources were collected from the *Stanford Database on Nuclear Smuggling, Diversion and Orphan Radioactive Sources*. For details of a more recent incident, see “Uzbeks are Said to Seize Radioactive Cargo.” *New York Times*, 5 April 2000, A8. According to US State officials, border guards in the former Soviet Republic of Uzbekistan seized radioactive cargo that was on an Iranian truck bound for Pakistan. For an overview of “loose Russian nukes” on the Internet, see “Loose Nukes Fears: Anecdotes of the Current Crisis,” 5 December 1998, composed by Matthew Bunn, 15 August 2000: <http://ksnotes1.harvard.edu/BCSIA/Library.nsf/wwwdocsname/BG-anecdotes>, 19 December 2000.

However, deteriorating fissile material security, since the collapse of the Soviet Union, has resulted in a number of documented cases of theft of weapons-usable nuclear materials, sometimes of substantial quantities.¹⁴ Russia is among the 64 countries that report to the International Atomic Energy Agency (IAEA) and its database of attempts of sale, storage or smuggling of radioactive and nuclear materials. In the database, 48 confirmed cases of these type of activities in Russia were registered and confirmed as of June 1998.¹⁵

No buyers of the material have been caught red-handed and the extent to which there exists a *bona fide* nuclear weapon black market remains unclear.¹⁶ The overwhelming portion of reports of nuclear smuggling so far have been scams, involving materials with no relevance for nuclear weapons or weapons-usable materials in far too small quantities. Only some six percent of the seizures involve direct-use materials. However, due to the low radiation levels detecting uranium and plutonium will be a challenging task for border guards and security forces even if the necessary equipment is in place. The low fraction of fissile materials in the seizures should, therefore, not distract attention from the seriousness of the cases of theft of genuine weapon-usable materials that have occurred.

A close call apparently took place in December 1998, when the Russian Federal Security Services intercepted an attempt to divert 18.5 kilograms of “radioactive materials that might have been used in the production of nuclear weapons.”¹⁷ Russian officials confirmed the

14 For a description of these cases, see Bunn, Matthew. *The Next Wave: Urgently Needed Steps to Control Warheads and Fissile Materials*. Washington, D.C.: Carnegie Endowment for International Peace, 2000, 16–18.

15 Maerli, Morten B. *Atomic Terrorism* (in Norwegian). Oslo: The Norwegian Institute of International Affairs, 1998, 123.

16 Rensselaer W. Lee has addressed these issues in detail in, Lee, Rensselaer. *Smuggling Armageddon. The Nuclear Black Market in the Former Soviet Union and Europe*. New York: St. Martin's Griffin, 1998.

17 See Bunn, Matthew. “Loose Nukes Fears: Anecdotes of the Current Crisis,” 17, or Parrish, Scott and Tamara Robinson. “Efforts to Strengthen the Export Controls and Combat Illicit Trafficking and Brain Drain.” *The Nonproliferation Review* 7, no. 1 (2000): 112.

attempt in November 1999, stating that the perpetrators “could have done serious damage to the Russian state.” While the Russian government has not confirmed the specific type of material involved, one can infer, based on the description of the material, the quantities involved and the sensitive facility where the diversion took place, and the potential consequences of a successful diversion, that it was either highly enriched uranium (HEU) or plutonium. This makes this case the largest documented attempt to steal weapons-usable materials in the former Soviet Union.¹⁸ Moreover, this is the first confirmed case that apparently involved a conspiracy to steal enough materials for a bomb at a single stroke.

Russian Proliferation Barriers and Accountability

The vast production of fissile materials during the Cold War has today left the world with a staggering nuclear legacy of three million kilos of weapons-usable material.¹⁹ Two thirds of these materials were produced for military purposes. More than half of the overall production of weapons-usable materials is today regarded to be in excess of national security needs.²⁰ Russia’s contribution to the overall fissile material production has been substantial, yet largely unknown.

No official figures on the Russian stockpiles of fissile material exist. Satisfactory accounting is a prerequisite for controlling the nuclear materials and the lack of accurate data on the stocks of Russian fissile material is alarming. Accurately measured inventories of all nuclear

18 Bunn, “Loose Nukes Fears: Anecdotes of the Current Crisis,” 17.

19 Taken from Albright, David and Kevin O’Neill, eds. *The Challenges of Fissile Material Control*. Washington, D.C.: Institute for Science and International Security, 1999, 6.

20 Taken from Albright, David, Frank Berkhout and William Walker. *Plutonium and Highly Enriched Uranium 1996—World Inventories, Capabilities and Policies*. Stockholm International Peace Research Institute. Oxford: Oxford University Press, 1997, 441–443.

Source	Quantity of HEU outside weapons	Quantity of Pu outside weapons	Total quantities of HEU and Pu, including weapons
Albright, D. Walker, W. and Berkhout, F. (1997) ²¹	825 tons	96 tons	1050 ± 300 tons HEU 131 ± 33 tons Pu
Bunn & Holdren (1997) ²²	825 tons	125 tons	
Bukharin, O (1998) ²³			1300 tons of HEU
DOE (1998) ²⁴	600 tons	75 tons	1350 tons (HEU and Pu)
Albright, D. and O'Neill, K. (eds.) (1999) ²⁵			1050 tons HEU and 130 tons Pu
CSIS Task Force (2000) ²⁶		160 tons	1050 tons of HEU
GAO (2000) ²⁷			1300 tons (HEU and Pu), half of this outside weapons

Table 1. Estimated quantities of weapons-usable materials in Russia, according to different sources.

21 Based on 10,000 operational warheads. HEU figures given in weapon-grade equivalents. For further details, see Albright/Berkhout/Walker, *Plutonium and Highly Enriched Uranium 1996—World Inventories, Capabilities and Policies*, 399–400; 414.

22 Assuming a stockpile of 10,000 Russian warheads.

23 Bukharin, Oleg. “Analysis of the Size and Quality of Uranium Inventories in Russia.” *Science and Global Security* 6, no. 1 (1996): 70.

24 US Department of Energy, Office of Arms Control and Nonproliferation, *MPC&A Program Strategic Plan, Uranium Inventories in Russia*. Washington, D.C.: US Department of Energy, 1998.

25 HEU figure given in weapon-grade equivalents.

26 The Center for Strategic and International Studies. *Managing the Global Nuclear Materials Threat. Policy Recommendations*. Washington, D.C.: The Center for Strategic and International Studies, 2000.

27 US General Accounting Office. *Nuclear Nonproliferation. Limited Progress in Improving Nuclear Material Security in Russia and the Newly Independent States*. Report to Congressional Requesters. Washington, D.C.: US General Accounting Office, 2000.

materials on hand have not been carried out at most Russian facilities, and there is still no accurate and up-to-date national inventory system.²⁸ As a result, a number of unofficial estimates of the stockpile quantities vary (see table 1) by several hundreds of tons.²⁹

Much of the nuclear accountancy that took place has, moreover, proven to be highly deficient. The quantities of nuclear material were often given in tons, or even in relation to the value of the ruble.³⁰ Inflation and devaluation make this type of “accountancy,” to put it mildly, untenable, and, obviously, the practice complicates a detailed control of the material. In reality, it is unlikely that the exact quantities and all locations of fissile material in Russia will ever be known.³¹

The US government estimates that the current Russian inventory of direct-use material is about 150 metric tons of plutonium and 1,200 metric tons of HEU. While these figures are commonly cited as the amounts in the former Soviet Union, almost all of these materials are in Russia.³² About one half of each of these quantities (75 tons of Pu and 600 tons of HEU) is incorporated into weapons and the other half

28 Potter, William, remarks given at the 7th Carnegie International Nonproliferation Conference, Washington, D.C., 1999. Cited in Bunn, “Loose Nukes Fears: Anecdotes of the Current Crisis,” 13.

29 Part of the discrepancy can be explained by the different HEU-enrichment levels of the material used in the comparisons and the fact that some of the figures may not distinguish between the quantities in Russia and those present in the former Soviet Union.

30 Kulik, M. “Some Security Problems with Nuclear Materials in Depots of the Northern Fleet.” *Daily Report*, 24 November 1995.

31 This lack of accountability should, however, not be mistaken as a solely Russian problem. A recent US historical account of its total plutonium production revealed 2.8 tons in “losses,” that is, material unaccounted for. US Department of Energy. *Plutonium: The First 50 Years. United States plutonium production, acquisition, and utilization from 1944 to 1994*. Washington, D.C.: US Department of Energy, 1996. An equivalent UK plutonium survey, finalized in April 2000, found 300 kg Pu in excess, theoretically enough for some 50 to 60 bombs. Moreover, a long-promised US HEU historical account is pending, due to the difficulties of keeping track of the production and production tails.

32 See The National Research Council, *Protecting Nuclear Weapons Materials in Russia*, 7.

is in various forms at many enterprises and institutes throughout Russia.³³ The amount currently *outside* nuclear weapons in Russia is enough to produce some 40,000 nuclear weapons.³⁴ Though this figure is primarily of theoretical interest, it is a conservative estimate, clearly reflecting the challenges of Russian fissile materials management. Moreover, it reflects the potential obstacles that lack of accountability may pose for future disarmament. Huge stockpile uncertainties could leave open a potential for “breakouts” from the treaty obligations and, thus, prevent deeper cuts in nuclear arsenals.

Moreover, recent developments in Russia, resulting in burdensome transformations of both military and civilian nuclear entities and cuts in wages and past privileges for the employees, could lower the thresholds for thefts and diversion of materials. The primary threat against the security and the control of nuclear materials in today’s Russia may, therefore, be a knowledgeable and corrupt “insider”, possibly in collaboration with external participants.³⁵ A knowledgeable worker would know what to steal and how to minimize the risk of detection by removing material in small portions over a long period of time.³⁶

33 Although it is likely that the nuclear weapon states know, with very little uncertainty, how much plutonium and HEU they have in nuclear weapons and in discrete storage forms, such as pits and canisters of plutonium oxide, they will know less precisely how much plutonium and HEU is in spent fuel, in metal scraps, in deposits inside pipes and glove boxes and in various liquid solutions and waste. See Feiveson, Harold, ed. *The Nuclear Turning Point. A Blueprint for Deep Cuts and De-alerting of Nuclear Weapons*. Washington D.C.: The Brookings Institution Press, 1999, 221.

34 Malloy, Eileen. “The Proliferation of Weapons of Mass Destruction: How Much of a Challenge?” Paper presented at the Center for Nonproliferation Studies Conference on “Assessing US Dismantlement and Nonproliferation Assistance Programs in the Newly Independent States.” Monterey, 1999.

35 This is confirmed among others by Bukharin, Oleg and William Potter. “Potatoes were guarded better.” *The Bulletin of the Atomic Scientists* 51, no. 3 (1995): 49; Bukharin, Oleg “Securing Russia’s HEU Stocks.” *Science and Global Security* 7, no. 3 (1998): 320.

36 A classical example is the engineer at the “Luch” institute in Podolsk, who, in a series of small diversions over several months, diverted approximately 1.5 kg HEU.

According to a study performed by the civilian Russian State Nuclear Regulatory, Gosatomnazor (GAN), personnel working within the nuclear industry were involved in all the thefts that were analyzed between 1992–94.³⁷

In the past, insiders were never considered a major threat. Close screening and surveillance of employees, strong penalties, closed borders and the absence of external buyers of any diverted materials was considered sufficient. Thus, portal monitors for fissile materials at nuclear facilities would be a rare feature in Soviet-designed systems of physical protection. Simple wax seals were used to indicate if doors or containers have been opened or tampered with. These seals do not meet international standards and also do not guarantee the quick discovery of thefts.³⁸

Ongoing Efforts to Secure Fissile Material Stockpiles

Russia's ability to control an aging nuclear stockpile and vast quantities of weapons-usable nuclear materials in these times of trouble undoubtedly remains dubious. None of the materials, distributed at more than 300 buildings at more than 50 civilian or military sites in the country are under international safeguards. These vast quantities are managed with very little of the transparency that would be needed to build confidence that they are safe and secure or to provide the foundation for deep, transparent, and irreversible nuclear arms reductions.

Several countries and international organizations, notably the European Union, Norway, Japan and the United States have sought to help to improve material protection, control and accounting (MPC&A)

37 Koupriyanova, Irina. "Russian Perspectives on Insider." Paper presented at the 40th Annual Meeting of the Institute of Nuclear Material Management. Phoenix, Arizona, 1999.

38 Bukharin/Potter, "Potatoes were guarded better," 48.

systems in Russia. Clearly, the most comprehensive and well funded of the programs are lead by the US Department of Energy (DOE).³⁹

Despite the ongoing assistance, Bill Richardson, US Secretary of Energy, stated in 1999 that given the current political instability and degenerating economic conditions prevailing in Russia, there is a very real threat that nuclear weapons materials could be stolen or diverted into the hands of terrorists or non-nuclear nations.⁴⁰ During the security upgrades, the US government has identified more extensive distribution of fissile materials and more pervasive inadequacies of protection systems than first had been anticipated. As a result, the DOE's estimate of the number of buildings requiring improvements has increased from about 100 to 332.⁴¹ This, together with the continued economic crisis and greater problems of ensuring the security of direct-use material, led a group of US arms control specialists to conclude that the threats of theft or diversion are considerably *greater* by the end of the 1990s, than just three years earlier.⁴²

According to a report by the US General Accounting Office (GAO), as of February 2000, the DOE has only completed the installation of security systems at buildings containing approximately seven percent, of

39 For the fiscal year, the Office of the Deputy Administrator for Defense Nuclear Nonproliferation asked for a base request for the international MPC&A programs of US\$ 149.9 million, approximately US\$ 5 million more than the year before. See "Statement of Rose Gottemoeller, Deputy Administrator for Defense Nuclear Nonproliferation (Acting), US Department of Energy, before the US Senate Subcommittee on Energy and Water Development Committee on Appropriation, United States Senate," 28 March 2000, composed by the US Senate: <http://www.senate.gov/~appropriations/energy/testimony/gottemoe.htm>, 1 October 2000.

40 US Secretary of Energy, Bill Richardson, before the US House Committee on Armed Services Subcommittee on Military Procurement, United States House of Representatives, 4 March 1999, composed by the US House of Representatives: <http://www.doe.gov/news/testimon/cas3499.htm>, 10 June 2000.

41 US General Accounting Office, *Nuclear Nonproliferation. Limited Progress in Improving Nuclear Material Security in Russia and the Newly Independent States*, 21.

42 The National Research Council, *Protecting Nuclear Weapons Materials in Russia*, 1.

the weapons-usable materials.⁴³ This equals protection of some 50 tons of the 675 tons of nuclear materials outside weapons. Most of the buildings with the installed security systems are at the Russian civilian sites and at the navy sites (see table 2).

Status	Civilian sites	Weapons complex	Naval sites	Total
Installed systems	59	11	15	85
Work started	18	45	9	72
No work started	27	115	5	147
Total	104	171	29	304

Table 2. *Status of Nuclear Security System Installations as of February 2000. Number of buildings.*⁴⁴

Particularly little progress has been made in installing nuclear security systems in Russia's nuclear weapons complex; where over 90 percent of the nuclear material in Russia is located.⁴⁵ The Russian Ministry for Atomic Energy (MINATOM) has been reluctant to grant the US access to buildings in the nuclear weapons complex because of Russian national security concerns. Moreover, a range of administrative problems has hampered this important work. In addition to the limited access due to the persistent inherent suspicion between the two states, the most important problems are the taxation of foreign assistance, liability concerns and unclear licensing and certification requirements for installed systems and security equipment.

Demands for progress and results have, at some occasions, led to a "quick-fix" MPC&A approach. Essentially, none of the sites declared complete so far meet the necessary MPC&A standards to be granted a license to operate in the United States, and virtually all of the sites are

43 US General Accounting Office, *Nuclear Nonproliferation. Limited Progress in Improving Nuclear Material Security in Russia and the Newly Independent States*, 7.

44 *Ibid.*, 8.

45 *Ibid.*, 7.

still vulnerable to the insider-threat.⁴⁶ Moreover, the long-term system durability may have been given less consideration.⁴⁷ Initial security upgrades must be maintained and further improvements are often required to offer effective security at the sites. Due to a lack of training, sufficient knowledge and maintenance, the equipment may malfunction, be shut down or bypassed due to a high false alarm rate, thus, in fact lowering the actual security levels.

The DOE immediately contested the GAO report when it was released. DOE officials, with an obvious need to justify the amounts of money already spent on the programs, claimed that the GAO-figures were too dismal and that up to 70 percent of all fissile materials in the former Soviet Union have been subjected to “rapid security upgrades.”⁴⁸ However, according to the GAO, even with the ongoing security upgrades, currently initiated at 72 additional buildings, only some 185 of the 332 buildings, or some 60 percent of the material (approximately 400 tons) will be secured by 2006. The internal US quarreling reflects how politicized these issues are in the United States. However, such

46 Bunn, *The Next Wave: Urgently Needed Steps to Control Warheads and Fissile Material*, 81.

47 The gravest examples of insufficient quick fixes personally experienced by the author, were the US security upgrades at the Ignalina Nuclear Power Plant (INPP) in Lithuania and at building 116 in the Kurchatov Institute in Moscow. Despite the fact that the latter facility supposedly was a demonstration building (containing HEU), the installed turnstile was jammed in an open position during a visit in May 1996. According to the facility manager, this was only due to our visit! The INPP has been exposed to several thefts of materials and to bomb threats. Upgrading of the perimeter surrounding the plant was, therefore, initiated. However, after installing a new gate (only) for the vehicles, the US team left the scene after running out of funds. Nearby, holes in the fences and deficient surveillance and alarm systems, resulted in a continued insufficient level of protection at the power plant.

48 These rapid upgrades are referred to as “quick fixes”, such as fortifying entrance and exit points, placing one ton concrete blocks on material storage areas, or simply bricking-up windows to secure these sites against terrorist or outside attack. See “Statement of Rose Gottemoeller, Deputy Administrator for Defense Nuclear Nonproliferation (Acting), US Department of Energy, before the US Senate Subcommittee on Energy and Water Development Committee on Appropriations, United States Senate,” composed by US Senate.

quarrels are unlikely to result in support for long-term funding for fissile material upgrades in Russia.

Recommendations for the Future

What is there to be done for the future? As seen above, unfortunately still a great deal. Despite the progress that has been made, the bulk part of the work remains to be done. The rest of the chapter is, therefore, devoted to a discussion on the future management of fissile materials in Russia. Recommendations for protection, control and accounting of the stockpiles and for providing sustainable fissile material security in Russia are presented.⁴⁹

Preventing and detecting theft and diversion of fissile materials

It is far easier to prevent theft of fissile materials than to find and recover stolen materials. Thus, the most efficient approach is to control the materials at the source and to ensure that all nuclear weapons materials are secure and accounted for. This can best be accomplished by continuing the upgrading of the existing Russian MPC&A systems. US experts on arms control maintain that there is a strong US national security imperative for substantial US involvement in MPC&A projects in Russia for at least the next decade.⁵⁰ Given the number of

49 The recommendations are largely based on a number of insightful analyses: The Center for Strategic and International Studies, *Managing the Global Nuclear Materials Threat. Policy Recommendations*; Bunn/Holdren, "Managing Military Uranium and Plutonium in the United States and the Former Soviet Union;" The National Research Council, *Protecting Nuclear Weapons Materials in Russia*; Bunn, *The Next Wave: Urgently Needed Steps to Control Warheads and Fissile Material*; Daughtry/Wehlin, "Cooperative Efforts to Secure Fissile Material in the NIS;" Bukharin, Oleg, Matthew Bunn and Ken N. Luongo. *Renewing the Partnership. Recommendations for Accelerated Action To Secure Nuclear Material In the Former Soviet Union*. Princeton: Princeton University Press, 2000.

50 The National Research Council, *Protecting Nuclear Weapons Materials in Russia*, 18.

facilities, the quantities of weapons-usable materials still to be covered, and Russian sensitivity concerns, the materials could be consolidated at fewer buildings at fewer sites. This will, in the long run, increase accountability of the fissile materials and provide higher security at lower cost. Several approaches for rapidly providing appropriate secure storage space for consolidated material can be envisioned, including the use of existing storage buildings with available space and with effective security and accounting systems installed.⁵¹

Fissile material accountability

In most countries possessing nuclear weapons information about fissile weapons-usable materials stocks are still classified. Achieving a better understanding of the actual quantities, forms, and locations of fissile material is, however, fundamental to cooperative efforts to secure, monitor, and reduce the stockpiles. While the continued upgrading of systems of MPC&A is essential, these efforts must also include an increased emphasis on nuclear accountability. As a first step, a program in which Russia would immediately identify, count, tag and seal all containers and items with weapons-usable nuclear materials throughout the Russian complex, and put these materials under surveillance, could be initiated.

This will at least create a comprehensive record of all the materials that exist. Russian secrecy concerns will make it impossible for the United States or others to have access to these records; the key is for Russia to have an accurate record of all its materials. Without such a system there may be no way of detecting whether materials have been lost. Serious plans for a permanent and comprehensive national accounting system could be established in parallel. Later, aggregate Russian stockpile quantities could be made official, along the lines of the US and British fissile material declarations, to support ongoing and future nuclear non-

51 Bunn, *The Next Wave: Urgently Needed Steps to Control Warheads and Fissile Material*, 80.

proliferation and disarmament efforts.⁵² Specific funding could, thus, be allocated to an all-over Russian nuclear accounting exercise.

Sustainable fissile material security

The deep transitions the Russian nuclear complex is now undergoing, complicates long-term planning in the areas of safeguards and nuclear material management. Traditionally, safeguards and security will cost money and will not provide any immediate incomes for the facilities. A lower priority could, thus, easily be assigned to this. Providing adequate levels of protection and control of fissile material remain a sole Russian responsibility. However, as seen, technical aspects and cultural differences can present important barriers to the implementation of internationally assisted MPC&A upgrades. Achieving sustainable long-term security solutions would normally require some changes in operational habits, procedures and regulatory approaches at all levels. Moreover, many safeguards concepts and technologies introduced by the cooperative programs have yet to become integrated in the Russian system.⁵³

While the pursuit of durable Russian security solutions faces several challenges, an independent and competent domestic licensing authority could be the ultimate guarantor for long-term nuclear security. Based on national laws, such a domestic body can issue rules and regulations and it can maintain control through licensing activities. A Russian Atomic law was signed into effect in 1995 and has since then become the basis for more specific MPC&A requirements.

52 While past arms-control agreements have focused primarily on limiting missiles and launchers, the objectives of both irreversible nuclear arms reductions and reduced risk of nuclear theft call for the next generation of agreements to additionally focus on controlling nuclear weapons themselves and the fissile materials needed to make them. Bunn/Holdren, "Managing Military Uranium and Plutonium in the United States and the Former Soviet Union," 429–30. For the US and British fissile material declarations, please refer to footnote 31.

53 Bukharin, Oleg. "Achieving Safeguards Sustainability in Russia." PU/CEES Report, no. 305, Princeton: Princeton University Press, 1998.

Much, however, remains to be done. One obvious problem is the fragmentation of the regulatory industry. While GAN regulates the civilian industry, the Ministry of Defense regulates the defense complex. This leads to inconsistency in documentation, standards and approaches.⁵⁴ Moreover, there is a continued “turf war” between the powerful Ministry of Atomic Energy and the newly established (1991) GAN, in which MINATOM is far from enthusiastic about independent regulation.⁵⁵ Therefore, there is a profound need for a thorough Russian revision of the current patchy MPC&A supervision practices and licensing procedures, with a view to making them coherent and facility operator/owner independent. The establishment of the independent civilian Russian State Nuclear Regulator, GAN, was an important step in the right direction. However, as of December 2000, the future of GAN seems more dubious than ever.⁵⁶

Raising the international standards of physical protection

Today, it is up to each respective state to determine its own requirements and standards for physical protection of nuclear material. As a result, there are huge variances in the way countries implement physical protection practices.⁵⁷ As for any country, an international standard could help Russia set the goals and establish coherent requirements for its MPC&A activities. Such standards could, thus, be pursued more rigorously internationally. Despite the obvious benefits, mandatory

⁵⁴ *Ibid.*

⁵⁵ Bunn/Holdren, “Managing Military Uranium and Plutonium in the United States and the Former Soviet Union,” 425.

⁵⁶ Legitimate concerns about the future of GAN have been raised. A bill suggesting the transfer of licensing functions from “regulatory agencies” to “managing agencies,” that is, from GAN to MINATOM, has been suggested and could soon be passed in the Russian Duma. See Kudrik, Igor. “Duma to Eliminate Nuclear Safety Watchdog.” *News Report from the Bellona Foundation*, 24 November 2000. If implemented, this will be a serious setback for the slowly growing regulatory power of the GAN and other relevant and independent regulatory organizations, and their efforts at strengthening independent regulation (e.g. MPC&A).

⁵⁷ Bunn, George. “Raising International Standards for Protecting Nuclear Materials from Theft or Sabotage.” *The Nonproliferation Review* 7, no. 2 (2000): 148.

international standards of physical protection have been anything but simple to establish.

US efforts from 1997 to 1999 to press for higher standards for the protection of fissile material helped to strengthen the physical protection recommendations, but failed to create any international requirements.⁵⁸ The existing international standard for physical protection is only a recommended, consensus-based text published by the IAEA.⁵⁹ Moreover, the recommendations fell short of a “Stored weapon standard” as suggested by a committee of the National Academy of Science in 1994.⁶⁰ Numerous proposals to strengthen the 1980 Convention on the Physical Protection of Nuclear Materials have also been made over the years. The convention, as it now stands, applies only to materials in international transit, not for any temporary or permanent domestic storage of fissile material. Recent efforts, again by the US, to strengthen the scope and application of the Convention were delayed and possibly stopped by European countries with significant nuclear activities in late 1999.⁶¹ Belgium, France, Germany, Sweden and the United Kingdom,

58 *Ibid.*, 146.

59 “Physical Protection of Nuclear Materials and Nuclear Facilities,” continuously updated by the IAEA: http://www.iaea.or.at/worldatom/program/protection/inf225rev4/rev4_content.html, 10 June 2000.

60 Committee on International Security and Arms Control, National Academy of Sciences. *Management and Disposition of Excess Weapons Plutonium*. Washington D.C.: The National Academy Press, 1994. According to the Committee, US weapons-usable nuclear materials should be protected as rigorously as the nuclear weapons themselves. In 1997, the US DOE accepted this standard, not only for the plutonium from the dismantled weapons, but for all plutonium and HEU under its jurisdiction. However, no major changes in physical protection of weapons-usable material held by the DOE have been announced. For extensive analysis of this, see Bunn, “Raising International Standards for Protecting Nuclear Materials from Theft or Sabotage,” Bunn, George. “US Standards for Protecting Weapons-Usable Fissile Material Compared to International Standards.” *The Nonproliferation Review* 6, 1 (1998), and Bunn, Matthew. “Ensuring Security for Weapons-Usable Nuclear Material Worldwide: Expanding International Cooperation, Strengthening Global Standards.” Paper presented at the *Global’99 International Conference on Future Nuclear Systems*, Wyoming, 1999.

61 The countries wanted further studies, delaying work on a possible amendment by at least 18 months.

all possessors of significant quantities of civilian plutonium, were apparently concerned about the potential impact on its own domestic nuclear activities.

Maintain MPC&A financial support

The programs for managing Russian nuclear materials have been denoted the most cost-effective investments in US security.⁶² Currently, they represent less than one quarter of one percent of the US defense budget. Although President Clinton has called upon the US Congress to continue the MPC&A efforts under the “Expanded Threat Reduction Initiative,” continued congressional support is not guaranteed. Estimates indicate the need for an approximate doubling of the 140 to 150 million dollars annually made available to reduce the current proliferation risks as rapidly as practicable.⁶³

A relatively lukewarm European interest and limited financial support implies that other sources of long-term funding, preferably Russian, must be identified. And there are indeed options available. The original price for the 500 tons of HEU the United States purchased from Russia was 12 billion US dollars.⁶⁴ Russia receives more than 500 million dollars each year from the income on the HEU deal alone. The commercial value of Russia’s total stockpiles of fissile materials, including the materials in the nuclear weapons, would be in the range of 29 billion US dollars.⁶⁵ A total buy-out of all their stocks of fissile materials will of course not be acceptable to the Russians. However, according to estimates, if Russia agreed to spend half the proceeds from the purchase of an additional 100 tons of HEU on nuclear security, this would make available more than one billion US dollars.⁶⁶

62 Bunn, Foreword to *The Next Wave: Urgently Needed Steps to Control Warheads and Fissile Materials*.

63 Bunn, “Ensuring Security for Weapons-Usable Nuclear Material Worldwide: Expanding International Cooperation, Strengthening Global Standards.”

64 The Center for Strategic and International Studies, *Managing the Global Nuclear Materials Threat. Policy Recommendations*, 20.

65 *Ibid.*, 20.

66 *Ibid.*, 24.

Thus, finances made available through the HEU to lower enriched uranium (LEU) deal or future fissile material exports agreements, could be linked to MPC&A commitments by Russian authorities, and for paying (part of) the expenses for the accounting of the Russian stockpile.

Conclusion

Tremendous efforts have been put into making nuclear materials in Russia more secure. If judged against the almost total lack of nuclear security cooperation as early as 1994, progress in these efforts is nothing short of dramatic.⁶⁷ However, the challenges remain. A decade after the end of the Cold War and years of cooperation, substantial parts of the material have not been subjected to sufficient security up-grades, the accountability of nuclear material in Russia remains highly uncertain and the sustainability of security measures already put in place is questionable.

The strongest international contributor, the United States, was overwhelmed by the magnitude and profoundness of fissile material management problems in Russia. Current estimates indicate a need for a minimum doubling of the funds now made available to provide reliable and sustainable MPC&A solutions. Moreover, on both the US and the Russian side, Cold-War-enemy thinking, suspicion, and bureaucratic inertia continue to impede these important non-proliferation activities.

Stronger international interest in Russian nuclear material management, coordinated funding and long-term budgets commensurate with the threat is therefore urgently needed. However, despite the international support, maintaining adequate levels of protection and control over Russian stockpiles of fissile material remains a sole Russian responsibility. The key to the future management of nuclear

⁶⁷ Bunn, Foreword to *The Next Wave: Urgently Needed Steps to Control Warheads and Fissile Materials*.

materials in Russia rests with the Russian government, through its domestic financial prioritizing and bureaucratic and political security preferences.

Part II
Post-Cold War Nuclear Weapons Policies

TOM SAUER

The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines in the 1990s: the United States

Introduction

After the Cold War, the dominant position of the US was such that it was “bound to lead” with regard to nuclear arms control. It was in the interest of the US to change its nuclear weapons policy fundamentally and to adapt it to the post-Cold War geo-strategic situation. We could have expected that the US would have transformed its Cold War maximum deterrence, counterforce/damage limitation strategy, designed to be used quickly against thousands of targets in Russia, to a minimum deterrence posture, based on a limited number of survivable nuclear weapons, not on hair-trigger alert and without complex nuclear war-fighting plans. That, at least, was the new paradigm in the non-governmental expert community (e.g., think tanks, academia). The proliferation of studies in the 1990s in favor of minimum deterrence (or even elimination) is evidence of this strategic thinking. The most prominent were probably the Henry Stimson Center reports of 1995 and 1997, the Canberra Commission Report of 1996, the Generals and Admirals Statement of December 1996, the Committee on International Security and Arms Control (CISAC) report of the US National Academy of

Sciences of 1997, the Civilian Leaders statement of February 1998 and the Tokyo Forum Report of 1999.¹

These expectations, however, were only partially fulfilled ten years after the fall of the Berlin Wall. US nuclear weapons policy, especially during the Clinton administration, changed only to a limited extent. The purpose of this chapter is to describe and analyze to what extent US nuclear weapons policy changed between 1990 and 2000. First, I spell out the logic behind the expectations for major change. Second, I analyze in detail the little changed force structure, declaratory, safety and targeting policy of the US in the 1990s.² Finally, I point to some explanatory factors that lie behind the inertia in US nuclear policy.

The Rationale Behind the Expectations for Fundamental Change

With the fall of the Berlin Wall in November 1989 and the break-up of the USSR in December 1991, the Cold War came to an end in a surprisingly smooth and unexpected way. The US and the USSR (later Russia) called, and still do call, each other partners (of peace), rather than enemies. Therefore, one would have expected that after the Cold War, the speed of the ongoing reductions in nuclear arsenals would

- 1 There are three Henry Stimson Reports published by the Henry Stimson Center, Washington, D.C.: *Beyond the Nuclear Peril*, Report no. 15 (1995); *An Evolving US Nuclear Posture*, Report no. 19 (1995) and *An American Legacy*, Report no. 22 (1997); the Canberra Commission report is available at www.dfat.gov.au/dfa/cc/cc_report_intro.html; the Generals Statement is available at www.worldforum.org; US National Academy of Sciences, Committee on International Security and Arms Control, *The Future of US Nuclear Weapons Policy*. Washington, D.C.: National Academy Press, 1997; the Civilians Statement is available at www.worldforum.org/nwep-stmt.html; for the text of the Tokyo Forum, see *Arms Control Today* 29, no. 5 (1999): 14–20.
- 2 I only deal with nuclear weapons policy *sensu stricto*, including the force structure policy, declaratory policy and operational policy (safety and targeting). Ballistic Missile Defense (BMD), for instance, is not the focus of this analysis.

have been stepped-up and that nuclear weapons would have been further de-legitimized.

There were at least three reasons to change US nuclear policy radically. First, the existing policy with massive numbers on high alert had already been criticised *during* the Cold War.³ The ability to destroy the world several times over—the so-called overkill-capacity—was senseless. However, for psycho-political reasons, it was more or less impossible to reverse the nuclear arms build-up during that period. After 1989, no such legitimating factors existed.

Second, Russia's political and economic reforms experienced significant difficulties in the beginning of the 1990s. The Russian nuclear arsenal became one of the biggest security concerns for the rest of the world. The risks of nuclear accidents, unauthorized use, brain drain, incidents with unpaid soldiers, illegal export of fissile material or whole weapons or weapons systems were (and still are) not negligible. The incident with the *Kursk* in the summer of 2000 is only the latest blatant example in this regard.

Third, there is the further spread, or so-called proliferation, of nuclear weapons. The longer the Nuclear Weapon States (NWS) cling to their "nuclear" status, the more the Non-Nuclear Weapon States (NNWS) and non-signatories of the Non-Proliferation Treaty (NPT), established in 1968, feel betrayed, since Article VI of the NPT implies the elimination of nuclear weapons in the long-term.⁴

The allies and the moderates within the non-aligned movement accepted that the Cold War prevented the superpowers from reducing their nuclear arsenals substantially. *Mutatis mutandis*, the end of the Cold War raised enormous expectations in most, if not all, of the NNWS. The NWS had, and still have, an active interest in fulfilling these expectations. If not, some of the NNWS might also consider acquiring nuclear weapons and about quitting the non-proliferation regime. The latter is certainly not in the interest of the NWS, which

3 Jervis, Robert. *The Illogic of American Nuclear Strategy*. Ithaca: Cornell University Press, 1984.

4 *Treaty on the Non-Proliferation of Nuclear Weapons*, Resolution 2373, 1968.

made non-proliferation, at least rhetorically, a priority in their post-Cold War security policies (see further).

The US, in particular, could have been expected to take the lead in this regard for the following reasons. First, for the purposes of disarmament, it seems logical that those with the largest arsenals should move first. Second, taking into account the political, economic and geographic situation of Russia and the US, it has always been financially and psychologically much easier for the US, as the only superpower left, to make significant steps towards elimination. For Russia, nuclear weapons are more or less the only remaining “symbol” of its former superpower status. In contrast, the US is also by far the number one with regard to modern, high-tech conventional weaponry. Since the US borders two oceans, Mexico, and Canada, it is also geographically much better located to do so than Russia. Third, the US is the first country that developed nuclear weapons. It is also the only country that ever used nuclear weapons. It led the nuclear arms race both quantitatively (except for some categories of weapons systems in the 1970s and 1980s) and qualitatively. It can, therefore, be argued that the US had the moral responsibility, in so far as this is relevant in international politics, to take the lead in reducing the existing nuclear arsenals and guide the world out of the nuclear weapons business.

US Nuclear Weapons Policy in the 1990s

How many nuclear weapons? What mission? Which operational procedures? These are the basic questions we will now analyze in more detail.

Force structure

The US basically halted the qualitative and quantitative nuclear arms build-up and reduced its deployed nuclear weapons substantially in the nineties. This policy was, however, only an extension of something that

was already going on. Deep cuts, in fact, did not occur in the 1990s. Sub-strategic nuclear weapons were not eliminated.

The *quantitative* arms race had already stopped *before* the end of the Cold War. The overall peak in US warheads was reached in 1966. Already in 1983, the Scowcroft Commission introduced the concept of “build-down,” by recommending modernization of warheads only “so long as more old warheads were removed than entered service.”⁵ In the 1990s, the number of warheads and delivery vehicles diminished further. Again, this does not mean that no new warheads or delivery vehicles have been built after the Cold War. For instance, the Los Alamos Lab will again start building pits (the core of nuclear warheads) in 2001, with a planned production of up to 80 warheads per year.⁶

One of the accomplishments of the Clinton administration was to put more emphasis on the control of fissile material. Capping the amount of fissile material can in principle prevent future arms races. Again, the US promise to cease production of fissile material for military purposes was already made before the end of the Cold War. At the UN General Assembly, in September 1993, Clinton did, however, propose to formalize these promises by negotiating and concluding a so-called Cut-off Treaty for fissile material, which would ban the production of Highly Enriched Uranium (HEU) and plutonium for nuclear explosive purposes. He also promised at that time to place some of the US’s excess military plutonium under the control of the International Atomic-Energy Agency (IAEA). Yet, in 2000, a cut-off treaty was still not being negotiated, let alone realized.⁷

Instead, the US and Russia signed a bilateral agreement to halt the production of weapons-grade plutonium, in June 1994. In November of that year, “Project Sapphire” purchased and successfully removed

5 Freedman, Lawrence. *The Evolution of Nuclear Strategy*. Basingstoke: Macmillan, 1989, 413.

6 Bruce Hall, Press Release by Peace Action New Mexico, 21 July 1999.

7 The two basic political problems that prevent the start of the cut-off negotiations at the Conference on Disarmament are: (1) the linkage by China between the cut-off and preventing an arms race in outer space and (2) the demand by Pakistan and some Arab states to take into account the current stocks of fissile material as well.

600kg of HEU from Kazakhstan, with the consent of Russia. The Clinton administration also unilaterally decided to withdraw 200 tons of fissile material, 38 tons of which was weapons-grade plutonium, from its nuclear stockpile in March 1995. Two months later, the Clinton-Yeltsin summit resulted in a joint statement pledging never again to build nuclear weapons from excess uranium or plutonium from dismantled weapons, newly produced fissile material, or civilian material. In 1996, the US announced that it would eliminate its excess HEU by blending it with Lowly Enriched Uranium (LEU). In September 2000, the US and Russia signed a bilateral agreement in which each promised to eliminate 34 tons of weapons-grade plutonium.⁸

The *qualitative* arms race also halted with the end of the Cold War, it is sometimes argued. The Comprehensive Test Ban Treaty (CTBT), concluded in 1996, would be a first indication of this. In the same vein, the US Stockpile Stewardship Program (SSP) stated that “there are no new design requirements” for US nuclear warheads.⁹

The conclusion of the CTBT is probably the most important arms control accomplishment of the Clinton administration. On the other hand, the US only stopped testing in 1992, after having executed as many nuclear tests as all the other states including Russia, China, France, the UK, India and Pakistan combined. Second, it took a lot of time and political compromise inside the Clinton administration to get the CTBT signed. The internal compromise included the SSP program in DOE (see further). Third, the Treaty requires that all 44 countries possessing nuclear reactors ratify before the CTBT enters into effect. On 13 October 1999, the US Senate voted *against* CTBT ratification. This was arguably the biggest blow to the non-proliferation regime in decades. In addition, India had already made clear before and after the signing ceremony that it would not sign the CTBT, because of the overall discriminatory regime between NWS and NNWS and because of lack of progress towards elimination. Fourth, thanks to computer sim-

8 Schweid, Barry. “Gore, Russia Sign Plutonium Accord.” *Associated Press*, 1 September 2000.

9 Arkin, William. “What’s New?” *The Bulletin of the Atomic Scientists* 53, no. 6 (1997): 24.

ulations, sub-critical and hydrodynamic tests, the US retains the capability to maintain the safety and reliability of the existing nuclear arsenal.

