Studies & Comments 11
Reiner K. Huber / Klaus Lange / Daniel F. McDonald (eds)

Implications of Nuclear Disarmament for Global Security

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Introduction

Reiner K. Huber / Klaus Lange / Daniel F. McDonald

This report documents the proceedings of a roundtable organized jointly by the German Hanns Seidel Foundation and the US-based Potomac Foundation to discuss an aspect of international security that over the past few years has sparked considerable interest among Western publics: the feasibility of deep reductions of nuclear weapons or even their complete elimination. The roundtable was held on 6-8 June 2010 at the conference facilities of the Hanns Seidel Foundation in Wildbad Kreuth located in the Bavarian mountains southeast of Munich.

Debates on nuclear disarmament are almost as old as nuclear weapons themselves. The abolition of nuclear weapons has been the objective of various idealistic and faith-based grass-roots movements that formed during the Cold War in both Europe and the United States. While they enjoyed considerable public attention, they were, however, only of marginal political appeal. In contrast, the new nuclear disarmament debate was triggered by a quartet of elder US statesmen concerned about post-Cold War proliferation of nuclear weapons technology and its potentially dire consequences. In an article in The Wall Street Journal of 4 January 2007 entitled "A World Free of Nuclear Weapons", former Secretaries of State George P. Shultz and Henry A. Kissinger, former Defense Secretary William J. Perry, and former Senator Sam A. Nunn laid out a sequence of major steps to be taken in order to eventually arrive at a world without nuclear weapons.

The momentum created by that article has been remarkable. Among others, two international initiatives were launched by former high-level government officials and military officers, senior scientists, and policy advisors from around the world: (1) the "International Commission on Nuclear Non-Proliferation and Disarmament" and (2) the "Global Zero Commission"). In contrast to the grass-roots movements of the Cold War period, both of these initiatives pursue a top-down approach for the realization of a nuclear-free world and outline more or less detailed plans on how to proceed on the road to nuclear disarmament. While the first commission addresses global political leaders (see its report "Eliminating Nuclear Threats – A Practical Agenda for Global Policymakers" presented in Washington at a press conference in September 2008), the objective of the second initiative is building global opinion and public support for the elimination of nuclear weapons through large-scale events like the Global Zero Summit in February 2010 in Paris.

However, it was only after US President Obama's speech on 5 April 2009 in Prague – reflecting the visions outlined in the Wall Street Journal article of January 2007 and committing the United States "to seek peace and security of a world without nuclear weapons" – that political and military experts began deliberating whether a world without nuclear weapons would be more secure, or whether approaching (and eventually reaching) this goal would bring new or even greater risks. Shultz, Kissinger, Perry, and Nunn addressed some of these questions in another Wall Street Journal article of 19 January 2010 entitled "How to Protect Our Nuclear Deterrent". Therein, they support renewed investments to modernize the US nuclear weapons infrastructure as postulated in the US Strategic Posture Report of May 2009, arguing that maintaining long-term confidence in the US nuclear arsenal.
and extended deterrence was indispensable to manage the period during which the number of weapons was going down and international conditions were becoming more cooperative. This would prevent instability during a gradual transition to a nuclear-free world.

That a nuclear-free world is unlikely to emerge anytime soon – if at all – was implied by US Under Secretary of State for Arms Control and International Security, Ellen Tauscher, in her address to the Global Zero Summit in February 2010 in Paris, when she stated that nuclear disarmament was not the Holy Grail, and worth pursuing only to the extent that it increased national security and made the world a more stable place. In that sense, she considered the road to Global Zero as more important than the goal itself.

Against this background, issues related to nuclear disarmament were the subject of discussion at the roundtable that was conceived by the editors of these proceedings in June 2009 shortly after Obama’s speech in Prague. The structure of the roundtable emerged in discussions between the editors and potential contributors as the public discussion and key events related to nuclear disarmament unfolded between June 2009 and May 2010. The conference included participants from China, France, Germany, India, Russia, the United States, and NATO. It featured six panels addressing the following issues:

- past and future role of nuclear weapons;
- nuclear strategy and nuclear disarmament;
- control and dynamics of proliferation;
- lessons learned and future options: realism and idealism in nuclear arms reduction;
- effectiveness of enforcement of reduction agreements;
- overall assessment of nuclear arms control efforts.