With regard to the SSP, the following should be noted. First, the SSP states that the capability to design new warheads should be maintained in the future. This permits the labs to create prototypes of new warheads. Second, some warheads will be qualitatively improved for safety reasons. The W88 and W76 warheads, for example, still lack Insensitive High Explosives (IHE) and Fire Resistant Pits (FRP).¹⁰ Third, at least one new warhead has been introduced into the US arsenal since 1990, namely the B61-11. Critics maintain that it is not a new warhead, but a “modification” of the B61-7. The fact is that, although the physics package remains identical, the fusing and firing systems are different. The result is an earth-penetrator warhead, which did not yet exist in the US arsenal before. Another modification is in the pipeline, namely a standoff glide bomb version of the B61-11. Fourth, the fusing, firing and arming components of the W76 Sea-Launched Ballistic Missile (SLBM) warhead will be upgraded to make it more efficient against hardened targets.¹¹ New options will also be introduced in the W88.¹²

The US government also claims that all new delivery vehicle programs, such as the small Intercontinental Ballistic Missile (ICBM), have been cancelled. Bush, for instance, decided to end the MX rail program as well as the program for Short Range Attack Missiles (SRAM) for bombers. The development of two other tactical air-to-surface missiles was also cancelled. Ed Warner explains:

We have no development or procurement programs for a next-generation bomber, ICBM, SLBM, or strategic submarine. The programs we do have are designed to sustain the safety, reliability, and

10 Norris, Robert, and William Arkin. “US Nuclear Stockpile, July 1998, NRDC Nuclear Notebook.” *The Bulletin of the Atomic Scientists* 54, no. 4 (1998): 71.

11 Pincus, Walter. “US Nuclear Stockpile Plans Draw Scrutiny.” *Washington Post*, 24 April 2000.

12 Mello, Greg. “That Old Designing Fever.” *The Bulletin of the Atomic Scientists* 56, no. 1 (2000): 51–57.

effectiveness of our remaining forces, and to ensure the continued high quality of our strategic forces.¹³

This statement is only part of reality. First, in the Nuclear Weapons Systems Sustainment document released by the Defense Department (DOD), it is said, “a follow-on Submarine Launched Ballistic Missile (SLBM) is intended.”¹⁴ And, in the Secretary of Defense (SOD) *Annual Report* of January 2000, it is noted that “the Air Force has begun exploratory tasks to plan for a replacement to the Minuteman III [ICBM] around 2020.”¹⁵ Second, old weapons will be replaced by new weapons. The modern Trident II (D-5) SLBMs will replace the remaining Trident I (C-4) SLBMs on four ballistic missile submarines (SSBNs). As a result, all SSBNs will have the more accurate D-5 missiles installed. These missiles were built after the Cold War at a total cost of 1.2 billion US dollars.¹⁶ Third, some parts of the delivery vehicles continue to be modernized. For instance, SLBMs will receive a new retargeting system in 2001 to support the principle of adaptive targeting and to attack mobile targets. The Minuteman III ICBMs carry new guidance systems and will be re-motored. That will extend their service life at least until 2025. A Rapid Execution and Combat Targeting (REACT) system has been installed in ICBMs in the second half of the nineties as well.¹⁷ SLBMs have a similar system.¹⁸ Fourth, not all ordered systems were cancelled. For example, a new SSBN was commissioned in September 1997 and the twentieth B-2 had its maiden

13 Extract from statement by Ed Warner to the Senate Armed Services Subcommittee on Strategic Forces, 31 March 1998, quoted in *Disarmament Diplomacy* 3, no. 25 (1998), 42.

14 Arkin, William. “What’s New?” *The Bulletin of the Atomic Scientists* 53, no. 6 (1997): 25.

15 Cohen, William. *SOD Annual Report to the President and Congress 2000*. Washington, D.C.: DOD, 2000, chap. 6.

16 Coté, Owen. “The Politics of Innovative Military Doctrine.” Ph.D. diss., MIT, 1996, 31.

17 Kristensen, Hans, and Joshua Handler. “The USA and Counterproliferation.” *Security Dialogue* 27, no. 4 (1996): 392.

18 Arkin, William. “Agnosticism When Real Values Are Needed.” *Federation of American Scientists Public Interest Report* 50, no. 5 (1994): 6.

flight in 1998. The production of Trident II SLBMs was not halted either after 1989.

Besides having basically halted the quantitative and qualitative arms race, the US also reduced its arsenal further. The Intermediate Nuclear Force (INF) treaty was the first major arms reduction treaty signed in the second half of the 1980s. After the Cold War, the US diminished the total number of nuclear warheads gradually from 21,000 in 1990 to 11,425 in 1998 and 10,500 in 2000. In 1998, 8,270 warheads were still deployed: 7,300 strategic and 970 sub-strategic nuclear weapons. The former consisted of 1,800 warheads or bombs carried by 71 B-52 and 21 B-2 long-range bombers, 2,000 warheads on 500 Minuteman III and 50 MX ICBMs, and 3,500 SLBM warheads on Trident I and II submarines. With regard to sub-strategic nuclear weapons, former US President George Bush announced substantial unilateral reductions a few weeks after the Soviet coup in August 1991, which were promptly reciprocated by his Russian counterpart, Mikhail Gorbachev. More in particular, Bush decided to destroy all nuclear artillery shells, nuclear depth bombs, and ground-launched tactical nuclear missiles. NATO decided in October 1991 to remove 80 percent of the American sub-strategic nuclear weapons from Europe, amounting to 3,000 artillery shells and short range missile warheads and 2,000 additional warheads. This was accomplished in October 1992.

The US government claims that all these reductions are “dramatic.” Very often, it refers to the 13,000 nuclear warheads it eliminated between 1988 and 1999, and points out that the total active stockpile was reduced by 59 percent between 1994 and 1998 (and that this figure will reach 79 percent after START II enters into force), and that the total number of strategic warheads had been reduced by 47 percent from 1988 to 1994 (and that this percentage will be 71 percent when START II enters into force).

While these numbers are undoubtedly correct and while these reductions can be regarded as substantial in absolute terms, a systematic analysis puts the latter in perspective. In comparison with 1980 (instead of 1988), for instance, the number of deployed strategic nuclear warheads in 1994 went down by only 28 percent. The corresponding

number for warheads on ICBMs is even lower: a reduction from 2,550 to 2,050 ICBM warheads, which constitutes a reduction of less than 20 percent. The number of deployed strategic nuclear warheads in the second half of the nineties was higher than the corresponding number in 1960, 1965 or 1970. The latter is the year when the NPT entered into force. What is the relative importance of building down after first having built up an irrational overkill capacity, especially if the build-down does not affect this overkill capacity?

Besides the warheads, the reductions in delivery vehicles were not very impressive either. With regard to ICBMs, there has only been a 50 percent reduction since the height of the Cold War. The same cannot even be said about the number of SLBMs. The latter is still comparable with the number in 1965 and is only 35 percent less than the overall peak during the Cold War. In 2000, the triad was still in place.

The US government will defend itself by pointing to future reductions. It is intended to reduce the number of operational strategic nuclear warheads to 6,000 in December 2001 (START I) and 3,500 in 2007 under START II (which has been ratified but still has to enter into force). According to the Helsinki agreement of March 1997, this number will further decrease to 2,000 to 2,500 under START III. The latter, however, still has to be formally negotiated. These planned reductions are not impressive. Although START II will take most destabilizing strategic weapons (like the MX and the SS-18) out of the arsenals, the resulting numbers will still belong to a war-fighting/damage limitation posture and will still be enough to destroy the world a couple of times over. Planning to maintain thousands or even hundreds of nuclear warheads 40 years after the signing of the NPT and 20 years after the fall of the Berlin Wall, ridicules the goal of elimination enshrined in the NPT. As already stated before, the latter may seriously affect the non-proliferation regime. According to leaked documents from Russia, the “talking points” of US negotiators at the 19–21 January 2000 meeting in Geneva about amending the Anti-Ballistic Missile (ABM) treaty, paradoxically contained the argument that the limited National Missile Defense (NMD) system that the administration was planning to deploy would not undermine the Russian nuclear deterrent if both countries

were to keep 1,500 to 2,000 strategic warheads “over the next decade and thereafter.”¹⁹

In the field of nuclear arms reductions, Clinton could have done much more than pushing through the ratification of START II in January 1996 and “negotiating” and signing the Helsinki agreement in 1997. Having concluded the START I negotiations in 1991, pushed through START I ratification in October 1992 and negotiated and concluded START II in January 1993, the previous Bush administration has more disarmament credits than the two Clinton administrations together.

Underneath these moderate reductions lies the principle of balancing. This principle assumes that the US should still have “roughly” the same number of nuclear weapons as Russia. The START I and START II agreements (like the INF Treaty) are examples of balanced or “cooperative” reductions (at least in theory). Even the so-called unilateral reductions announced by Bush in September 1991 were part of a *de facto* reciprocal agreement with Gorbachev. When the US Senate ratified START II in 1996, it added the explicit requirement to always maintain at least roughly the same number of strategic nuclear weapons as Russia. The logic behind this was that US-Russian relations could always turn sour again. In the same spirit, the National Defense Authorization Act for Fiscal Year 1998 stated that the START I levels had to be maintained as long as Russia had not ratified START II. This is the so-called hedge policy, introduced by the 1994 *Nuclear Posture Review* (NPR).

Four rebuttals against hedging need to be given. First, hedging as a principle does not make much sense in the current stage of nuclear disarmament. Hedging against potential political surprises may be part of a prudent security policy when we are talking about very low numbers of nuclear weapons. This is not the case yet. Second, hedging also ridicules the idea of elimination, because the argument of future instability as a legitimization for keeping a maximum deterrence posture

19 Broad, William. “US-Russian Talks Revive Old Debates on Nuclear Warnings.” *New York Times*, 1 May 2000; Boese, Wade. “Leaked Documents Detail US ABM Strategy.” *Arms Control Today* 30, no. 4 (2000): 40–41; Schwartz, Stephen. “The Folly of US Nuclear Diplomacy.” *Newsday*, 7 May 2000, B5.

can always be brought up. Third, hedging against “possible” consequences of a “possible” failure of the economic and political transition in Russia is not the most effective way to diminish the Russian nuclear risks in the first place. Fourth, the US hedge capability is much superior to that of Russia. The Russian reconstitution or hedge capability is only 35–50 percent of the US under START II and 40–60 percent under START III.²⁰

In addition, Russia has neither the financial means nor the economic infrastructure to maintain high nuclear force levels. This is something that will not fundamentally change in the next decade either. The Russian nuclear infrastructure, including its strategic nuclear weapons arsenal, is deteriorating to such an extent that Russia will unilaterally reach the START II or even START III levels, because most of its weapons systems, in contrast to the US, are at the end of their useful lifespan. President Vladimir Putin has proposed to move to 1,500 or below.²¹

Moreover, the quality of US warheads is much better, especially the hard-target capability to be used against hardened ICBM silos. This does not contribute to stability. On the contrary, it puts pressure on the Russians to build new weapons systems that, in turn, will complicate future arms control agreements. For instance, Russian conversion of its new ICBM to Multiple Independently Targetable Reentry Vehicles (MIRVs) would contradict START II. All this puts pressure on the Russians to maintain high alerts, which are extremely dangerous, taking into account the problems they are struggling with. Besides, the Russian early warning system, in particular its deteriorating satellite system, is simply not capable of detecting American SLBM or even ICBM launches 24 hours a day (see further). In addition, US modern conventional weapons are much better equipped to destroy Russian nuclear weapons (and other targets) than *vice versa*. More fundamentally, the high level of hard-target capability makes no sense, because

20 Wilkening, Dean. “The Future of Russian Strategic Nuclear Force.” *Survival* 40, no. 3 (1998): 105.

21 Williams, Daniel. “Russia to Cut its Nuclear Stockpile.” *Washington Post*, 13 August 2000, A16.

there will not be as many hard targets left in Russia. According to Arkin and Kristensen, the US will retain around 900 warheads with a hard-target capability under START II, while there will be only 500 hardened Soviet targets, including 200 “less” hardened targets (such as support command and storage facilities).²²

As a consequence, the US enjoys a better first-strike capability against Russia than it has since the 1950s. According to Blair and von Hippel, “at any given time Russia has perhaps 200 survivable warheads, while the US has approximately 2,000.”²³ This is one of the reasons why Russia is so concerned about a US NMD system.

Besides the fact that there were no deep cuts in the 1990s, an opportunity was also missed to eliminate all US sub-strategic nuclear weapons. Two justifications are provided by the US government for keeping some of them: extended deterrence and Russia’s sub-strategic nuclear weapons. The US kept sub-strategic nuclear weapons to make its extended deterrence capability more credible. There remained, for instance, 650 B61 bombs of which 150–200 were based in Germany, Belgium, the Netherlands, Italy, Greece, Turkey and the UK, in the year 2000. In contrast, its nuclear weapons were removed from South Korea in 1992. Also, in Europe the legitimacy of the remaining American nuclear weapons is being questioned.²⁴ In addition, the sub-strategic force remains a bargaining tool for possible future negotiations with Russia.

To conclude, then, US nuclear force structure has not changed fundamentally since the end of the Cold War. Even former US Secretary of State Madeleine Albright agreed in June 1998 that there was a gap between the political and nuclear reality: “For until we bring our nuclear arsenals and postures into line with post-Cold War realities,

22 Arkin, William, and Hans Kristensen. “Dangerous Directions.” *The Bulletin of the Atomic Scientists* 54, no. 2 (1998): 29.

23 Blair, Bruce, and Frank von Hippel. “The Future of Russian-US Arms Reductions.” Paper presented at The MIT Stockpile Stewardship Program (SSP) Conference, Cambridge, Mass., 2–6 February 1998, 40.

24 Editorial. “Nuclear Protesters Invade Belgian Base.” *International Herald Tribune*, 17 April 2001, 1.

each of us will be forced to maintain *larger arsenals* at higher states of alert *than would be ideal*.”²⁵

Declaratory policy

Because of the inherently destructive capacity of nuclear weapons, declaratory nuclear policy has never been a very satisfying exercise. This applies to the doctrines themselves, as well as to the consistency between the doctrine on the one hand and other policy elements (such as the goal of elimination or the existing force structure policy) on the other hand.

First, probably the biggest inconsistency both during and after the Cold War is the fact that the US promised to eliminate its nuclear weapons under the NPT in 1968, while *de facto* no substantial steps have been taken that direction. Only at the NPT Conference in 2000, did the US, together with the other NWS, agree with a statement that unequivocally says that the goal (not the ultimate goal) is to eliminate nuclear arsenals, regardless of the state of conventional disarmament. Before this, US government officials, including Clinton, always talked about elimination as an “ultimate” goal. Other officials inside the Clinton administration had even insinuated in the 1990s that the US planned to maintain nuclear weapons “indefinitely.” Thus, the “internal” declaratory inconsistency is resolved, but the underlying discrepancy between declarations and force structure policy still exists.

Second, non-proliferation rose to the top of US security priorities after the Cold War. The proliferation of weapons of mass destruction was regarded as “the principal direct threat to the survival of the US and our key allies.”²⁶ Indeed, the US took its responsibility to fight proliferation seriously. With regard to Russia, the Bush administration had already initiated the so-called Nunn-Lugar (later renamed Cooperative Threat Reduction) Program. This included the establishment of the

25 Albright, Madeleine. Speech given at the Henry Stimson Center, Washington, D.C., 10 June 1998. Emphasis added.

26 Secretary of State Warren Christopher, quoted in *US Information Service (USIS)*, 23 January 1995, 5.

International Science and Technology Center (ISTC) in Moscow, aimed at preventing the Russian brain drain. The Clinton administration also succeeded in convincing the nuclear successor states of the former USSR (Ukraine, Kazakhstan and Belarus) to eliminate the nuclear weapons on their soil and to sign the NPT as NNWS. Besides the signing of the CTBT, the latter is probably the second major accomplishment of the Clinton administration in the field of nuclear arms control. The US helped (and still helps) Russia to secure its fissile material. It also imposed strict controls on Iraq, and found a compromise with North Korea in October 1994. In addition, the Clinton administration was successful in extending the NPT indefinitely in 1995.

On the other hand, in practice, US non-proliferation policy has not always corresponded to the rhetoric. The American reaction to the Indian and Pakistani nuclear tests in May 1998, not to mention the French nuclear tests in 1995, was relatively moderate. More fundamentally, at the same time that the US preaches non-proliferation, it is itself in possession of thousands of nuclear weapons.

In addition, one can ask how effective US non-proliferation policy actually is. North Korea perhaps already has one or two nuclear weapons as well as ballistic missiles. Iraq's program has been largely destroyed by Operation Desert Fox in December 1998, probably the first war fought in name of non-proliferation. However, the question that remains is how sustainable that situation is in the long-term. Last but not least, the US did not succeed in convincing India and Pakistan not to test nuclear weapons in 1998. As a result, the number of declared nuclear weapon states rose, for the first time ever, from five to seven.

Third, because of the end of the Cold War and existing disarmament obligations, one could have expected that the overall nuclear mission would be very much narrowed down. In concrete terms, the US government could have declared that nuclear weapons would only be used in retaliation to a nuclear strike. A No-First-Use (NFU) doctrine could have been declared.

The US government claims that it never placed less emphasis on nuclear weapons. Except maybe for the first years after the World War

II, this is probably true. Nevertheless, if one relies heavily on nuclear weapons during a certain period, it is not very difficult to claim that one relies “much less” on them thereafter, especially if the international political circumstances have changed fundamentally in the meantime. Second, US force structure and operational policies do not match the claim that US policy relies much less on nuclear weapons (see before and see further). Third, what do the words “much less” mean if the same declaratory policy still claims that the US relies on nuclear deterrence as “the *ultimate* guarantee” for its security and that nuclear weapons “play an *essential* role” in guaranteeing US security? It is by definition meaningless to talk about levels or degrees of reliance if, at the same time, one uses words like “essential” and “ultimate.”

What is positive is that Clinton’s PDD-60 formally put an end to the so-called prevailing or winning strategy. This doctrine, established by President Ronald Reagan in 1981, required that the US had to be able to fight and win a so-called protracted nuclear war lasting weeks or even longer.²⁷ The fact that such a policy was never declared before 1981 is an indication of its extremist status. Government officials now admit that the doctrine had never been taken seriously. “What is different, is that we have not carried over what we think was an *unrealistic*—from the beginning—directive from President Reagan that we have a force capable of fighting and winning a protracted nuclear war,” explained National Security Council Special Assistant Bob Bell in 1998.²⁸ It was Reagan himself who, together with Gorbachev, declared in 1985 that a nuclear war could not be won. Last but not least, US operational policy, in contrast with declaratory policy, was never ready to fight and win a nuclear war. Yet, this doctrine constituted formal presidential guidance for US nuclear policy for more than 15 years. In other words, US force structure modernizations were justified during this period by referring to this doctrine. Clinton only changed it in November 1997.

27 Smith, Jeffrey. “Clinton Directive Changes Strategy on Nuclear Arms.” *Washington Post*, 7 December 1997, A1.

28 Bell, Bob. Interview by Jim Lehrer. *Lehrer News Hour*, Public Broadcasting System, 8 January 1998. Emphasis added.

A major negative development was that the US still did not exclude some nuclear options. The overall goal seemed to be to create uncertainty in the mind of the enemy by keeping an ambiguous declaratory policy. For instance, the US still did not want to declare an NFU policy. Germany and Canada tried to re-open this debate in NATO in November 1998, but the US immediately reacted negatively. As a result, the US still does not exclude using nuclear weapons against conventional, chemical or biological weapons attacks.

Worse still, it never placed more emphasis on nuclear deterrence against chemical and biological weapons attacks than in the 1990s. For instance, in a Congressional hearing related to the ratification of the Chemical Weapons Convention in May 1996, and, in particular, with regard to possible retaliatory capabilities against a chemical weapons attack, former secretary of defense William Perry indicated that “the whole range should be considered—precision-guided munitions, Tomahawk land-attack missiles—and then we have nuclear weapons.”²⁹

A first remark concerns the remarkable extent to which this new emphasis coincided with the end of the Cold War. What about the chemical and biological weapons threat during the Cold War? What about the US reaction against states that not only had produced or had threatened to use chemical weapons, but also had *de facto* used chemical weapons during the Cold War, like Iraq in the 1980s?

Second, there appear to be different standards in the game. For example, until 1991, the US kept a huge and modern chemical weapons arsenal. Assuming that Agent Orange is a chemical weapon, the US used chemical weapons on a massive scale during the Vietnam War. And, what about the reaction of the US against proliferating states like Israel that acquired dozens of *nuclear* weapons in the past? Moreover, what is the fundamental difference between the acquisition of nuclear weapons by Israel or by India and Pakistan, on the one hand, and by North Korea, on the other? And, how legitimate is the US position of

29 Nolan, Janne. *An Elusive Consensus*. Washington, D.C.: Brookings Institute, 1999, 78. Emphasis added.

criticizing so-called “rogue states,” taking into account that it still maintains more than 10,000 nuclear warheads, hundreds of which are on alert?³⁰ By relying on nuclear deterrence against chemical and biological weapons attack, the US sends a signal to the rest of the world that nuclear weapons are militarily useful and legitimate defense instruments. Such messages do not prevent, but stimulate proliferation.

Third, and more fundamentally, the threat of using nuclear weapons in retaliation to a chemical or biological weapons attack lacks credibility, because of the difference in destructive capacity and the principle of proportionality. The Gulf War is frequently cited as an example to the contrary, because Iraq did not use chemical weapons. However, what is very often forgotten is that the US threatened to use nuclear weapons not only in response to a chemical or biological weapons attack, but also in case Iraq was planning to burn the Kuwaiti oil fields. Iraq did burn the Kuwaiti oil fields. Nuclear deterrence, therefore, did not “work.” Risk-takers have certainly noticed that the US did not retaliate with nuclear weapons and may speculate that the US will also be extremely hesitant the next time. If the US fails to follow up on the threat of using nuclear weapons several times, it will erode the remaining credibility of nuclear deterrence. The latter is already low, due to the gradually evolving nuclear taboo. In short, to deter chemical and biological weapons attacks with nuclear weapons is not credible at all, and, therefore, not in the interest of the US. Finally, it should be noticed that the US government itself doubts whether nuclear deterrence against chemical, biological, or even nuclear weapons attacks from “rogue states” will always work. It admits that the leaders of such states do not always behave rationally. For the same reasons, the US is now developing Ballistic Missile Defense systems.

Fourth, the emphasis on nuclear deterrence against chemical and biological weapons attacks also completely contradicts another basic aspect of US declaratory policy, namely its promise to provide negative security guarantees to the NNWS and to support the creation of Nuclear Weapon-Free Zones (NWFZs). In 1978, the US unilaterally

30 The Clinton administration only abandoned the concept of “rogue states” in the summer of 2000. They are now called “states of concern.”

promised not to attack the NNWS with nuclear weapons on the condition that the latter are not allied with another NWS. After the Cold War, one could have expected that these so-called negative security guarantees would be made legally binding. The US repeated its promises before the NPT conference in 1995, but it still refuses to give legally binding commitments. Moreover, the emphasis on nuclear deterrence against chemical and biological weapons attacks since the end of the Cold War undermines the negative security guarantees.

The same applies also to the policy of supporting NWFZ. The case of the Pelindaba Treaty is telling. In April 1996, the US signed its relevant protocols. One of the key aspects is that nuclear weapons may not be used in Africa. However, on the same day that US government officials signed the Treaty without reservations, Bob Bell of the National Security Council declared that this “will *not* limit options available to the US in response to an attack by an African NWFZ party using weapons of mass destruction.”³¹ This is again a major inconsistency in US nuclear policy.

Last but not least, once the policy of nuclear deterrence against chemical or biological weapons attacks becomes accepted, it will be extremely difficult to get rid of nuclear weapons. There will always be chemical and biological weapons around, as they are relatively easy to produce. As a result, such a policy contradicts the promise to eliminate nuclear weapons.

Safety policy

For safety reasons, one could have expected the US to announce after the Cold War that it would not retaliate promptly with nuclear weapons and that the alert levels had changed considerably. A so-called ride-out policy would have more or less the same deterrent effect on the opponent. The advantage of a *de facto* ride-out policy is that in crisis situations, it would prevent accidental launches after a false alarm. In peacetime, a ride-out policy would make it possible to stand down the

31 Plesch, Daniel. “Western Nuclear Doctrine.” In *The Road to Zero*, ed. Joseph Rotblat, 243–264; 250. Boulder: Westview Press, 1998. Emphasis added.

nuclear arsenal. The latter would diminish the risk of accidents substantially.

None of this happened. US declaratory operational policy remains, for so-called deterrence purposes, ambiguous. It certainly does not seem to exclude launch-under-attack, which refers to launching nuclear weapons once the opponent's warheads start detonating on US soil. As a result, US ICBMs and SLBMs are still geared on high alert. The patrol rate of the submarines is equal to that during the Cold War. Two thirds of all submarines (between eight and eleven) are on patrol at any given time.³² Two crews are still foreseen per submarine. Half of the submarines are on modified alert and need 18 hours to launch SLBMs.³³ The other half is still on high alert, which means that they are able to launch within 15 minutes. Despite some efforts during the NPR and regardless of US declaratory policy, ICBMs are still geared for launch in a time-span of two minutes. All this means that there are still more than 2,500 nuclear warheads ready to be launched in a very short time frame. As a result, most of the safety risks still apply, particularly the risk of accidents and unauthorized use. To give just one example, a US and Russian submarine collided north of the Kola Peninsula on 20 March 1993.³⁴

The most drastic policy changes occurred under the former President Bush. Bush unilaterally decided to take the bombers off alert in September 1991. It now takes more than 12 hours to put them back on alert. He also decided to remove the sub-strategic nuclear weapons from the surface ships and attack submarines. As a result of the *Nuclear*

32 Kristensen, Hans, and Stephen Young. "Taking the Pulse of the US Nuclear Arsenal." In BASIC [online database], continuously updated: www.basicint.org/pulse.htm, 16 November 1998. The Atlantic fleet SSBNs patrol most of the time in the Northeast Atlantic Ocean and sometimes in the Mediterranean Sea; the Pacific fleet normally patrols south of Alaska.

33 Blair, Bruce, Harold Feiveson and Frank von Hippel. "Taking Nuclear Weapons Off Hair-trigger Alert." *Scientific American* 277, no. 5 (1997): 84.

34 Blair, Bruce, John Pike and Stephen Schwartz. "Defending Against the Bomb." In *Atomic Audit*, ed. Stephen Schwartz, 269–326; 306. Washington, D.C.: Brookings Institute, 1998.

Posture Review in 1993–1994, Clinton decided that naval tactical nuclear weapons could not be re-deployed. The dual-purpose aircraft capability of the US Navy carriers, however, had to be maintained. 320 Sea-Launched Cruise Missiles (SLCM) to be stationed on attack submarines were stored on land. As a result of the NPR, Clinton also decided to install Permissive Action Links (PALs) on SLBMs. As a result, all weapons systems have been equipped with PALs since July 1997.

One of the consequences of the high levels of alert in the US is that Russia also has to keep its own nuclear weapons on high alert. Another reason for a high alert status in Russia is that its early-warning system is in jeopardy, which means that Russia has even less time to retaliate during a crisis. This problem became visible during an incident in January 1995, when a false alarm triggered a strategic alert of the Russian launch-on-warning forces, and reached Yeltsin for the first time.³⁵ To send information of this kind to the presidential level is not done routinely, and misuse is punishable. A Norwegian civilian rocket that was meant to study the Northern Lights caused the alarm. Incidentally, it was the biggest rocket Norway ever launched and could, indeed, have resembled a US Trident SLBM launch on Russian radar screens. The scenario that probably came to mind was an American attack resulting in an electromagnetic pulse destroying or disturbing Russian command and control. During that episode, Yeltsin had to decide within a very short period of time whether to launch the Russian nuclear arsenal. Later on, it became known that Russia was informed about the Norwegian launch, but that administrative inefficiency meant that the Russian guards at the radar stations did not know about it. This incident not only exposed the lack of bureaucratic efficiency in Russia, but, more fundamentally, showed that the Russian satellite system was not capable of detecting US SLBM launches. Senior officials in Russia later admitted that 70 percent of Russia's early-warning satellites are past their operational life or are in a serious state of disrepair.³⁶

35 Blair, Bruce. *Global Zero Alert*. Washington, D.C.: Brookings Institute, 1995, 47.

36 Editorial. "Report Jump-START of the Committee on Nuclear Policy." *Arms Control Today* 29, no. 1 (1999): 15.

Nowadays, it appears that Russia is not capable of monitoring the American ICBM fields 24 hours a day.³⁷ The risk that the Russians may take far-reaching decisions based on fragmentary information is growing. This incident led to US-Russian initiatives, from 1998 onwards, to establish a data center in Moscow for pre- and post-launch notification of ballistic missiles, something that was not yet realized in 2000.

However, a more fundamental solution would be de-alerting. With low alerts, the safety risks would diminish substantially. This has not happened. In fact, at the beginning of 2000, the US recommended the Russians keep their launch-on-warning (LOW) strategies, in light of the possible American deployment of a limited NMD.³⁸ If the latter is true (as seems to be the case), it is another example of a major inconsistency in US nuclear policy: trying to deal with the deteriorating Russian nuclear arsenal on the one hand, and recommending the continuing maintenance of a LOW posture on the other hand, is completely contradictory.

Targeting policy

Formally, US and Russian nuclear weapons were “detargeted” in May 1994. This, however, is easily reversible. It is mainly a symbolic gesture, because all former targets remain in the computer database. US nuclear weapons can be retargeted simply by turning a switch.

The number of targets was further reduced after the Cold War. All targets in Central Europe, for instance, were deleted as a result of the fall of the Berlin Wall. In 1991, the Chief of the Strategic Air Command, Lee Butler, reduced the number further to 2,500, by focusing on inter-linked communication capabilities and other networks. However, according to Bruce Blair, the target list grew again from 2,500 to 3,000

37 Landay, Jonathan. “Russia’s Missile Surveillance is in Decay.” *The Philadelphia Inquirer*, 10 January 2000.

38 Broad, “US-Russian Talks Revive Old Debates on Nuclear Warnings;” Boese, “Leaked Documents Detail US ABM Strategy;” Schwartz, “The Folly of US Nuclear Diplomacy,” B5.

targets after 1995.³⁹ Most, if not all, of the Single Integrated Operational Plan (SIOP) targets are still located in Russia. In addition to 2,000 to 2,500 targets in Russia, some 300–400 targets in China, as well as at least 100–200 targets in Third World nations such as Iran, Iraq, North Korea, Syria and Libya have been selected.⁴⁰

The *Presidential Decision Directive (PDD) 60* of November 1997 put an end to the “prevailing doctrine” established in 1981 under Reagan, and led to the withdrawal of many industrial targets, as well as conventional forces targets.⁴¹ The nuclear forces and the nuclear command and leadership infrastructure of Russia are, on the other hand, still part of the current SIOP.⁴² These are part of what is now called the “stable nucleus,” which is “a core set of targets and special attacks that do not change substantially over time; thereby, eliminating the need, and the time involved, to make major changes.”⁴³ This “stable nucleus” encompasses 1,500 to 2,000 targets.

Massive Attack Options (MAO) still form part of the SIOP. The smallest of these (MAO 1) consists of attacking the 200 Russian ICBM silos, bombers and submarine bases, plus 100 other key targets with 680 US ICBM and SLBM warheads. MAO 2 adds additional nuclear-related targets, which would be attacked by more US SLBM warheads. MAO 3 adds leadership targets that would be attacked by bombers. The largest attack option (MAO 4) also includes economic targets and contains nearly all nuclear weapons on alert: almost 3,000 nuclear

39 Blair, Bruce. “Cold War Era Assumptions Drive US Nuclear Force Levels: Why the Target List Should Shrink.” *Issue Brief of the Coalition to Reduce Nuclear Dangers and the Center for Defense Information* 7, vol. 4 (2000); Blair, Bruce. “America Doesn’t Need All These Nuclear Warheads.” *International Herald Tribune*, 14 June 2000.

40 Although he speaks of more than 1,000 targets in the Third World (including China), see Blair, Bruce. *Global Zero Alert*. Washington, D.C.: Brookings Institute, 1995, 7–8; Blair/Pike/Schwartz, “Defending Against the Bomb,” 199.

41 Blair/Pike/Schwartz, “Defending Against the Bomb,” 203.

42 Fetter, Steve. “Future Directions in Nuclear Arms Control and Verification.” *INESAP Info Bulletin* (April 1998), 53; Smith, Jeffrey. “Clinton Directive Changes Strategy on Nuclear Arms.” *Washington Post*, 7 December 1997, A1.

43 Arkin/Kristensen, “Dangerous Directions,” 30.

warheads on 600 missiles.⁴⁴ Besides these, there are also the so-called Strategic Reserve Force and sub-strategic nuclear weapons that can be used against “rogue states” and China.⁴⁵ To conclude, the basic targeting plans remain more or less the same after the Cold War.

Conclusion

The argument that the US nuclear posture has fundamentally changed has to be put in perspective. After the Cold War, the US changed its nuclear policy to a certain extent. However, this mainly comes down to an end to the arms race with Russia by signing the CTBT and not holding nuclear tests anymore, by not developing new nuclear weapons anymore and by having started to reduce the enormous Cold War arsenals. Yet, nuclear weapons have not yet been eliminated. There is not even a sustained and high-level (read: presidential) commitment to elimination. On the contrary, the new emphasis on nuclear deterrence against chemical and biological weapons attacks makes elimination less feasible.

What about the more moderate and more realistic expectations of a shift from a counterforce/damage limitation posture to minimum deterrence? The Cold War nuclear force structure levels have come down to a considerable degree (depending on the category of weapons). Yet, these reductions say at least as much about the former overkill capacity as they reveal about a change in the basic posture. Counterforce/damage limitation still dominates with respect to force structure, declaratory and operational policy. The *Final Report of the Henry*

44 Arkin/Kristensen. “Dangerous directions,” 28; Smith, “Clinton directive changes strategy on nuclear arms;” Stone, Jeremy. “The War Plan Decoded.” *Federation of American Scientists Public Interest Report* 52, no. 2 (1999).

45 Blair, Bruce, John Pike and Stephen Schwartz. “Targeting and Controlling the Bomb” In *Atomic Audit*, ed. Stephen Schwartz, 197–268; 199. Washington, D.C.: Brookings Institute, 1998.

Stimson Center concluded in March 1997 that “the basic principle guiding official US nuclear policy remains little changed from the time of the Cold War.”⁴⁶ Butler contended a year later: “We have been unable so far to do better than just sort of go on intellectual autopilot.”⁴⁷ Even Keith Payne, a proponent of nuclear weapons and harsh critic of nuclear disarmament, agreed in 1998 that, “the [Clinton] administration expresses the same basic approach to the declaratory and operational dimensions of deterrence as the US did during most of the Cold War.”⁴⁸

The reasons for this “nuclear inertia” in the 1990s have to do with domestic politics, rigid thinking, huge parochial interests, inter-service competition, and a lack of political leadership. The major initiative to adapt US nuclear weapons policy during this decade, the NPR of 1993/1994, introduced by former Secretary of Defense Les Aspin and his assistant secretary Ashton Carter, failed miserably.⁴⁹ Although Aspin and Carter inspired major changes such as nuclear reductions, eliminating ICBMs, de-alerting, and withdrawing American nuclear weapons from Europe, they lost the bureaucratic battle inside the Pentagon to those with substantial parochial interests (such as the Strategic Command and the nuclear laboratories) and those with conservative beliefs (such as the Republicans). In December 1993, after Aspin’s departure, neither his superiors in the Defense Department nor in the White House supported Carter’s efforts. In short, Clinton’s nuclear weapons policy was an example of a lack of vision and leadership, approaching a dangerous level of lack of civilian control over the military.

46 Goodpaster, Andrew (chairman). “An American Legacy.” *Final Report of the Henry Stimson Center*, Washington, D.C.: Henry Stimson Center, 1997, 7.

47 Butler, Lee. “The Gift of Time.” Interview by Jonathan Schell. *The Nation*, 2 February 2000.

48 Payne, Keith. “Post-Cold War Requirements for US Nuclear Deterrence Policy.” *Comparative Strategy* 17 (1998): 253.

49 Sauer, Tom. “Nuclear Inertia. US Nuclear Weapons Policy after the Cold War (1990–2000).” Ph.D. diss., Catholic University of Leuven, 2001.

JOSEFINE WALLAT

The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines: Russia

Introduction

Over the last decade, Russian nuclear weapons have been an almost constant topic of debate in international relations. Throughout the Cold War, the nuclear arms race and arms control negotiations formed a central element in superpower relations. Since the collapse of the Soviet Union, much discussion and concern has been devoted to the safety of both fissile material and the existing nuclear arsenal in Russia. Only very recently, during the summer of 2000, the fate of the Russian nuclear submarine, *Kursk*, was covered extensively by the international media and led to widespread speculation concerning the true state of nuclear weapons in Russia.

The following contribution discusses the role of nuclear weapons in strategic thinking and military doctrine in Russia. The first part will focus on the difficult relationship between theory and practice in the Russian military. The second part will analyze two important strategic documents: the *National Security Concept* and the *Russian Military Doctrine*, which were both adopted under President Vladimir Putin in early 2000. Based on this analysis, the last part of the chapter will discuss the different roles that nuclear weapons play in Russia. The central and most important difference to the Cold War era is that the role of nuclear weapons in Russia today is a role that stems from a situation of weakness and not from superpower strength.

Theory and Practice in the Russian Military

There is always a certain danger when talking about military doctrines, international treaties, and other documents to assume that these theoretical discussions reflect reality and practice. This might seem an obvious point to make, but it is especially true for Russia today. There are probably few countries in which the discrepancy between theory and practice is as wide as in Russia. As the sinking of the *Kursk*, and the futile Russian attempts to rescue the crew, have shown, the reality of Russian military life is almost unimaginable to Western observers. It is hard to overestimate the state of decline and self-destruction that is taking place in Russia today. Many of the problems are similar in all post-Communist countries: oversized forces dealing with under-funding, a severe lack of exercises, leaving pilots with dangerously few flying hours per year, officers having to earn their living with odd jobs, outdated equipment, open theft and shady financial dealings in the responsible ministries, harassment of soldiers, a complete loss of prestige of the armed forces, to name just some of the major problems. Even Putin himself complained in a National Security Council meeting in August 2000 that “in many units, no exercises are being held (...) pilots are not flying and the navy is not taking to the sea.”¹ While the nature of the problems faced by the transition countries is the same, the sheer geographical size of Russia and its military gives them a totally new dimension.

A discussion of the Russian situation should also take into account that military restructuring is an expensive and difficult enterprise, with which many much smaller Western countries that are not facing the additional burden of a complete economic, political and societal transition, continue to struggle with. The long and painful review and reform processes in countries such as Britain, France and Germany are proof of these difficulties. The Russian armed forces, however, face additional burdens. Russian soldiers continue to struggle with such basic

1 Putin in the National Security Council, 11 August 2000, cited in Adomeit, Hannes. *Russische Sicherheits- und Verteidigungspolitik unter Putin. Neue Akzente oder gewohnte Großmachtsnostalgie?* Ebenhausen: Stiftung Wissenschaft und Politik, 2000, 45.

problems as hunger, lack of adequate accommodation and the fact that the government often withholds wages for several months. Russia faces a situation in which national health and life expectancy have decreased to an extent that can only be compared to nineteenth-century Britain.² It is a country in which fewer and fewer conscripts can be called up to do their military service, provided they have turned up for registration in the first place.³ Theft has become a notorious and widespread problem, which is illustrated by the fact that kebabs all over Russia are roasted on skewers made of missile titanium.

This overall decline of the Russian armed forces has a direct impact on nuclear defense. First of all, despite its privileged position within the armed forces, nuclear defense has not escaped the serious and extremely worrying collapse of the armed forces as a whole.⁴ The

2 Reports about deteriorating conditions are growing. According to Jane's, conditions for conscripts and professionals alike are bad: Four out of five conscripts are beaten by their officers; another one in five leave the army with chronically illnesses caused by poor diet, overcrowding, minimal medical and sanitary provisions; two out of seven become addicted to drugs or alcohol and one in twenty is raped. Moreover, the suicide rate continues to grow. See Jane's Sentinel Security Assessment. *Russia and the CIS*. Coulsdon: Jane's Sentinel Security Assessment, 2000, section 8.11.1.

3 Some authors consider only one third of Russia's soldiers to be deployable. See Schilling, Walter. "Russlands Militärmacht." *Internationale Politik* 55, no. 5 (2000): 27. Russian sources say that Russia finds it increasingly difficult to muster the 100–120,000 servicemen needed for the Chechnya campaign. For more details, see Trenin, Dmitry. *Russia's Military in Crisis*. Moscow: Carnegie Moscow Center, (CMC Briefing 9/2000 of Autumn 2000). Available at <http://pubs.carnegie.ru/english/briefings/2000/default.asp?n=issue09-00.asp>.

4 Christoph Bluth describes incidents in which electricity supply to units of the Strategic Rocket Forces was cut off because of unpaid bills. See Bluth, Christoph. "Rußland und die Weiterverbreitung von Kernwaffen." *Aus Politik und Zeitgeschichte*, no. 50–51 (1999): 21. For reports on the seriously diminished operability of parts of the strategic arsenal, see Schilling, Walter. "Zustand und Perspektiven der strategischen Rüstung Rußlands." *Osteuropa* 50, no. 1 (2000): 56. Jane's cites Alexei Arbatov, Deputy Chair of the Parliamentary Defense Committee, who has predicted that in a few years, Russia will have no strategic bomber fleet at all. See Jane's Sentinel Security Assessment, *Russia and the CIS*, section 8.14.4.

severe lack of funds directly affects the functioning and safety of nuclear weapons by providing incentives for theft and proliferation, as well as by increasing the danger of nuclear accidents caused by the lack of maintenance. The desperate financial situation of the armed forces has also led the government to cut down on procurement, leaving the Russian arms industry dependent on exports.⁵ Needless to say, Russian armament industries cannot afford to be too choosy about their customers, creating an incentive for illegal arms sales and proliferation. In addition to these negative effects, the overall decline also has a secondary effect of increasing the importance of nuclear weapons for Russian defense, as I will attempt to show.

The methodological consequence of the described disparity between the relatively ambitious theory, as described in Russia's main strategic documents, and daily practice has to be extreme caution, in order to avoid mistaking theoretical discussions of doctrine and strategies for Russian reality.

The Development of a National Security Concept and a Military Doctrine

The development of a military doctrine in Russia has been difficult. Coming to terms with a completely changed security landscape after the end of the Cold War has been a challenge for all Central and Eastern European countries. Military doctrines have to be based on an overall national security concept, since unless a country defines its friends and enemies, it cannot start planning for its defense. Russia has had a particularly difficult time in the 1990s in establishing its position in the international system. After 1989, Russia experienced a double loss of

5 See International Institute for Strategic Studies (IISS). *The Military Balance 1999–2000*. Oxford: Oxford University Press, 1999, 111; Schmidt-Skipiol, Joachim. "Die Militärreform in Russland (Teil 2)." *Österreichische militärische Zeitschrift* 37, no. 3 (1999): 284.

empire, first loosing its Eastern European satellite states and then facing the break-up of the Soviet Union itself. Particularly after the idea of a strong and united Commonwealth of Independent States (CIS), which was meant to compensate for the USSR, fell through, Russia experienced a severe lack of orientation.

Throughout the 1990s, there was only little systematic security planning and strategic documents were often provisional and incomplete. In 1993, President Boris Yeltsin signed the “Basic Directions for a Russian Military Doctrine.”⁶ In December 1997, a national security concept was adopted. The 1997 document still showed some aspects of the earlier “new thinking,” by acknowledging that there was no short- or medium-term threat of a large-scale war and describing the most likely threats to Russia as stemming from internal sources, such as economic collapse and ethnic conflict. However, the document was not accompanied by a military doctrine or a clear strategy for reform. Since 1997, Russia has, therefore, faced the strange situation of conducting a military reform without a real military doctrine. And, while military reform has advanced in some areas (e.g., the armed forces were scaled down to 1.2 million men), there seems to have been a tacit agreement between the Kremlin and the Russian generals that, in exchange for political loyalty to the Kremlin, military reform would not be too painful.⁷ As some authors have pointed-out, “reform” has largely meant simply managing and limiting decay.⁸ The lack of reform and clear direction has both aggravated the desperate financial situation of the Russian armed forces and increased the importance of nuclear weapons in Russian strategic discussions. With conventional reductions and overall collapse, nuclear weapons seemed to provide cheap deterrence.

Putin’s rise to the Russian presidency was followed by the release of two important strategic documents. In January 2000, a long-awaited

6 Walter, Franz. “Russlands Militärdoktrin 2000.” *Osteuropa* 50, no. 7 (2000): 780.

7 Russian specialists have argued that, in order to feed and equip its soldiers to a degree similar to Western states, Russia could not afford more than half a million men. See Walter, Franz. “Zur Entwicklung der russischen Streitkräfte.” *Osteuropa* 50, no. 2 (2000): 132–133.

8 See Jane’s Sentinel Security Assessment, *Russia and the CIS*, section 8.11.1.

national security concept was approved by Putin, followed in April 2000 by a new military doctrine. The two documents are of special importance, because they form the first concise and coherent piece of planning for Russian security. Both documents were written against the backdrop of the NATO air campaign over Kosovo, NATO enlargement and NATO's new strategic concept (at a time of perceived hostility from NATO). Perhaps not surprisingly, the military doctrine and the national security concept depict Russia as much more threatened now than in the mid-1990s, with a clear perceived threat coming from the West.

However, the biggest change occurred in the role of the use of nuclear weapons. The statement that Russia has no enemies, which formed part of the 1997 Yeltsin document, is now missing. Russia today does not rule out using nuclear weapons in cases of nuclear attack, attack with chemical or biological weapons, a massive conventional attack, or in situations critical to the national security of the Russian Federation. Contrary to discussions in the late 1990s, and to the first draft of a military doctrine published in August 1997 by General Machmut Gareev, which formed the basis of the 2000 doctrine, the 2000 military doctrine does not mention use of nuclear weapons in local wars.⁹ Nuclear use is envisaged only in regional or large-scale wars. However, in the course of a conflict, this distinction could turn out to be a difficult question of definition, not to mention that local wars could turn into regional wars.

One hotly debated question in 1999 and 2000 was whether the reference to regional wars as a legitimate cause for the use of nuclear weapons meant a lowering of the nuclear threshold or not. Hannes Adomeit, in his September study, describes the Russian view as the following: since Russia has lost conventional parity not only with the US, but with many other states, it has to lower the nuclear threshold to preserve a sufficient deterrence. At the same time, Adomeit admits that, such a threat lacks credibility.¹⁰

9 Walter, "Russlands Militärdoktrin 2000," 781–790.

10 Adomeit, *Russische Sicherheits- und Verteidigungspolitik unter Putin. Neue Akzente oder gewohnte Grossmachtsnostalgie?*, 34.

As Adomeit points out, both the national security concept and the military doctrine lack a clear statement of priorities:

This lack of a clear threat definition, which would make a prioritization of tasks possible, has serious drawbacks. It leads Russia to aim for security against all kinds of threats. Such a broad definition, then, necessitates large-scale armed forces and arsenals in both the nuclear and the conventional field. This leads not only to severe under-funding of the Russian armed forces, but also feeds threat perceptions in Russia's neighboring countries. Russia, thereby, falls again into the Stalinist trap of creating its own insecurity by seeking security against all kinds of threats at the same time.¹¹

Western responses to the two security documents have mainly focused on the role of nuclear weapons. While some Western analysts have perceived a relaxation of Russia's criteria for the use of nuclear weapons,¹² others have argued that Russia has only taken on principles similar to NATO's Cold War strategy of "extended deterrence" and "flexible response."¹³ The following section will, therefore, analyze the different roles that nuclear weapons play in Russian strategic thinking, both those mentioned explicitly in the *National Security Concept* and the *Russian Military Doctrine* and those not mentioned in the two documents.

The Role of Nuclear Weapons in Russian Strategic Thinking

When comparing the Putin 2000 documents to the earlier 1997 Yeltsin concept, nuclear weapons seem to have gained in importance. A fact that was much discussed in the West, however, is that this is not a new

11 *Ibid.*, 33–34. Author's own translation.

12 Schilling, "Russlands Militärmacht," 25.

13 Adomeit, *Russische Sicherheits- und Verteidigungspolitik unter Putin. Neue Akzente oder gewohnte Grossmachtsnostalgie?*, 34.

trend. So far, with every new document since the Gorbachev era, the West has been worried that Russia is getting more bellicose and that nuclear weapons are given more importance.¹⁴ Yet, when looking more closely at the two documents, nuclear weapons in Russia officially serve the following roles.

First, the Putin military doctrine of spring 2000 claims that one important role for Russian nuclear weapons is to provide deterrence against all kinds of weapons of mass destruction, including not only nuclear, but also chemical and biological weapons.

Second, Russian nuclear weapons should be used in defense or possibly retaliation in case of a nuclear strike against the Russian Federation and its allies. The term “allies” is meant to include the entire CIS, but could also be applied to include countries outside of the CIS.

Third, the Russian nuclear arsenal should provide defense and deterrence in cases of a massive attack on the Russian Federation by conventional means.¹⁵ The lesson that Russian officials drew from the NATO action against Yugoslavia over Kosovo was that the possession of nuclear weapons would have prevented the US and NATO from attacking Yugoslavia; therefore, Russia needs nuclear weapons to deter Western aggression.

Fourth, use of nuclear weapons is possible in regional wars. Regional wars in the Russian definition are wars between two states or two groups of states. A war against the US and NATO is still considered to be the main scenario by Russian strategic thinking, as the Zapad-99 exercise has shown.¹⁶

14 See Albrecht, Ulrich. “Der wankende Riese und sein Militär: Wie gefährlich ist Russland?” In *Jahrbuch Frieden 1995*, eds. Hanne-Margret Birckenbach, Uli Jäger and Christian Wellmann, 109–120; 111. Munich: C.H. Beck, 1995.

15 For details on the National Security Concept, see Putin, Vladimir. “Erlass des amtierenden Präsidenten der Russischen Föderation.” Wladimir Putin über das Nationale Sicherheitskonzept der Russischen Föderation vom 10. Januar 2000.” Cited in *Internationale Politik* 55, no. 5 (2000): 93; Adomeit, *Russische Sicherheits- und Verteidigungspolitik unter Putin. Neue Akzente oder gewohnte Grossmachtsnostalgie?*, 25–26.

16 Walter, Franz. “Wie in Russland Militärpolitik ‘gemacht’ wird.” *Osteuropa* 50, no. 1 (2000): 54–55.

Fifth, Russian nuclear weapons are used to preserve at least some kind of parity with the US. Russian experts recognize that there is an imbalance with the US in terms of quality of the nuclear arsenal. Russia is, therefore, trying to at least avoid a widening of the gap in terms of quantity. While the December 1997 Security Concept still aimed to provide realistic deterrence and explicitly said that Russia did not seek nuclear parity, Putin's 2000 concept calls for "a stable military strategic balance."¹⁷ Some Russian analysts, who have started warning that a desperate attempt for strategic parity with the US would be counter-productive, have recognized the problems connected with this ambitious goal. In these views, Russia should, instead of preparing for massive international war, concentrate on the much more likely local conflicts.¹⁸

There are at least three important roles of Russian nuclear weapons that the two documents do not mention explicitly. First, Russian nuclear weapons are used as a substitute for a functioning conventional army. The embarrassing difficulties of the Russian military in dealing with the Chechen independence movement have highlighted the desperate state and open collapse of Russia's conventional army. Nuclear weapons are thus thought to provide compensation for the conventional weakness. This is, as we know, a very difficult enterprise. Although the desire to have "defense on the cheap" might be understandable (after all, it was popular vision in the early nuclear days in the West too), it is simply a myth. Its nuclear arsenal will not enable Russia to put down the insurgency in Chechnya, nor will it secure Russia's long borders in Siberia. If Russian planners have learned their lesson from the fighting in Chechnya and Dagestan, we might see a reversal of priorities. However, such a change would necessitate an open acknowledgement that a large-scale war with NATO is unlikely and that Russia is more threatened by its internal problems. Unfortunately, such views are not only very unpopular in Russia; they are also less likely to enhance the generals' chances of securing an increase in the defense budget.

17 See Adomeit, *Russische Sicherheits- und Verteidigungspolitik unter Putin. Neue Akzente oder gewohnte Grossmachtsnostalgie?*, 16.

18 See Schilling, "Zustand und Perspektiven der strategischen Rüstung Russlands," 61.

Second, Russia holds on to its nuclear stockpiles because nuclear weapons carry the symbolic role of preserving Russia's great power status. Since the double loss of empire in the early 1990s, and after it became obvious that Russia is neither an economic nor a military power, neither an attractive ideological force nor a societal model, nuclear weapons have acquired an important symbolic meaning for Russia: they have become the only means to guarantee Russia some respect as a great power. It was this symbolic function that led to the long delay in the Russian ratification of START II. From Russia's point of view, the West has shown lately a tendency to humiliate Russia by ignoring its interests in the Balkans. A more bellicose rhetoric and a renewed emphasis on nuclear power is perceived as the only way of retaining at least some attention and respect. Sadly, the wish to gain attention and respect through its nuclear arsenal is something Russia shares with smaller powers and Third World countries that have just recently become nuclear states or states on the threshold of going nuclear; thus, nuclear weapons are becoming a weapon of the "under-dog," rather than those of the top players.

Third, nuclear weapons remain an important bargaining tool and Russia uses the prospect of arms reductions to gain financial and other concessions. Throughout the 1990s, the threat of proliferation and nuclear accidents has supported Russian demands for financial loans from the West.

It has to be taken into account that most of the roles that nuclear weapons play in Russia apply to other nuclear powers too. Many states, including the US, consider nuclear weapons as a deterrent against weapons of mass destruction. The difference in Russia lies in the accentuated nature of their symbolic role and the way in which they act as a substitute for a conventional army. The increasingly public state of complete collapse of the armed forces, in particular, makes nuclear weapons the only Russian capability. This is why revived US plans to build a space-based National Missile Defense (NMD) system have been met with such outrage in Russia.¹⁹ Russia has even made it a

19 Putin threatened to stop all arms control negotiations if the US should violate the ABM treaty by building an NMD system. See Adomeit, *Russische Sicherheits-*

condition for adhering to the START II Treaty that the US should not violate the Anti-Ballistic Missile (ABM) treaty nor deploy nuclear weapons to the new NATO members. Russia realizes that it does not have the financial resources to counter the US by building a similar system of its own; therefore Putin, in an open attempt to prevent the US from building their missile defense, suggested a joint US-Russian missile defense system in June 2000. Yet, with George W. Bush as President of the United States, Russia's chances of preventing the US from building an NMD system have further decreased.

Russia will almost certainly undergo the same learning process as US administrations did during the crises over Berlin and the Cuban Missile Crisis: on these occasions, the US realized that nuclear weapons, compared to conventional ones, provide only very limited options. Short of an all-out nuclear war, nuclear weapons have simply become unusable. Intercontinental Ballistic Missiles (ICBMs) cannot resolve conflicts such as that in Chechnya, and are totally inadequate for the kinds of threats that Russia is currently facing on its periphery.

Conclusion

In this contributing chapter, I have attempted to show that the problem of nuclear weapons in Russia is strongly linked to the general state of the Russian armed forces. The role of nuclear weapons in Russia over the last decade, has been one that stems from a situation of weakness rather than one of strength; thus, Russia is increasingly keeping the company of new nuclear states or states on the brink of "going nuclear," and that view nuclear weapons as a means of joining a great powers' club. Nuclear weapons have become a way of gaining the respect and attention of the international community that a state has failed to acquire by other means, such as economic performance.

und Verteidigungspolitik unter Putin. Neue Akzente oder gewohnte Grossmachtsnostalgie?, 112.

It is important to realize that in Russia today, nobody knows what the state of the Russian armed forces, including its nuclear components, really is. An analysis that concentrates only on the strategic debate in Russia fails to take into account the desperate reality. While there has been progress on arms control and the number of Russian ICBMs (which were halved) during the 1990s, Russia is finding it hard to replace its nuclear weapons. Russia has been forced to extend their life span by modernizing equipment such as submarines that should have been decommissioned. Russia is also trying to develop new weapons classes, but is facing difficulties.²⁰ So far, Russian plans to deploy Topol-M ICBMs, at a rate of 35–45 a year, have been reduced to an annual rate of ten, making it much more difficult to keep a credible capability while staying within the START II parameters. In fact, Russia finds it difficult to keep close to the ceilings established for warheads under the START II and would be far better off staying even further below the envisaged START III (2,000–2,500) ceilings, at 1,000–1,500 warheads.²¹

With the continuing decline of the Russian armed forces, the symbolic importance of nuclear weapons is growing while nuclear safety decreases. We should also be careful not to overestimate the priority that Russian Defense Minister, Igor Sergeev, former Chief of the Strategic Rocket Forces, has tried to establish for the Russian nuclear force. Despite the fact that nuclear weapons might be theoretically given a certain priority in Russian military planning, they have, in reality, not received anything close to the funds needed for such a role.²²

Russian strategic thinking can be characterized by two opposing tendencies. On the one hand, Russia has drawn the conclusion from the 1999 NATO campaign against Yugoslavia that nuclear weapons provide protection from Western aggression. On the other hand, the

20 IISS, *The Military Balance 1999–2000*, 107.

21 See Schilling, “Zustand und Perspektiven der strategischen Rüstung Russlands,” 61; Adomeit, *Russische Sicherheits- und Verteidigungspolitik unter Putin. Neue Akzente oder gewohnte Grossmachtsnostalgie?*, 117.

22 See Adomeit, *Russische Sicherheits- und Verteidigungspolitik unter Putin. Neue Akzente oder gewohnte Grossmachtsnostalgie?*, 78.

lessons from the fighting in Chechnya and Dagestan are that nuclear weapons and ICBMs are of very limited value in the conflicts that Russia is facing on its periphery. However, it is still unclear whether the trend will continue to be preparation for a large-scale war with the West, a threat perception that is utilized by the Russian military in their fight for scarce financial resources, or a focus on the more likely smaller threats against Russia.

Although this analysis has been quite pessimistic about the current state of the armed forces in Russia, the positive signs of the Putin era should not be forgotten. It was only under Putin that the START II treaty as well as the additional protocol of the ABM treaty and the Comprehensive Test Ban Treaty (CTBT) were finally ratified. Moreover, while Russian rhetoric might have become much more bellicose, the experience of the 1990s shows that, Russia's actual foreign policy has remained relatively friendly.

SIMONE WISOTZKI

Nuclear Weapons Policy in Britain and France: Strategic Thinking and Disarmament

Introduction

After more than 40 years of Cold War antagonism, which structured the strategic thinking of British and French defense ministries, the dissolution of the Soviet Union confronted bureaucrats in both countries with a challenging task: to identify new security parameters which would give their military procurement planning clear direction. This was not an easy task.¹ At the beginning of the 1990s, British and French strategists found themselves in the same difficult situation: they had to come to terms with the “new world order,” which was increasingly being perceived as disorderly and anarchic. France and the UK were suddenly confronted with four new *de facto* Nuclear Weapon States (NWS), which had inherited their nuclear arsenals from the former Soviet Union. While Russia saw itself as the legitimate successor of these weapons, Belarus, Ukraine and Kazakhstan had to be convinced that it would be in their security interests to relinquish them.² With the second Gulf War and the discovery of Saddam Hussein’s ambitions to develop weapons of mass destruction, worst-case scenarios about proliferation

- 1 The following chapter is based the author’s doctoral thesis. See Wisotzki, Simone. “World Views, Ideas and Norms: A Constructivist Interpretation of the Nuclear Weapons Policy of Britain and France.” Ph.D. diss., University of Bonn, forthcoming. Also see PRIF webpage <http://www.hsfk.de>
- 2 This was reached in the Lisbon Protocol of the START I Treaty, 23 May 1992. See Lockwood, Dunbar. “US, Four Commonwealth States Sign START Protocol in Lisbon.” *Arms Control Today* 22, no. 5 (1992): 18, 29.

dangers suddenly became very real.³ Strategists in Britain and France came to similar conclusions about new dangers in a multipolar world; these they saw primarily as the potential for increased proliferation of weapons of mass destruction, particularly in the context of a growing number of internal conflicts, which could easily extend and develop into regional crises and, more generally, as the threat of international, as well as national terrorism, which could threaten the inner security of both countries.⁴

In what follows, I would like to sketch out the changes and continuities in British and French nuclear weapons policies. Whereas the strategic thinking, especially in the defense bureaucracies, has remained strongly related to the Cold War, the international efforts to intensify the talks on nuclear disarmament were increasingly successful. The linkage of non-proliferation and nuclear disarmament, which is provided for in the Non-Proliferation Treaty (NPT), helped to increase the pressure on the NWS and finally led to first concessions. However, ideas of nuclear deterrence versus nuclear disarmament compete not only in international discourses, but also dominate the strategic thinking in both case studies. While in France the strategic thinking regarding nuclear weapons is strongly traditional, which means that bureaucrats and the elite continuously favor the idea of deterrence as an “ultimate guarantee of security,” the situation in the UK is more competitive. There, the momentum of change in nuclear weapons policy was due to new ideas, which found their way into the relevant ministries when New Labour came to power. Although in France, the “nuclear consensus” weighs still strong in public, some visible policy

3 For an overview of British and French participation, see Bennet, Andrew, Joseph Leggold and Danny Unger, eds. *Friends in Need, Burden Sharing in the Persian Gulf War*. Basingstoke: Macmillan, 1997.

4 France identified Islamic fundamentalism and the growing number of asylum-seekers from the Arabic community as serious security problems. Britain referred to their problems with terrorism, due to the Northern Ireland conflict. See Buffotot, Patrice. “La Perception de la Menace en France.” *ARES* 13, no. 3 (1993): 60–73; Rogers, Paul. “What Are the Threats to Britain’s Security?” In *Britain in the 21st Century: Rethinking Defence and Foreign Policy*, eds. John Gittings and Ian Davis, 17–25. Nottingham: Spokesman, 1996.

changes can be examined in the late 1990s. This change can be related to an increasing norm adherence, which even succeeded in opening-up a debate amongst the French elite about the elimination of nuclear weapons, an idea that was perceived in France as completely unrealistic during the Cold War. Additional pressure on both Nuclear Weapon States came from the New Agenda Coalition (NAC), a loose network of democratic states, who worked-out a program for a realistic nuclear disarmament progress.

In the first and second sections, I briefly sketch the background and strategic setting that existed at the end of the Cold War, which made a reformulation of nuclear weapons policies necessary. In the third section, I put forward the argument that the question of change and continuity in nuclear weapons policies can be related to differences in strategic thinking in both countries. Here, I look at the domestic political settings of the UK and France, as well as the external situation both countries face. In the last section, the implications of being members of the NPT regime are examined. I conclude by suggesting that, while the process of nuclear disarmament, if judged by concrete results, remains a slow one so far, the change of language in the debate between NWS and Non-Nuclear Weapon States (NNWS) has altered quite impressively, and this can be related to the appearance of a new network of states with an explicitly non-nuclear culture.

The End of the Cold War and its Implications for Nuclear Weapons Policy

The willingness of both the UK and France to take on a leading position in the international system was demonstrated when they took part in the Gulf War and liberated Kuwait. For the French, in particular, the Gulf War showed the weaknesses of their military posture, in which the “force de frappe” had traditionally been prioritized. This led to an internal debate, which culminated in 1994 in a “livre blanc,” the first defense white book since 1972, which stressed the necessity of

addressing the new security challenges and restructuring the French military posture.⁵ The end of the Cold War, thus, forced Britain and France to reformulate their nuclear doctrines and provided them with an incentive to reshape their nuclear arsenals. The revision of national nuclear weapons policy has to be seen within the broader context of the attempt to restructure the security complex of both countries. In the aftermath of the Gulf War both countries began to reshape their complete force structure (“smart” conventional weapons were given higher priority). At the height of this development, France announced in 1995 the end of conscription and started to professionalize its troops, creating a smaller, but more powerful, army which could more flexibly react and, therefore, meet the newly identified potential threats to security risks.⁶

The end of the Cold War not only meant a challenge for British and French security policy, but also provided both states with an opportunity to find a new role in the world. Both countries felt increasingly responsible for upholding the regional balance in Europe, as well as the Middle East, and also realized the chance to rise to the self-perceived image of leading world powers. The restoration of “grandeur” implied that both countries must work for stability and order in the international system.⁷ Both took part in a series of humanitarian missions and in the war against the former Yugoslavia. Leading strategists came to the conclusion that the mounting intra-state conflicts could easily affect whole regions and potentially lead to serious instabilities, which would not be in the interest of either state. Security policy in the 1990s had to serve

5 See Ministère d’Etat/Ministre de la Défense. *Livre Blanc sur la Défense 1994*. Paris: Union Générale d’Editions, 1994, 10–18.

6 Bureau, Jean-François. “La Réforme Militaire en France: Une Mutation Identitaire.” *Politique Etrangère* 61, no. 1 (1997): 69–81.

7 Kramer, Steven Philip. “La Question Française.” *Politique Etrangère* 56, no. 4 (1991): 959–974; MacLeod, Alex. “La France à la Recherche du Leadership International.” *Relations Internationales et Stratégiques*, no. 19 (1995): 69–80; Ladrech, Robert. “Redefining *Grandeur*: France and European Security after the Cold War.” In *The Promise and Reality of European Security Cooperation. States, Interests and Institutions*, eds. Mary M. McKenzie and Peter H. Loedel, 85–100. London: Praeger, 1998; Lellouche, Pierre. “France in Search of Security.” *Foreign Affairs* 72, no. 2 (1993): 121–131.

the wider economic interests of guaranteeing free trade and was increasingly linked to international democratic development; therefore, both countries identified the spread of international stability, peace and democracy as important security tasks, worthy of the same attention as the traditional defense of the homeland and overseas territories.

Despite the difficulties of grappling with the “new world order,” new defense priorities were being identified. Limited defense budgets and the desire to rise to the self-perceived image of leading world powers led to changes in defense planning. Even though both countries stressed the continuous role of their nuclear weapons, they started to reduce their arsenals systematically, without questioning the need for upholding the function of deterrence. By 1995, France and the UK had seriously scaled-down their nuclear arsenals. France gave-up all its land based nuclear missiles (Pluton, Hadès and the 18 strategic nuclear missiles, which were installed at the Plateau d’Albion).⁸ Great Britain renounced their nuclear free fall bombs, so that they relied on one sea-based nuclear system (Trident D-II), whereas the French still possess sea-as well as air-based nuclear systems. Both “second-tier” Nuclear Weapons States implemented a series of unilateral measures, such as the termination production of fissile material. France started to dismantle its military production facilities at Marcoule and Pierrelatte, which were perceived as important steps toward the irreversibility of this unilateral enacted production stop.

In spite of their willingness to reduce arsenals, both “second-tier” NWS had successfully managed to avoid any inclusion in international disarmament treaties.⁹ They had argued, instead, that one could not compare their arsenals with those of the superpowers and that they would be willing to participate if parity between the NWS had been reached.¹⁰

8 Ministère des Affaires Etrangères/Ministère de la Défense. *Nuclear Disarmament Actions By France*. Paris: Union Général d’Editions, 1998, 1–4.

9 In 1963, the UK agreed to the Partial Test Ban Treaty, which forbade nuclear tests in the atmosphere, space and sea.

10 The French argument differed slightly from British reasoning. Former president Charles de Gaulle refused both French participation in disarmament talks and the Non-Proliferation Treaty, because he perceived it as just another attempt by the United States to expand their superpower domination.

Until 1990, France remained resilient and attempted to avoid its inclusion in the NPT. However, the international discourse on non-proliferation/nuclear disarmament gradually underwent a qualitative change. Whereas during the Cold War, the Nuclear Weapon States usually argued that antagonism between East and West inhibited further progress related to nuclear disarmament,¹¹ the NNWS and, especially, the former non-aligned states, strongly pressed for a fulfillment of their obligations under Article VI of the NPT. The linkage of non-proliferation issues with disarmament made it necessary for the NWS to prepare in advance of the 1995 NPT extension conference for some major concessions: the agreement to negotiate a comprehensive test ban treaty and a fissile material cut-off treaty implied, especially for France, a serious change of long-standing nuclear weapons policy, in which the strongly symbolic linkage to the founding-father of the French “force de frappe,” General Charles de Gaulle, was very much stressed.¹² The French decision to join the NPT regime must be seen in the context of changed defense priorities: the value of the Treaty was judged higher than any unilateral attempt to deal with the problem of proliferation.

Despite these major changes in British and French nuclear weapons policies, both countries showed resistance to giving-up their nuclear weapons. The demands of the non-aligned countries, with India as the leading protagonist, to set-up a forum for discussions on the elimination of nuclear weapons within the Conference on Disarmament were refused. Instead, both countries underlined that they had reduced their arsenals to a “minimum deterrent” and that no further progress could be made. Despite their efforts to combat nuclear proliferation on the international level, Britain and France officially acknowledged that they would continue to rely on deterrence, which only nuclear weapons can guarantee.

11 This was the position strongly supported by Britain and France, which both stressed the difference in numbers between their arsenals and those of the two superpowers.

12 Heuser, Beatrice. *Nuclear Mentalities? Strategies and Beliefs in Britain, France and the FRG*. Basingstoke: Macmillan, 1998.

Strategic Thinking and the Role of Nuclear Weapons

Nuclear weapons remain a cornerstone in the military doctrine of both countries but with a reduced importance compared to the Cold War. Nevertheless, strategists in both countries perceive nuclear weapons as the ultimate protection in a perceived anarchic world, against a currently unknown threshold.¹³ This has led to the strange situation in which the UK and France officially state that never before in history could their countries have felt as safe as they have since the end of the Cold War, principally because the dominant threat has disappeared. Parallel to this statement, potential crises scenarios or worst-case planning still very much dominate the strategic thinking of British and French defense planners. Both countries show strong similarities in the reformulation of their doctrines: nuclear weapons are currently directed against no state in particular, but the remaining Russian and Chinese arsenals implicitly shape French and British nuclear defense planning. In particular, the potential danger of the establishment of new Nuclear Weapon States makes it necessary in British and French strategic thinking to keep a minimum of nuclear flexibility. This means that both countries hold strategic, as well as sub-strategic, nuclear weapons. After the Gulf incident and the fear of being attacked with weapons of mass destruction, both countries kept at least theoretically the option of being able to launch a limited preemptive nuclear strike against newly established nuclear weapon states.

Nuclear weapons are being held primarily for keeping-up a general deterrence function. Officials in the foreign and defense ministries of the UK and France are still strongly convinced of the continued usefulness of nuclear deterrence as the ultimate protection for their territories and their wider national interests. Proposed disarmament measures were always judged according to their primary aim of preserving the deterrence capability of their nuclear arsenals. For this reason, the attempt by the German Foreign Minister, Joschka Fischer, in

13 See Ministry of Defence, *Strategic Defence Review*. London, 1998, 5–13; Ministère d'Etat/Ministre de la Défense, *Livre Blanc sur la Défense 1994*, 21ff.

November 1998, to convince the NATO states to negotiate a No-First-Use (NFU) agreement automatically met with opposition from French and British military strategists, since it contradicted to the very nature of nuclear deterrence, which explicitly includes a first-strike option.

The logic of deterrence that lies at the core of nuclear weapons policy is amazingly simple. Nuclear deterrence has to remain credible in order to be effective. This means that a sufficient deterrent capability, counted in numbers, has to be preserved. The bureaucracies in both countries remain strongly convinced that nuclear weapons helped to avoid a military conflict between East and West during the Cold War. Moreover, nuclear weapons are perceived as *instruments of peace* (defined as absence of war on British, French and allied territory). In France, in particular, the very broad nature of the public consensus can be directly linked to the continually repeated presidential statements, which claim that nuclear weapons guarantee the invulnerability of the French nation.¹⁴ Interlinked with the French interpretation of nuclear deterrence is a strong sense that deterrence *per se* must include a “non-event;” therefore, if a nuclear weapon has to be launched, the whole logic of deterrence has failed. In France, it is a taboo to publicly discuss potential scenarios about the use of nuclear weapons.

Nevertheless, in the strategic thinking of both states, nuclear weapons are the “backbone in the background:” they crucially strengthen British, French and, last but not least, European security. Michael Quinlan, one of the leading strategic thinkers and former Permanent Secretary of the Ministry of Defence, stresses that, “nuclear weapons have produced the *reductio ad absurdum* of warfare in the traditional sense (...).”¹⁵ He talks of the “transformation of warfare” due to the

14 Tertrais, Bruno. *The French Nuclear Deterrent After The Cold War*. Santa Monica: RAND, 1998, 1–63; Larkin, Bruce D. *Nuclear Designs: Great Britain, France and China in the Global Governance of Arms*. New Brunswick: Transaction, 1996, 314. For readers of French, see Hamon, Leo. *La Stratégie Contre La Guerre*. Paris: Bernard Grasset, 191–315; Poirer, Lucien, *Des Stratégies Nucléaires*. Paris: Hachette, 1988; Duval, Marcel and Yves Le Baut. *L’Arme Nucléaire Française. Pourquoi et Comment?* Paris: Kronos, 1992.

15 Quinlan, Michael. *Thinking about Nuclear Weapons*. RUSI Whitehall Paper Series. London: Sherrens Printers, 1997, 7.

development of nuclear weapons. The risk of being eradicated would prevent rationally calculating enemies from starting wars against Nuclear Weapon States. Deterrence, therefore, decisively increases the security of NWS. British strategists have often underlined that the development of nuclear weapons and, especially the idea of deterrence, outlawed Clausewitz's famous statement that, "war is a continuation of politics with other means."¹⁶

While in France the idea of deterrence is propagated by the French presidents and still meets the approval of more than 60 percent of the population, in the UK the situation regarding the future of the nuclear deterrent is more complex. In Great Britain, a plurality of opinion exists.¹⁷ With the change of government in 1997 to New Labour, things have altered: while the previous Conservative government strongly opposed any involvement in multilateral disarmament talks, New Labour generally shows more willingness to participate in such potential negotiations. New Labour was already developing its multilateralist conviction at the end of the 1980s, after having recognized that their former strategy of unilateral disarmament did not meet with the support of the population and helped the Conservatives to win the elections in 1983 and 1987. As a former active member of the "Campaign for Nuclear Disarmament," the leading British anti-nuclear civil movement, the disarmament community in the UK hoped that the newly elected foreign minister, Robin Cook, would take the lead and develop

16 For more on the logic of British deterrence, also see Omand, David. "Nuclear Deterrence in A Changing World: The View From a UK Perspective." *RUSI Journal* 141, no. 3 (1996): 15–22.

17 In the UK, three schools of thought regarding nuclear weapons/nuclear disarmament exist. While the traditionalists in the Defence Ministry and Conservative Party regard the deterrence function as indispensable, the multilateralists, most prominently found in the Labour Party, see opportunities for nuclear disarmament. In their approach they are less radical than the unilateralists, who, for example, within the Campaign for Nuclear Disarmament, want the UK to give up nuclear weapons immediately. See Pullinger, Steve. "The Future of Britain's Nuclear Deterrent." In *Pondering NATO's Nuclear Options: Gambits for a Post-Westphalian World*, ed. David G. Haglund. Ontario: Queen's Quarterly, 1999, 163–185; Croft, Stuart. "Continuity and Change in British Thinking about Nuclear Weapons." *Political Studies* 42, no. 2 (1994): 228–242.

multilateral initiatives. He ran into strong resistance from the traditionalists, especially from the bureaucracy within the Ministry of Defence, which insisted on the continued utility of nuclear deterrence. The *Strategic Defence Review* (SDR) showed, as result of an intense bargaining process between the progressive New Labour fraction and the conservative defense bureaucracy, signs of both leading schools of thought: the traditionalists, who want to keep nuclear weapons, and the multilateralists, who see chances of eliminating them through multilateral processes. The SDR contained moderate unilateral measures, such as a further reduction of numbers and a reduction of the alarm status of the Trident fleet.¹⁸ The SDR also stated that the UK would further rely on their nuclear deterrence capability. Nevertheless, the British government officially acknowledged for the first time that the ultimate goal must be the complete elimination of all nuclear weapons. This was, indeed, a change from the earlier Conservative policy. The SDR also contained some innovative measures: for the first time, the UK made transparent the current status of its arsenal and its holdings of fissile material. The nuclear laboratories at Aldermaston were put in charge of starting research on verification technologies for a potential nuclear-weapon-free world.

In France, the nuclear consensus on the question of the future of nuclear weapons remains valid; the three major parties, Rassemblement pour la République (RPR), Union Démocratique Française (UDF) and the Socialists, and the majority within civil society share this consensus. It is built upon four elements: the preservation of a purely defensive deterrent; the strong refusal of nuclear war-fighting strategies; a consistent disarmament policy to reduce the arsenals to a “minimum deterrent;” and the idea of inventing a Euro deterrent within a Common Foreign and Security Policy (CFSP).¹⁹ Nuclear weapons are perceived as part of the Gaullist heritage, which still weighs strong in France. General Charles de Gaulle gave France a robust new image and convinced the people that nuclear weapons were

18 See Ministry of Defence, *The Strategic Defence Review, Supporting Essay Five: Deterrence, Arms Control and Proliferation*. London, 1998, 5–1—5–17.

19 Boniface, Pascal and François Thual. “Refonder le Consensus sur la Dissuasion Nucléaire.” *Le Monde*, 24–25 November 1995, S. 11.

the most adequate instrument to demonstrate this strength. The crucial idea of deterrence (that nuclear weapons prevent war) has been strongly internalized in French strategic thinking. Nuclear weapons are perceived as something good and elementary defensive. The symbolism around nuclear weapons is still astonishing: the French president sees himself as a “nuclear monarch” and is often compared with Jupiter. Indeed, President Mitterrand formed the characteristic sentence, “la dissuasion nucléaire, c’est moi.” [Nuclear deterrence, that’s me].²⁰

French officials are convinced that they have a right to keep nuclear weapons, because they take on more responsibilities in the world than other nations. Nuclear weapons remain the ultimate protection to secure the elementary survival of the nation. Due to this conviction, France has repeatedly offered its deterrent to the other European Union members as part of a European defense identity.²¹ Of course, France came across opposition from the NNWS, but some of them, for example Italy and Spain, showed interest in the idea of creating a European nuclear deterrent. Others, for example Germany and the UK, feared that the French were seeking to duplicate effective structures, which reside with NATO.

Perspectives on Nuclear Disarmament

At the beginning of the 1990s, both countries identified the perceived danger of potentially increasing proliferation of weapons of mass destruction as one of the most serious global threats to security. With the proliferation incidents in Iraq and North Korea in mind, France changed its position in relation to the NPT in 1992. The perceived risks

20 Mitterrand, François. Speech at the Institut des Hautes Etudes de Defense Nationale (IHEDN), Paris, 5 May 1994. Available at <http://www.ihedn.fr>.

21 Bozo, Frédéric. “Dissuasion Concertée: Le Sens de la Formule.” *Relations Internationales et Stratégiques*, no. 21 (1996): 93–100; Boniface, Pascal. “La Dissuasion Européenne: Enjeux et Perspectives.” *Ibid.*, 101–106.

of increasing nuclear proliferation convinced the French state that it would be worth accepting the Treaty's obligations, including those contained in Article VI, which demands the "cessation of the nuclear arms race at an early date" and "nuclear disarmament."²² The decision to accede to the NPT was an important step, which implied a major break with the dominant Gaullist tradition of the past. France's readiness to reduce the French nuclear arsenal was seen as a necessary prerequisite to joining the NPT. Thus, with the end of the Cold War, France was in a position to stop its nuclear build-up, which was finalized in 1989, and to start first moves towards arms reductions.

In 1992, President Mitterrand began this process with his controversial decision to ban further testing. Due to their dependence on US testing sites, the UK was forced by the United States to stop further testing. For France, an early accession to the NPT was of utmost importance, because of increased proliferation concerns. Together with the other members of the EU, France wanted to have a strong say in the forthcoming NPT extension conference; as part of the creation of a Common Foreign and Security Policy, the EU states attempted to reach a common position for the extension conference, despite the fact that its member states were divided into NWS and NNWS.

At the 1995 conference, Great Britain and France had to make major concessions in the form of the "Principles and Objectives," in order to get the highly valued NPT unlimitedly extended. For the first time, Britain and France, as second-tier Nuclear Weapon States, had to agree to some limitations to their nuclear weapons policy, in order to rescue the highly valued non-proliferation norms.²³ The agreement to negotiate a comprehensive test ban treaty and cut-off treaty were perceived by the majority of the NWS as two very serious disarmament measures,

22 Article VI also contains a provision for a treaty on general and complete disarmament, which is linked to the clause on nuclear disarmament. In the past, Britain and France often referred to this linkage. At the Review Conference in 2000, it was officially "delinked" and accepted by the NWS.