While there was general agreement on the need to effectively curb the proliferation of nuclear materials and weapons, participants differed on how to achieve this objective. They also differed in their assessment on whether and to what degree nuclear disarmament could make the world a safer place. Most participants agreed, however, that the goal of reducing and eventually eliminating nuclear weapons was far more difficult to achieve than large parts of the public and even many expert advocates believe. The collection of papers included in these proceedings illustrates the complexity of arms control and non-proliferation in the 21st century. The editors would like to thank all of the contributors for having taken the time, despite their busy schedules, to prepare their papers.

The editors are grateful to the Hanns Seidel Foundation and The Potomac Foundation for their administrative and financial support, without which this International Roundtable involving such broad participation from around the globe could not have been realized. Special thanks are extended to Ms Carla von Meding of the Hanns Seidel Foundation and Ms Brenda Hunter of The Potomac Foundation for their superb organizational assistance before and during the roundtable. We also thank Ms Barbara Fürbeth and Ms Anna Pomian and the editorial staff of the Hanns Seidel Foundation for their diligence and patience in compiling these proceedings. And last but not least we thank the staff of the conference facilities in Wildbad Kreuth for the excellent service provided during the roundtable.
65 years of international conflicts in the nuclear era

Larry D. Welch

This article addresses 65 years of international conflict by focusing on three elements which impact the experiences of those 65 years – the role of nuclear weapons in extended deterrence, the status of the nuclear weapons stockpile, and the dynamics of proliferation. The three factors are inextricably linked and they will each be assessed from the perspective of their place in the deterrent equation.

1. The limits and role of deterrence

At the outset, it is useful to first remind ourselves of the limits of deterrence and the continuing role of nuclear weapons in deterrence. As is to be expected, I approach these issues with a US perspective since that is what I know best. A useful place to start the discussion is with what we have been unable to deter. Since the end of World War II, a lower end estimate of deaths due to armed conflict is 50 million people. And while that is less than half the total deaths from armed conflict in the first 45 years of the 20th century, it is a number that leaves little doubt that the human race continues to exhibit a high propensity for violent solutions in conflict situations.

Still, we have been through at least one experience that I believe is compelling evidence that deterrence can be a powerful force for peaceful resolution of conflicts. That evidence is that two ideologically opposed coalitions, armed with the most destructive conventional and nuclear capabilities that have ever existed on the planet, faced each other across a common political border for 45 years and never fired a shot in anger. So far as can be determined, that is a historic first. Given the continued propensities exhibited during those same 45 years, I believe that the combination of conventional forces and nuclear weapons in both coalitions played a dominant role in that historical experience. If the Cold War experience in Europe is an indicator of the benefit of that successful mutual deterrent, then the number of the lives saved is close to the total loss of life to armed conflict since the end of World War II – some 50 million people.

2. The role of nuclear weapons in deterrence

To address the role of nuclear weapons in extended deterrence, it is first necessary to consider the broader subject of deterrence – specifically the range of contributions to deterrence and the role of nuclear weapons. Clearly, the forces of deterrence include diplomacy, economics, and both conventional and nuclear military capabilities. The US, with the approval and support of allies, has maintained large conventional forces for extended periods in peace and in conflict in Europe, in Asia, and in the Middle East to deter potential adversaries from actions inimical to the interests of the US and our allies. Nuclear forces add to the effectiveness of the deterrent by providing a credible deterrent at multiple levels.

As to the role of nuclear weapons in the deterrent equation, the perception of these roles has changed over time. When Dr. Einstein undertook to persuade President Roosevelt to develop a nuclear weapon, the intended role was to ensure that a murderous tyrant
would not have exclusive possession of this power. That will remain a valid role so long as there is the potential for the misuse of the power of nuclear weapons and the capability to acquire such power. In 1945, the role of the two nuclear weapons that existed at the time was to end a highly destructive war that had claimed as many as 70 million lives and massive national treasure. The US does not see war termination as a continuing role of nuclear weapons. As evidence of that, the United States did not use nuclear weapons to secure a victory in the Korean War or to avoid military defeat in the Vietnam War. In both cases, there were larger considerations that prevailed.