23 Johnson, Rebecca. *Indefinite Extension of the Non-Proliferation Treaty: Risks and Reckoning. A Report of the 1995 NPT Review and Extension Conference held in New York from 17. April to 12. May 1995*. London: Acronym Institute, 1995, 1–87.

which would inhibit their sovereignty on further qualitative improvements of their nuclear weapons systems.

France insisted on the inclusion of a specific phrase: that the Nuclear Weapon States should show their “utmost restraint” towards testing, until the Comprehensive Test Ban Treaty (CTBT) negotiations were concluded. The final six tests in the South Pacific demonstrated why Paris carefully pushed for this formulation and exposed the inner rift in the French political system, regarding the viability of the “force de frappe.” While this perceived breach of a norm resulted in major worldwide protests, the majority of the French people accepted the tests as necessary or, at least, remained silent on the issue. Nevertheless, France and Britain were the two first NWS to ratify the CTBT in 1998. To show that France was serious about accepting the Principles and Objectives, Paris invited International Atomic Energy Agency (IAEA) inspectors to monitor the complete dismantlement of their test sites on Mururoa.²⁴

In the following years, the so-called Non-Aligned Movement (NAM) came into competition with a newly founded group: the New Agenda Coalition.²⁵ Since 1998, NAC has effectively reorganized the international discourse on nuclear disarmament and introduced a qualitative change in the ideological exchange between the radical NAM states and the NWS. While in the Non-Aligned Movement, the *de facto* Nuclear Weapon States (India and Pakistan) often played an ambivalent, but leading role, states in the NAC group are democracies, with a serious desire to move forward with the nuclear disarmament process. In contrast to the NAM states, they do not attempt to put forward unrealistic demands, such as a time-bound framework for the complete elimination of nuclear weapons. Instead, they consistently relate their

24 Chirac, Jacques. “De la Reprise des Essais Nucléaires, Paris, 13 June 1995.” Printed in Ministère des Affaires Etrangères. *Documents d'Actualité Internationale*, no. 18 (1995): S. 587–588.

25 The following states belong to the New Agenda Coalition: Brazil, Egypt, Ireland, Mexico, New Zealand, South Africa and Sweden.

arguments to the disarmament duties, which the NWS have agreed to by signing the NPT.²⁶

Due to its less radical demands on the progress of disarmament, the New Agenda Coalition achieved an impressive victory during the 2000 Review Conference of the NPT. The UK and France, as well as the three other nuclear weapon states, officially acknowledged for the first time that the ultimate aim of the nuclear disarmament process has to be the complete elimination of all nuclear weapon. What this implies is that, nuclear weapon states would no longer insist on the traditional linkage between nuclear and conventional disarmament, laid down in Article VI of the NPT. In fact, the result of the Review Conference in 2000 must be seen as important in strengthening the disarmament norm, which is included in the NPT. In the PrepComs of the Review Conference, and at the Review Conference itself, the change of government in the UK produced some new results. It might be too idealistic to argue that the UK took a middle position between the NAC states and the usual NWS line, but, nevertheless, the difference between the French and UK position became quite visible. The UK was generally more willing to accept linkages to the goal of total elimination of nuclear weapons than France was officially allowed to do. In the end, both second-tier Nuclear Weapon States accepted the plan of action for further disarmament, which was included in the final document. Even though it can be merely perceived as a “political declaration,” it was stated that all five nuclear powers should get involved in nuclear reduction and disarmament negotiations.²⁷

Moreover, even in France, where nuclear weapons are strongly linked to the Gaullist tradition, initial debates among the elite about further progress in nuclear disarmament are gradually developing. Ten years ago, the word “elimination” strongly contradicted the very nature of French security thinking, due to the fact that nuclear weapons were not perceived as a potential danger to French security, but as instruments for securing peace and stability. Yet, today, it is able to move forward

26 Johnson, Rebecca. “The 2000 NPT Review Conference: a Delicate, Hard-Won Compromise.” *Disarmament Diplomacy*, no. 46 (2000): 1–2.

27 *Ibid.*, 16.

on this issue, even though the incentive has come from outside of France (e.g. from the member states of the New Agenda Coalition). The crucial question that remains is, how strong the French nuclear identity weighs against the pressure from the Non-Nuclear Weapons States. In this respect, the last NPT review conference in 2000 can be seen as a major breakthrough, since the French officially recognized, for the first time, that the ultimate goal has to be the complete elimination of all nuclear weapons.

Conclusion

I have attempted to show the cultural differences in both countries regarding their nuclear weapons policies. While in France, due to the nuclear consensus, opposition to nuclear weapons is only marginal, in the UK, at least two of the three schools of thought favor an intensified process of nuclear disarmament. The change of government in the UK brought fresh impetus and new ideas about how to intensify the multi-lateral disarmament process. That said, a strong body of traditionalists, especially in the Ministries of Defense, dominate not only strategic thinking, but also nuclear weapons policies. They insist on the usefulness of deterrence as an ultimate security guarantee and, therefore, on the retention of a “minimum deterrent.”

Internationally, the establishment of the New Agenda Coalition introduced a new momentum into the deadlocked antagonism between the NWS and members of the NAM. While the quality of discourse between these two groups suffered due to strong ideological differences, the NAC developed new ideas on how to improve the nuclear disarmament process. In addition, due to the fact that the majority of NAC states are democracies, with a strong affiliation to nuclear disarmament, the authenticity of their efforts are more acceptable to Britain and France than the ambivalent stance of some NAM states, most prominently India and Pakistan.

The results of the 2000 NPT Review Conference, in which the NWS reconfirmed the aim of “zero,” without insisting on the linkage between general and complete disarmament, can be directly related to the successful work of the New Agenda Coalition. The UK, in particular, showed some signs of willingness to move further down the disarmament path, while France is still very hesitant about taking the road to zero. Nevertheless, talk about multilateral disarmament introduced a new feature into French strategic thinking, which is still very much dominated by Gaullist ideas about France.

Whether and how the nuclear disarmament process proceeds, strongly depends on the US policy stance and its readiness to compromise on the issue of a National Missile Defense (NMD). Although the newly elected President, George W. Bush, has already signaled a willingness to engage in further talks on the reduction of nuclear weapons, Russia and, especially, China show a reluctance to do so, if it comes down to a reinterpretation of the Anti-Ballistic Missile (ABM) treaty. However, at the moment, it remains difficult to forecast how the process of nuclear disarmament will develop in the future and to what extent a US NMD program will pose a serious challenge to it. And here again, Britain and France are still “second-tier” Nuclear Weapon States, with only a minor say in the process of disarmament. However, the impact of some initiatives undertaken by them should not be underestimated.

ZHENG WANG

The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines: China

Introduction

With respect to nuclear doctrine, China stands in sharp contrast to other nuclear powers in many ways. China first declared its nuclear policy in 1964, after conducting its first nuclear test. This policy included three core tenets. They were the No-First-Use (NFU) pledge, the development of nuclear weapons only for defensive purposes, and the goal of total disarmament. It has been thirty-six years since then, yet these three tenets are still stressed and repeated by the Chinese government in all official statements regarding nuclear weapons. In light of the dramatic changes that have taken place in China's political, economic, and diplomatic affairs since 1964 (two years before the outbreak of the Cultural Revolution), the consistency of Chinese nuclear weapons policy seems amazing. Indeed, compared with other Nuclear Weapon States (NWS), China is the only state that has made, and still abides by, a commitment to never be the first to use nuclear weapons at any time or under any circumstance. China has also undertaken unconditionally not to use or threaten to use nuclear weapons against Non-Nuclear Weapon States (NNWS) or in Nuclear Weapon-Free Zones (NWFZs). China's offer of unconditional No-First-Use and unconditional no-use is a unique confidence-building initiative. Among all the acknowledged Nuclear Weapon States, only China assumes such an absolute responsibility.

Yet, in the view of some scholars, China stands in sharp contrast to other nuclear powers in other more negative ways. For instance, as one Western analyst has observed, "for about 30 years after China exploded

its first nuclear weapon there was no coherent, publicly articulated nuclear doctrine.”¹ In response, some Chinese scholars have argued that transparency and depth of a nuclear doctrine are less important than whether or not a country will commit to No-First-Use. For decades, people have been both interested in and puzzled by Chinese nuclear strategy, and misunderstandings and prejudice have surrounded China’s nuclear posture.

Tradition in Evolution

In his book *China’s Nuclear Weapons Strategy*, Chong-Pin Lin reaches a number of conclusions.² First, China’s nuclear strategy is distinct and cannot be categorized appropriately by any “prepackaged” Western term. Second, China’s nuclear strategy is better characterized on the basis of Chinese strategic tradition than on that of the West. Third, China’s nuclear strategy is distinguished by manifestations of Chinese strategic tradition.

According to Lin, three clusters of strategic characteristics would emerge from a survey of the literature of Chinese philosophy: the primacy of man, the primacy of defense, and the primacy of ambiguity.³ Though not adequate, these three clusters provide for a helpful way of thinking about China’s military doctrine and the role of nuclear weapons.

1 Johnston, Alastair Iain. “Prospects for Chinese Nuclear Force Modernization: Limited Deterrence Versus Multilateral Arms Control.” *The China Quarterly* 146, special issue (1996): 552.

2 Lin, Chong-Pin. *China’s Nuclear Weapons Strategy*. Lexington, MA: Lexington Books, 1988, 138–139.

3 *Ibid*, 18–20.

The primacy of Man

The notion that human factors are more decisive than material factors is an ancient Chinese philosophical concept. In contemporary China, one of the most noticeable manifestations of this is found in Mao Tse-tung's words. His repeated slogan of "man victorious over weapons" is now famous. His disparaging remark about nuclear weapons as a "paper tiger" has been a point of frequent reference.

Analysis of early statements by the Chinese government and remarks made by Chinese leaders show that nuclear weapons were mainly viewed as political weapons with limited military utility. As Mao once said, "what determines the outcome of a war is people rather than any weaponry." China develops nuclear weapons "not because it believes in their omnipotence nor because it plans to use them." On the contrary, in developing nuclear weapons, China's aim is "to break the nuclear monopoly, to oppose nuclear war, to smash nuclear blackmail."⁴

Indeed, China's military doctrine has been proclaimed as a people's war under modern conditions, which consists of conventional defense, plus minimum nuclear deterrence. Conventional defense is the main basis of this doctrine; nuclear deterrence plays a very limited, but basically effective role.

The primacy of defense

A great number of scholars have observed that Chinese strategic tradition is characterized by an emphasis on defense. Such emphasis is typified in concrete terms and on a monumental scale by the Great Wall of China.

According to Liu Huaqiu, a senior Chinese strategic analyst, the role of nuclear weapons in Chinese military doctrine is as follows:

In contrast, the military utility of nuclear weapons is limited. It was under the pressure of nuclear threat from the United States and then

4 "China's Attitude Toward Nuclear Weapons." *China Report* (May-June 1971): 34-42.

the former Soviet Union that China developed its nuclear weapons (...) Development and deployment of nuclear weapons by China is solely for the purpose of deterring nuclear attack from other countries. Once attacked by nuclear weapons, China would resolutely conduct nuclear retaliation. This is the only military function of China's nuclear weapons.⁵

Paul Godwin and John J. Schulz have pointed out that:

China's overall deterrence strategy is designed to preclude nuclear blackmail. The idea is to create a counter-value (city-busting) deterrent of sufficient size and range to guarantee that no enemy planner could use nuclear force, or threaten to use it, without the certain knowledge of Chinese retaliation at a level sufficient to make the costs too high.⁶

The primacy of ambiguity

The Chinese "ambiguity" contains the dimension of outwitting one's opponent, which may be "saying one thing while doing another," or "making a sound in the east while attacking the west." Sun Zu, the founder of Chinese military strategy, had a famous aphorism, "The essence of warfare is but the art of ambiguity." Liu has explained the ambiguity of China's nuclear policy:

China, as a medium nuclear power, will not make a show of force as the two superpowers did, nor will it make clear exactly how it would use its nuclear weapons. It could be disadvantageous to China to let its adversaries know too many details about its capabilities. It would be better to leave some uncertainties for its adversaries to ascertain. This ambiguity seems to be a factor in China's doctrine of minimum nuclear deterrence.⁷

5 Liu, Huaqiu. "No-First-Use and China's Security." In *Henry Stimson Center Electronic Essays on Eliminating Weapons Mass Destruction*. Washington, D.C., 1998. Available at www.stimson.org/pubs/zeronuke/liu3.html.

6 Godwin, Paul and John J. Schulz. "Arming the Dragon for the 21st Century: China's Defense Modernization Program." *Arms Control Today* 23, no. 10 (1993): 6.

7 Liu, "No-First-Use and China's Security."

Perception of the International Situation

China's nuclear weapon policy in the twenty-first century, like that of other nuclear states, will carry forward its traditional strategic thinking, but will be shaped by its perception of the present and future international security environment.

The revolutionary change of the international situation following the disintegration of the Soviet Union and the collapse of Communist governments in Eastern Europe in the early 1990's was a great shock to China. Its international strategic value has diminished, since the West no longer needs China as an ally against the Soviet Union. And, as the biggest remaining socialist country in the world, China has become a focal point for Western criticism. To exert pressure on China, to promote Eastern European-style liberalization in China, and to prevent the emergence of a threatening China, have become common themes in Western countries' policies towards China.

As two American scholars, Kennedy and O'Hanlon's observations reflect the international community's changed perception of China:

Since the spring of 1989 China has gone from being perceived as reformist, poor, and weak to being seen as totalitarian, prosperous, and strong. The primary causes for this change in attitude are: in politics, the crushing of the protest movement in 1989 and the continuation of Chinese Communist Party role; in economics, China's most recent boom and our growing bilateral trade deficit; and in security, China's increasingly assertive defense posture. This has led some Americans to regard China as a political pariah, an economic competitor and a potential strategic rival.⁸

Indeed, Sino-American relations have experienced a downturn. The United States began pressuring China in the areas of human rights, arms control and proliferation, trade, and the Taiwan question. Many Chinese see the US "comprehensive engagement" policy (the Clinton administration's China strategy) as a euphemism for comprehensive containment. The US use of force in the second Gulf War and the war

8 Scott Kennedy and Michael O'Hanlon. "Time to Shift Gears on China Policy." *Journal of East Asian Affairs* (Winter/Spring 1996).

in Kosovo, particularly the bombing of the Chinese Embassy in Yugoslavia, served to increase China's vigilance towards the United States. In a recent government white paper on national defense, Beijing expressed its grave concern about its security environment:

In today's world, factors that may cause instability and uncertainty have markedly increased. The world is far from peaceful (...) A series of negative developments have occurred in the area of arms control and disarmament (...) The situation in South Asia remains unstable (...) The Taiwan Straits situation is complicated and grim.⁹

Ballistic Missile Defense: A Pandora's Box?

The US development of Ballistic Missile Defense (BMD) has aroused deep concern in Beijing. Many Chinese strategic analysts declared that the National Missile Defense (NMD) system would be a Pandora's box, unleashing new arms races, including ones in outer space, and a new era of global insecurity. The program is perceived as not only threatening to upset the global strategic equilibrium by undermining the Anti-Ballistic Missile (ABM) treaty of 1972, but as a direct threat to China, since the number of warheads the NMD will be able to engage closely match China's own nuclear capability. US collaboration with Taiwan and Japan on Theater Missile Defense (TMD) is also viewed in China as potentially very divisive with major security implications for the area. China's major concerns on TMD are the following:

1. Deployment of a TMD system to Taiwan would signal a greater likelihood of US military support of Taiwan in the event of overt conflict, and would, thus, bolster the Taiwanese independence movement.
2. It would integrate Taiwan into the US-Japan Security Alliance and will, thereby, further elevate the role of Japan in regional security.

9 Information Office of the State Council of the People's Republic of China. *China's National Defense in 2000*. Beijing: Information Office of the State Council of the People's Republic of China, 2000.

Taiwan is central to how China perceives both Theater Missile Defense (TMD) and National Missile Defense (NMD). Since the establishment of formal relations between the US and the People's Republic of China (PRC) in 1979, the Taiwan question has consistently been the most troublesome and sensitive issue in US-China relations, with real potential to bring the two countries into military conflict. The Taiwan presidential election of 2000 and the political ascendance of Chen Shui-bian and his pro-independence Democratic Progressive Party (DPP) has further heightened the risk of a major conflict in East Asia over the unresolved Taiwan question.

In addition to Taiwan's status, three major factors have troubled Sino-US relations in the post-Cold War era: human rights, trade, and arms control/non-proliferation. With the de-linking of China's human rights record from its trade status with the US in 1994, the human rights issue has to some extent subsided as a source of tension in the bilateral relationship. On trade matters, the completion of Sino-American negotiations on China's WTO membership in 1999 was an important breakthrough, though new tensions in this area could well arise in the next few years as China attempts to implement ambitious trade commitments. More certain is that American efforts to develop a BMD system will further exacerbate already tense relations in the arms control/non-proliferation area. Furthermore, the missile defense issue and the Taiwan question are closely linked, creating the possibility of disagreements over arms control and the Taiwan question, which, when taken together, will pose a major challenge to the overall Sino-US relationship.

Many analysts believe that the US BMD program could force China to strengthen its nuclear force and develop counter measures. In a recent interview by the *New York Times*, Sha Zukang, China's top arms negotiator, was reported to have said that, although China is reluctant to "spend a lot of money" to counter the US anti-missile shield, it would be left with no alternative if the system were deployed. And, if it appears that China is left dangerously vulnerable to bullying or attack, "we will not sit on our hand (...) We'll have to do something."¹⁰

10 Sha Zukang. Quoted in "US Missile Shield May Force China Arms Buildup." *People's Daily* (Beijing), 12 May 2000.

Conclusion

China's nuclear weapons strategy stems from Chinese traditional strategic thinking. For more than three decades, China has adhered to three principles involving its strategic forces: the NFU pledge; the development of nuclear weapons for defensive purposes only; and the goal of total disarmament. These three principles constitute the basis of China's strategic doctrine, the core of which is that China's limited strategic forces are the last means for national defense. Judging from the signs, it is unlikely that China will change these principles in the foreseeable future.

Another consideration should be given to the preference of China's state priorities. Over the last two decades, China has given first and foremost priority to economic development. This national priority stems from both China's domestic demands and its perception of the international environment. In other words, the preference may remain unchanged unless the two factors change dramatically. Regarding the first factor, economic reforms carried-out over the last twenty years have been tremendously successful in China and have won the support of the nation. It is, therefore, extremely unlikely that Chinese people would be willing to abandon this route. However, while China concentrates on its domestic situation, will the world not disturb China? Will the development of an American BMD open a Pandora's box? Regarding the second factor, the BMD issue will be the major factor of uncertainty in the future five to ten years. It seems unlikely that China will be able to persuade the US to abandon the missile defense program. At the same time, the US is hard-pressed to make Beijing believe that a NMD system is not directed primarily against China. The critical question is, thus, how to manage this issue in order to prevent rising tension from escalating into a major conflict or a second Cold War.

BHASHYAM KASTURI

The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines: India

Introduction

When India undertook to conduct the Shakti series of nuclear tests in Pokhran in the Rajasthan desert in 1998, it created a wave of strong international reaction (this was also the case when India exploded a nuclear device in 1974). Since then, the status of India's arsenal and its attitude towards nuclear weapons and disarmament have been much debated. My concern here is to describe the context in which the Pokhran II nuclear tests took place. I discuss India's pre-Pokhran strategy of ambiguity, which gave it the means to deal with the civil aspects of its nuclear program, but left the strategic role of nuclear weapons and the role of the military extremely vague. I then go on to examine what impact Pokhran II has had on strategic thinking and military doctrine in India. During the course of this paper, I make the following general assumptions.

First, given India's own experience of obtaining freedom through a largely non-violent struggle and the devastation caused by the use of nuclear weapons during World-War II, it was perhaps natural that the Indian elite viewed nuclear weapons as threats to humanity, and their possible use as "crimes against humanity." However, they were also aware that nuclear power was a source of energy that could be harnessed for national development. Thus came about ambiguity: a strategy that increased India's options and gave it the ability to speak for disarmament in a unique way.

Partly because of the fear of discovery and partly because of the lack of the technological wherewithal to fulfill the established objectives, the nuclear program was a secret one. The program, which began as a

scientific and technological endeavor to give India the means to harness nuclear energy for national development, was also meant to prepare the base for the possible future production of nuclear weapons. Thus, the political elite in India often authorized tests for scientific and technological reasons. However, other factors, such as the domestic political climate and the international security environment, are also important factors behind India's decisions to test its nuclear weapons.¹

Second, the Indian military has only been partially involved in nuclear affairs in areas such as preparation of the test site, making logistical arrangements and providing technological assistance. Successive military chiefs have also been consulted about various aspects of nuclear weapons. However, they have had no part in the final outcome of nuclear explosive testing or the employment of nuclear weapons. This was because the use of nuclear weapons was never envisaged. Only in 1986 was the Indian Air Force (IAF) inducted into studies on how to air-deliver nuclear weapons, and only in 1990 were trials of such delivery systems carried out.² However, as a consequence of the testing and weaponization of India's program in 1998, a doctrine for the employment of nuclear weapons had to be developed and the military inevitably became involved.

Third, evidence suggests that countries are relying more and more on nuclear weapons to sustain their positions globally. Russia is an example in this regard. The US also continues to maintain a lead in both conventional and nuclear armament, the primary focus now being on maintaining a technological edge. Indeed, among the factors that prompted India to undertake the Shakti tests was the lack of progress on disarmament and the fact that the Nuclear Weapon States (NWS) were trying to hem India in with arrangements aimed at stunting the growth of its nuclear program.

1 Abraham, Itty. *The Making of the Indian Atomic Bomb, Science, Secrecy and the Post Colonial State*. London & New York: Zed Books, 1998; Perkovich, George. *India's Nuclear Bomb: The Impact on Global Proliferation*. Berkeley: University of California Press, 1999.

2 For Air Chief Marshal S.K. Mehra's statement that the IAF conducted flight trials for nuclear weapons delivery in 1990, see *From Surprise to Reckoning: Kargil Review Committee Report*. New Delhi: Sage Publications, 2000, 240.

As a result of the Pokhran II tests, there has been a sea change in India's strategy. The tests brought into the open Indian nuclear capability (although it is still debated). They have forced the strategic elite in India to involve more people in decision-making on nuclear affairs. They have also prompted a re-thinking of strategy as a whole, in terms of where nuclear weapons fit into the larger matrix. Even the issue of holding the moral high ground on disarmament has had to be rewritten. In other words, Pokhran II brought India into the world of realpolitik.

The Strategy of Ambiguity

The Indian nuclear program originated with the efforts of India's leaders to give the country a scientific and technological base, and to harness nuclear energy to meet its energy needs. India's first prime minister Pandit Jawaharlal Nehru consistently stressed the peaceful uses of nuclear power. However, in public debates in the Constituent Assembly, Nehru was unable to make the distinction between peaceful and military applications of nuclear power,³ demonstrating that he was willing to attain the capability to manufacture nuclear weapons, even though he abhorred the idea of ever using them.

Homi Jehangir Bhabha, who headed the Atomic Energy Commission for twenty years, put together the basic infrastructure for both civil and military applications of nuclear energy. The historical record suggests that Bhabha was the driving force behind the nuclear program, under the overall political direction of Nehru, creating in the course of time "strategic verticality" in nuclear decision-making. This is important to understand, because it meant that the responsibility for decision-making on nuclear issues was restricted to a select few. The Nehru-Bhabha formula kept up the secret nuclear program, mainly because of

3 Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation*, 18–20; Abraham, *The Making of the Indian Atomic Bomb, Science, Secrecy and the Post Colonial State*, 48–49; Gopal, S., ed. *Selected Works of Jawaharlal Nehru*, vol. 28, 1 February–31 May 1955. New Delhi: Jawaharlal Nehru Memorial Fund, 1998, 198–214.

its formative nature and due to what Itty Abraham calls the post-colonial “fear of discovery.” To this end, the Atomic Energy Act of 1948 ensured secrecy within the country. The subsequent Act of 1962 hid India’s capability from the world.⁴

Until 1964, the nuclear program focused on the development of its civilian applications, was geared toward producing power for the country. Simultaneously, India was attempting to attain the capability to produce weapons. However, despite foreign help, the technology for producing a nuclear device was still some years away in 1964. In the Nehruvian sense, nuclear energy contributed to national development. During Lal Bahadur Shastri’s brief tenure as prime minister from 1964 to 1966, there existed a dilemma of whether to make the bomb or not, due to the Chinese tests in October 1964. Shastri and subsequently Indira Gandhi went to the extent of seeking security guarantees from the US and the UK in order to avoid the prospect of India producing bombs. Finally, it was Shastri who agreed to Bhabha’s proposal for a Subterranean Nuclear Explosive Programme (SNEP).

Even when Indira Gandhi became prime minister in 1966, there appears to have been no political decision to go ahead with testing. She also sent her emissaries to the US to seek security guarantees. According to one source, the scientists went ahead on their own with preparations for testing a device in the Rajasthan desert, though they waited for the green light to go ahead, which Gandhi gave in late 1972. While Gandhi was also ambivalent about testing, she used her own yardstick to decide whether or not to test:⁵ there was an immediate domestic political need to assert herself after the 1971 war with Pakistan.

4 The concept of “strategic verticality” originates from the restricted nature of decision-making in the nuclear weapons field. While several persons and organizations are involved in the process of conducting nuclear tests, the prime minister and the scientific establishment have always made the final decision. The Nehru-Bhabha relation, in particular, brings to the fore this verticality of decision-making and needs to be explored further. See Abraham, Itty. “India’s Strategic Enclave: Civilian Scientists and Military Technologies.” *Armed Forces and Society* 18, no. 2 (1992): 233.

5 Perkovich tells the story of how the scientists went ahead with their preparations between 1968 and 1972. See Perkovich, 1999; 171. Also see, Subrahmanyam, K.

This war also witnessed what India perceived as nuclear blackmail by the US, which sent the nuclear carrier “Enterprise” to the Bay of Bengal. According to Raj Chengappa, it was Gandhi’s principal secretary P. N. Haksar who convinced her of the need to test. Thus, a number of factors were involved. However, since there is no written record on her decisions, it is fair to assume that Gandhi based her judgment on her political instincts and listened to the advice of her close scientific and political advisors.

Gandhi stopped further nuclear testing due to the negative international reaction obtaining after Pokhran I. In fact, the 1974 nuclear test was categorized as a “Peaceful Nuclear Explosion,” in order to reduce the damage that would inevitably follow. There was also the problem of a lack of weapons-grade plutonium.⁶ However, some sources report that Gandhi authorized weaponization in 1983, during her second term as prime minister, with her son and successor, Prime Minister Rajiv Gandhi, only continuing the process. Others claim that it was Rajiv Gandhi who gave permission to weaponize in 1988, reportedly after being disappointed by global efforts towards complete and universal disarmament. It took another decade and a non-Congress government to authorize testing the credibility of that weaponization.⁷

“Indian Nuclear Policy—1964–98 (A Personal Reflection).” In *Nuclear India*, ed. Jasjit Singh. 32–33. New Delhi: Knowledge World, 1998.

- 6 Chengappa, Raj. *Weapons of Peace: The Secret Story of India’s Quest to be a Nuclear Power*. New Delhi: Harper Collins, 2000; 111–112.
- 7 Rajiv Gandhi laid out a three-stage program for complete nuclear disarmament and a “comprehensive global security system” by the year 2010. The CTBT was to be negotiated at this stage. See Gandhi, R. “World Free of Nuclear Arms.” Address to the Third Special Session on Disarmament of the UN General Assembly, New York; June 1988. Reprinted in Gandhi, R. *Statements on Foreign Policy April–June 1988*. New Delhi: Ministry of External Affairs, 1988, 60–92. For details on Rajiv Gandhi’s decision to weaponize, see Subrahmanyam, “Indian Nuclear Policy—1964–98 (A Personal Reflection),” 43–44; for the 1983 tests ordered and then cancelled by Indira Gandhi, see Perkovich, *India’s Nuclear Bomb: The Impact on Global Proliferation*, 242–44; also see *From Surprise to Reckoning: Kargil Review Committee Report*, 204.

Atal Bihari Vajpayee is said to have authorized a test during his 13-day stint in office in 1996.⁸ The fact is that political, scientific and disarmament factors coincided at this very moment. The Bharatiya Janata Party (BJP) had announced that it wanted a nuclear capability, the scientists wanted to validate all they had done since 1974, and the Comprehensive Test Ban Treaty (CTBT) was coming up for signature. The issue was one of providing political authorization for India's already existing situation. Narasimha Rao had tried to provide it in 1995, but stepped back due to international pressure.⁹

The Indian case for weaponization is predicated on direct threats from Pakistan and an indirect long-term threat from China. China's nuclear and missile modernization is in tune with global developments and is ahead of India's. For this reason, India is worried about China's capabilities and its ability to interfere with Indian military operations in the northeast of the country. But more importantly, India is rightly apprehensive about the transfer of nuclear and missile technology from China to Pakistan. The case in favor of weaponization is also predicated on the fact that having exercised restraint for more than two decades, India's call for global nuclear disarmament fell on deaf ears. The larger Indian concern for disarmament is now being rewritten in terms of global realpolitik.

To conclude, it would be accurate to say that the strategy of ambiguity gave India the capacity to pursue dual path of disarmament and technological developments in the field of nuclear weapons. Keeping its options open really meant that India could continue to work towards possible weaponization. It is useful to list some of the probable reasons for testing in 1974 and 1998. First, there was the scientific and technological need to keep abreast with the rest of the world, to test the

8 Chengappa, *Weapons of Peace: The Secret Story of India's quest to be a Nuclear Power*, 31–32; *From Surprise to Reckoning: Kargil Review Committee Report*, 205.

9 Mattoo, *India's Nuclear Deterrent Pokhran II and Beyond*, 18. For a full discussion of Narasimha Rao's policies, see Deshingkar, Giri. "Indian Politics and Arms Control: Recent Reversals and New Reasons for Optimism." In *Nuclear Weapons and Arms Control in South Asia after the Test Ban*, ed. Eric Arnett, SIPRI Research Report, no 14. Stockholm: Oxford University Press, 1996.

reliability of designs and to ensure that scientific knowledge was transferred from one generation of scientists to the next. Second, there were domestic political reasons: both Indira Gandhi and Vajpayee used the bomb to gain political favor at home. Vajpayee was able to escape the pressures of electoral politics, while Gandhi was able to quell pressure from the opposition. Third, it dawned on India that global elimination of nuclear weapons is a pipe dream; threat thresholds had attained proportions that demanded action. India also realized that the strategy of ambiguity had lost its relevance in the context of global arms control and that India's room for maneuvering to create the necessary nuclear infrastructure was uncomfortably reduced, as global arms control initiatives were being "carefully engineered" to bolster the non-proliferation regime, reducing the gap between India's covert and overt nuclear option.¹⁰

The Indian nuclear program, therefore, evolved due to both domestic and international factors. The strategy of ambiguity arose from the twin pressures of the need to pursue the moral high ground laid down by the freedom fighters led by Mahatma Gandhi and the fact that the rest of the world was pursuing scientific and technological advancements which would give them a lead. Being left behind meant being dependent on others, a philosophy that had to be anathema to those having experienced colonial rule for over 200 years.

However, the problems created by the legacy of ambiguity are twofold. First, India has never had a written strategic vision that would have articulated the vital interests the nation is supposed to protect. In fact, threat articulation has been *ad hoc*. Second, the strategic verticality in decision-making in nuclear affairs has precluded the military, diplomats and other actors from being involved in deciding what the final objective of the nuclear program should be. It is, therefore, not surprising that while the strategic elite is aware of the existence of a weapons program, the highly compartmentalized nature of the program makes it

10 Hazari, K.K. Lt. Gen. (retd.) and Brigadier Vijai K. Nair (retd.). "India: Nuclear Doctrine and Strategy. National Security Approach Paper, V-98." Forum for Strategic and Security Studies, New Delhi, 1998. Unpublished Monograph.

difficult to make long-term usage statements for the diplomats and the military.

Thus, whilst the strategy of ambiguity has served the nation well, providing it with the means to work on several aspects of policy simultaneously, it has resulted in a lack of convergence between the nuclear program and national security. This, in turn, has led to problems of coordination and, as Pokhran II demonstrated, India is still some distance away from having a full-fledged nuclear strategy. Moreover, the resultant contradictions that abound in India's strategy have, at times, created a crisis of confidence.

The Aftermath of Pokhran II

Pokhran II forced India go adopt overt nuclear power status, forcing it to articulate its position on all aspects of nuclear strategy. However, as will be seen, the transition from ambiguity to overt capability has caused its share of problems. The tests also raised awareness about the global disarmament issue, and has contributed to the widespread opinion that moves towards ridding the world of nuclear weapons should start with the P-5 and should be universal and complete.

National security decision-making

The Pokhran II tests laid open the problems and contradictions in national security decision-making in the field of nuclear weapons. They demonstrated that it was not possible to coalesce short-term assessments with long-term security objectives. This was evident when Vajpayee mentioned China in his letter to US President Bill Clinton. Since 1964, India has viewed China's nuclear capability as a threat, but this had never before been explicitly articulated. This and other such statements issued in the immediate aftermath of Pokhran II provide a glimpse of the multiple inputs that inform government thinking and the confusion that this generates. To provide another example, the External

Affairs Ministry had previously analyzed possible international reactions to testing, but was caught off-guard when the nuclear tests were actually conducted in May 1998. As a result, policy statements that had been issued had to be implemented hurriedly, and the political establishment found it difficult to project a unified response to the world. Therefore, while the restricted nature of decision-making made it easier to make the final decision to test, formulation of a cohesive national security response was impossible without the integration of key ministries into the decision-making process. This remains one of the problems of the nuclear weapons program.

Governmental decision-making on nuclear weapons has always been restricted. To this end, the decision to test the credibility of India's deterrent in 1998 has to be traced back to the decisions of previous prime ministers. It is contended that India did not weaponize after 1974, but kept up its laboratory testing. It was this capability that allowed former Prime Minister Rajiv Gandhi to authorize weaponization in the late 1980s. What India possessed in the 1990s was a first-generation capability with air-delivered weapons to tackle the threat from Pakistan.¹¹

India's strategic thinking and force structure

The current status of India's program is predicated on the draft nuclear doctrine of August 1998, on air and missile delivery systems (both those already existing and those under development), and on the command and control structure in which the prime minister is the designated authority for launch and attack decisions. The primary focus presently appears to be on creating a force structure that can quickly move from peacetime to wartime operational status and can guarantee "assured retaliation" in a given time frame. Several sources have calculated the financial implications for an Indian nuclear weapons arsenal in the past, and each has arrived at a different figure and number of

11 Subrahmanyam says that the first Indian nuclear deterrents were ready in 1990. For more details, see Subrahmanyam, "Indian Nuclear Policy—1964–98 (A Personal Reflection)," 44. The issue of air-delivery means tested in 1990 is discussed in *From Surprise to Reckoning: Kargil Review Committee Report*.

warheads needed.¹² Two factors need to be kept in mind in this regard. First, most of the costs of the program have already been reduced; thus, it can be assumed that the long-term costs of a minimum program need not be too high. Second, the number of warheads and their deployment will have to be defined on the basis of threat perceptions and sound political calculation. It is worth recalling that the US generated a vast arsenal of weapons exceeding 30,000 warheads. The USSR (now Russia) tried to match the US on the principle of Mutually Assured Destruction (MAD). The Chinese arsenal, although in part a response to threats made by the US in 1953 and in 1958, was initially developed with the USSR as their principal adversary, with tacit security cover from the US after 1971.

Indian strategic doctrine and force structure need not be modeled on those of existing NWS, but should certainly take into account the risks and hurdles they have faced in developing their arsenals.¹³ The Indian nuclear deterrent is required as a “defensive instrument,” to ensure that no outside power is tempted to coerce the nation or initiate a nuclear strike against it in a conflict situation. To that extent, the Indian force structure should be sufficient to deter regional nuclear powers from holding the country hostage to nuclear retaliation.

During the Cold War, when a nuclear war was considered feasible, it became necessary to have secondary strike forces of an adequate size to survive an all-out first-strike. A leading Indian authority on the subject, K. Subrahmanyam, says that such attacks are impossible because of the environmental consequences and the inability to exercise

12 See Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation*; 67–68, 79; For Bhabha's AIR broadcast of October 1964, see Jain, J. P. *Nuclear India*. New Delhi: Radiant Publishers, 1974, 158–161; Subrahmanyam, “Indian Nuclear Policy—1964–98 (A Personal Reflection),” 41; Nair, Vijai K. *Nuclear India*. New Delhi: Lancer International, 1992, 181; Subrahmanyam, K. “Nuclear Force Design and Minimum Deterrence Strategy for India.” In *Future Imperiled: India's Security in the 1990's and Beyond*, ed. Bharat Karnad; 176–195; 176, New Delhi: Viking, 1994.

13 Singh, Jasjit. “Indian Nuclear Doctrine.” In *Asian Strategic Review 1998–99*; Institute for Defence Studies and Analyses, 9–19. New Delhi: Institute for Defence Studies and Analyses, 1999.

effective command and control. India has, therefore, decided that it is best to achieve a second-strike capability with a minimum arsenal, the survivability of which can be ensured by making it mobile on land or under water. Also, command and control for a small arsenal would be less costly. He argues that India needs nuclear weapons to deter nuclear blackmail. Subrahmanyam, therefore, articulates a No-First-Use (NFU) posture and existentialist deterrence arising from India's possession of nuclear weapons. According to him, a NFU posture is in accordance with the stance that India has taken for the last five decades: that nuclear weapons must be eliminated and the use and threat of use of nuclear weapons are crimes against humanity.¹⁴

Having overtly demonstrated India's capability on 11 May 1998, Vajpayee articulated the first steps of the nuclear doctrine in Parliament on 27 May 1998. Subsequently, the government took up a NFU posture and determined the political dimension of command and control, the main aspect being that the prime minister of India would be the final authority for the use of nuclear weapons.¹⁵ India also decided on a minimum credible nuclear deterrent, with the capacity to undertake punitive retaliation.

While the draft nuclear doctrine provides some insight into the future of India's nuclear posture,¹⁶ the important thing to remember is that either the nuclear doctrine must be balanced with capability or the gap between doctrine and capability should be contained within strategically practical levels.¹⁷ India's current nuclear weapons capability is

14 Subrahmanyam, K. "A Nuclear Strategy for India." *The Economic Times* (New Delhi), 28 May 1998.

15 For Vajpayee's speech in Parliament, see *The Hindustan Times* (New Delhi), 28 May 1998, A1. For a statement of India's posture, see Ministry of Defence. *Annual Report 1999–2000*. New Delhi: Government of India Press, 2000, 8–10. For a semi-official explanation of the doctrine, see Singh, "Indian Nuclear Doctrine," 12–15.

16 See National Security Advisory Board. *Draft Nuclear Doctrine*, 1998. Reprinted in *Agni: Studies in International Strategic Issues* 4, no. 2 (1999): 54–58.

17 Hazari/Nair, *India: Nuclear Doctrine and Strategy*, 4–5.

ahead of its articulated doctrine, as was proven by Pokhran II, primarily because the first stage of the nuclear doctrine was based on ambiguity. However, the length of time required to produce and deploy hardware, as well as the limitations on delivery, mean that a pause in the articulated doctrinal position must take place, so that a coherent strategy can be maintained.

India's nuclear doctrine of minimum deterrence has twin objectives: to demonstrate to the NWS that nuclear exclusivity is unattainable and that the non-proliferation strategy propagated and nurtured by them is ineffective and that global stability can only be achieved through instituting a nuclear weapons convention for the elimination of nuclear weapons; and to ensure that a meaningful nuclear capability exists in India to safeguard its security interests, which have been endangered by the acquisition of nuclear weapons by states in the region and the spread of nuclear weapons technology and materials.¹⁸

Role of the military

In order to make the nuclear strategy and doctrine operational, the military in India will have to play a major role. The military has two strategic roles. First, the military is the only organization that has the integrated and comprehensive structure to deploy and employ nuclear weapons under political direction. Second, the military has to generate doctrinal, organizational and equipping policies that would enable India to endure a conventional war, even if a nuclear strike is initiated against it during combat. This would include a wide range of defense mechanisms associated with nuclear warfare, though without the offensive content attached to it.

The military has been working on defensive aspects of nuclear warfare and specific attention has been paid to defensive nuclear, biological and chemical (NBC) warfare for two decades now.¹⁹ The military has also

18 *Ibid.*

19 Nair, Vijai K. "The Structure of an Indian Nuclear Deterrent." In *India's Nuclear Deterrent: Pokhran II and Beyond*, ed. Amitabh Mattoo, 65–107; 83. New Delhi: Har-Anand Publications, 1999.

been involved in certain aspects of the nuclear program. For instance, army engineers have been involved in digging the shafts for the devices in Pokhran. It also takes care of several aspects of logistics and has also been involved in integrating Command, Control, Communication and Intelligence Systems (C³I) needed for a possible nuclear weapon program for some time now.

However, the military has remained out of the decision-making loop, not only in general terms, but also specifically in terms of the end purpose of nuclear weapons. The importance of this lies in the fact that as an end-user, the military must be sure that the weapons it deploys will work. This is perhaps why, in the aftermath of Pokhran II, the military initiated a number of studies on command and control of nuclear weapons. It is interesting to note that in the past, the military top brass has from time to time made statements against India producing nuclear weapons.²⁰

It is the lack of military connectivity at the strategic level that gives rise to uncertainty about the military's exact role. One authority on the subject goes as far as to state that the government of India has always had problems in resolving the command and control of nuclear weapons. In particular, conflict between the civilian and military authorities was characterized as being "long and painful" and was finally resolved in favor of the civilian and scientific bureaucracies. How and when this happened is unclear. However, it is claimed that the former director of the Defence Research and Development Organization (DRDO), V. Arunachalam, stated that, "if New Delhi goes up in a mushroom cloud, a certain theatre commander will go to a safe, open his book, and begin reading from page one (...) and will act step by step on the basis of what he reads."²¹ The only conclusion that can be drawn from this is that

20 Dutt, Som. *India and the Bomb*. Adelphi Paper, no. 30, London: IISS, 1966. Raja Menon cites Defense Minister Y. B. Chavan as objecting to weaponization. For further details, see Menon, Raja. *A Nuclear Strategy for India*. New Delhi: Sage Publications, 2000, 75. Perkovich cites Manekshaw from the *Times of India* as saying after the 1971 war that India did not need the bomb. See Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation*, 168.

21 Rosen, Stephen Peter. *Societies and Military Power: India and its Armies*. New Delhi: Oxford University Press, 1996, 252.

since the military cannot plan for nuclear war, civilians have handled the problem of devising a doctrine for nuclear weapons by writing a detailed set of instructions.

Arunachalam's statement suggests that debate has been generated in the past about the role of the military in nuclear strategy, but that the strategic verticality of decision-making precluded the armed forces' direct involvement. The military has undoubtedly been aware of the possible role that would be thrust upon them if and when India chose to weaponize. In 1990, the IAF was told to train and test air-delivery of first-generation weapons with a view to a possible future nuclear exchange with Pakistan. According to some sources, India has a well developed Command, Control, Communications, Computers and Intelligence (C⁴I) system. However, early warning and delivery systems are not yet effective. Pakistan is said to have an effective system, supplied predominantly by the Chinese.²²

In practical terms, it means that the Indian military will have to be ready to operationalize the nuclear strategy outlined by the government, either through the draft nuclear doctrine or one that is finalized in consultation with the armed forces. The military will have to provide user requirements for warheads, induct and control delivery systems, maintain secure Command, Control, Communication, Computers and Intelligence (C⁴I) systems, perform target analysis, execute force structure planning, develop a deployment policy, ensure the security of other systems in peace and war and, overall, ensure that India's assured retaliatory capability is operationalized upon political instruction in the "shortest possible time."²³

The government of India set-up the Kargil Review Committee, which established task forces on several aspects of national security. The Task Force on Defense, headed by former Minister of State for Defense Arun Singh, has sought the creation of the post of chief of defense staff

22 This point was made by Antonenko Oksana, International Institute for Strategic Studies, at the Center for Security Studies and Conflict Research, ETH Zürich, New Faces Conference 2000, Chexbres, Switzerland, October 2000.

23 See footnote 18.

(CDS), intended to “administer” India’s nuclear forces and to create a strategic force command.²⁴ While this should be seen as part of the post-Pokhran II initiative to elaborate on who does what, the devil is in the detail. For instance, in the case of hostilities, will the CDS have direct access to the prime minister who is the final authority on the launch of nuclear weapons? Additionally, it is still not clear what the alternate chain of command would be if India’s top leadership were lost in a de-capacitating first-strike. This is perhaps why the government has deferred a final decision on the CDS, pending discussions with all political parties.

Issues such as whether the Indian arsenal will be based on a triad of delivery systems, and whether the military will have control over the nuclear cores, how many warheads will be needed and which service will control the delivery means, will be debated for some time to come. For instance, the army has already raised a regiment for the Prithvi missile and the IAF is said to be preparing to deploy the Agni-II Intermediate Range Ballistic Missile (IRBM).²⁵ These seem to be simplistic responses to strategic objectives that actually require a combined all-armed forces response, involving the creation of theatre commands and the setting-up of a strategic nuclear command. In strategic terms, this requires establishing a clear chain of command and control, keeping in mind the possibility of the enemy launching a de-capacitating strike.

The Indian deterrent is already air and missile deliverable. However, a sea-based deterrent is still some years away. While work in this field is ongoing, it is likely that the first nuclear submarine will only be ready for trials by 2005. This suggests that this leg of the triad needs greater attention. More needs to be done, of course, towards filling in the gaps in strategic terms (i.e., creating the nuclear infrastructure, such as C³I or strategic nuclear command). Simultaneously, thought must be given to integrating the nuclear weapons and their delivery systems into the strategic framework of nuclear policy.

24 Group of Ministers. *Reforming the National Security System*. New Delhi, 2001, 102.

25 Editorial. “Agni to be Inducted into Indian Air Force Soon.” *Times of India* (New Delhi), 26 January 2001.

The Chief of Staff of the Army, General Sundarajan Padmanabhan, said on his promotion to army chief in October 2000 that the army would be trained to prepare for a nuclear war, with an emphasis on weapons, tactics and war games. He noted that it was necessary for the services to be ready for nuclear war, “even if it is unlikely to take place (...) [i]f we have the capability, it is necessary that we should be prepared with our doctrines, tactics and plans. A certain amount of work has already been done in this regard which I would not like to go into. But we need to fine tune it further.”²⁶ The Indian military’s strategy of “defense-offense” means that nuclear weapons will fit into the second-strike mode. A first-strike by Pakistan would surely result in assured retaliation by India. This, then, calls into question the viability of India’s NFU posture. Yet, Pakistan will not enter into an NFU arrangement with India, as Islamabad has long argued for a first-strike capability. Indeed, Pakistan has allegedly played the nuclear card in 1990 and during the Kargil crisis of 1999.²⁷

There are several other points about NFU and signaling the credibility of the Indian nuclear deterrent. Indian nuclear signaling must be unusually strong to be understood not only by governments, but also at the sub-governmental level. In addition, China has stated that it will adhere to NFU against Non-Nuclear Weapon States (NNWS). Yet, this will obviously change with regard to India. In the aftermath of Pokhran II, and with US President George W. Bush announcing plans to go ahead with the National Missile Defense (NMD) system, China can be expected to react further.

It must be emphasized that China is not a direct nuclear threat to India. Its modernization of nuclear and missile forces, along with transfers of such materials to Pakistan, is the long-term threat that India is faced with now. To this end, when the army is told to operationalize the nuclear strategy, it will need answers to all these questions. Only then can it have a clear picture of deployment.

26 Editorial. “Army Must be Ready for Nuclear War.” *Times of India*, 2 October 2000; Padmanabhan, General S. “I Intend to Restore the Army’s Izzat.” Interview. *Outlook*, 15 January 2001.

27 *From Surprise to Reckoning: Kargil Review Committee Report*, 240.

Conclusion

Since 1947, nuclear weapons have formed part of India's larger strategy, in the sense that it was always the objective to attain the capability to manufacture nuclear weapons, even if their use was never intended. It was this contradiction that gave rise to the strategy of ambiguity. It is clear that Bhabha's ambitious nuclear program could not have flourished but for Nehru's permission. There is also little doubt that Nehru was drawn to nuclear power as an adjunct to national development. He was willing to allow scientific research aimed at acquiring the ability to produce nuclear weapons, though he abhorred the thought of using them.

The strategy of ambiguity emerged from twin factors. First, there was the so-called post-colonial fear of discovery, associated with being a newly independent nation aspiring to have nuclear weapons and, worse still, a country that had won its independence through non-violent means. Second, the scientists were unsure of their path and goals. While the Atomic Energy Act was amended in 1962 and provided some pointers as to India's nuclear capability, there continued to be, for a long time, disagreement between various wings of government about the exact nature of the India's nuclear strategy. The very closed nature of decision-making also led to problems of assessing both domestic and international reactions.

Successive prime ministers continued to fund the nuclear program. What they failed to do was take other decision-makers into confidence, instead keeping the program a closely guarded secret. This resulted in the creation of a nuclear policy that was bound by strategic verticality. One instance of the contradictions that this gave rise to could be seen in Rajiv Gandhi authorizing weaponization of the Indian nuclear program at the same time as launching the UN plan for global disarmament in 1988. However, as K. Subrahmanyam aptly points out, it was precisely the rebuff to Rajiv Gandhi's vision of a world free of nuclear weapons that led him to take the weaponization step. Post-Pokhran II is a consolidating phase. The transition from ambiguity to overt weaponization has meant rewriting the rules of the game. While the

larger strategy is in place, the actual doctrine and operational aspects are being worked out.

Despite Pokhran II, India's interest in disarmament has not waned. In fact, disarmament in the Indian lexicon means the universal elimination of weapons of mass destruction. India's position with regard to the CTBT, from not signing at all in 1996, to offering to sign in 1999, is an indication of the dramatic shift in India's strategic thinking. The problems with its stance still remain, but this should be seen as part of the process of defining the role that nuclear weapons should have in national strategy. In fact, the government of India imposed a voluntary moratorium on testing and took a NFU posture precisely to indicate its abiding interest in global, universal and complete disarmament.²⁸

The concept of having a counter-value strategy with punitive retaliation capability suggests that warheads and force structures will be configured accordingly. The military will have to prepare to adopt this posture. The attempt here has been to provide a historical and analytical picture of the role of nuclear weapons in Indian strategy and to fit the military into this matrix. This exercise has provided some pointers as to the direction that India's nuclear weapons policy is taking. A full-fledged Indian minimum deterrent is still some distance away. What is presently available to India is a first generation capability, with delivery systems to attack Pakistan. India will need more tests if it is to have a full thermonuclear force. This is the future. It can be safely said that India's present capabilities are sufficient to meet threats to its western borders. The issue of taking an aggressive stance vis-à-vis China depends on the strategy of evolving credible delivery systems. To this end, the government has given green light to go ahead with the deployment of the Agni-II IRBMs. These will be the Agni-III and will have extended ranges of over 4,000 kilometers. In the meantime, the message that India's arsenal is credible must be unambiguously sent to all, by all means possible, to ensure the country's survival in the long-run.

28 For a comprehensive discussion on the CTBT debate, see Menon, *A Nuclear Strategy for India*, 108–111.

Part III
Nuclear Weapons and Regional Security

MOONIS AHMAR

Nuclear Weapons and Regional Security: A Case Study of South Asia

Introduction

Beginning with the policy of “nuclear opacity,”¹ India and Pakistan moved towards gaining an overt nuclear weapon status in May 1998. From the standpoint of security, the introduction of nuclear arms to South Asia contributed both to stabilizing and to de-stabilizing the security paradigm of the region.

The end of the Cold War at the superpower level in 1990 had raised hopes and expectations for a meaningful shift in the global security and strategic environment. The post-Cold War events prompted a debate on the two differing concepts of security: traditional and non-traditional. While deep cuts in the conventional forces in Europe and progress in the field of nuclear arms control at the US-Russian level helped to stabilize the security environment of the world, the nuclear tests conducted by India and Pakistan made it clear that the global security paradigm cannot remain oblivious to the contradictions in the South Asian security framework. If on the one hand, the post-Cold War events contributed to the resolution of intractable conflicts, in South Asia the situation turned out to be totally different because no concrete step was taken towards a viable peace process between the two major regional countries, India and Pakistan.

1 “Nuclear Opacity” means a situation in which the existence of a state’s nuclear weapons has not been acknowledged by the state’s leaders, but in which the evidence for the weapon’s existence is strong enough to influence other nations’ perceptions and actions. See Cohen, Avner, *Israel and the Bomb*. New York: Columbia University Press, 1998.

During the 1990s, the South Asian security paradigm witnessed at least five contradictory trends. First, there was the popular uprising in the Indian-controlled part of Jammu and Kashmir. Second, there was the adoption of series of Confidence-Building Measures (CBMs) by India and Pakistan at the military level² to prevent the outbreak of an all-out war in South Asia. Third, there was the slow pace of regional cooperation among the South Asian countries. Fourth, there was the visit of the Indian Prime Minister, Atal Bihari Vajpayee, to Pakistan in February 1999 and the famous “Lahore Declaration.” Finally, there were the events that followed the nuclear tests by India and Pakistan, including the Kargil crisis of May–June 1999, the Indian draft nuclear doctrine of August 1999³ and the hijacking of the Air India plane in December 1999.

Overshadowed by the pessimistic trends influencing the South Asian security paradigm, the introduction of nuclear weapons to the region by India and Pakistan tends to promote debate on the relevance of nuclear weapons in the regional security environment. One may ask what has really changed in South Asia after the nuclear tests of Indian and Pakistan in May 1998. And, what role can the international community play in preventing the threat of a nuclear showdown in South Asia?

This chapter attempts to examine the role of nuclear weapons in the South Asian security paradigm by responding to following questions. First, what has been the role of nuclear weapons in stabilizing and

2 For detailed information about military CBMs between India and Pakistan see, Krepon, Michael, Michael Newbill, Khurshid Khoja and Jenny S. Drazin. *Global Confidence Building*. New York: St. Martin’s Press, 1999, 196–202.

3 According to the draft of the Indian nuclear doctrine, presented in August 1999, New Delhi will pursue a doctrine of credible minimum nuclear deterrence, based on aircraft, ships and mobile land-based missiles. Control and command of the nuclear forces will rest with the civilian authorities, with the button in the hands of the prime minister. Space-based assets will be used for early warning and communication. Extraordinary precautions will be taken to ensure the security and safety of the Indian deterrent, and systems will be instituted to ensure no unauthorized activation of such weapons. In short, the draft of the Indian nuclear doctrine reiterated India’s commitment to No-First-Use of nuclear weapons. See Editorial. “India vows to augment its nuclear capability.” *The News International* (Islamabad), 18 August 1999.

de-stabilizing the South Asian security system? Second, how has the impact of nuclear weapons on nationalism and religious extremism shaped the security perceptions of South Asia? Third, how can India and Pakistan move from the state of low-intensity conflict over Jammu and Kashmir to a stable and peaceful relationship? Fourth, what role can the outside world play in preventing the escalation of Indo-Pakistani conflicts? Finally, what are the impediments to establishing a stable security environment in South Asia?

Before addressing these questions explicitly, I will look at the connection between international and South Asian security paradigms and briefly review significant structural contradictions in South Asian security.

International and South Asian Security

For several reasons, South Asia enjoys a relative autonomy from the international system. At a time when the world has been moving from conflict to cooperation, and the concepts of globalization and information technology are shaping the global security paradigm, South Asia is still under the shadow of mistrust, paranoia and retrogression.

Four important factors tend to explain why South Asian security is only marginally connected to international security. First, during the Cold War years, South Asia's geo-strategic significance was due to US-Soviet rivalry and alliance politics. Since South Asia had no strategic importance of its own, developments in its peripheral areas like the Persian Gulf and East Asia contributed to shaping the policies of major powers *vis-à-vis* the region. Unlike Europe, the Middle East, the Persian Gulf and East Asia, which were and still are strategically important in the global power structure, South Asia, in view of its economic backwardness and structural imbalances, remained insignificant to the world. On these grounds, regional autonomy from the international system resulted in indifference towards world powers and

reassured the countries of the region of their capability for effectively restraining foreign intervention.

Second, contradictions within international and South Asian security paradigms became obvious when India and Pakistan exploded their nuclear devices in May 1998. The world reaction to these tests was one of regret and grief. In return, the US, Japan, the European Union and other countries imposed sanctions on India and Pakistan. The countries that had imposed sanctions on New Delhi and Islamabad demanded that India and Pakistan sign the Nuclear Non-Proliferation Treaty (NPT), the Fissile Material Cut-Off Treaty (FMCT) and the Comprehensive Nuclear Test Ban Treaty (CTBT). However, events following the imposition of such sanctions proved that such a policy had miserably failed to put any pressure on India and Pakistan to abandon their nuclear weapons programs. The two countries simply refused to compromise their nuclear status under the conditions set by the Western powers.

Third, at the international level, efforts for conflict management and resolution have gained ground in the post-Cold War era. The use of technology and techniques applied in track-II diplomacy continue to play a role in the resolution of intractable conflicts. As far as South Asia is concerned, there is very little empirical evidence to validate the impact of global trends in conflict management and resolution. While initiatives at the non-governmental level have been undertaken since 1990, aimed at supporting the Indo-Pakistani peace process, the official positions of the two countries on the two critical issues (the Kashmir dispute and nuclear proliferation) have remained unchanged. This means that the international community has no leverage or clout to influence South Asian security perceptions. While the international community can be of some assistance to India and Pakistan in preventing nuclear accidents and establishing a credible command and control system, without the active interest of New Delhi and Islamabad in resolving their conflicts, one cannot expect stability in the South Asian security environment.

Fourth, realizing the futility of any efforts towards Indo-Pakistani conflict resolution, outside players feel it is appropriate to keep away from

South Asian affairs. As far as mediation is concerned, the Indian objection to any outside role in the settlement of the Kashmir dispute has closed-off the option of any outside party brokering peace in South Asia. Though the international community is concerned about the escalation in the Kashmir conflict and fears it may lead to the outbreak of a fourth Indo-Pakistani war, it cannot play any significant role to help de-escalate the Kashmir conflict. It is well understood in the strategic circles of India and Pakistan that any fresh outbreak of hostilities between the two countries will not be limited to conventional war, but will definitely have a nuclear dimension. On these grounds, it has been argued that:

Both India and Pakistan have achieved de facto nuclear weapons' capability and are engaged in a military and nuclear competition that shows disturbing parallels to the earlier Cold War rivalry between the United States and Soviet Union. Neither country is willing to accept international safeguards on its nuclear activities or to sign the NPT and CTBT agreements.⁴

Structural Contradictions in the South Asian Security Architecture

No region in this world is devoid of contradictions in its security paradigm. But in the case of South Asia, the contradictions in the security framework are such that the region is still hostage to numerous contentious issues. With 20 percent of the world population and as the cradle of some of the oldest civilizations, South Asia is also home to millions of poor and illiterate people. Paradoxically, the small and middle level countries of South Asia, such as Bangladesh, Bhutan, the Maldives, Nepal and Sri Lanka, realize that their role in shaping the

4 See Ahmed, Samina and David Cortright. "Pakistan's Public Opinion and Nuclear Weapons Policy." In *Pakistan and the Bomb*, eds. Samina Ahmed and David Cortright, 3–28. Notre Dame: University of Notre Dame Press, 1998.

regional security paradigm is marginal as a result of the unresolved conflicts between India and Pakistan overshadowing the genuine security concerns of the region. It has also been argued by these states that the nuclear arms race between India and Pakistan should not give the impression to the outside world that the only critical issue in South Asia is nuclear proliferation. In fact, Indo-Pakistani conflicts, while having a negative impact on South Asian cooperation, should not give the impression that all the countries in the region are involved in the hostilities between New Delhi and Islamabad.

Some of the structural contradictions in South Asian security are as follows. First, the real security threats to South Asia emanate from poverty, political instability, religious and ethnic extremism, scarcity of water resources, energy shortages, the burden of debt and illiteracy. In principle, South Asian countries, particularly India and Pakistan, should have formulated concrete policies to deal with the humanitarian aspect of security. However, in practical terms, it is not a priority for the South Asian governments to address those security issues, which concern the survival of people.

Second, while South Asia is burdened by serious economic and political instabilities, the regimes in power prefer to seek, strengthen and demonstrate the military aspect of security. The use of force to quell insurgencies in India and Sri Lanka and the arms race between India and Pakistan, both at the conventional and nuclear levels, tend to project a different dimension of South Asian security. Hawkish politicians in South Asia argue that the only way to ensure security is through military build-up. As a result, one finds a paradoxical situation in South Asia: on the one hand, people feel insecure because of economic and political crises, whereas, on the other, the power elites project a security approach which justifies the use of force in dealing with insurgencies and the build-up of conventional and nuclear weapons. This strange dichotomy has accentuated the structural complications in the South Asian security paradigm.

Under the cover of threat perception, the regimes of India and Pakistan are unwilling to change the security paradigm of South Asia. As rightly said by a scholar of Indian origin based in Canada:

When Pakistanis assert the right to be the guardian of Muslims in South Asia, and project Pakistan as a defender against Hindu expansionism, the ideological or cultural imperative is being asserted. When Indians assert the value of Hindu nationalism as distinct from Indian nationalism an ideological or cultural imperative is also being asserted.⁵

Notwithstanding the structural contradictions in the security framework of South Asia, no systematic effort has been made by New Delhi and Islamabad to follow a pragmatic approach to dealing with the real security issues. Two important schools of thought have emerged in South Asia in the period following the nuclear tests. The first school of thought argues that New Delhi and Islamabad feel more secure after taking the nuclear road because nuclear deterrence can effectively prevent an aggression by the neighbor. The second school of thought argues that the nuclear tests of India and Pakistan have de-stabilized the security environment of South Asia, because a nuclear arms race in the region could only be at the expense of the scarce resources of the two countries. On this account, the security contradictions in South Asia have become more evident since May 1998.

Similar to the nuclear and conventional arms race in South Asia is the issue of ethnic and religious extremism, which has become a major source of regional instability. A vast majority of people in South Asia can now feel how serious the issue of ethnic and religious extremism has become in the last decade. As a result, no effort has been made so far to deal with the military and non-military structural contradictions in the South Asian security paradigm. Both these contradictions can justifiably be identified as destabilizing factors with far-reaching implications for South Asia.

5 Kapur, Ashok. "The Changing Dynamics of Indo-Pakistan Security Relationships in the World Today: The Role of Conflict Formation and Conflict Resolution." In *Internal and External Dynamics of South Asian Security*, ed. Moonis Ahmar, 16–30; 16. Karachi: Fazleesons, 1998.

The Role of Nuclear Weapons

Two important realities tend to shape perceptions as far as nuclear weapons and South Asian security are concerned. First, nuclear weapons are a status symbol, in the sense that by obtaining nuclear weapons capability, the respect and pride of a state is assured. This approach has a strong constituency in India, where it has been argued that powerful actors will not take the country seriously unless nuclear power is achieved. As stated by an Indian analyst on security affairs:

India's fight for membership in the exclusive club has also convinced New Delhi that it is imperative to acquire technological capabilities, and to become a member of the select few in order to be taken seriously. Indian analysts argue that nuclear weapons (and related materials) are currencies of power, pointing out that the five permanent members of the UN Security Council are also the five officially recognized nuclear weapon states. Unless the proposed expansion of the UN Security Council proves otherwise, or unless one of the existing permanent members dismantle their arsenal, India is convinced that nuclear weapons are essential to become a permanent member of the crucial executive world body.⁶

Paradoxically, India, which had previously been a strong supporter of nuclear disarmament and of a ban on nuclear testing, followed the nuclear road because of its desire to attain global power status.

Second, nuclear weapons cannot contribute to the development and well-being of the people of India and Pakistan because the two countries have neither the resources nor the expertise to achieve a nuclear build-up. According to this school of thought, not only the conventional, but also the nuclear arms race is detrimental to the peace and stability of South Asia, and the nuclear capabilities of India and Pakistan can only further destabilize the dynamics of regional security. If both these facts are analyzed, it becomes clear that the status of nuclear

6 Sidhu, W.P.S. "India's Security and Nuclear Risk-Reduction Measures." In *Nuclear Risk Reduction Measures In Southern Asia*, W.P.S. Sidhu et.al, 1-47; 7-8. Washington, D.C.: Henry Stimson Center, 1998.

weapons in South Asia is still not clear. If India and Pakistan consider nuclear weapons to be a status symbol, then so far the two countries have not been awarded any legitimacy by the nuclear powers' club. Neither have the sanctions against the two countries been lifted, nor have they been given *de jure* nuclear status. India has argued its case for permanent membership in the UN Security Council, but has so far been unsuccessful. Apart from the non-recognition of the nuclear status of India and Pakistan by the established nuclear powers, the nuclear control and command structures of the two countries are still not well established. While New Delhi and Islamabad can claim to have achieved a minimum of nuclear deterrence, both have a long way to go before the world recognizes this.

The following factors can help to explain the positive perception of nuclear weapons in South Asia since May 1998:

- Nuclear weapons are a source of pride and glory.
- Both India and Pakistan feel secure after following the nuclear road.
- Nuclear weapons have minimized the chances of a fourth Indo-Pakistani war.
- The nuclear tests of New Delhi and Islamabad have proven that the West cannot exert pressure on the two sides.
- The nuclear programs of India and Pakistan are in responsible hands and there is no likelihood of nuclear disasters or the outbreak of an accidental nuclear war.
- Nuclear weapons have given India and Pakistan an opportunity to initiate a dialogue and resolve their conflicts in a peaceful manner.
- The nuclear status of India and Pakistan has accentuated the strategic importance of South Asia.
- On the basis of its nuclear status, India can hope for a permanent seat in the UN Security Council and Pakistan can expect more economic assistance from the West.
- Nuclear technology can be used for promoting industrialization and overcoming energy shortfalls in the two countries.

There are also various negative factors associated with the nuclear power status of India and Pakistan:

- Nuclear weapons can in no way provide security to the people of India and Pakistan because the two sides will be involved in a deadly nuclear arms race consuming their limited resources. Moreover, the cost of manufacturing, storing and deploying nuclear weapons is colossal.
- At a time when the world is moving towards nuclear disarmament, the nuclear weapons programs of India and Pakistan are a source of grave threat to regional and global peace and security.
- Nuclear weapons will continue to act as a destabilizing factor in South Asia, because of the threat of their use in case of future war between India and Pakistan.
- The outside world, particularly the Western powers and global financial institutions, will continue to apply pressure on New Delhi and Islamabad to restrain their nuclear weapons programs and sign the CTBT.
- The argument advanced by India, that its nuclear status should guarantee it a seat in the UN Security Council, will remain unheard in major world capitals, because nuclear capability is not considered a criterion with which to back up such a demand.
- Both India and Pakistan are incapable of formulating an effective control and command system.
- The two countries are unable to provide adequate nuclear safeguards to their nuclear arsenals.
- Hawkish and fanatic elements in the two countries can create conditions under which the use of nuclear weapons may not remain an impossible task.
- The nuclear option pursued by India and Pakistan could be a source of encouragement to other aspiring nuclear countries.

Another influential school of thought regarding nuclear weapons in South Asia argues for adopting a middle ground. According to this

view, nuclear weapons are in South Asia to stay, and what the region requires in order to save itself from nuclear catastrophe is to start negotiations between India and Pakistan. The proponents of this view seek to achieve the following goals: to coordinate policies concerning the nuclear control and command system of the two countries;⁷ to collectively make deterrence systems in South Asia more effective and credible; to create a South Asian Nuclear Safe Zone; and to resolve the Kashmir issue, which is a major factor of instability in South Asia.

If India and Pakistan were to follow the middle road, it would help to reduce threats emanating from the nuclear tests of the two countries, particularly the threat of using nuclear weapons in any future war between the two neighbors. Since the world has failed to stem nuclear proliferation in South Asia, it can certainly play a useful role in making sure that, in the case of an escalation of Indo-Pakistani conflicts, nuclear weapons are not used; and in discouraging the two countries from entering into a nuclear arms race.

Nuclear weapons can be said to have averted an all-out war between the two superpowers. However, in the case of India and Pakistan, the reality is that their situation does not allow them to follow the footsteps of Moscow and Washington, and they do not have the resources available to build huge nuclear arsenals.⁸

7 On 2 February 2000, Pakistan announced that it had set-up a Nuclear Command Authority (NCA) to manage all aspects of nuclear activities. The NCA is responsible for policy formulation and exercised employment and development control over all strategic nuclear forces and strategic organizations. By placing operational control of its strategic assets in the hands of NCA, Islamabad has tried to ensure that nuclear decisions are not made on the basis of local circumstances. See Hussain, Rifaat. "Evolution of command and control." *The News International*, 27 August 2000.

8 In the case of the superpowers' nuclear arms race, their nuclear doctrines and policies were aimed either at gaining superiority or at winning a nuclear war. However, the reality is that fighting a nuclear war is a suicidal act, due to the colossal destruction and the fact that a nuclear war is not winnable.

The Dynamics of Nuclear Nationalism

The term “nuclear nationalism” refers to the linkage between religion and the acquisition of nuclear weapons.⁹ Extremist religious elements in South Asia are proud that nuclear weapons can eliminate security threats and ensure the projection of state power. In both India and in Pakistan, extremist religious groups promote nuclear nationalism, because it is in this area that they hope to gain popular support. Since the majority of the people in India and Pakistan are illiterate, it is easy for extremist religious groups to take advantage of the ignorance of the masses and to exploit their religious beliefs in favor of testing, manufacturing and using nuclear missiles and bombs.

Four important connections can be made between nuclear nationalism and religious extremism in the case of South Asia. First, in Pakistan, right-wing extremist religious elements, belonging to different groups, agree on one point: nuclear weapons are important for the security of their country, particularly for meeting threats from their arch enemy, India. In India, the extremist Hindu religious groups are proud of their country’s nuclear status and mobilize the religious feelings of ordinary people for the purpose of building more and more bombs.

Second, the names of most of the short-range and intermediate-range missiles in India and Pakistan have religious connotations. Designations for missiles such as *Ghouri* in Pakistan and *Agni* and *Prithvi* in India have religious meanings. Such names have been used by the two countries to prove that religion still plays an important role in determining security policies. Ordinary people in India and Pakistan are emotionally attached to religious symbols and giving their missiles religious names arouses nationalistic feelings.

9 For an interesting study of the role played by nuclear nationalists and religious extremists in India and Pakistan see Ahmed, S. Mutahir. “The CTBT Controversy: The Role Of Nuclear Nationalism and Religious Extremism.” In *The CTBT Controversy: Different Perceptions in South Asia*, ed. Moonis Ahmar, 107–117. Karachi: Department of International Relations, University of Karachi, 2000.

Third, knowing that nuclear weapons are morally and rationally detrimental to humanity, religious elements in India and Pakistan have tried to justify their nuclear capabilities on the grounds of national security. False and superficial threat perceptions are generated among people to argue in favor of nuclear tests and the manufacturing and deployment of nuclear weapons. Extremist religious elements also try to prove that nuclear weapons provide a shortcut to elevated status within the international community. Particularly in the case of India, it has been observed that the right-wing Bharatiya Janata Party (BJP) and its ally Shiv Sena feel proud in asserting that Hindu nationalism has resurged as a result of the nuclear option. The same is true for Pakistan, where the religious elements were in the forefront in pressurizing the government of the then Prime Minister, Nawaz Sharif, to give a matching response to the Indian nuclear tests of 11 and 13 May 1998. When Sharif was reluctant to give such a response to India, the extremist religious elements took to the streets and mobilized popular support for nuclear tests. Eventually, the Pakistani government had to give in to the pressure of religious forces and conduct nuclear tests on 28 and 30 May 1998.

Finally, the concept of an “Islamic bomb” has great relevance in Pakistan’s nuclear program. As the only Muslim country to have gained overt nuclear status, Pakistan feels proud and asserts that it will not give up its nuclear weapons capability under Western pressure. In fact, Pakistan’s nuclear tests were widely welcomed in the Muslim world, particularly by Middle Eastern countries. Will nuclear nationalism and religious extremism continue to influence the security policies of India and Pakistan? And, if not, will these determining factors be replaced with rationality and pragmatism?

As long as the conflict between India and Pakistan continues to revolve around historical rifts and paranoia, religious nationalism will continue to influence the security policies of the two countries. Nuclear weapons have added a new dimension to the prevailing security and political contradictions between the two countries. Moreover, since nuclear weapons held by India and Pakistan are considered strong guarantors of security, religious fanaticism also figures high in this scenario.

Low-intensity Conflict over Jammu and Kashmir

Since 1990, India and Pakistan have been locked in a low-intensity conflict over Kashmir. A decade has passed and there is no let-up in the propaganda warfare and the proxy war between the two countries. From Pakistan's point of view, Kashmir has become a major flashpoint in the global political arena, and the future of peace and stability in South Asia depends on the resolution of the Kashmir dispute according to the UN Security Council resolution. As far as India is concerned, the uprising in Jammu and Kashmir is tied into cross-border terrorism. India believes that if Pakistan stopped its intervention in Kashmir, the situation would return to normal.

The low intensity conflict over Kashmir has two important implications. First, there is always a danger that following an escalation of the Kashmir conflict, it could spill over the international borders of India and Pakistan. Second, if the low-intensity conflict were to escalate into a full-fledged war in South Asia, the possibility of the use of nuclear weapons could not be ruled out. Here, the relevance of deterrence for avoiding war has been questioned for two important reasons. First, irrationality and emotions may prevail in New Delhi and Islamabad and create a situation in which the logic of deterrence breaks down. Second, the Kargil crisis in the summer of 1999 proved that nuclear weapons cannot guarantee that events will not get out of control. The perception that the Kargil crisis was defused because of nuclear deterrence is misguided, because it was primarily Washington's intervention and not the nuclear weapons capabilities of India and Pakistan that averted a fourth Indo-Pakistani war. Be that as it may, the low-intensity conflict is a major destabilizing factor for South Asia.

Perhaps the only example of mutual concern expressed by India and Pakistan on the nuclear issue was when Vajpayee undertook the historic "bus journey" to Lahore and held talks with his Pakistani counterpart on ways to reduce the risk of nuclear war in South Asia. Unfortunately, the "Lahore process" could not take-off as planned, because of the Kargil crisis in the summer of 1999. Had New Delhi and Islamabad fulfilled their commitments on the nuclear issue, adequate steps would

have been taken to create a “Nuclear Safe Zone in South Asia.” According to the *Memorandum of Understanding*, signed by Indian Foreign Minister K. Raghunath and Pakistani Foreign Minister Shamshad Ahmed in Lahore on 21 February 1999:

- The two sides shall be engaged in bilateral consultations on security concepts, and nuclear doctrines, with a view to developing measures for confidence-building in the nuclear and conventional fields, aimed at avoidance of conflict;
- The two sides are fully committed to undertaking national measures to reduce the risks of accidental or unauthorized use of nuclear weapons under their respective control. The two sides further undertake to notify each other immediately in the event of accidental, unauthorized or unexplained incidents that could escalate the risks of a fallout with adverse consequences for both sides, or an outbreak of a nuclear war between the two countries, as well as to adopt measures aimed at diminishing the possibility of such actions, or of such incidents being misinterpreted by the other. The two sides shall identify and establish the appropriate communication mechanism for this purpose;
- The two sides shall continue to abide by their respective unilateral moratorium on conducting further nuclear test explosions unless either side, in exercise of its national sovereignty, decides that extraordinary events have jeopardized its supreme interests.¹⁰

10 See *Memorandum of Understanding* (MOU), signed by India and Pakistan on 21 February 1999. According to the text of the Lahore Declaration, signed by the Prime Ministers of India and Pakistan on 21 February 1999, “the two countries shall immediately take steps for reducing the risk of accidental or unauthorized use of nuclear weapons and discuss concepts and doctrines with a view to elaborating measures for confidence-building in the nuclear and conventional fields, aimed at prevention of conflict.” For further information see, *Dawn* (Karachi) February 22, 1999.

How can India and Pakistan move from the low-intensity conflict to a stable relationship? How can their nuclear weapons capability create an opportunity to pursue a policy of conflict resolution in South Asia? Several steps have been suggested from various sides for resolving the Kashmir dispute. But, so far, the intransigent position of New Delhi and Islamabad has made any breakthrough impossible in this regard. As a result, the low-intensity conflict in Kashmir has made the whole of South Asia hostage to the situation. Neither the South Asian Association of Regional Cooperation (SAARC) nor eminent personalities in South Asia have managed to reduce the low intensity conflict.

One major problem with India and Pakistan, which has perpetuated the *status quo* in the Kashmir conflict, is the feeling held by both New Delhi and Islamabad that each can win at the expense of the other. One plausible strategy for dealing with the low-intensity conflict could be the adoption of a mutual win-win approach by India and Pakistan. Realistically speaking, neither in a low-intensity conflict nor in an all-out war can either side win. Therefore, the best possible option is a mutual win-win approach. However, until the time comes when policy-makers within the two countries realize that the Kashmir conflict is nothing but a zero-sum game, a mutual win-win approach will not be followed. In this scenario, nuclear weapons capability provides an opportunity for India and Pakistan to initiate meaningful talks on resolving contentious issues. Unfortunately, the opportunity, which existed at the time of the Indian Prime Minister's visit to Pakistan in February 1999 was lost due to the Kargil crisis. Still, the two countries can talk on the following areas pertaining to the nuclear issue: the exchange of ideas and information on nuclear control and command systems; the exchange of ideas on nuclear doctrines; the exchange of information and expertise on preventing nuclear accidents; the exchange of ideas on preventing the accidental use of nuclear weapons; and the exchange of ideas on creating a Nuclear Safe Zone in South Asia.

As far as Pakistan is concerned, its Foreign Minister, Abdul Sattar, commented on the final document of the NPT's sixth review conference (held in New York from 24 April to 20 May), saying that "his country continued to hope that the nuclear weapon states and the

international community would support our proposals for strategic restraint regime calling on India to solve the grave issue of Jammu and Kashmir through dialogue to ensure durable peace in the region.”¹¹ Moreover, Pakistan’s Chief Executive, General Pervez Musharraf, said in his speech at the UN Millennium Summit in September 2000, “let me commit at this world forum that we desire a no-war pact; we are ready for a mutual reduction of forces and we also seek a South Asia free from all nuclear weapons.”¹² On 12 June 2000, Pakistan had offered India a strategic restraint regime, in both the nuclear and conventional fields, on a reciprocal basis. However, the offer was rejected by India as “propagandist.” The offer was first made by Pakistan during 15–18 October 1998, on the occasion of Indo-Pakistani foreign secretary level talks. India and Pakistan discussed the nuclear risk reduction measures on the occasion of Indian Prime Minister’s visit to Pakistan in February 1999.¹³

From a rational standpoint, one plausible strategy to move from conflict escalation to conflict management in Indo-Pakistani relations is by establishing a Nuclear Safe Zone in South Asia based on mutual restraint. According to a Pakistani strategic analyst:

Measures to reduce nuclear risks will entail the establishment of a strategic restraint regime to cover nuclear as well as conventional restraint, effective command and control systems and a host of confidence-building measures (CBMs) at the political and military level. Equally critical is the development of nuclear procedures and systems on a sound basis.¹⁴

11 See Editorial. “Pakistan to retain nuclear deterrence.” *Dawn*, 24 May 2000.

12 Sehba, Shaheen. “CE offer No-War Pact to India.” *Dawn*, 9 September 2000.

13 Mahmood, Afzaal. “Managing N-Relationship.” *Dawn*, 28 August 2000. According to the same author, “the current situation prevailing in Kashmir underlines the urgent need for evolving a doctrine of mutual restraint and circumspection. The military and diplomatic strategies of both countries should therefore concentrate on preventing a nuclear armed subcontinent from going to war on any issue.” See Mahmood, Afzaal. “Managing N-Relationship” *Dawn*, 28 August 2000.

14 See Masood, Lt. Gen (Retd) Talat. “Nuclear Stability in South Asia.” *Dawn*, 21 September 2000.

Stable nuclear relations between India and Pakistan can certainly contribute to de-escalating tension over Kashmir, because dialogue between the two governments on the nuclear issue will build trust and confidence and help them to deal with other unresolved conflicts.

The Role of the Outside World

As pointed out earlier, compared to other regions, South Asia still enjoys relative autonomy from the international system. As a result, global players are unable to use their clout to help resolve conflicts in South Asia. Yet, the international role can be decisive and meaningful as far as economic ties, science and technology, the management of nuclear relations (including the establishment of Nuclear Safe Zone in South Asia), and resolution of the Kashmir dispute are concerned.