As the Cold War developed, two roles emerged for nuclear weapons – to compensate for perceived conventional force inferiority and to deter a nuclear attack against the US and our allies. The US no longer sees nuclear weapons as compensation for conventional force shortfalls but that is clearly not the case for Russia or for other nuclear powers. Hence, this will remain an important role for others, though not for the United States or nations allied with the United States. As to the second Cold War role, so long as there exists, on the planet, the capability to destroy the US or our allies, deterring a nuclear attack will remain a valid role of nuclear weapons. This does not suggest that any nuclear power is currently an adversary. It does mean that the existence of the capability overrides confidence in no intent. Intent can change far more quickly than capability.

Finally, there is the role of nuclear weapons in deterring the use of other weapons of mass destruction. The credibility of that role is to be determined. This is sometimes seen as the core of the no-first-use issue. It does not warrant that distinction. Not having a no-first-use policy does not mean that the US will employ first use. At the same time, having a no-first-use policy does not mean that any nation will not employ weapons as it sees fit in its national security interest. I can easily imagine credible scenarios where the US would respond to WMD use with a devastating conventional force response. I can as easily imagine a credible scenario where China, with a no-first-use policy, would use its nuclear weapons. I also note that Russia moved away from a no-first-use policy when it determined that change to be in its national security interest.

So this leaves us with three credible roles for US nuclear weapons – to ensure that the 21st century version of a murderous tyrant does not have a nuclear weapons advantage; to deter a nuclear attack against the US; and to credibly fulfill these roles for nations who see it in their national interest to depend on the US deterrent rather than develop their own nuclear weapons capability.

3. The current status of US nuclear capabilities

The prelude to discussing numbers needs to be the deterrent strategy. The US approach to strategic nuclear deterrence has long been to make sure that, if the potential adversary knows everything about our capability that we know, the adversary will be deterred from risking a US response to an attack on the US or our allies. That approach is to ensure that the deterrent is unquestionably credible. An element of that credibility is the credibility of the underlying strategy. The US strategy is to hold at risk a set of potential adversary assets that covers the most valued assets regardless of the values and attitudes of changing leadership of potential adversaries. That is the basis for the assessment of the needed size of the US deployed strategic nuclear force. In contrast to the US challenge, a potential adversary can have high confidence that any set of US leaders will give highest value to the US population. Hence, an adversary could calculate that the force needed to deter the US could be only the force needed to hold a major part of the
US population at risk. Such a strategy, while credible against the US, would not be credible for the US. An adversary could conclude that the American public would not support and the US leadership would not authorize such a response. The widely apparent US sensitivity to collateral damage and civilian deaths in ongoing contingency operations can be seen as evidence of such reluctance. While this may seem like an unlikely miscalculation on the part of a potential adversary, it is a fact of history that most conflict begins with a miscalculation by one or more of the adversaries. I am sure that Saddam Hussein found reason to agree with this characterization.

Given the imperatives for a credible US nuclear response strategy and the roles for nuclear weapons in national and international security, we can discuss the nuclear forces needed to support the strategy and fulfill the roles. I think we can agree that the US nuclear weapons inventory should meet three criteria:

− It should be reliable, safe, and secure for the long term.

− It should be of a size and have the capabilities needed to provide confidence in serving US interests and in serving as an extended deterrent for the 30 plus nations that depend on that deterrent.

− It should be as small as possible consistent with the deterrent strategy.

In pursuit of those criteria, the US has moved progressively from 10,000 plus deployed strategic nuclear weapons to the current goal of 1,550. This movement has been with the full support of the civilian and military leadership in the US, the Soviet Union, and Russia. A single anecdote is illustrative of the US military dimension in progress in nuclear arms reductions. When I was Commander of Strategic Air Command and the Director of the Joint Strategic Target Planning Staff, we were targeting more than 10,000 warheads. It became apparent to me and the members of the US Joint Chiefs of Staff that we had no need of these numbers to support our deterrent strategy.