The question is how external players can help to bring about a de-escalation of tensions between India and Pakistan and how they can be of help to the two countries in managing their nuclear relations. According to Indian and Pakistani strategic analysts, “[t]he primary US concern is that recent developments in South Asia pose a threat to established international arms control and non-proliferation regimes that it has been nurturing for the past three decades. It has been argued that both India and Pakistan lack the finances, the infrastructure, and the doctrines to keep their nuclear capabilities under tight control and to manage their deterrence relationship effectively.”¹⁵ Since the nuclear tests were conducted by New Delhi and Islamabad, the sanctions that were imposed on India and Pakistan have not been fully lifted. The two countries have not been given a *de jure* nuclear status. Yet, Western countries and financial institutions are not blind to the need for investment and cooperation in science and technology in India and Pakistan,

15 Kamal, C. F. Nazir and Pravin Sawhne. *Missile Control in South Asia and the Role of Cooperative Monitoring Technology*. Albuquerque: Sandia National Laboratories, (SAND 98-050514 of October 1998): 14.

because further pressure on the two countries will negate the principle of “constructive engagement” and promote extremist elements in New Delhi and Islamabad. Therefore, the role of external powers in South Asia is based on economic and trade linkages regardless of the nuclear capabilities of India and Pakistan. The approach followed by the industrialized countries *vis-à-vis* India and Pakistan is not to penalize them but to create conditions, through their purposeful economic and technological involvement, whereby New Delhi and Islamabad are compelled to restrain their nuclear weapons programs and to sign the CTBT. US President Bill Clinton’s visit to Bangladesh, India and Pakistan in March 2000 was focused on forging close economic and trade relations with these countries. By following a policy of “constructive engagement” with South Asian countries, particularly with India and Pakistan, the West hopes to help the two countries to professionalize their deterrence systems and to reduce the dangers of nuclear war in South Asia.

As far as the Kashmir dispute is concerned, the outside world has limited importance. Undoubtedly, the world knows that the unresolved Kashmir conflict has the potential to plunge South Asia into another state of war. The use of nuclear weapons, in case of a future Indo-Pakistani war, is a real possibility for one major reason: unlike the US and the Soviet Union, India and Pakistan are neighbors and if one country is losing a war, it will not hesitate to use its nuclear arsenal in order to avert a catastrophe. The restraint exercised by Moscow and Washington during the Cuban missile crisis of October 1962 may not prevail if the crisis over Kashmir escalates. Pakistan has made it clear that if its survival is endangered, it will not hesitate to use nuclear weapons.

Will the international community, particularly the UN Security Council or the US, intervene if the Kashmir crisis escalates and it is clear that either India or Pakistan may use nuclear weapons? It is not certain under what scenario South Asia can be brought to the verge of a nuclear war, but certainly it will be critical for the world powers to judge whether intervention will be necessary or not.

Conclusion

Most of the problems that obstruct the peace process in South Asia are self-created. In the twenty-first century, the South Asian security paradigm needs to be transformed from a traditional to a non-traditional one. There are a number of impediments which no doubt prevent the resolution of intractable problems in South Asia, particularly the Kashmir dispute and the management of nuclear relations between India and Pakistan.

First, there is the belief held by power elites in India and Pakistan that each can win at the other's expense. Given the fact that the two sides have not yet reached the stage of "conflict fatigue," neither side is making any serious effort to normalize relations. Unless the unilateral win-win approach is replaced with a mutual win-win approach by New Delhi and Islamabad, the process of conflict resolution in South Asia cannot take off.

Second, unlike other regions of the world where post-Cold War economic cooperation, information technology and preventive diplomacy were used to manage and resolve various conflicts, no concrete steps have been taken in South Asia in this regard. Hard liners and extremists, who see no reason to pursue a policy of prudence in order to de-escalate the conflict over Kashmir or to prevent the danger of a nuclear arms race in South Asia, occupy key positions in Islamabad and New Delhi.

Third, the absence of a forward-looking approach amongst policy-makers in India and Pakistan is a major impediment to dealing with the nuclear challenge. Regardless of New Delhi's and Islamabad's claims that their nuclear weapons programs are safe and secure, no adequate policy has been formulated by the two sides to deal with the future risks of pursuing an ambitious arms race. The question is whether India and Pakistan, in view of their contiguous geographical status and serious economic problems, can afford to seek second and third strike capability. Minimum nuclear deterrence can only work if the two sides agree to restrain their nuclear weapons program. However, in the case of India and Pakistan, the two sides have been involved since 1998 in a

dangerous nuclear arms race that has grievously destabilized South Asian security.

Fourth, as long as the majority of people in South Asia do not oppose non-traditional security policies, the region will continue to be retrogressive and reactionary. Nuclear weapons will continue to be important to New Delhi and Islamabad as a source of so-called pride, threat and coercion in the years to come. Unresolved conflicts, primarily the Kashmir dispute, will provide enough justification to India and Pakistan to carry on with outdated security approaches because of the ignorance of people and the failure of civil societies in the two countries to change the *status quo*.

The impediments discussed above are not difficult to remove, but their elimination would require a shift from a traditional to a non-traditional security paradigm. Indeed, the challenges to South Asian security of the twenty-first century justify a new approach to dealing with the issues of Kashmir and nuclear proliferation. However, while there are contradictions in the South Asian security paradigm, a qualitative change in the regional security dynamics took place after the Indian and Pakistani nuclear tests of May 1998 and the Kargil episode of the summer of 1999. If outside powers managed to engage India and Pakistan in an arms control process, some of the more alarming security threats in South Asia could be reduced. While it is true that nuclear weapons will remain in South Asia at least for the foreseeable future, it is essential to reduce the risks of an accidental war between India and Pakistan and to create the conditions for a just solution to the Kashmir dispute.

SATU P. LIMAYE¹

Nuclear Weapons and Regional Security in East Asia

Introduction

Several factors have helped renew worry about the role of nuclear weapons in the international security environment. First, India's and then Pakistan's tests of nuclear devices in May 1998 raised alarms not only about a nuclear arms race on the subcontinent, but also about their implications for nuclear weapons acquisition in adjacent regions. After the successful denuclearization in Argentina, Brazil, South Africa and three of the former Soviet successor states, the South Asian tests came as a rude awakening that proliferation was still possible. A second factor contributing to pessimism about the future of nuclear weapons is the continued debate over the nuclear non-proliferation regime and disarmament. This was evident at the Nuclear Non-Proliferation Treaty (NPT) Review Conference (REVCON) in April 2000, but also in other forums, such as the Millennium Summit at the UN in September 2000. Despite a commitment by the Nuclear Weapons States (NWS) to pursue disarmament at the REVCON, other decisions, such as the rejection of the Comprehensive Test Ban Treaty (CTBT) by the United States Senate in October 2000, raise concern about the possibility of a slowly unraveling non-proliferation regime. If such an unraveling were to occur, according to some analysts, prospects for proliferation would increase.

1 The views expressed in this paper are those of the author and do not reflect the official policy or position of the Asia-Pacific Center for Security Studies, USCINCPAC, the US Department of Defense, or the US Government.

A third factor shaping attitudes towards nuclear weapons is the continuing controversy over the development and deployment of ballistic missile defenses (BMD), including the possible alteration of existing arms control agreements, such as the Anti-Ballistic Missile (ABM) treaty. The Bush Administration has declared national missile defense (NMD) to be an important priority. But, President Bush has also stated that progress on NMD might facilitate a further reduction in the number of nuclear weapons. A final factor affecting the possible role of nuclear weapons is the completion of on-going national debates amongst key NWS about the place of nuclear weapons in their respective strategic and security policies. These debates necessarily touch on the specific roles of nuclear weapons and type of nuclear doctrines to be adopted. Many of these factors are over-lapping and interrelated, but they make clear that, contrary to the hopes of some immediately after the Cold War, nuclear weapons will not recede from international security and strategic calculations in the near-term.

This fact is especially true of Asia. The subcontinent, given the tense confrontation between India and Pakistan over Kashmir, is the most public and dramatic source of concern about the potential use of nuclear weapons as well as their role in either stabilizing or destabilizing the sub-regional security environment. But, the future of nuclear weapons in Asia more broadly has become a subject of increased scrutiny.² Sometimes this has led to mixed metaphors and dire predictions. One American analyst, in the same op-ed article, has suggested that Asia faces both “nuclear tsunamis [massive waves],” resulting from a declining faith in arms control, and “interlocking nuclear chain reaction[s],” resulting from each new nuclear-related development.³

2 See Limaye, Satu P. and Don Berlin. “Nuclear Weapons in Asia.” A report of a conference of the Asia-Pacific Center for Security Studies, Honolulu, April 2000. Available at www.apcss.org. Also see, US Department of Defense. *Proliferation: Threat and Response*. Washington, D.C.: US Department of Defense, 2001. Available at www.defenselink.mil; Barletta, Michael., ed. *Proliferation Challenges and Nonproliferation Opportunities for New Administrations*, Center for Nonproliferation Occasional Paper, no. 4. Monterey: Center for Nonproliferation Studies, 2000.

3 See Cirincione, Joseph. “Asian Nuclear Chain Reactions.” *Christian Science Monitor*, 1 March 2000.

Another American scholar, Paul Bracken of Yale University, has written of *The Second Nuclear Age* that he suggests will arise largely in Asia, given technological and other trends.⁴ But Americans are not the only ones who are concerned. The head of policy planning at France's Atomic-Energy Commission, Therese Delpech, has written an article entitled *Nuclear Weapons and the New World Order: Early Warning from Asia?*⁵ As the title suggests, inside and outside of Asia there is concern that nuclear weapons will play an increasingly prominent role in regional security calculations.

This chapter assesses the potential role of nuclear weapons in the context of East Asia's evolving security situation and covers three issues. First, East Asia's contemporary politico-security trends and features are examined. Second, the prevailing nuclear order in East Asia is briefly described. And third, the possible implications for the role of nuclear weapons in the context of these regional security trends and features are assessed.

Political and Security Trends in East Asia

The critical factor determining the future role of nuclear weapons in East Asia will be the region's politico-security environment. On this front, there is great flux. The region's security geography is undergoing not simply adjustments, but underlying shifts, the full nature and implications of which are far from clear. Yet, a number of closely related trends and features are discernible in East Asia.

A fundamental characteristic of the regional security environment is the unresolved, potential flashpoints of the Korean Peninsula and

4 See Bracken, Paul. "The Second Nuclear Age." *Foreign Affairs* 79, no. 1 (2000): 146–156.

5 See Delpech, Therese. "Nuclear Weapons and the 'New World Order'." *Survival* 40, no. 4 (1999): 57–76.

Cross-Straits relations. The prospect of force being used in these contexts cannot be ruled out, though there have been some positive signs towards stabilization, if not resolution of these disputes. This is especially true of the Korean peninsula since the dramatic summit of the North and South Korean leaders in the summer of 2000. The intensity, complexity and stakes of these disputes suggest that any final resolution is unlikely in the near-term. Ironically, and perhaps most importantly, the “resolution” of these flash-points, whatever form they take, is likely to have a more jarring impact on regional security than their continued non-resolution. Consequently, “resolution” of these flash-points, depending on the manner in which they occur and the form they take, will also have important implications for the role of nuclear weapons. In the context of these flashpoints, the major questions one might ask about the role of nuclear weapons are three-fold. First, how do nuclear weapons inhibit the resolution of these flashpoints? Second, what role might nuclear weapons play in their resolution? And third, what would be the role of nuclear weapons in the event that a resolution was achieved?

A second important feature of the region is the hedging behavior by states, which includes shifting diplomatic tactics and strategies. East Asian diplomacy suggests an emerging, complex geopolitical geometry of bilateral and triangular relationships that are either new or revived. Examples of the shifting geopolitical geometry include, at the bilateral level, new or revived ties between Japan and Republic of Korea (ROK), ROK and People’s Republic of China (PRC), ROK and Russia, Russia and the PRC, Russia and Democratic People’s Republic of Korea (DPRK), and Russia and Japan. At the triangular level, shifts are visible among US-Russia-PRC, US-Japan-PRC, Russia-India-PRC, and US-Japan-ROK relations. These dynamic relationships, if and when they begin to settle, may upset existing conventions about the role of nuclear weapons. In particular, any fundamental changes in such relationships may affect issues, such as extended deterrence, targeting, interest in acquisition of nuclear weapons, and nuclear parity.

Another aspect of the regional security environment is the increased competition for influence amongst the great powers of East Asia. Examples of competition include China’s active policy in Southeast

Asia⁶ and Russia's recent efforts to re-engage Asia through visits to China, North Korea, and India. Japan too is exhibiting signs of more foreign policy and security activism on issues ranging from nuclear non-proliferation to anti-piracy patrols. On the Korean peninsula, prospects of dramatically reduced tensions at a minimum and reunification at the maximum have already given rise to consideration of the implications for the regional balance of power. The long-term possibility of a united Korea competing for influence in the region, or of other East Asian countries vying for influence on the peninsula, is imaginable. Such increased geo-political competition does not need to spillover into nuclear competition, but certainly unmanaged competition will provide the context in which the role of and interest in nuclear weapons could increase.

Changing domestic driving forces of security policy among East Asian countries are also an emerging feature of the region. These domestic drivers suggest more complicated and unpredictable foreign and security policies in the coming years. The growing *domestication* of security policy is the result, ironically, of globalization as well as the growth of civil society in several countries across the region. Globalization, in hand with more energetic civil societies, is likely to complicate security policy and its formulation. The "opening-up" of security policy debates could also lead to a rise in nationalism and reduce the margin for governmental maneuver, given the need to be more "hard-line" or populist, in order to garner domestic popular support. What might be the place of nuclear weapons in the wake of such changes? Nuclear weapons in a civil society context could, at one extreme, attract more support, and at the other, lead to abolitionist sentiments. The connection between nuclear weapons and democracy, or at least vibrant civil societies, is under-examined. As George Perkovich has argued, in democracies where nuclear weapons capabilities are made known, they may be harder to give up.⁷

6 See Thayer, Carl. "China Consolidates Its Long-term Bilateral Relations with Southeast Asia." *Comparative Connections* 2, no. 2, (2000). Available online at http://www.csis.org/pacfor/cc/002Qchina_asean.html.

7 On this point, see Perkovich, George. "Nuclear Proliferation." *Foreign Policy*, no. 112 (1998): 12–23.

Closely linked with such changes is a reconsideration of foreign and security policies by key states. This results from a number of factors in each country's case, but China, Russia, Japan, Korea and, of course, the US are all re-examining the assumptions and interests that have guided their policies and interactions in East Asia for the past half century. Developments within these countries and within the region itself are critical in determining this re-examination, but so too are external politico-security developments unrelated to East Asia. Perhaps the most important of these are the Persian Gulf War in 1991 and the Kosovo War of 1999. Both had profound impacts on thinking in East Asia, as elsewhere, about the West's willingness to use massive and high-tech conventional weapons. The link between such events and the potential impact on thinking about nuclear weapons is alluded to in a recent US Department of Defense report that notes that, "the United States now faces what could be called a Superpower Paradox. Our unrivaled supremacy in the conventional military arena is prompting adversaries to seek unconventional, asymmetric means to strike what they perceive as our Achilles heel."⁸

Weak regional conflict-prevention and resolution organizations, such as the ASEAN Regional Forum (ARF) and the Association of Southeast Asian Nations (ASEAN) are also a problematic factor in the region. Though Asia has a number of entities that provide a forum for discussion of economic and politico-security matters, these institutions remain relatively weak. This is especially the case in northeast Asia. Initiatives such as the Korean Economic Development Organization (KEDO), the trilateral coordinating group (also known as TICOG, which includes the US, Japan, and ROK), and four-party talks have all been useful mechanisms, but there is no dedicated northeast Asia security dialogue that brings together the key players on a regular and sustained basis. There is considerable scholarly and policy debate about the effectiveness of these organizations. However, one thing is clear: at the present time and for the foreseeable future, countries in East Asia will not rely on regional organizations for guaranteeing their security or shaping their foreign and security policies. Nor will such organizations work as constraints on their "self-help," state-centric approach to

8 US Department of Defense, Foreword to *Proliferation: Threat and Response*.

security policies. Balance of power is very much alive in East Asia and institutional approaches to security management, much less conflict management, are still a distant prospect. In such an environment, nuclear weapons retain great significance, though it does not follow that the weakness of regional security institutions leads to greater reliance or interest in the acquisition of nuclear weapons, much less the threat or actual use of these weapons. The weakness of regional organizations over the past 50 years in East Asia has not been the driving force behind increased reliance of nuclear weapons, their acquisition, or the threat or use of them. These results are much more likely the result of other factors, such as those discussed above or uncertainty about US forward military presence.

Uncertainty about US forward presence also underlies much of the security anxiety on the part of some East Asian countries. While for other countries, any change in US forward presence may be seen as an opportunity to extend their influence. Exactly what the “footprint” of US forward presence in the region will be in the future is a matter of debate, but it will undoubtedly depend heavily on both supply and demand issues. Supply will be determined by the US domestic debate, involving all elements of the US system (the military, Congress, the Administration, and public opinion and the press). Demand will be determined by developments in the region and the attitudes, as well as actions, of key countries in the region. How a possible revised US presence will affect the role of nuclear weapons is difficult to say. It is reasonable to venture that a substantially diminished US presence will lead to more “self-help” behavior, including interest in acquiring nuclear weapons. Another aspect of the US role in East Asia, the possible development and deployment of Theater Missile Defenses (TMDs) with certain countries, or more indirectly NMD, will also have important implications for the role of nuclear weapons, though perhaps not as grave as may be believed.

These are most visible trends or features of East Asia’s regional security environment. They are all related and over-lapping, and are likely to shape, either directly or indirectly, the possible role of nuclear weapons in the regional security complex. Before turning to an assessment of the possible implications for nuclear weapons for regional

security, it may be useful to appreciate the prevailing nuclear order in East Asia. For any change in the nuclear order in East Asia, will also have, by definition, implications for the role of nuclear weapons in the region.

The Nuclear Order in East Asia⁹

The nuclear weapons order in East Asia comprises three *de jure* NWS: the United States, China and Russia. At least two states, Taiwan and the ROK have reportedly had nuclear weapons programs in the past. The DPRK, or North Korea, is in formal violation of its NPT obligations and is thought to have at least some nuclear weapons capability. The 1994 Agreed Framework remains in place, but it is not clear when the DPRK will be declared in full compliance with its obligations under the NPT. Of the major East Asian countries, only Japan does not now have, or is not known to have had, any nuclear weapons capabilities. However, Japan's activity in support of US nuclear weapons in East Asia has recently been the subject of much attention.¹⁰

In essence, East Asia is already significantly nuclearized. The existence of three *de jure* NWS means a nuclear dimension to regional security is inherent, since these states are at odds on certain regional security issues. It is possible to imagine a number of different scenarios about the region's nuclear order. At one extreme it is possible to imagine the denuclearization of the NWS, resulting from a negotiated agreement on global disarmament. This is highly unlikely. At the other extreme it is possible to imagine a "free-for-all" nuclear arms race amongst the existing NWS, resulting from new tensions amongst them, combined

9 For this portion of the discussion, I draw heavily on Roberts, Brad. "The Future of Nuclear Weapons in Asia." Institute for Defense Studies, Alexandria, VA, 1998. Photocopy.

10 See, for example, Editorial. "Content of Japan-US Secret Deal on Security Treaty Was Revealed." *Asahi Shimbun*, 30 August 2000.

with the overt nuclearization of a number of current Non-Nuclear Weapons States (NNWS), such as Japan, ROK, a unified Korean peninsula, or Taiwan. Such unbridled proliferation is also unlikely. The region's nuclear order is likely to fit somewhere in between these extreme scenarios. In the absence of any dramatic political and or security developments in the region, it is quite possible that the current nuclear order will persist.

Possible Nuclear Weapons Implications of Political and Security Trends in East Asia

The “role” of nuclear weapons in the evolving East Asian security context could take many forms, including increased reliance on nuclear weapons by NWS; acquisition of nuclear weapons by NNWS; the threat of use or actual use of nuclear weapons; new alliances between NNWS and NWS; the transfer of nuclear capability by a NWS to a NNWS; new sources of extended deterrence (e.g. India, China, Russia or other states); the strengthening of existing obligations of extended deterrence (e.g. US *vis-à-vis* Japan) or the addition of new countries under extended deterrence; the provision of stronger negative security assurances; or even attempts to seek abolition of nuclear weapons. Each of these “roles” could be speculated about endlessly, given the highly complex and fluid regional security environment. This chapter takes a different approach. Rather than proposing various scenarios for the role of nuclear weapons, it considers the potential role of nuclear weapons in the context of each of the security trends and features of East Asia already discussed. In light of the seven features of the prevailing politico-security order in East Asia, what are their implications for the role of nuclear weapons?

Countless scenarios and permutations of those scenarios could be articulated about the strategic role nuclear weapons might play in the outstanding “flash-points” in East Asia, namely Cross-Straits relations and the Korean peninsula. However, some general observations about the

possible role of nuclear weapons in these flashpoints may be made. First, in the case of Cross-Straits relations and the Korean peninsula, a nuclear dimension to them has long been present. In the case of Taiwan, for example, there have been numerous hints and allegations that Taiwan would consider or could soon have nuclear weapons. There is also the much-discussed, alleged comment by a PLA general during the 1996 Straits crisis that China might launch a nuclear weapon at Los Angeles. In the case of the Korean peninsula, the crisis of the last several years emanated from North Korea's nuclear behavior. Given the critical role of both the US and China (and possibly Russia, in the case of Korea) in either of these flashpoints, and the fact that both are nuclear-armed states, the nuclear shadow hangs heavy over these flashpoints. How precisely the parties would threaten or use nuclear weapons in attempts to "resolve" either flashpoint is highly speculative. Second, it has been argued that the role of nuclear weapons, their threat of use and/or actual use, or lack of a nuclear threat or lack of use, and the outcome that any of these moves engender, would have profound implications for the *perceived* role of nuclear weapons.¹¹ But one may be skeptical that all countries in East Asia or elsewhere will draw the same conclusions about the utility of nuclear weapons from the way they are or are not employed in an East Asian crisis. If Asia's proliferation and current nuclear dynamics suggest anything, it is that nuclear reactions and decisions will be country-specific, rather than following a particular "nuclear logic." In other words, the role of nuclear weapons in these flashpoints might not result in nuclear-related responses, in particular the acquisition of nuclear weapons.

11 Patrick Garrity puts it this way: "Although the general assumption is that such use or threat would lead to proliferation and greater salience for nuclear weapons, this is highly dependent on the context. The result could easily be one of nuclear aversion and overwhelming pressure for restraint and abolition." I agree that the "lessons" would be context-dependent. However, I would go further and say that the "lessons" each country draws from the same context (outcome) could be quite different. And, furthermore, that the "lesson" may not be so directly linked to nuclear weapons, but could instead engender a non-military or asymmetric response (e.g. the use of chemical or biological weapons). See Garrity, Patrick J. "Nuclear Weapons and Asia-Pacific Security: Issues, Trends, and Uncertainties." *National Security Studies Quarterly* 4, no. 1 (1998): 42.

In the context of “hedging behavior” in East Asia, nuclear weapons might be viewed as the ultimate “hedging action” against change or uncertainty. More complicated is the question of what impact new and/or revived bilateral and trilateral relationships in the region would have on the role of nuclear weapons. Each major relationship would have to be examined separately. For example, would a “honeymoon” between Russia and China lead both countries to reduce their nuclear weapons, or at least the number aimed at each other? Would deteriorating China-Japan relations lead to Tokyo thinking about nuclear weapons? Nuclear weapons are the ultimate hedge, but, as the past fifty years have shown, decisions about nuclear weapons acquisition do not appear to be driven by “hedging” behavior. It appears that more than just hedging would be required to transform Asia’s nuclear order.

Heightened politico-security competition could have a nuclear dimension, especially in East Asia where there are already three NWS, two entities that have had nuclear weapons programs, and one state with all the technological capabilities readily available. According to Patrick Garrity:

Nations could seek to advance or preserve their interests through possession of nuclear weapons, through alliance with a nuclear power, through denying others access to nuclear weapons/allies, or through finding diplomatic or military means to depreciate the political and strategic value of nuclear weapons.¹²

To this may be added that, in the context of such competition and rivalry, these nuclear states may attempt to provide, most likely competitively, nuclear guarantees to surrounding NNWS as part of efforts at balancing power within East Asia. The complex nature of such competition must remain speculative. It is even possible that countries would consider the transfer of nuclear weapons to other states under such circumstances. Or, they may agree to station nuclear forces in surrounding countries, as a means to further their position in regional competition.

¹² *Ibid*, 42.

In terms of the nuclear implications of changing domestic driving forces of security policy, it has been suggested that, "(...) the possession of nuclear weapons could become an attractive instrument to underwrite domestic consensus in the face of uneven distribution of economic benefits, generational changes, and pressures for greater openness and democratization."¹³ The same author has also suggested that, "[h]ypernationalism, in turn, could become nuclear nationalism—both to assert sovereignty relative to a neighboring state, and to create a sense of independence from outside powers, such as the United States or forces such as globalization."¹⁴ Indeed, it is quite possible that the challenges posed by globalization, combined with profound domestic political tumult and nationalism, could lead to greater reliance on or acquisition of nuclear weapons being viewed as a demonstration of sovereignty and capability. However, it is also quite possible that nuclear weapons development could become, in countries that do not now possess them, a source of societal polarization itself. Japan most readily comes to mind as a country where, in the absence of some profound external shock, the open development of nuclear weapons would cause, rather than attenuate, societal tumult. Finally, as one scholar has argued, if nuclear weapons development takes place amidst domestic political tumult or non-consensus, outsiders could work with particular interest groups to press for denuclearization.¹⁵ The fact is, however, that questions of nuclear reliance and acquisition in the context of greater openness of civil society remain largely neglected. How public opinion, competing interest groups and other factors within a particular Asian country will affect nuclear weapons policy is largely unstudied.¹⁶

The relationship between East Asia's weak security architecture and nuclear weapons is relatively tenuous. Though it is quite true that East

13 *Ibid*, 43.

14 *Ibid*, 43.

15 See Solingen, Etel. "The New Multilateralism and Nonproliferation: Bringing in Domestic Politics." *Global Governance* 1, no. 2 (1995): 205–227.

16 Two exceptions are Perkovich, George, *India's Nuclear Bomb*. Berkeley: University of California Press, 1999 and Ibrahim, Itty. *The Making of the Indian Atomic Bomb*. London: Zed Books, 1998.

Asia's institutional security architecture is weak, it does not necessarily follow that countries will base decisions about nuclear weapons on the strength of regional security mechanisms. Europe has relatively strong security institutions, but that has not prompted the UK and France to give up their NWS status, or to put their nuclear weapons at the disposal, or under the command, of a regional security institution. At best, strong regional security mechanisms might provide the confidence that would, marginally, make nuclear weapons acquisition less attractive. At worst, weak or non-existent regional security mechanisms, by heightening a general sense of insecurity, and in combination with a whole host of other factors, might make nuclear weapons more attractive. On balance, weak or strong regional security mechanisms will not be a substitute for state-directed security policies that make choices about nuclear weapons difficult.

The most important politico-security feature that could affect decisions about nuclear weapons and their role in East Asia is the future posture of the United States. This could be assessed in a number of ways. First, for US antagonists, the retreat of the US might be seen as an opportunity to "fill a security vacuum" and more nuclear weapons, or at least more emphasis on them, might be seen as a means to this end. Conversely, a robust or even increased US presence might also push these antagonists towards the same end, in order to resist US "hegemony." However, if a concert of powers, which included the US, could be developed, it might be possible to manage nuclear and other elements of great power competition. Second, US alliance partners would be affected most directly by any dramatic change in US forward presence. What nuclear choices they would make under such a hypothetical scenario is uncertain. Finally, countries not part of the US alliance system, or antagonists, would also have to calculate options in the event of a substantive drawdown of US forces or commitment to the security of the region. For these countries, they could choose among options ranging from the acquisition of nuclear weapons, to seeking nuclear guarantees, to seeking the umbrella of extended deterrence from other nuclear weapons states, to offering to become an ally of a NWS, that might include everything from offering basing rights to hosting nuclear weapons on their soil. The possibilities are many.

However, the bottom-line is that a significant change in the US commitment to East Asian security or a substantive change in the “footprint” of US forward presence would have a highly destabilizing impact on the broader security outlook, including for the role of nuclear weapons.

Conclusion

Based on a consideration of East Asia’s regional security environment and the possible role of nuclear weapons in such an environment, several conclusions may be reached. First, the role of the United States is the key to both East Asia’s security and nuclear order. Both the evolution of regional politico-security dynamics and the nuclear order in Asia will be heavily shaped by what the United States does and does not do. In fact, it may be said that this will be the most important variable shaping decisions regarding increased reliance or acquisition of nuclear weapons, as well the threat or actual use of them in particular regional security crises.

Second, East Asia’s nuclear weapons issues must not be seen in US-Soviet or “Western” terms. Thinking about nuclear weapons in the US-Soviet context may be very different than thinking about nuclear weapons in East Asia. There is already evidence of a complexity involving nuclear weapons in Asia that goes beyond the familiarity of US-Soviet nuclear debates. This also means that the “nuclear logic” used by the US and the former Soviet Union, on issues such as parity and doctrines, may or may not resonate with East Asian countries. China has already showed itself to be an outlier in terms of nuclear behavior. Russia may be moving in that direction. India and Pakistan’s decisions about parity and doctrine are also evolving in ways that suggest the US-Soviet model will not be mimicked. Perhaps the most dramatic example of such idiosyncratic thinking about nuclear weapons is North Korea. Hence, the role of nuclear weapons in the minds of East

Asia's security planners may be very different from those that the West has understood.

A third consideration to ponder is that new nuclear asymmetries may emerge amongst key Asian states and that this will, in turn, suggest the possible role that these countries ascribe to nuclear weapons. For example, China has long maintained an asymmetrical nuclear posture *vis-à-vis* the United States and Russia. Even with Chinese modernization now underway, and most likely to continue, and in the absence of some unpredictable "shock" that would engender a massive Chinese nuclear build-up, this asymmetric position is likely to continue. This would be the case even if China moved from a posture of "minimum deterrence" to "limited deterrence" as some have suggested Beijing is doing.¹⁷ But with the decrease of US and Russian nuclear weapons under START II, and eventually possibly under START III, the relative asymmetry of Chinese nuclear forces to American and Russian nuclear forces has decreased. Russia too may be considering a nuclear posture *vis-à-vis* the United States that does not rest on parity.¹⁸ Here again, the suggestion is that the role of nuclear weapons may be revised given emerging patterns in the programs of the NWS.

A fourth conclusion is that nuclear non-proliferation and regional arms control efforts will remain an important element in shaping the role of nuclear weapons in the regional security environment. Except for the "in-between" position of the DPRK, all other countries in the region are members of the main components of the international nuclear non-proliferation regime. Moreover, Russia and the US, for all the difficulties in their bilateral relations, remain engaged in arms control dialogue, and the US and PRC remain in dialogue over nuclear non-proliferation issues. However, a decision to deploy ballistic missile defenses and revise the ABM treaty could erode support for non-proliferation and arms control efforts, thus removing an important constraint to reliance on nuclear weapons or to their development.

17 Brad Roberts, Robert A. Manning, and Ronald N. Montaperto. "China: The Forgotten Nuclear Power." *Foreign Affairs* (September/October 2000).

18 For a non-Russian view favoring this approach see Bonnart, Frederick. "Nuclear Disarmament: Time is Ripe." *International Herald Tribune*, 19 September 2000.

However, for reasons elaborated below, there are counter-arguments to the conventional wisdom that BMD will lead to the collapse of the non-proliferation regime. There also appears to be Asian frustration with progress towards disarmament, evidenced by both ASEAN and Japan's emphasis on disarmament.¹⁹ Nor should nuclear allergies be overstressed. Asian countries have had few qualms about increasing engagement with India in the wake of its nuclear tests and its stated plan to push ahead with development and deployment of nuclear weapons.²⁰

The implications of the development and deployment of ballistic missile defenses on nuclear weapons in East Asia are far from clear. While the Bush Administration has indicated its intention to move ahead on NMD, it remains to be seen what kind of NMD (or even TMD) will be pursued and in what time frame. The conventional wisdom is that moves to deploy BMD, whether NMD or TMD, will have grave consequences. The two most often mentioned are an erosion of non-proliferation and arms control cooperation amongst the "big three" NWS (US, Russia and China) and a build-up of nuclear weapons by Russia and China. This may not necessarily be the case. A limited NMD, along with an alteration of the ABM treaty may be negotiable with Russia if its concerns are taken into account. Moreover, Russia, which seeks to make deeper nuclear weapon cuts because of financial and technical considerations, may not be provoked into renewing a nuclear arms race, especially if NMD deployment and ABM renegotiation is deftly handled. Similarly, China's reactions may also be less adverse than some fear. Though China has linked progress in certain areas of non-proliferation, such as the Fissile Material Cut-Off Treaty (FMCT) to the prevention of an arms race in outer space (PAROS), it has revived

19 For a perspective on Japan's recent nuclear nonproliferation and disarmament policy, see Limaye, Satu P. "Tokyo's Dynamic Diplomacy: Japan and the Subcontinent's Nuclear Tests." *Contemporary Southeast Asia* 22, no. 2 (2000): 322–339. On ASEAN's recent statements on non-proliferation and disarmament, see the documents available from ASEAN's official website at www.aseansec.org.

20 On this point see Limaye, Satu P. "India-East Asia Relations: India's Latest Asian Incarnation." *Comparative Connections* 2, no. 3 (2000). Available online at <http://www.csis.org/pacfor/cc/003Qoa.html>.

talks with the US on non-proliferation and reached agreements on missile proliferation. This suggests that Beijing will be willing to differentiate between areas of arms control and non-proliferation cooperation it is willing to continue. Moreover, on NMD, China may well be willing to accept some level of deployment within the negotiated framework of the ABM treaty, especially if Beijing is brought into that framework. For China, the most provocative development would be the provision of TMD applicable to Taiwan. In the end, the pace and scope of China's nuclear weapons modernization may be affected by developments in NMD and TMD, but a decision to go forward will not assure a massive build-up of Chinese nuclear weapons forces.

A final thought about nuclear weapons in East Asia is that they are not the "magic formula" to deal with East Asia's regional security challenges. As the situation on the Korean peninsula has shown, even a nuclear-based crisis does not necessarily lead to a nuclear response. A combination of creative military, political and economic instruments may be brought to bear on regional security situations. To be sure, the implied role of nuclear weapons may underlie such approaches, but it does not follow that the regional security environment will be addressed primarily, or only, through nuclear weapons. On a less optimistic note, regional security challenges, nuclear and non-nuclear, could lead to the development of more, or advanced, conventional forces or chemical and biological weapons. Nuclear weapons are not the only game in town, or in Asia.

Part IV
The Future of Nuclear Non-Proliferation

THANOS P. DOKOS

The Future of the Global Consensus
on Nuclear Non-proliferation:
Can the NPT be Kept Together
Without the Abolition of Nuclear Weapons?

Introduction

If a great number of countries come to have an arsenal of nuclear weapons, then I am glad I am not a young man and I am sorry for my grandchildren.

David Lilienthal, *The Lilienthal-Acheson Plan*

The prospect of a world free of nuclear weapons probably vanished in 1946. However, nuclear weapons have spread much more slowly than it was once feared they would. In the 1950s and 1960s, it was believed that as soon as a nation was able to manufacture the bomb, it would do so. That had been the path taken by all the countries, except Canada, that had so far mastered the technology. US President John F. Kennedy's somber forecast has often been quoted. He foresaw within the next decade (the 1970s) a world in which 15 to 25 nations would have the bomb. Expressing no more than the common view, he wrote, "I regard this (...) as the greatest possible danger and hazard."

Today, there are between 30 and 40 countries that have the technical capability and resources to manufacture nuclear weapons. Yet, only seven have done so openly, three more than when Kennedy wrote these words (although it is certain that a fourth, Israel, possesses an arsenal of advanced nuclear weapons). There is a small number of so-called "threshold states" (according to most analysts, these are Iran, Iraq and

North Korea).¹ Against this, 182 Non-Nuclear Weapon States (NNWS), including all the major industrial NNWS, have formally undertaken not to make or otherwise acquire nuclear weapons (this figure includes the three so-called “threshold countries”). Only four countries, India, Pakistan, Israel and Cuba have not signed the Non-Proliferation Treaty (NPT). The NPT was extended indefinitely at the 1995 NPT Review and Extension Conference. Although this was hailed as a major success, a number of states party to the Treaty, non-governmental organizations (NGOs) and analysts continue to be skeptical about the general “health” and effectiveness of the Treaty and even its medium-term survival, due to the perceived failure of the Nuclear Weapons States (NWS) (especially the US and Russia) to honor the commitments undertaken under Article VI of the Treaty.²

This paper will address the question of whether the NPT can be kept together without the abolition of nuclear weapons. In this context, brief reference will be made to the nuclear modernization programs of the NWS, the US and Russian national security doctrines, the status of various arms control negotiations and the concept of counter-proliferation. Finally, the relevant decisions of the 1995 NPT Review and Extension Conference and the 2000 NPT Review Conference will be presented.

It will be argued that Russia and the US are reducing their arsenals, although there is certainly considerable room for improvement, that the risks resulting from proliferation are still quite significant and that, therefore, the NPT needs to be preserved and even strengthened and that the fundamental logic should be that of gradual reductions with a clear timetable. One of the key questions to be examined is whether strong reactions to Article VI would unnecessarily rock the NPT boat and whether there is a clear alternative vision.

- 1 Each of these would require more detailed discussion, because they do not necessarily match the typical “profile” of threshold states.
- 2 Article VI calls for the Nuclear Weapon States (NWS) to “(...) pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.”

Nuclear Modernization Programs

If one were to study trends of change, instead of actual figures, it would be worth recalling that in 1987 there were, according to the *Bulletin of the Atomic Scientists*, an estimated 68,000 nuclear weapons held by the five NWS: 24,000 by the US; 43,000 by the USSR; 300 by the UK; 420 by France; and 420 by China. By 1997, estimates indicated that this figure had been reduced to approximately 36,000 nuclear weapons. In 2000, the numbers were not significantly lower, but a decrease could be expected in the next few years after the ratification (and eventual implementation) of START II by Russia.

Looking ahead to 2007, and taking into account what can be extrapolated as regards all five NWS, the US will have roughly 8,500 strategic nuclear weapons, the Russian Federation will have approximately 9,000 and the UK, France and China combined will continue to possess around 1,000 in total. This does not include the number of tactical (or non-strategic) nuclear weapons (according to some estimates, 7,000–8,000 for the US and 14,000–16,000 for the Russian Federation).³ On the other hand, both Russia and China are modernizing their strategic nuclear forces (a modest increase of Chinese Intercontinental Ballistic Missiles (ICBMs) should be expected if the US moves ahead with a National Missile Defense (NMD)), and the US is repackaging existing warheads and formulating new missions for its nuclear forces.⁴ There are also changes in the national security concepts of the US and Russia. In the case of the Russian Federation, the move appears to be towards greater reliance on nuclear weapons as a means of ensuring security (because of the serious problems faced by

3 Moher, Mark. "The Nuclear Disarmament Agenda and the Future of the NPT." *The Nonproliferation Review* 6, no. 4 (1999): 65.

4 Rauf, Tariq and John Simpson. "The 1999 NPT PrepCom." *The Nonproliferation Review* 6, no. 2 (1999): 129.

Russian conventional forces).⁵ For the US, it is designed to hedge against old nuclear threats reappearing and new ones emerging.

Finally, there is no realistic prospect that either France or the UK will give-up their nuclear deterrents in the foreseeable future. Neither London nor Paris is likely to join the US-Russian arms reduction process in the near future. Both countries consider their deterrents to be “sufficient” or to meet “minimum” standards, not determined by the size of other nuclear powers’ arsenals. A US decision to deploy an NMD system would all but improve the chances of British and French participation in multilateral arms reduction, since both London and Paris fear that such a system would, over the long-term, indirectly affect their own penetration capabilities against other countries.⁶

The Status of Arms Control Negotiations

The first task is to determine where we stand regarding global nuclear disarmament. The second is to outline the elements of an effective nuclear disarmament agenda, and the third is relating that agenda to the future of the NPT. In the previous section, estimates of the numbers of nuclear weapons in the coming years, according to current trends, were presented. Let us now move from estimates and projections to facts and figures.

5 According to the 2000 Russian National Security Concept, “The Russian Federation considers the possibility of employing military force to ensure its national security based on the following principles: (...) use of all available forces and assets, including nuclear, in the event of need to repulse armed aggression, if all other measures of resolving the crisis situation have been exhausted and have proven ineffective.”

6 Tertrais, Bruno. *Nuclear Policies in Europe*. Adelphi Paper, no. 327. London: IISS, 1999, 51–52.

	Number of Weapons (January 2000)	Ceilings under Treaties
US	7,206 (plus 1,670 non-strategic)	See table below
Russia	5,972 (plus 4,000 defensive and non-strategic)	See table below
China	290 (plus 120 tactical)	—
France	464	—
UK	185	—
Israel	200	—
India	25–40	—
Pakistan	15–20	—

Table 1. Nuclear arsenals⁷

Limits	START	START II Phase I	START II Phase II
Total Strategic Warheads	6,000 accountable	3,800–4,250 actual	3,000–3,500 actual
Ballistic Missile Warheads	4,900	no specific sub-limit	no specific sub-limit
SLBM Warheads	n/a	2,160	1,700–1,750
Heavy ICBM Warheads	1,540	650	0
Mobile ICBM Warheads	1,100	START I rule applies	START I rule applies
Bomber Sub-limits	none	none	none

Table 2. Ceilings under START I and II⁸

⁷ *Arms Control Reporter 2000*. Cambridge, Mass.: Institute for Defense and Disarmament Studies, 2000; *SIPRI Yearbook 2000*, Oxford: Oxford University Press, 2000.

⁸ *Ibid.*

Russia ratified START II in April 2000 (however, Russian officials have explicitly, albeit unofficially, linked the implementation of START II to the Anti-Ballistic Missile (ABM) treaty. Formal negotiations for START III should begin in 2001, unless there are dramatic developments in relation to the ABM treaty (considered by many countries and analysts to be the cornerstone of strategic stability).

There were also some negative developments, including a serious setback to the entry into force of the Comprehensive Test Ban Treaty (CTBT) after its rejection by the US Senate in 1999. An additional NWS, China, has yet to ratify the Treaty. Of the 44 states whose ratifications are required for the Treaty to enter into force, only 27 have ratified, while India, Pakistan and the Democratic Peoples' Republic of Korea (DPRK) have not yet signed. In connection to testing, the persistent conduct by some NWS of sub-critical tests of nuclear explosive devices, an activity focused on maintaining, not eliminating nuclear stockpiles, is a source of concern. Efforts to establish a Fissile Material Cut-Off Treaty in the Conference on Disarmament (CD) are deadlocked. Furthermore, not all NWS have signed and ratified the protocols attached to the Southeast Asia Nuclear Weapon-Free Zone (NWFZ) and the African NWFZ, and there were no developments regarding the Middle Eastern NWFZ.

The recent adoption by the US of a policy to deploy a limited NMD system as soon as it is technologically feasible, to seek amendments in the ABM treaty to allow for such a deployment, and its threat to leave the ABM treaty if Russia does not agree to such amendments, are perceived by many states, including some US allies, as a destabilizing development.⁹ There is also resistance on the part of the NWS to proposals to de-alert their arsenals and to agree to binding nuclear security for NNWS parties to the NPT.

9 Dhanapala, Jayantha. "The NPT at a Crossroads." *The Nonproliferation Review* 7, no. 1 (2000): 141-142.

Counter-proliferation Concepts

Preventing the spread of nuclear, biological and chemical (NBC) weapons remains a shared objective and a high priority for the majority of states in the world. The question is, however, how it can be achieved: through non-proliferation initiatives, through counter-proliferation efforts,¹⁰ or through a combination of both. Indeed, responses to the proliferation threat may include one or more of the following:

- international legal regimes intended to block the spread of NBC weapons;
- supply-side actions intended to prevent access to technology;
- security guarantees/assurances intended to provide alternatives to NBC weapons; or
- military actions [counter-proliferation] intended to prevent the development of, or to facilitate the destruction of, existing NBC arsenals or to defend against attacks.¹¹

10 According to one school of thought among American officials and analysts, the transition from non-proliferation policy to counter-proliferation (CP) takes place after a state has acquired one or a few nuclear weapons, or the equivalent in biological and chemical weapons. However, under certain circumstances, even before the acquisition of an actual NBC capability, the preventive use of military force may be contemplated. In the NATO context, counter-proliferation refers to defense efforts, practices and capabilities, intended to deter NBC weapons use (if countries acquire such weapons) or to protect and defend against their use should deterrence fail. According to the US Department of Defense, one of the core objectives in proliferation protection policy is to convince potential and actual proliferators that NBC weapons will be of no value, because the US and its coalition partners will have the capability to deny or limit the political and military utility of NBC weapons, and because the damage inflicted by US and coalition forces will far outweigh any potential benefits of use. Military counter-proliferation options may be of an offensive or a defensive character. See Office of the Secretary of Defense. *Proliferation: Threat and Response*. Washington, D.C.: Office of the Secretary of Defense, 1997.

11 Pilat, Joseph and Walter Kirchner. "The Technological Promise of Counter-proliferation." *Washington Quarterly* 18, no. 1 (1995): 157–160.

It is argued that Western countries should offer two types of responses to NBC proliferation. The first is to strengthen the instruments of non-proliferation policy. However, one cannot assume that non-proliferation efforts will be completely successful.¹² Non-proliferation efforts have not always succeeded in the past, as the cases of India, Pakistan, Israel, South Africa, North Korea and Iraq testify. But the international non-proliferation regime has obstructed nuclear weapons acquisition in other countries by raising the costs and lengthening the time period.¹³

Consequently, the second necessary and complementary response to the new risks of NBC weapons proliferation consists, according to this line of thinking, of undertaking prudent defense-planning against the possibility that Western forces may have to confront a regional, NBC-armed adversary on the battlefield. While diplomatic, political, economic, trade and export control measures will remain pivotal in preventing and reversing proliferation, counter-proliferation, like prudent military planning, constitutes a fundamental element of mitigating the possibility that an adversary's possession of NBC weapons will deter the West from intervening militarily in order to protect vital interests.¹⁴

According to some analysts, counter-proliferation, as a unilateral (or "national") policy, constitutes a threat to the credibility and legitimacy of the international non-proliferation regime and, therefore, to the NPT, since the perpetual shortcoming of the regime, the problem of discrimination between NWS and NNWS, will be further aggravated if one powerful country is talking about military measures to combat proliferation.¹⁵ Although the majority of officials and analysts would agree

12 According to an American expert, "Often we are trying to buy time, hoping that changing circumstances will alter the cost-benefit assessment that encouraged the proliferation activity in the first place." See Carus, Seth. "Iran's Weapons of Mass Destruction: Implications and Responses." *Middle East Review of International Affairs* 2, no. 1 (1998): 8.

13 Davis, Zachary and Mitchell Reiss. *U.S. Counterproliferation Doctrine: Issues for Congress*. CRS Report. Washington, D.C.: The Library of Congress, 1994, 7.

14 Grant, Robert. Executive Summary to *Counterproliferation and International Security*. Arlington: US-CREST, 1995.

15 Mueller, Harald. "Counterproliferation and the Nonproliferation Regime: A View from Germany." In *International Perspectives on Counterproliferation*, eds.

that regimes need sanctions and that, under certain circumstances, the use of force against violators may be necessary, many would argue that sanctions are a matter for the regime community, not for unilateral action of a single country.

It is argued that any military action, even if sanctioned by the United Nations (UN), has an impact on the international non-proliferation regime; since, such action highly publicizes the failure of the regime. Moreover, because such action is likely to be carried out, for the foreseeable future, by the US, its Western allies, or by a US- or Western-led multilateral coalition, it will give the appearance of serving the interests of these states and, thereby, enhance discrimination.¹⁶

The 1995 and 2000 NPT Review Conferences

The NPT, signed on 1 July 1968, is the bedrock of the post-World War II global non-proliferation regime. With 187 states participating, this Treaty is the most widely adhered to and the most successful multilateral arms control treaty in history. At present, it has more members than the UN, and, as mentioned, only four states are not party to it.

The NPT remains the only global legal instrument that is designed to both curtail the spread of nuclear weapons to additional states and to commit those states already in possession of these weapons to negotiate in good faith on their eventual elimination.¹⁷ The NPT is perceived by the majority of NNWS as a valuable context within which NNWS can pressure NWS for more action on nuclear disarmament. A second

Mitchell Reiss and Harald Mueller, 27, 33. Woodrow Wilson Center Paper, no. 99. Washington, D.C.: Woodrow Wilson Center, 1995.

16 Dokos, Thanos. "The Proliferation of Weapons of Mass Destruction in the Mediterranean." *Mediterranean Politics* 5, no. 3 (2000): 95–116.

17 Howlett, Darryl and John Simpson. "Nuclear Proliferation: The Evolving Policy Debate." *Contemporary Security Policy* 20, special issue (1999): 222.

factor, implicit in the NPT, is the proposition that the possession of nuclear weapons by the NWS is not a permanent situation, and that the NPT is thus both a nuclear disarmament and nuclear non-proliferation treaty, with the latter being a contributing condition for achievement of the former and *vice versa*.¹⁸

The outcome of the 1995 Review Conference was a political compromise between those who feared that, in indefinitely extending the NPT, the NNWS would lose their leverage on the NWS with respect to the latter's nuclear disarmament obligations, and those who preferred a simple extension of the Treaty, without any collateral measures to assist in the future implementation of the NPT.¹⁹ Until 1995, the debate was dominated by demands that the NWS should negotiate a CTBT. After the successful negotiation of the CTBT, discussions shifted in the direction of a time-bound framework for achieving disarmament, without, however, any visible success thus far. During the 1995 NPT Review Conference, an agreement was reached on "Principles and Objectives for Nuclear Non-Proliferation and Disarmament." The decision established seven specific principles and objectives, one of which concerned nuclear disarmament:

[...] 3. Nuclear Disarmament. The NWS reaffirmed their commitment under NPT Article VI to pursue in good faith "negotiations on effective measures relating to nuclear disarmament". Three specific measures would be "important in" the implementation of Article VI commitments: completions of negotiations on a CTBT no later than 1996; conclusion of negotiations on a convention banning the production of fissile material for use in any nuclear explosive device; and the "determined pursuit by the NWS of systematic and progressive efforts" to reduce nuclear weapons globally, "with the ultimate goal of eliminating those weapons."²⁰

18 Rauf/Simpson, "The 1999 NPT PrepCom," 128.

19 *Ibid.*, 119. Nuclear disarmament has been the make-or-break issue at all previous NPT Review Conferences. See Rauf, Tariq. "The 2000 NPT Review Conference." *The Nonproliferation Review* 7, no. 1. (2000): 150.

20 *PPNN Newsbrief*, no. 50 (2000).

The decision also reaffirmed the goal of general and complete disarmament under strict international control, without, however, any timetable.²¹ Despite pessimistic predictions, states party to the 2000 NPT Review Conference were able to agree on a final document, in which there is specific reference to, “[a]n unequivocal undertaking by the NWS to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament.”²² The NWS issued a statement at the end of the Review Conference, acknowledging their

(...) particular responsibility and key role in ensuring continued progress in the implementation of the NPT (...) The five NWS hope

21 According to Jayantha Dhanapala, “[T]hese are the yardsticks—along with the terms of the Treaty itself—that participants at the next Review Conference will use to measure the progress and general health of the Treaty and its associated regime.” See Dhanapala, “The NPT at a Crossroads,” 139–140.

22 *Article VI.6: An unequivocal undertaking by the NWS to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament to which all States parties are committed under Article VI.*

9 Steps by all the NWS leading to nuclear disarmament in a way that promotes international stability, and based on the principle of undiminished security for all:

- *Further efforts by the NWS to reduce their nuclear arsenals unilaterally.*
- *Increased transparency by the NWS with regard to the nuclear weapons capabilities and the implementation of agreements pursuant to Article VI and as a voluntary confidence-building measure to support further progress on nuclear disarmament.*
- *The further reduction of non-strategic nuclear weapons, based on unilateral initiatives and as an integral part of the nuclear arms reduction and disarmament process.*
- *Concrete agreed measures to further reduce the operational status of nuclear weapons systems.*
- *A diminishing role for nuclear weapons in security policies to minimize the risk that these weapons ever be used and to facilitate the process of their total elimination.*
- *The engagement as soon as appropriate of all the NWS in the process leading to the total elimination of their nuclear weapons.*
- *Article VII.7...The Conference supports for the establishment of NWFZs where they do not yet exist, such as in the Middle East and South Asia.*

See Final Document of the 2000 NPT Review Conference.

similarly genuine commitment to the pursuit of nuclear non-proliferation and disarmament as a contribution to enhanced peace and security will be shown by all States members of the NPT and States outside the NPT.²³

Debates over disarmament in the NPT context have always been focused on one central issue: whether the Treaty is primarily a nuclear disarmament treaty or a nuclear non-proliferation one. The NWS have frequently faced criticism, particularly at the five-year NPT review conferences, for not complying with their obligations under Article VI.²⁴ Although it is generally accepted that the commitment of the NWS to nuclear disarmament was only rhetorical, it can also be argued that the first commitment of NWS under Article VI has been honored, not because of their commitment to the Treaty, but because of political realities. Furthermore, the NWS have occasionally argued that the Article's language could be read as requiring only negotiations, and not results. However, this is a legal technicality, not a real argument. In any case, all this changed at the 1995 NPT Review and Extension Conference, which adopted a program of action calling for a comprehensive test-ban treaty, a fissile material treaty and, "the determined pursuit (...) of systematic and progressive efforts to reduce nuclear weapons globally, with the ultimate goal of eliminating those weapons."²⁵

Some of the NNWS, party to the Treaty, have reacted rather strongly to the inability or, more likely, unwillingness of the NWS to fulfill their obligations under Article VI of the NPT. They have even threatened, especially before and during the 1995 NPT Review and Extension Conference, to block the indefinite extension of the Treaty. Under certain circumstances, this could even lead to the collapse of the NPT. How credible were those threats? How realistic are expectations and

23 *Arms Control Reporter*, 602.D 11.5.05; *SIPRI Year Book 2000*.

24 The states party to the NPT clearly wanted to ensure that all its members were complying in full with all the Treaty's provisions. In a sense, the Review Conference is simply an opportunity for the signatories to confirm periodically that a deal is, indeed, a deal. See Dhanapala, "The NPT at a Crossroads," 139.

25 *Arms Control Reporter* 602.D 11.5.95; *SIPRI Year Book 2000*.

demands for quick and visible progress towards nuclear disarmament? Is it pragmatic to pursue “disarmament in our time”? Also, looking a little further into the future, one additional issue is already hovering on the horizon: what will be the impact on the non-proliferation regime of reversing the current trend to reduce global numbers of nuclear weapons, if states start deploying ballistic missile defenses?²⁶

To answer these questions, one has to keep in mind the basic premises of the NPT consensus. Although it is generally accepted that the NPT was a compromise between NWS and NNWS, the crux of the matter is that states have been supporting the NPT for the past 30 years because they perceived it in their interest to contain proliferation. Although high on their agenda, the elimination of nuclear weapons was not the primary objective for the great majority of them: Preventing the spread of nuclear weapons to additional states was the priority. In the 1960s, the international community had two major concerns regarding nuclear weapons: horizontal and vertical nuclear proliferation. The US-Soviet nuclear arms race actually peaked during that period. Realizing their inability to influence the policies of the two superpowers, the NNWS implicitly accepted that, despite the obligations imposed upon the NWS by Article VI, the main objective of the NPT would be the prevention of the further spread of nuclear weapons. Today, 187 countries continue to see it as in their national security interests to remain parties to the Treaty. It should be emphasized that the NPT is primarily a non-proliferation agreement. In this regard, it has been very successful in limiting and containing (although not preventing altogether) the further spread of nuclear weapons.

The question of whether the NPT can be kept together without the abolition of nuclear weapons automatically leads to another question: What is the alternative: A world without a non-proliferation regime, with ensuing nuclear anarchy and chaos? Is the international community prepared to risk the “health” of the NPT, and the non-proliferation

26 Although it might be argued that the regime survived in this type of environment in the 1970s and 1980s, it is unclear what impact such a development would have on a regime operating under different global circumstance and based on a Treaty that is now nearly universal. See Howlett/Simpson, “Nuclear Proliferation: The Evolving Policy Debate,” 220.

regime in general, in order to promote the idea of complete nuclear disarmament? On the other hand, should concerns about the survival and future of the NPT prevent any pressure on the NWS to drastically reduce their arsenals? Can it be expected that pressure for complete nuclear disarmament would lead at least to nuclear reductions?

The author of this paper is a strong supporter of nuclear disarmament at the earliest possible date. However, one has to be pragmatic. The international security environment is not yet ready for the elimination of nuclear weapons. Relations between major powers remain competitive. The use of military force is still an acceptable foreign policy tool for governments. International law is not always respected and, in most cases of violations, there is no international body capable of punishing the aggressor and enforcing the law. Furthermore, the technology is out there. There are thousands of nuclear scientists from the former Soviet Union and hundreds of tons of fissile material under security conditions that more often than not leave much to be desired. The stark reality is that, as far as the NWS are concerned, there is very little willingness to engage in serious disarmament negotiations.²⁷ Because of the serious problems and weaknesses of its conventional forces, Russia is increasingly relying on nuclear weapons for its security and for preserving part of its status as a great power.

27 Despite widespread demand by a large number of states, international organizations and non-governmental organizations, no formal multilateral negotiations aimed at achieving nuclear disarmament have been held. The US has led the opposition of the NWS to multilateral nuclear disarmament negotiations. Governments in favor of taking relatively quick action on global nuclear disarmament look chiefly to the Conference on Disarmament (CD), the world's only multilateral body negotiating disarmament, to pursue binding agreements. However, the CD has been unable to resolve differences between the NWS and those countries that want quicker action, as no negotiating *ad hoc* committee on nuclear disarmament has been convened.

For the first time, in the autumn of 1995, the UNGA adopted, by a vote of 99-39-15, a resolution proposed by China calling on the CD to work out a program for phased nuclear disarmament within a fixed time span. The US, France, Britain, other EU countries, Canada, and the majority of Eastern European states voted against the resolution. Russia, Australia, and Japan abstained. During 1996, the International Court of Justice (ICJ) issued an advisory opinion on the legality of

By implying that the use of chemical or biological weapons against US forces or targets may lead to nuclear retaliation, by giving high priority to the threat of proliferation of NBC weapons and ballistic missiles and the threat of NBC (catastrophic) terrorism and by risking the “survival” of the ABM treaty, with its intended deployment of a NMD, the US is all but ruling-out any thoughts or plans about the abolition of nuclear weapons. Reductions in the framework of START III or START IV would probably be considered. Yet, this is as far as the US is probably prepared to go towards nuclear disarmament.

As mentioned before, France and the UK would be extremely unlikely to accept significant cuts in their nuclear arsenals. Finally, despite its nuclear inferiority *vis-à-vis* the US and Russia, for China, nuclear weapons are still the “great equalizer” in its relationship with those two countries, particularly the US. The role of public opinion is also an important factor. There is reduced pressure, because of lower threat perceptions among the general public.²⁸ Therefore, realistically, we should aim for further reductions and other restrictions (e.g., No-First-Use [NFU] policies, Confidence-Building Measures [CBMs], and NWFZs). At the same time, in order to prepare the ground for deep reductions and eventual disarmament, we should promote the idea that nuclear weapons should have a reduced role in comparison to the Cold War period; thereby, moving towards a “low salience nuclear world.”

nuclear weapons. While addressing the use or threat of use of nuclear weapons, it also concluded that an obligation existed under Article VI of the NPT, “to achieve a precise result—nuclear disarmament in all its aspects—by adopting a particular course of conduct, namely, the pursuit of negotiations on the matter.” See *PPNN Newsbrief*, nos. 50 and 51 (2000).

28 Radical changes are underway within the five *de jure* NWS in warhead numbers, in nuclear force structures, and in assessments of the risks of nuclear war. Although both the US and Russia maintain large nuclear arsenals and their forces are still deployed to deter a purposeful nuclear-disarming first strike, such an event appears increasingly unlikely. Those force structure changes and stockpile reductions had an impact on the threat perceptions of the general public, at least in the West.

Alternative Futures for the Nuclear Arms Reduction Process

Below are some of the major schools of thought, regarding nuclear arms control. According to Darryl Howlett and John Simpson:

[T]he deeper problem is that no clear vision exists, let alone has universal acceptance, on how the nuclear arms control and disarmament process should progress beyond the next agreed step in the disarmament process, which is to halt the production of fissile material for nuclear weapon purposes through a Fissile Material Cut-Off Treaty (FMCT).²⁹

There are several suggested courses of action for the future of nuclear arms reduction and eventual disarmament: (a) a “low salience nuclear world,” (b) operational arms control, (c) phased reductions, (d) virtual arsenals, (e) international control of nuclear weapons, and (f) a Nuclear-Weapon-Free Zone creep.³⁰

- a. Nuclear weapons still have an important role in the post-Cold War context, and their elimination should not be countenanced. Supporters of this view advocate moving to a world where nuclear weapons play a less visible role in inter-state relations than today, rather than one where they are removed completely. The kind of future nuclear world they envisage is one which is less adversarial, has fewer nuclear weapons, and one in which a lower salience is attached to existing nuclear weapons.³¹
- b. This approach embraces a series of measures designed to improve strategic stability through technical means, thereby, reducing the dangers of accidental or unauthorized nuclear use. For instance, taking all nuclear forces off alert, removing warheads or other vital

29 Howlett/Simpson, “Nuclear Proliferation: The Evolving Policy Debate,” 7.

30 There is another problem: “disjointed nuclear incrementalism:” a situations in which individual nuclear steps are taken in isolation, without regard to a broader vision of where each is leading. See *Ibid.*, 35.

31 Quinlan, Michael. “The Future of Nuclear Weapons: Policy for Western Possessors.” *International Affairs* 69, no. 3 (1993): 486–488.

components from the delivery vehicles and then implementing monitoring arrangements to strengthen compliance with the agreement.³² Elimination of tactical nuclear weapons would be a positive development, as their operational characteristics mean that they are likely to be used first.

- c. There are several related studies and proposals, such as Princeton University's Deep Cuts Study Group, which advocates radical reductions to 200 nuclear weapons for each NWS.³³ Others advocate 1,0500 to -1,5000 warheads. The Russian analyst Nikolai Sokov suggests that START III should reduce the total number of warheads to 12,8000-2,01,800. This could then be limited to 1,000 with the following distribution: US=Russia=China+France+UK.³⁴
- d. As Michael Mazarr puts it, "Virtual nuclear arsenals aim to achieve some of the advantages of complete nuclear disarmament, removing all nuclear weapons from day-to-day operational status and, thereby, seeking to push them to the margins of world politics, while allowing current nuclear powers to retain some of the core missions for nuclear forces by threatening to rebuild a few dozen weapons within a period of a few days or weeks."³⁵ However, verification would be an extremely challenging task.
- e. The key feature of this approach is that nuclear weapons would be removed from national arsenals and placed under effective international control, usually in the form of a strengthened UN.³⁶ A necessary precondition would be a cooperative, not competitive international system, long-term establishment of good relations between

32 Blair, Bruce. *Global Zero Alert for Nuclear Forces*, Washington, D.C.: Brookings Institution, 1995, 107–108.

33 Deep Cuts Study Group. *A Strategy of Staged Reductions and De-Alerting of Nuclear Forces*. Princeton, N.J.: Princeton University, 1996.

34 Sokov, Nikolai. *Russia's Approach to Deep Reductions of Nuclear Weapons: Opportunities and Problems*. The Henry Stimson Center Occasional Paper, no. 27. Washington, D.C.: Henry Stimson Center, 1996, 36–40.

35 Mazarr, Michael. "Virtual Nuclear Arsenals." *Survival* 37, no. 3 (1995): 7–26.

36 Howlett /Simpson, "Nuclear Proliferation: The Evolving Policy Debate," 20.

the NWS, an end to regional conflicts and effective mechanisms to cope with the problem of breakout and a reliable verification system.³⁷ According to Harald Mueller, coalition building, in order to prevent conventional warfare, or collective security arrangements would also be required.³⁸

- f. This school of thought advocates the incremental achievement of a NFWF, through the creation of more NWFZs, which interlock and eventually cover an ever-increasing area of the globe.

Conclusion

In the current strategic environment, whether the US and Russia have 2,000 or 1,000 weapons, is of less importance than in the Cold War era. Of primary significance are the existence of a steady reduction process and a relative devaluation of the importance of nuclear weapons. If abolition lies at the end of the road, so much the better, but it looks like an unrealistic goal for the foreseeable future. Our highest priority in the field on non-proliferation should be the strengthening of the NPT and the non-proliferation regime.³⁹ However, not observing any progress on the issue of nuclear disarmament might have a negative impact on efforts to preserve and strengthen the non-proliferation regime (especially the export-control regimes). Therefore, reductions in the nuclear

37 One could also argue that verification in a NFWF, with the competitive nature and characteristics of the existing international system, would probably cause serious problems and friction. Furthermore, some “rogue” states might even be tempted to exploit the situation by acquiring a small number of nuclear weapons and blackmailing other states. Such fears and suspicions would significantly increase tension and instability, and might lead to preventive/preemptive attacks.

38 Mueller, Harald. “Far Reaching Nuclear Disarmament.” *UNIDIR Newsletter*, no. 31 (1995): 31–38.

39 Despite the small number of threshold states that exist today, the horizontal proliferation of nuclear weapons (as well as chemical and biological weapons and

arsenals of the NWS should be the next objective of the international arms control community. Although realistically such reductions can only be gradual, the various steps of the process should be clearly defined, along with specific timetables.

Our policy should be a pragmatic compromise between the immediate need to preserve and strengthen the non-proliferation regime and the mid- to long-term requirement for deep reductions and even nuclear disarmament. We need to find the right balance between strong support for the NPT and pragmatism, on the one hand, and pressure to NWS for disarmament, on the other, without, however, weakening the non-proliferation regime (therefore, the “degree” of pressure upon NWS is a critical element in this context).

means of delivery) is still a serious threat to regional and international security. In parallel with efforts to prevent further proliferation, it should be a high priority objective to deal with the following dangers that might arise from nuclear proliferation (listed in roughly descending order of plausibility):

1. Calculated use of nuclear weapons during a crisis or conflict (possibly as a weapon of last resort).
2. In new NWS nuclear weapons states, the safeguards against accidental launchings and detonations may be inadequate or non-existent.
3. In regions dominated by a high degree of tension, a new NWS might be tempted to launch a preemptive (conventional or even nuclear) strike before its adversary has acquired a secure second-strike capability. For this reason, the initial stages of a regional nuclear arms race are prone to strategic instability.
4. During a crisis, unintentional use of nuclear weapons or apparent threats to use them might lead to nuclear war.
5. Rogue states or irrational leaders might gain access and use or threaten to use them without regard for or full understanding of the consequences.
6. Terrorist groups, perhaps with covert state support, might gain access to one or more nuclear devices.
7. The emergence of ten 10 to 15 new NWS (the domino effect) might result in the collapse of the international security system and in nuclear anarchy/chaos (or at least greatly complicated international politics). See Dokos, Thanos. “The Probability of the Deliberate Use of Nuclear Weapons in the Middle East.” *Cambridge Review of International Affairs* 3 no. 1 (1989): 38–48.

Implicit acceptance by the NNWS of the fact that nuclear disarmament is only a long-term objective is an essential element of such a “middle-of-the-road” strategy. Such a strategy is certainly “unfair,” and would not help to assuage feelings of discrimination among some NNWS, but continuous friction in the framework of NPT Review Conferences and the inability to agree on a final text would hurt the non-proliferation regime. The constructive role of Western NNWS in NPT Review Conferences and preparatory meetings, as “mediators” between NWS and non-Western NNWS, would also be an important element.

It is essential to avoid the transformation of the NPT into a lame-duck regime, by holding the Treaty hostage to other objectives, such as fulfilling the ambitions of regional powers or the unofficial leaders of unhappy NNWS, or other unrelated grievances against NWS. The non-proliferation consensus must hold, and hopefully be strengthened, even without spectacular progress in the direction of nuclear disarmament. Whether the various parties to the NPT realize this and are willing to contribute to this objective is less clear.

One could envisage a nuclear reduction agenda (with a strong non-proliferation regime as the bedrock) that would include the following items: ratifying the CTBT⁴⁰ and successfully negotiating a Fissile Material Cut-Off Treaty;⁴¹ accelerating the implementation of START II and reaching agreement on START III; ratifying all protocols related to NWFZs; keeping the ABM treaty in force and deploying (if necessary) ship-based missile defenses (if technically feasible); engaging other NWS in arms control negotiations; freezing their arsenals as an interim measure; de-alerting nuclear weapons; enhancing transparency and promoting irreversibility;⁴² addressing rationales for possession of

40 Today, the CTBT is more of a symbolic than a substantive arms control measure. However, symbols and perceptions are at least as important as objective reality.

41 See, for instance, the Japanese eight-point proposal aimed at strengthening the NPT, including the completion, between 2003–2005, of fissile material ban negotiations, the earliest possible ratification of the CTBT, and expansion of NWFZs around the globe. *Arms Control Reporter*, 602NPT00; *SIPRI Year Book 2000*.

42 Moher, “The Nuclear Disarmament Agenda and the Future of the NPT,” 67.

nuclear weapons and theories of deterrence; and, eventually, addressing delivery vehicles.⁴³

This list is not exhaustive.⁴⁴ Some of the proposed measures can be implemented in the short-term; others are medium- or long-term and in some cases conditional upon the successful implementation of the short-term ones. However, all these measures would be important contributing factors in the avoidance of what Albert Wohlstetter described more than 25 years ago as “life in a nuclear-armed crowd.”

43 Two other very important and urgent problems are: (a) nuclear terrorism and the need for international [intelligence] cooperation and (b) environmental problems from de-activated nuclear weapons and platforms.

44 For instance, there are even some suggestions of offering covert technical assistance to India and Pakistan, in order to improve their command and control systems and to minimize the risk of accidental use of nuclear weapons or the loss of control during a crisis (the infamous concept of proliferation management). Although this would constitute a violation of the NPT, it is argued that it may be a necessary step to prevent the use of nuclear weapons in the sub-continent.

NICOLAS KASPRZYK

Nuclear Non-proliferation and Regional Changing Strategic Balances: How Much Will Regional Proliferation Impinge Upon the Future of the NPT?

Introduction

The Nuclear Non-Proliferation Treaty (NPT), signed on 1 July 1968, remains the linchpin of the global non-proliferation regime. The Treaty is fundamentally a compromise between the Nuclear Weapon States (NWS) that had manufactured and exploded a nuclear device prior to 1 January 1967, and the Non-Nuclear Weapon States (NNWS).¹ It consists of a series of commitments and obligations pertaining both to nuclear non-proliferation² and to nuclear disarmament. Under this regime, the NNWS undertake not to acquire nuclear weapons or nuclear explosive devices. In return for their restraint, NWS pledge to “pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.”³ This promise was reinforced during the May 2000 NPT Review Conference, with an “unequivocal undertaking by the NWS to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament to which all States parties are committed under Article VI.”⁴ As a “cooperative effort to

1 Article IX, paragraph 3.

2 Articles I, II.

3 Article VI.

4 *Final document issued by the 2000 NPT Conference.*

address a potentially destabilizing factor in international security,”⁵ the NPT must be considered as an expression of the international security community’s faith in multilateralism as a mechanism through which to cope with challenges to international stability.

The disarmament goals affirmed in the Treaty have been pursued and, if not completely, at least partially achieved. In mid-1987, *circa* 68,000 nuclear weapons were detained by the five NWS.⁶ This figure has been drastically reduced, and is now estimated as approaching 35,000. The Russian-American bilateral process aimed at reducing their over-dimensioned arsenals is making progress. START I is being implemented and its goal to cut down the arsenals of the two states to 6,000 deployed warheads should be reached before the end of 2001, in accordance with the initial plan. The Russian Duma ratified START II in April 2000: its aim is to bring the two arsenals down to 3,000–3,500 warheads before the end of 2007. Moreover, the bilateral dynamic of strategic weapons reduction is still moving: the negotiations of the third stage of this step-by-step process have started.⁷ Important unilateral and irreversible disarmament measures have also been adopted by two middle-size nuclear powers: Britain and France.⁸

The non-proliferation strategy of the international community has met with some success. It is worth remembering that in the first decades of

5 United Nations Department for Disarmament. *Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons—24 April–19 May 2000*, New York, 2000.

6 Moher, Mark. “The Nuclear Disarmament Agenda and the Future of the NPT.” *The Nonproliferation Review* 6, no. 4 (1999): 65–69.

7 For readers interested in Russian affairs and the START process, see the Russian American Nuclear Security Advisory Council’s (RANSAC) bi-weekly *Nuclear Newsletter*, available at <http://www.ransac.org>.

8 See Delpech, Thérèse. “New Stages of Nuclear Disarmament: A European View.” In *The Nuclear Turning Point*, ed. Harold A. Feiveson, Washington D.C.: Brookings Institution Press, 1999, 338–339. For a review of the disarmament measures unilaterally undertaken by France, see the publication released jointly by the Ministry of Foreign Affairs and the Ministry of Defense *Arms Control, Disarmament and Nonproliferation: French Policy*, La Documentation Française, 2000.

the Cold War, the commonly accepted and debated estimates foresaw the emergence of between 25 and 30 nuclear powers by the 1980s.⁹ To date, only three states have joined the original members of the nuclear club. Two of these, India and Pakistan, have conducted open nuclear tests and a third, Israel, has not yet declared its nuclear capability. The main lesson to draw from these facts is that non-proliferation efforts can prevail over proliferation tendencies.

In spite of these successes, the question of nuclear proliferation remains particularly acute. Indeed, the weakness of the non-proliferation regime was revealed in a spectacular manner with the discovery of a fast running and undetected clandestine nuclear program in Iraq. Its fragility and loopholes have been demonstrated with clear manifestations of nuclear proliferation in some specific regions of trouble, often associated with programs aimed at acquiring other weapons of mass destruction and their associated carrier systems. After the explosion of nuclear devices in India and Pakistan, the nuclear ambitions of Iran and North Korea are causing alarm bells to ring.

Indeed, the future of NPT is constantly questioned. Its collapse is often feared, if not predicted, because of developments in the tumultuous global security arena. In particular, regional nuclear proliferation poses a worrisome threat to the NPT and many observers feel that the NPT regime is now at a strategic crossroads.¹⁰ This chapter addresses this issue by first dealing with the fact that the NPT is challenged by the revival of regional proliferation tendencies, stemming from deep-rooted motivations on both the supply and the demand sides. It then turns to America's plans to deploy a National Missile Defense (NMD) system and assesses the consequences of this dramatic response to the problem of proliferation.

9 Dunn, Lewis A. *Containing Nuclear Proliferation*, Adelphi Papers, no. 263. Oxford: Oxford University Press, 1991.

10 "We are at a watershed that will determine whether the various nonproliferation regimes will collapse, muddle through or become effective parts of nonproliferation plans." See Barletta, Michael and Amy Sands, eds. *Nonproliferation Regimes at Risk*. Center for Nonproliferation Studies Occasional Paper, no. 3. Monterey: Center for Nonproliferation Studies, 1999, 1.

The Panorama of Proliferation

Today's proliferation is far different from what it used to be during the Cold War. The shift from an international system based on two blocs to a multipolar or unipolar world has facilitated the emergence of more players and, consequently, more issues to reckon with. Southeast Asia, the Korean Peninsula and the Middle East are particularly worrisome from a proliferation point of view.

India and Pakistan: tit-for-tat

Southeast Asia has shaken the non-proliferation regime with India's testing of three nuclear devices on 11 May 1998, followed by two other tests on 13 May 1998 and then by a series of nuclear tests conducted by neighboring Pakistan. These tests can be seen as a "terrible mistake."¹¹ However, they are the expression of a state's sovereignty. With India's tests, for the first time since the inception of the NPT, a state not recognized as a NWS has openly displayed its military nuclear capability.¹² These tests blatantly exposed loopholes in the NPT.

After India's shift from nuclear-capable to nuclear-declared status, the arms control community was waiting to see what the nuclear future of this state would be. Indian leaders soon revealed that their country would launch a program aimed at rapidly deploying a deterrent. The doctrine adopted in August 1999 hinted at the general orientation of the program: the nuclear arsenal of India will be credible and based on a strategic triad. Since then, it has been stated that, without ceasing to be credible, the nuclear deterrent will be minimal.¹³ No official statement

11 Robert Einhorn, Assistant Secretary of State, Bureau of Nonproliferation, speaking at the Carnegie International Non-Proliferation Conference, Washington, D.C., 16–17 March 2000.

12 The test conducted in 1974 in the Rajasthan desert was presented by the Indian government as a peaceful nuclear explosion.

13 See, for instance, Chellaney, Brahma. "Expert Comment: New Nuclear Clarity with Old Waffle." *Hindustan Times* (New Delhi), 3 January 1999.

has been made regarding to the number of warheads the arsenal will comprise. Soon after the 1998 tests, Indian leaders declared that their country already had 125 devices at its disposal. However, according to the American intelligence community, only a dozen existed at the time.¹⁴ It seems that India has not yet weaponized its nuclear arsenal.¹⁵ However, there is no doubt that it could do so in a short period of time. Growing attention is given to the nuclear program, which may have already entered the full production stage.

The nuclear program *stricto sensu* is coupled with an ambitious ballistic missile program, which is developing carriers for nuclear payloads.¹⁶ The Indian government pays special attention to the missile program since its electoral campaign was primarily based on national security issues: an increase in the amount of funds allocated to the establishment of a strong nuclear-capable missile force is forecast for the period 2001–2004.¹⁷ The importance of this issue is illustrated by a recent decision by the Indian Defense Minister to authorize the production of 300 nuclear-capable Prithvi missiles. Moreover, there is little hope that the Indian nuclear program, coupled with the development of a ballistic missile capability, will slow down in the near future. The situation will inevitably have consequences for the ambitions of its neighbor.

Pakistan promptly reacted to the Indian tests, conducting five nuclear tests of its own on 28 May 1998, followed by one on 30 May 1998. Pakistani leaders have expressed their desire not to enter into an arms race with India, claiming that they only intend to secure a minimal

14 Editorial. "India to Prepare Nuclear Doctrine, Arsenal for Deployment." *Defense News*, 1–7 June 1998, 14.

15 Chari, Dr. "India's Slow-Motion Nuclear Deployment." *Carnegie Non-Proliferation Project Proliferation Brief* 3, no. 26 (2000): 1–2.

16 For further details on this topic, see Maire, Christian. "L'Evolution des Arsenaux Nucléaires Stratégiques dans le Monde." *Défense Nationale* 7 (2000): 24–33.

17 Editorial. "India to Renew Focus on Missile Technology." *Defense News*, 25 October 1999.

arsenal for their country.¹⁸ Between 60 and 70 nuclear devices could be enough to reach this goal.¹⁹ The Pakistani expertise in nuclear weapons results from long-standing nuclear cooperation with China.

Pakistan has also launched a domestic ballistic missile program with a nuclear capability. With the assistance of China and North Korea, it is developing two families of nuclear-capable missiles: the liquid-propulsion missiles of the Ghauri class and the Chinese-inspired solid-propulsion missiles of the Shaheen class. In addition to indigenously produced missiles, Pakistan possesses M-11 short-range nuclear-capable missiles provided by China.²⁰ Like its neighbor, Pakistan seems unlikely to renounce its nuclear status in the near future.

North Korea: playing hide-and-seek

North Korea has sometimes been granted the far from enviable nickname of “Number One Proliferator,”²¹ because of its proliferation activities on both the supply and demand sides. On the demand side, North Korea harbors clandestine nuclear ambitions and is also working on an important ballistic missile program. Expensive and resource-consuming programs are being pursued in spite of the harsh economic crisis North Korean leaders have to deal with.

North Korea has a long history of fraudulent nuclear activities. It signed the NPT in the mid-1980s, but still does not comply with the obligations under the Treaty. To date, the International Atomic Energy

18 Dr. Masuma Hasan, Secretary of the Pakistan Government Cabinet, speaking at the Carnegie International Non-Proliferation Conference, Washington, D.C., 16–17 March 2000.

19 Some Pakistani scientists have communicated this figure. See: *Jane's Defense Weekly*, 10 June 1998.

20 Editorial. “Pakistan Has M-11 Ballistic Missiles.” *Jane's Missiles and Rockets*, October 1999.

21 Medeiros, Evan. “Northeast Asia 1999: Current threats to nonproliferation regimes.” In *Nonproliferation Regimes At Risk*, eds. Michael Barletta and Amy Sands, 35–38. Center for Nonproliferation Studies Occasional Paper, no. 3. Monterey: Center for Nonproliferation Studies, 1999.