After I moved to the Joint Chiefs, to convey that message in a convincing fashion to our civilian leadership, we produced a video that ran at 10 times real time and placed a small red dot on a map of the Warsaw Pact nations at the location of each planned nuclear detonation. We played the video for the recently appointed Secretary of Defense. After a few minutes, there were extensive areas in the Soviet Union that were completely red. After watching the video the Secretary asked: "Why are we doing that?" I replied: "Because this is what you told us to do", meaning that the targeting was the result of the formal guidance provided by the Secretary of Defense. That demonstration produced guidance from the Secretary to the Joint Chiefs to define the force needed, and only the force needed, to support the deterrent strategy. That led to the US position for START I. Additional analyses by Strategic Air Command and then US Strategic Command led to the US positions for START II and SORT. The point is that the US weapons stockpile size has, since the late 1980s, been based on the assessment of the minimum required to support the deterrent strategy.

However, as the force grows smaller, it is even more important that the weapons be reliable, safe, and secure. Since the US is producing no nuclear weapons, the existing stockpile of weapons is aging year by year, with some weapons already beyond their design life. With the success of the stockpile stewardship program, the US has the means to sustain the deterrent force with existing weapons but only with extensive work on a selected set of weapons. That work has been characterized as modernization to ensure continuing reliability, preferably with further enhancements in safety and security.
4. The dynamics of proliferation

The need to modernize a set of US nuclear weapons has led some to argue that this essential modernization encourages proliferation of nuclear weapons capabilities. I believe that the reality is that any nation that sustains a belief that possessing nuclear weapons is in its national interest will eventually do so. Such nations do not look to the US for approval and certainly do not respond to US judgments about the morality of their quest for nuclear weapons capabilities. Hence, the effective path to non-proliferation is convincing potential proliferators that proliferation is not in their national interest. The US extended deterrent makes a critically important contribution to that goal.

To illustrate the relationship between sustaining the needed US nuclear capability and the impact on the propensity for proliferation, I offer three questions:

− What nation now seeking nuclear weapons capability will stop doing so if the US does not do what it deems necessary to maintain a reliable, safe, and secure set of nuclear weapons of the size agreed to in the new START Agreement? Even nuclear abolitionists are likely to agree that the answer is: "none".

− What nation not now seeking nuclear weapons capability will do so if the US does whatever it deems necessary to sustain a reliable, safe, and secure stockpile of deployed nuclear weapons of the size agreed to in the new START Agreement? Again, most will agree the answer is: "none".

− Finally, which nations not now seeking nuclear weapons capabilities will do so if they lose confidence in the US extended deterrent? In this case, people of various persuasions will have a significant list that will include a number of European nations.

5. Summary

To tie the three themes together: the conclusion can be drawn that there are continuing credible and beneficial roles for nuclear weapons to include the extended deterrent the US provides for some 30 plus nations. Many of these nations are capable of quickly producing their own weapons should they decide it is in their national security interest to do so.

To sustain confidence in the extended deterrent, the US has invested tens of billions of dollars in developing the capability to sustain the weapons needed to underwrite the deterrent strategy without underground nuclear testing. Further, the nuclear element of the deterrent must be an integral part of a broader set of deterrent forces and pressures to include diplomatic, economic, and conventional military forces providing choices and credibility at multiple levels.

The US, in agreement with the Soviet Union and then Russia, has been steadily reducing its nuclear forces to the minimum size needed to support the deterrent strategy. That assessment has, to date, decreased the planned deployed strategic force from more than 10,000 to 6,500, to 3,500, to 1,600-2,200, to 1,550.