Agency (IAEA) inspectors have not been authorized to visit the North Korean facilities to verify the amount of nuclear material it possesses. Moreover, it has started the construction of two heavy-water reactors and is modernizing a reprocessing facility, which could eventually produce large amounts of plutonium.

Under the Agreed Framework,²² North Korea was meant to halt its nuclear weapons program, and in return, the US would supply Pyongyang with two light-water reactors, which are less prone to nuclear proliferation, and would provide an interim energy supply until the reactors were operational. In fact, the Agreed Framework has been inconsistently implemented, and though North Korea has apparently frozen its nuclear program, cooperation between the two countries in the past has resembled a game of hide-and-seek. North Korea has on many occasions been accused of clandestinely continuing to acquire a nuclear capability. A major diplomatic crisis between the two countries occurred in 1998 after the US announced that the construction of one of the two reactors might have to be stopped due to funding difficulties. As a result, North Korea decided not to comply with the Agreed Framework. The subsequent discovery of the secret construction of an underground facility, possibly intended for the production of nuclear material, was viewed as a clear indication of North Korea's continued willingness to acquire a nuclear capability.

According to US intelligence estimates, North Korea may already possess enough plutonium to build one or two nuclear weapons.²³ In addition to its efforts to produce nuclear devices, Pyongyang is developing a strong ballistic missile capability. In the near or long-term future, if North Korea decides, with no respect for its non-proliferation commitments and in spite of the strong pressure exerted by the international community, to declare itself nuclear, it will appear that it already has

22 For an extensive presentation of the Agreed Framework, see Slocombe, Walter. "Resolution of the North Korean Nuclear issue." In *Fighting Proliferation, New Concerns for the Nineties*, ed. Henry Sokolski, 183–95. Washington, D.C.: US Government Printing Office, 1996.

23 Medeiros, "Northeast Asia 1999: Current Threats to Nonproliferation Regimes," 37.

the ability to put its nuclear warheads on carriers: the short-range Scud missiles already deployed in its arsenal can carry a nuclear payload. The Taepodong and Nodong nuclear missiles currently being developed will be able to deliver their payload over distances ranging from 1,300 to 6,000 kilometers.²⁴ Moreover, the ranges and payloads could be increased in the future.

North Korea is also extremely active on the supply side. For some time, it has been exporting complete missiles and missile production technologies. It is reported to have sold Nodong missiles to Iran and Pakistan. Indeed, many countries have been provided with missiles and related technologies by North Korea, including Egypt, Syria, Vietnam, Cuba and Iraq. Some countries have even been supplied with production and assembly technologies for nuclear-capable Scud-B and Scud-C missiles, namely Iran and Syria.²⁵ Ongoing missile sales to Iran and Pakistan are being observed.²⁶

These transfers do not contravene the NPT, but the Missile Technology Control Regime (MTCR), of which North Korea is not a member. However, disseminating nuclear-capable missiles and making them available to countries located in hot-spot regions may have destabilizing effects and may create incentives in these areas to acquire nuclear capabilities.

Middle East: a dangerous multi-player game

Non-proliferation regimes are particularly challenged in the Middle East, which is characterized by a huge number of countries eager to acquire or develop weapons of mass destruction and their associated

24 More information on North Korea's current ballistic arsenal, see Spencer, Jack. *The Ballistic Missile Threat Handbook*, Washington, D.C.: The Heritage Foundation, 2000, 50.

25 *Ibid.*, 10; Medeiros, "Northeast Asia 1999: Current threats to nonproliferation regimes."

26 Assessment made by Robert Walpole, National Intelligence Officer for Strategic and Nuclear Programs, cited in Malik, Mohan. "China plays the proliferation card." *Jane's Intelligence Review* 12, no. 7 (2000).

vectors. Israel is the only state in the region that has not signed the NPT. Nevertheless, it must be stressed that it borders on states that are not members of important weapons of mass destruction (WMD) non-proliferation regimes, such as the Chemical and Biological Weapons Conventions. Moreover, no state in the Middle East is a formal member of the MTCR, though Israel has pledged to respect the spirit of this regime and to abide by its rules. This is all the more problematic since the Cold War nuclear *status quo* in the region has come to an end and other states are also developing nuclear ambitions.²⁷

First-hand information on Israel's arsenal is very rare, since its citizens are banned from making any public statement on the topic. However, a Knesset lawmaker broke this long-standing prohibition and announced that his country possesses between 200 and 300 nuclear weapons.²⁸ This figure has to be considered with caution, since the usual and accepted estimates are *circa* 100 nuclear devices.

Two of Israel's neighbors are of special relevance regarding nuclear proliferation. Iraq remains a problem. The massive bombings during the Gulf War and the inspections led by the United Nations Special Commission (UNSCOM)²⁹ teams have enabled the international community to discover its hidden nuclear program and to break it down. However, since the confrontation between the Iraqi authorities and the disarmament inspectors in 1998, the mission has been forced to stop its work. The new mission, called United Nations Monitoring Verification and Inspection Commission (UNMOVIC), established by the Security Council in March 2000, has had difficulties in starting its inspections. If the mission eventually manages to conduct inspections in the country, there is no doubt that Iraq will be able to retain its nuclear know-how.

27 Eisenstadt, Michael. "Living with a Nuclear Iran?" *Survival* 41, no. 3 (1999): 124–48. On the genesis of the Israeli nuclear program, see Hersh, Seymour, ed. *The Samson Option*. New York: Random House, 1991; Burrows, William and Andrew Windrem, eds. *Critical Mass*. New York: Simon & Schuster, 275–313.

28 Editorial. "Knesset Holds Unprecedented Open Debate on Nuclear Policy." *Voice of Israel*. Radio Broadcasting System, 2 February 2000.

29 See Ponawski, Ronald. *Return to Armageddon*. Oxford: Oxford University Press, 2000, 237–239.

Iran is suspected of clandestinely developing nuclear weapons. No clandestine nuclear-related facility has been discovered. However, a number of factors indicate Teheran's intention to acquire a nuclear capability, such as the noticeable dynamism of Iran in the sphere of civilian nuclear activities and its willingness to cooperate with countries that are more advanced in that field. The international security community is divided regarding the ability of Iran to build nuclear weapons. According to US intelligence estimates, Iran could attain a nuclear capability within five to ten years. Yet, some experts believe that Iran will not be able to assemble any nuclear device for at least ten to fifteen years.³⁰ Even if Iran is not really trying to achieve a nuclear capability, the fact that it is perceived as doing so challenges the NPT and could have an impact on the defense choices made by its neighbors. Well-founded or not, the perception that Iran wants to become a nuclear state is reinforced by its development of nuclear-capable ballistic missiles: Teheran has acquired Nodong missiles from North Korea and is currently producing its own Shahab-3 missile with a range of 1,300 kilometers. Iran is also developing longer-range missiles, such as the Shahab-4 and the Kosar, with a planned range of 2,000 and 4,000 kilometers, respectively.

Motivations Behind Proliferation

Since states are clearly engaged in building nuclear and ballistic missile capabilities, despite the efforts of the international community to fight against proliferation and despite the specter of numerous arms races, it is worth raising the fundamental question: why do states engage in proliferation activities? This question can be dealt with from the two sides inherent in all forms of proliferation: from the demand side and the supply side.

30 Koch, Andrew and Jeanette Wolf. "Iran's Nuclear Procurement Program: How Close to the Bomb?" *Nonproliferation Review* 5, no. 1 (1997): 123-135.

Demand-side motivations

Scott Sagan has conducted a remarkable investigation of the case of proliferation from the demand side. He identifies three models that help to explain why a state decides to acquire nuclear capability, or alternatively, to refrain from taking the nuclear road:

The “security model,” according to which states build nuclear weapons to increase national security against foreign threats, especially nuclear threats; the “domestic politics models,” which envision nuclear weapons as political tools used to advance parochial domestic and bureaucratic interests; and the “norms model,” under which nuclear weapons decisions are made because weapons acquisition (...) provides an important normative symbol of a state’s modernity and identity.³¹

Sagan’s analysis can be applied to the events that took place in South Asia in May 1998 and to the nuclear ambitions of Iran and North Korea.

To some extent, each of the three above-mentioned models applies to the Indian nuclear tests. The tests were conducted as a result of domestic political considerations, security perceptions and perceived inequality within the international community. First, the Indian ruling party has, through this action, appealed to nationalist pride and gained support for its coalition government.³² Second, the tests were justified with the proximity of China’s nuclear arsenal and a hostile Pakistan.³³ Third, the tests can be interpreted as the manifestation of deep-rooted

31 Sagan, Scott. “Why Do States Build Nuclear Bombs? Three Models in Search of a Bomb.” *International Security* 21, no. 3 (1996/97): 54–86.

32 Editorial. “Real Motive was Political, Not Military, Says Gowda.” *Hindustan Times*, 20 May 1998.

33 Mian, Zia and M. V. Ramana. “A Nuclear Gordian Knot: South Asia and the Limits of Deep Cuts.” In *The Nuclear Turning Point, A Blueprint for Deep Cuts and De-Alerting of Nuclear Weapons*, ed. Harold A. Feiveson, 353–368. Washington, D.C.: Brookings Institution Press, 1999.

opposition to the distinction made by the NPT between NWS and NNWS, a distinction New Delhi considers discriminatory.³⁴

Pakistan promptly reacted and followed India's example for two main reasons.³⁵ First, there is competition with India: Pakistan wanted to explode its nuclear device because its neighbor had done so, acquiring a form of prestige that Pakistan could not afford to forego. This tit-for-tat reaction can be seen as an example of the norms model. Second, the ambition to counter India's nuclear weapons and conventional superiority and to deter it from attacking Pakistan corresponds to the security model.

The norms model and the security model are particularly pertinent to Iran's suspected nuclear ambitions. Iran wants to transform itself into a military regional power that can exert its influence throughout the Middle East and beyond. However, it is also concerned with perceived threats from Iraq, the US, Israel and, more recently, from Turkey, Afghanistan and Azerbaijan.³⁶

The case in North Korea is quite different. North Korea perceives itself as threatened by other countries, such as the US, which have an important military presence in the region. It is believed that the possession of nuclear weapons can be used as a deterrent against a perceived risk of attack. To some extent, the security model can help in understanding the North Korean nuclear penchant. However, it cannot completely explain it. Another reason for North Korea's game of nuclear hide-and-seek, which falls outside of Sagan's model, is that the country's leaders use the nuclear issue as a bargaining chip. Pyongyang leaders understand that in return for halting their nuclear program, they can receive

34 The declaration by India's Minister of Sciences and Technology, made just after the tests, supports this analysis: nuclear weapons are "India's due, the right of one-sixth of humankind" and the tests "reflected India's endeavors to find a rightful place among the world's powers." See Editorial. "Options of More Detonations Open." *Hindustan Times*, 13 May 1998.

35 Mian/Ramana. "A Nuclear Gordian Knot: South Asia and the Limits of Deep Cuts."

36 Eisenstadt, Michael. "Living with a Nuclear Iran?" *Survival* 41, no. 3 (1999): 124-48.

economic compensation, such as the construction of civilian nuclear reactors. Thus, the diplomatic maneuvering resembles a game of chess, in which their goal is to prove their ability to acquire nuclear weapons in order to prompt offers of economic assistance, without crossing the red line and triggering a massive diplomatic, and possibly military, reaction.

Does the proliferation of nuclear weapons and the establishment of additional deterrence offer more stability in a multipolar world? The May–July 1999 Kargil conflict between India and Pakistan was a significant event with regard to this question, indicating that the possession of nuclear weapons does not necessarily prevent conventional conflicts. In any case, nuclear weapons continue to be considered as a means of enhancing a state's security and will remain attractive as long as the security concerns of conflict regions have not been resolved.

Supply-side motivations

The acquisition of nuclear materials or nuclear technologies by aspiring states is an important foreign policy tool that defenders of the NPT have to reckon with.³⁷ China and North Korea are often described as proliferator states, as they frequently offer missile and nuclear technologies to numerous countries. They both continue to export nuclear-capable missiles to Pakistan and Iran.³⁸ Yet, it seems that these two countries have different motivations for engaging in supply-side activities: for the latter the motivation is strategic, and for the former it is economic.

China's proliferation-prone exports are reminiscent of the strategies developed by the two super powers during the Cold War, both of which offered military and technological assistance to countries that could help them in their struggle to diminish the strategic influence of their

37 For more details on the supply-side politics, see Rioux, Jean-François, ed. *Limiting the Proliferation of Weapons—The Role of Supply-Side Strategies*. Ottawa: Carleton University Press, 1992.

38 National Intelligence Officer for Strategic and Nuclear Programs, in front of the US Senate Governmental Affairs in February 2000.

rival. Assuredly, China's nuclear and missile technology transfers are used as a means to exert its influence beyond its borders.³⁹ For example, China reportedly decided soon after the 1990–1991 Gulf War to engage in military cooperation with Iran as a counterweight to the US strategic influence in the Middle East. Its missile exports to Libya can be interpreted in a similar way. Pakistan and North Korea, which also benefit from Chinese assistance, are to some extent used as decoys to divert attention away from this American focus, leaving China's diplomacy free from US interference in South and Southeast Asia. It is also the manifestation of a tactic used to counter its Asian rivals, in particular India.

Regarding North Korean supply-side activities, it seems that the economic dimension prevails over other considerations. When selling missiles to Libya, Cuba, Ecuador or Syria,⁴⁰ North Korea does not intend to project its own influence. The purpose is merely economic and not strategic. North Korea earns huge amounts of money through the export of missiles, notably nuclear-capable missiles. This assessment of North Korean motivations can also be deduced from its negotiations with the US on its missile activities. Engaged twice by the US about missile proliferation and the MTCR,⁴¹ North Korean officials offered to stop their missile exports if the US compensated them to the tune of one billion US dollars per annum. The ballistic missile program is, therefore, clearly a bargaining chip.

39 Malik, Mohan. "China plays the proliferation card." *Jane's Intelligence Review* 12, no. 7 (2000).

40 Examples of countries having received Scud B missiles or missile systems were cited in Spencer, Jack. *The Ballistic Missile Threat Handbook*, Washington, D.C.: The Heritage Foundation, 2000.

41 Medeiros, "Northeast Asia 1999: Current threats to nonproliferation regimes."

Challenges to the NPT

The Non-Proliferation Treaty's edifice has been built on a three-sided base that constitutes the foundation of the regime: universality, non-proliferation efforts and disarmament measures. Nuclear ambitions being observed at the regional level aggressively challenge all three of these pillars.

Universality: a long-standing feeling of incompleteness

The willingness to have an NPT regime, to which the whole international community would comply, stems from the postulate expressed in its preamble that the spread of nuclear weapons undermines international peace and security.⁴² Accordingly, a condition considered imperative in tackling this problem is universal adherence to the Treaty. This idea has been repeatedly and constantly reaffirmed since its negotiation.⁴³ Four states currently remain outside the Treaty.⁴⁴ In the present context, with three of them having a declared, or opaque, nuclear arsenal, it is unlikely that they would suddenly join the regime, in spite of continuous calls from the UN Security Council for them to renounce their capabilities.⁴⁵ However, it is worth remembering that South Africa behaved in a similar fashion some ten years ago: having an opaque

42 Preamble, paragraph 3: "(...) the proliferation of nuclear weapons would seriously enhance the danger of nuclear war."

43 During the first NPT Review Conference, that took place in Geneva between 5–30 May 1975, most countries from the East and West expressed, like the three NWS that were parties to the NPT at the time, their intent to reinforce the regime through universality. The same idea has been defended on many occasions. See the pages dedicated to the NPT on the Federation of American Scientists' web site: www.fas.org/nuke/control/npt.

44 Cuba and the three *de facto* nuclear states, namely India, Pakistan and Israel.

45 According to Tariq Rauf, the Security Council is more severe with Indian and Pakistan than with Israel. See Rauf, Tariq. "The Future of the Non-Proliferation Treaty." In *Nonproliferation Regimes at Risk*, eds. Michael Barletta and Amy Sands, 9. Center for Nonproliferation Studies Occasional Paper, no. 3. Monterey: Center for Nonproliferation Studies, 1999.

arsenal, it suddenly announced the dismantling of its nuclear arsenal and its commitment to the NPT. However, the context in which this decision was made may be considered uncommon, since it was characterized by the preparation to enter an era of radical governance transition.

The inability to achieve universality means more than the non-participation of four states. It represents a lack of faith and confidence in multilateral actions to address security issues. It symbolizes the belief that unilateral actions to solve the problems posed by threat perception are more efficient than collective ones. It is also an illustration of the idea that the possession of nuclear weapons remains an attribute of prestige.

Non-proliferation systems: fragmented effectiveness

The export controls and the safeguard systems⁴⁶ that were set up to ensure that non-proliferation commitments were respected on both the supply and the demand sides are not completely efficient. The lesson to draw from UNSCOM's discovery of a clandestine nuclear program in Iraq is that regarding the control of fissile material, even a member country of the NPT, having agreed on the control of its nuclear facilities by the IAEA,⁴⁷ can divert fissile material and discretely launch a

46 For more details on this topic, see Villaros, Pierre. "Le Rôle des Contrôles de l'AIEA." In *Prolifération et Non-Prolifération Nucléaire*, ed. Fondation pour les Etudes de Défense, 203–214. La Documentation Française, 1995; Spector, Leonard, ed. *The Undeclared Bomb*. Carnegie Endowment for International Peace. Washington, D.C.: Ballinger Publishing Company, 1988, 307–326; Bertsch, Gary and Richard Cupitt. "Nonproliferation in the 1990s: Enhancing International Cooperation on Export Controls." In *Weapons Proliferation in the 1990s*, ed. Brad Roberts, 119–136. Cambridge, Mass.: The MIT Press, 1995; Leventhal, Paul. "Nuclear Exports Controls: Can we Plug the Leaks?" In *Limiting the Proliferation of Weapons—The Role of Supply-Side Strategies*, ed. Jean-François Rioux, 39–53. Ottawa: Carleton University Press, 1992.

47 A NNWS, party to the NPT, must sign an INFCIRC/153 with the International Atomic-Energy Agency within 18 months after the ratification of the Treaty.

program aimed at acquiring nuclear devices.⁴⁸ Moreover, because most of the technologies used in civilian nuclear programs are dual-use, the export control regimes also partially miss their target. In spite of the noticeable efforts to enhance their efficiency, they are still unable to prevent all transfers of sensitive equipment.

General disarmament: global disharmony

Article VI of the NPT states that the Parties undertake to pursue negotiations on nuclear disarmament. It is made clear in the same sentence that the negotiations must also aim at “a treaty on general and complete disarmament under strict and effective control.” Thus, the Treaty envisions a double-sided disarmament goal, with a nuclear facet and an other-than-nuclear one. The fact that nuclear weapons have not been eliminated thirty-two years after the signature of the Treaty can unquestionably be analyzed as a failure to achieve all of the goals of the Treaty. However, it must be noticed that the proliferation of other than nuclear weapons of mass destruction, and their associated vectors, is a double failure regarding Article VI. In a sense, it is a failure in itself, since, in spite of considerable achievements, such as the conclusion of the Chemical Weapons Convention, the spread of biological and chemical weapons and their vectors is still ongoing and remains particularly worrisome.⁴⁹ It is also a failure because of its causal effect on nuclear disarmament. The proliferation of weapons of mass destruction contributes to making the world unsafe. It increases the perceptions of insecurity among NNWS and also among NWS, which are, therefore,

48 Iraq managed to divert approximately forty kilograms of safeguarded, highly enriched uranium, enough to build two implosion-type nuclear bombs. See Carlson, Mark. *Some Remarks on Iraq's Possible Nuclear Weapons Capability in Light of Some of the Known Facts Concerning Nuclear Weapons*. Nuclear Control Institute Briefing Paper. Washington, D.C.: Nuclear Control Institute, 1991.

49 For a recent official statement regarding the persistent threat posed by biological and chemical weapons, see the speech given by French Prime Minister Lionel Jospin before the *Institut des Hautes Etudes de Défense Nationale* (IHEDN), Paris, France, 22 September 2000.

less prone to immediately abandon a type of defensive weapon still considered relevant.⁵⁰

National Missile Defense and the NPT Framework

Regional proliferation gives substance to the idea, *en vogue* in the US, that there are countries that wish to acquire weapons of mass destruction with bad intent. The belief that so-called “rogue states” harbor military ambitions that may eventually be used against the US may be groundless.⁵¹ However, regional proliferation provides an alibi for NMD, which, if deployed, could have devastating effects on the non-proliferation regimes.

Under the current US plan, the NMD system could be operational by 2005–2007. The ultimate decision of whether or not to deploy this system lies with President George W. Bush. If the decision to deploy is taken, it is likely that it will have serious implications for the global non-proliferation regime. First, it will induce a slow-down, and maybe breakdown, of the disarmament process. Second, it will give an impetus to the modernization of existing nuclear arsenals and increase already-existing proliferation.

50 As stated by the Tokyo Forum in its July 1999 meeting: “The world faces a choice between the assured dangers of proliferation and the challenges of disarmament.” See *Facing Nuclear Dangers: An Action Plan for the 21st Century. Report of the Tokyo Forum for Non-Proliferation and Disarmament*, Tokyo, 1999.

51 On this topic, see Chomsky, Noam. “In a League of Its Own, Assessing US Rogue Behaviour.” *Harvard International Review* 22, no. 2 (2000): 68–71; Falkenrath, Richard. “Rogue States and Weapons of Mass Destruction.” *Harvard International Review* 22, no. 2 (2000): 52–56; Grospeud, Mathieu. “L’Europe et la NMD.” Post-master’s degree report, University of Paris-II, France, 2000.

NMD: No More Disarmament

The deployment of a NMD could have a severe effect on the bilateral arms reduction process that exists between Russia and the US. Moreover, it could exert a negative pressure on the forthcoming multi-lateral nuclear disarmament process that could involve, in the middle term or the long-term, all NWS. Finally, it could impinge badly upon the future of all the other non-proliferation regimes.

The deployment of a NMD poses a serious threat to the START process, involving Russia and the US. The implementation of START I is underway and is set to reduce their arsenals to approximately 6,000 deployed warheads. When it enters into force, START II, which was ratified in April 2000 by the Duma, will cut their arsenals to 3,000–3,500. Russia has proposed that the next step in the START process, START III, limit their arsenals to 1,500 warheads each. It would indisputably be a significant step towards the disarmament goal expressed in Article VI of the NPT. However, Russia maintains the linkage between the START process and the ABM treaty, the viability of which is question jeopardized by NMD plans.⁵² Russian negotiators have stated on many occasions that the successful negotiation of START III presupposes the preservation of the Treaty, considered “the cornerstone of the strategic stability.” The deployment of the NMD system could, therefore, result in the breakdown of the bilateral disarmament dynamic in two ways: START III could be consigned to oblivion and the implementation of START I and START II could be called into question.⁵³

The impossibility of further reducing the Russian and the American nuclear arsenals will predictably mean that the other *de jure* NWS will

52 In fact, a linkage was already established when the ABM treaty and SALT (which aimed at limiting the nuclear arsenals) were being negotiated.

53 “We will fully withdraw from all the inspection measures and will not let anyone close to our arms. Russia will not know what is going on in the United States. Americans will not know what is going on in Russia.” General Vladimir Yakovlev, Commander of Russia’s Strategic Forces, quoted in *Associated Press*, 5 November 1999.

not, at least in the near future, join a practical disarmament process involving all NWS and aimed at agreeing on strategic reduction measures within a multilateral framework. At the moment, these states are still left out of the START process. The main reason is that they are relatively small nuclear powers, at least compared to Russia and the US. Relying, in spite of some differences of language, on a minimal deterrent, they possess less than a few hundred nuclear weapons each.⁵⁴ It had been suggested that they join the START process as soon as Russian and US arsenals are reduced to comparable levels. If the ongoing bilateral START process enters a period of stagnation, it is likely that they will not want to engage in multilateral disarmament.

The other non-proliferation regimes are also imperiled by the possible deployment of a NMD system. At the Conference on Disarmament (CD), the sole multilateral forum for disarmament, China continues to express its support for the conclusion of a Fissile Material Cut-Off Treaty (FMCT). However, it constantly and repeatedly states that the prevention of an arms race in outer space (PAROS) is more urgent than the negotiation of a FMCT. A linkage between the PAROS and the FMCT is patently established: China will oppose any negotiation of a FMCT, as long as it perceives the American stance to be an incitement to the militarization of space. A stalemate on the FMCT is foreseen as long as the NMD issue is not adequately addressed. China has not yet ratified the Comprehensive Test Ban Treaty (CTBT). A termination of US NMD plans seems to be a prerequisite in this context as well. NMD would, therefore, be an enormous obstacle to disarmament and non-proliferation efforts, making fulfillment of the obligations under Article VI of the NPT much harder.

54 For information regarding the arsenals of the three *de jure* NWS, other than Russia and the US, see Norris, Robert, Andrew Burrows and Richard Fielhouse. *Nuclear Weapons Databook*, eds. Boulder: Westview Press, 1994; Editorial. "Nuclear Notebook: French and British Nuclear Forces, 1999." *Bulletin of Atomic Scientists* 55, no. 4 (1999): 77–79.

NMD: Nuclear Modernization and Development

Deployment of an NMD system will contribute to the modernization of existing nuclear arsenals and ignite chain reactions. The Chinese and Russian presidents stressed in a joint statement made on 18 July 2000 that an NMD system would have the gravest consequences not only for China, Russia and the other states, but also for the US and global stability.

Though the US administration is careful to state that a NDM would be directed solely towards “states of concern,” such as North Korea, its possible deployment is perceived by China and Russia as a direct threat to their deterrent capabilities. Indeed, Washington insiders can be observed to argue that the ultimate threat to US security is China’s ability to strike the US or to use its weapons to deter the US from offering military assistance to South Korea and Taiwan.⁵⁵ Along with Russia, China has accused the US of seeking “unilateral military and security advantages.”⁵⁶ The small number of Intercontinental Ballistic Missiles (ICBMs) retained by China, probably amounting to not more than 20, explains its reasoning: if deployed, a NMD system could negate or seriously downgrade the Chinese deterrent. Russia’s arsenal, which is much more significant, will not be challenged by a limited NMD. However, Russian military planners will no doubt consider scenarios under which Russia’s nuclear capability is limited by a preemptive attack; even if this possibility seems inconceivable at the present time, they have to consider it. Moreover, it is possible that even without a preemptive attack, a US NMD system would negate the Russian deterrent. Indeed, the NMD architecture has been designed to evolve: the number of interceptors can be increased with no technical limit.

For these reasons, both China and Russia have threatened to take appropriate measures to counter NMD plans. Russia has the technology and the know-how to equip its missiles with inexpensive countermeasures, such as decoys, chaffs or jammers, which can render the NMD

55 See Editorial. “U.S. Study Reopens Division Over Nuclear Missile Threat.” *New York Times*, 5 July 2000.

56 Editorial. “NMD Assailed at Meeting.” *The Washington Post*, 19 July 2000.

system incapable of identifying hard targets. It is likely that the Topol-M, which is still being developed, will be deployed with such tools.⁵⁷ Russia could also reconfigure its Topol-M as a Multiple Independently Targetable Re-entry Vehicle (MIRV): presently configured as a single-warhead missile, the Topol-M could carry up to three to four warheads. The decision to reconfigure the Topol-M would mean a serious blow to the START process, as the START II strategic arms reduction treaty, signed with the US in 1993, but not yet ratified, aims at eliminating multi-warhead ICBMs. An increase of the number of its missiles seems unlikely in the present context, where Russia is afflicted with huge economic difficulties. Regarding China, an increase of the number of its nuclear missiles is considered by many observers as a likely consequence of a US decision to deploy an NMD system.⁵⁸ A new arms race could ensue as a result. India, in turn, will likely respond to an increase in the Chinese arsenal. Pakistan will then likely behave in the same way.

Conclusion

In conclusion, it must be pointed out that the NPT dynamic is at a strategic crossroads, facing deep-rooted challenges that dangerously imperil the disarmament process that has developed so far. The US solution to the proliferation problem means more than a shift from multilateral concerted actions to unilateral decisions and, to some extent, neo-isolationism. It is an expression of the strategic disarray regarding the issue of nuclear weapons in the changing post-Cold War environment. It is also evidence of important changes of the paradigms of arms control, with a greater reliance on defense, as opposed to attack. The

57 Hoffman, David. "Russian Rocket Called Invincible." *Washington Post*, 25 February 1999.

58 For an invaluable source of information regarding the technical countermeasures the NMD could face, see Union of Concerned Scientists. *Countermeasures*. Cambridge, Mass.: MIT Press, 2000.

NMD system is not considered a good solution by most countries, including the US's allies, who oppose its deployment for historical reasons: a security system based on defense rather than on the ability to launch a counter-attack is no longer part of continental standards. In Europe's history, all attempts to base the security of a country on defense have been severely crushed; the French Maginot Line, which is one example among others, speaks for itself. American NMD plans seem inappropriate to most European countries, which accept their vulnerability and choose diplomacy and dialogue, instead of coercion and unilateral steps, as the basis of their relationships with their neighbors. The end of the Cold War could have given a strong impetus to the renunciation to nuclear weapons and could have announced the end of reliance on nuclear deterrence as a tool of security and stability. Yet, contrary to what could have been expected, it seems that nuclear weapons will continue to play a major role in international relations for some time to come.

About the Authors

Moonis Ahmar is Associate Professor at the Department of International Relations, University of Karachi, Pakistan. He is also the director of the University's Program on Peace Studies and Conflict Resolution. Among his publications are: *Arab-Israeli Peace Process: Lessons for South Asia* (2001), *The CTBT Controversy: Different Perceptions in South Asia* (2000), *Internal and External Dynamics of South Asian Security* (1998), *Contemporary Central Asia* (1995), *The Road to Peace in South Asia: Lessons for India and Pakistan from the Arab-Israeli Peace Process* (1996), *Indo-Pak Normalization Process: The Role of CBMs in the Post-Cold War Era* (1993), *Confidence-Building Measures in South Asia* (1991), *The Soviet Role in South Asia* (1989), and *Superpower Rivalry in the Indian Ocean Since the Withdrawal of Great Britain* (1986).

Thanos P. Dokos is Director of Studies at the Hellenic Foundation for European and Foreign Policy (ELIAMEP), Athens, Greece. After receiving his Ph.D. from Cambridge University, UK, he held research posts at the Hessische Stiftung Friedens und Konfliktforschung, Frankfurt, Germany and the Center for Science and International Affairs, Harvard University, Cambridge, MA, USA. Among his publications are: *Negotiations for a CTBT: 1958–1994. Analysis and Evaluation of American Policy* (1995), *Arms Control and Security in the Middle East and the CIS Republics* (1995), and “The Proliferation of Weapons of Mass Destruction in the Mediterranean” in *Mediterranean Politics*.

Nicolas Kasprzyk is a doctoral student in International Law at the University of Paris-Assas, France. He is writing his thesis on *Nuclear Arms Control, Security Assurances and Nuclear Strategies* under the supervision of Prof. Serge Sur. He is also employed by the Arms

Control and International Security Research Center (CESIM), University of Marne-la-Vallée, France.

Bhashyam Kasturi is Associate Editor of the Jawaharlal Nehru Memorial Fund, New Delhi, India. He has studied at Cambridge University, UK, and received his doctorate from the University of New Delhi, India. He writing on international strategic affairs and intelligence has been widely published in Indian newspapers and journals. He is also the author of two books, one on intelligence services in India and the other on India's partition. He is currently engaged in compiling a *Dictionary of Indian Military History*.

Joachim Krause is Deputy Director of the Research Institute of the German Council on Foreign Relations, Berlin, Germany. Among his publications are: *OSCE and Co-operative Security in Europe: Lessons for Asia* (in print), *Strukturwandel der Nichtverbreitungspolitik—Die Verbreitung von Massenvernichtungswaffen und die Weltpolitische Transformation* (1998). He is co-author of *Facing Nuclear Dangers—An Action Plan for the 21st Century. The Report of the Tokyo Forum for Nuclear Non-Proliferation and Disarmament* (1999), *Auf dem Weg zur Nuklearen Anarchie?—Die Sicherheit Waffenfähiger Spaltmaterialien in Russland und der GUS* (1998) and *Chemical Weapons in Soviet Military Doctrine—Historical Experience and Military Thinking 1915-1991* (1992). He is also editor of *Kosovo: Lessons Learned for International Cooperative Security* (2000), *International Security Challenges in a Changing World* (1999), *Perspectives of Security Cooperation in Asia Pacific* (1998) and *Europe and the Challenge of Proliferation* (1996).

Satu P. Limaye is Director of Research at the Asia-Pacific Center for Security Studies, Honolulu, Hawaii. His articles have been published in many journals and newspapers, including *Contemporary Southeast Asia*, *Journal of Democracy*, *Contemporary South Asia* and the *Asian Wall Street Journal*.

Morten Bremer Maerli is a doctoral candidate at the Norwegian Institute of International Affairs, Osteras, Norway. Since 1995, he has been working on nuclear non-proliferation, with a particular focus on northwest Russia. He is the author of *Atomic Terrorism* (1999). His most recent articles include: “Relearning the ABCs: Terrorists and ‘WMDs’” and “Deep Seas and Deep-Seated Secrets: Naval Nuclear Fuel Stockpiles and the Need for Transparency.” During the 2000–2001 academic year he was affiliated with the Center for International Security and Cooperation, Stanford University, USA and with Sandia National Laboratories, Livermore, USA, as a Visiting Research Scientist.

Tom Sauer is a doctoral student at the Department of Politics (International Relations), Catholic University of Leuven, Belgium. From 1997 to 1999, he was a Pre-Doctoral Research Fellow at the International Security Program of the Belfer Center for Science and International Affairs (BCSIA), John F. Kennedy School of Government, Harvard University, Cambridge, MA, USA. He is the author of *Nuclear Arms Control. Nuclear Deterrence in the Post-Cold War Period* (1998).

Josefine Wallat is undergoing diplomatic training at the German Foreign Office, Berlin, Germany. She obtained her Ph.D. from Merton College, Oxford University, UK. Her work on the Czech Republic (and Slovakia) has been published in the *Europahandbuch* (1999) and *Jane’s Sentinel Security Assessment on the Czech Republic* (1999).

Zheng Wang is currently at the Institute of Conflict Analysis and Resolution (ICAR), George Mason University, Fairfax, USA. He is also Deputy Director of the Research Division and Associate Research Fellow at the Chinese People’s Association for Peace and Disarmament. He graduated from the Institute of International Relations, Peking University, PRC, and completed his Masters degree at the Department of Peace Studies, Bradford University, UK.

Simone Wisotzki is writing her doctoral thesis on *World Views, Ideas and Norms: A Social Constructivist Interpretation of the Nuclear Weapons Policies of Great Britain and France, 1990–1998*, at the University of Frankfurt, Germany. Prior to this, she was a research associate at the Peace Research Institute in Frankfurt, working primarily on arms control and disarmament issues.

Agenda of the New Faces Conference 2000

The conference was organized by the Research Institute of the German Council on Foreign Relations in Berlin and the Center for Security Studies and Conflict Research of the ETH Zurich, with the support of the Robert Bosch Foundation.

New Faces Conference 2000:
“The Role of Nuclear Weapons in the 21st Century,”
12–15 October 2000, Hotel du Signal, Puidoux-Chexbres,
Switzerland

Thursday, 12 October 2000

20:00 Welcome and Opening Dinner

Friday, 13 October 2000

08:30 **Morning Session: Moving Away from the Excess Postures of the Past:** paper on *The Future of Nuclear Arms Control* by Ivan Safranchuk, PIR Center, Moscow; paper on *Treaties and Unilateral Steps: A Hybrid Approach to Nuclear Reductions and Stability* by John Wolfsthal, Carnegie Endowment NAIS, Washington; commented by Wu Chunsi

10:15 Coffee Break

- 10:45 Paper on *Managing Excess Nuclear Weapons Materials in Russia* by Morten Bremer Maerli, The Norwegian Institute for Strategic Studies, Osteras; commented by Sheri Deeter
- 12:30 Lunch
- 14:00 **Afternoon Session: Nuclear Weapons and Regional Security:** paper on *Nuclear Weapons and Regional Security: A Case Study of South Asia* by Moonis Ahmar, University of Karachi, Karachi; commented by Celeste Johnson
- 15:45 Coffee Break
- 16:15 Paper on *Nuclear Weapons and Regional Security in East Asia* by Dr. Satu P. Limaye, Asia-Pacific Center for Security Studies, Honolulu; commented by Celeste Johnson
- 18:00 End of Session
- 19:30 Dinner

Saturday, 14 October 2000

- 08:30 **Morning Session: The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines:** paper on *The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines: The United States* by Tom Sauer, Catholic University of Leuven, Leuven; commented by Keir Lieber; paper on *The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines: Britain and France* by Simone Wisotzki, Peace Research Institute, Frankfurt; commented by Oksana Antonenko
- 10:30 Coffee Break
- 10:45 Paper on *The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines: Russia* by Dmitri Zenkine, Russian Academy of Sciences, Institute of USA and Canada Studies, Moscow; commented by Josefina Wallat; paper on *The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines:*

China by Wang Zheng, Institute of Conflict Analysis and Resolution, Fairfax; commented by Oksana Antonenko; paper on *The Role of Nuclear Weapons in Strategic Thinking and Military Doctrines: India* by Bhashyam Kasturi, Jawaharlal Nehru Memorial Foundation, New Delhi; commented by Oksana Antonenko

13:00 Lunch

14:00 **Afternoon Session: The Future of the Global Consensus on Nuclear Non-proliferation:** paper on *The Future of the Global Consensus on Nuclear Non-proliferation. Can the NPT be Kept Together Without the Abolition of Nuclear Weapons?* by Thanos Dokos, Hellenic Foundation for European and Foreign Policy, Athens; commented by Vratislav Janda

15:45 Coffee Break

16:15 Paper on *Nuclear Non-proliferation and Changing Regional Balances: How Much Will Regional Strategic Developments Impinge Upon the Future of the NPT?* by Nicolas Kasprzyk, Arms Control and International Security Research Center (CESIM), Marne-la-Vallée; commented by Mark Smith

18:00 End of Session

20:00 Dinner

Sunday, 15 October 2000

08:00 Breakfast

08:45 Bus trip to Gruyère

10:00 Visit to a unique cheese-producing business, including a tour and cheese tasting, followed by a visit to the historical village of Gruyère

11:15 Lunch

12:50 Departure of Participants

List of Participants at the New Faces Conference 2000

Chairmen

Dr. Joachim Krause; Deputy Director of the Research Institute of the German Council on Foreign Relations, Berlin (Germany)

Prof. Andreas Wenger; Deputy Director of the Center for Security Studies and Conflict Research, ETH Zürich (Switzerland)

List of Participants 2000

1. Ahmar, Moonis; University of Karachi, Karachi (Pakistan)
2. Deeter, Sheri; Center for Nonproliferation Studies, Monterey Institute of International Studies, Monterey (USA)
3. Dokos, Thanos; Hellenic Foundation for European and Foreign Policy, Athens (Greece)
4. Janda, Vratislav; Security Policy Department of the Czech MFA, Prague (Czech Republic)
5. Johnson, Celeste; US Congressional Budget Office, United States Congress, Washington (USA)
6. Kasprzyk, Nicolas; Arms Control and International Security Research Center (CESIM), Marne-la-Vallée (France)
7. Kasturi, Bhashyam; Jawaharlal Nehru Memorial Fund, New Delhi (India)

8. Lieber, Keir; Georgetown University, Washington (USA)
9. Limaye, Satu P.; Asia-Pacific Center for Security, Honolulu, Hawaii (USA)
10. Maerli, Morten Bremer; The Norwegian Institute of International Affairs, Osteras (Norway)
11. Oksana, Antonenko; International Institute for Strategic Studies, London (UK)
12. Safranchuk, Ivan; PIR Center, Moscow (Russia)
13. Sauer, Tom; Catholic University of Leuven, Leuven (Belgium)
14. Smith, Mark; Mountbatten Centre for International Studies, University of Southampton, Southampton (UK)
15. Wallat, Josefine; German Foreign Office, Berlin (Germany)
16. Wang, Zheng; Institute of Conflict Analysis and Resolution, Fairfax (USA)
17. Wisotzki, Simone; Peace Research Institute, Frankfurt (PRIF) (Germany)
18. Wolfsthal, Jon; Carnegie Endowment NAIS, Washington (USA)
19. Wu, Chunsi; Fudan University's Center for American Studies, Shanghai (China)
20. Zenkine, Dmitri; Russian Academy of Sciences, Institute of USA and Canada Studies, Moscow (Russia)