The motivation for proliferation lies in perceived national interests. An effective non-proliferation campaign will address potential proliferators' national interests. The assumption that the US example will be effective in preventing proliferation is both arrogant and naïve. The US nuclear deterrent extended to some 30 plus nations is a particularly powerful force for non-proliferation.
China's nuclear strategy and nuclear disarmament policy

Liping Xia

China is one of the five recognized nuclear weapon states. It began to develop its atomic bombs under the very special and unique environment in which China had faced nuclear threats by one or two nuclear superpowers during the Cold War. Since 1964 when it first acquired nuclear weapons, China has been a responsible country in formulating and pursuing its nuclear strategy and nuclear disarmament policy, both of which serve the objective of China's national security strategy and defence policy.

1. Major features of China's nuclear strategy

There are two basic starting points of China's nuclear strategy: China's national security and humanitarianism. Although China's nuclear strategy is characterized by very strong continuity, China has made readjustments in its nuclear strategy according to how its internal and external situation has changed. China's nuclear strategy has experienced a process of evolution from an anti-nuclear-blackmail strategy to a strategy of minimum nuclear deterrence. In line with the nuclear strategies of other nuclear powers, China's nuclear strategy has five major parts: policy of declaration, nuclear development policy, nuclear deployment policy, nuclear employment policy, nuclear disarmament policy. Because it has been faced with a different situation and has its own strategic culture, China has a nuclear strategy with its own specific characteristics.

China's current nuclear strategy can be characterized as follows:

China has committed itself not to be the first to use nuclear weapons at any time and in any circumstances;

China has committed itself unconditionally to not use or threaten to use nuclear weapons against non-nuclear weapon states (NNWS) or nuclear-weapon-free zones (NWFZs);

China does not participate in the nuclear arms race, and has never deployed nuclear weapons abroad;

China maintains a numerically small yet effective nuclear strength of counterattack. In order to deter possible nuclear attacks against China by other countries, any nuclear attack by other countries against China would lead to a retaliatory counterattack by China;

The number of China's nuclear weapons has been maintained at a relatively low level, and the scope, structure, composition and development of them are consistent with China's military strategic guideline of active defence;

China's nuclear forces are under the direct command of China's Central Military Commission;

China has adopted an extremely prudent and responsible policy towards the man-
agement of nuclear weapons, has created rigorous rules and regulations, and has taken strict preventive measures in order to assure the safety and reliability of its nuclear weapons.7

China's nuclear force is mainly responsible for deterring other countries from using nuclear weapons against China, and for conducting nuclear counterattacks. China's nuclear force considers its fundamental mission to be the protection of China from any nuclear attack. In peacetime the nuclear missile weapons of China are not aimed at any country. But if China comes under a nuclear threat, the nuclear missile force of China will go into a state of alert, and prepare for a nuclear counterattack to deter the enemy from using nuclear weapons against China. If China comes under a nuclear attack, the nuclear force of China will use nuclear missiles to launch a resolute counterattack against the enemy.

During the reorientation of the People's Liberation Army (PLA) in the late 1990s, the PLA Second Artillery Force reduced its outdated equipment, modernized part of its organization, and removed or merged some organic units.8 After these readjustments, the PLA Second Artillery Force increased the proportion of technical units, and its structure since then continued to be rationalized.9 By 2008, the PLA Second Artillery Force had weapon systems of short-range, mid-range, long-range and intercontinental missiles, and had acquired the capability of quick reaction and mobile war-fighting.10

American scholars claim that China is modernizing "the PLA's nuclear capability through the creation of a small yet more accurate and versatile triad-based strategic and tactical missile force".11 According to the "SIPRI Yearbook 2007: Armaments, Disarmament and International Security", China has 20 CSS-4 ICBMs and 35 CSS-5 medium-range missiles.12 These assessments and data have not been confirmed.

2. Major features of China's nuclear disarmament and non-proliferation policy

Since 1963, China has consistently called for the "complete prohibition and thorough destruction" of nuclear weapons and is officially opposed to the policy of nuclear deterrence based on the implicit or explicit threat to use nuclear weapons first, and to the deployment of nuclear weapons outside of national territories. China has repeatedly called for an international convention to ban nuclear weapons, similar to the chemical and biological weapons conventions.

China consistently holds that the international community should promote arms control and disarmament, and observe the following principles: 1. All nations should follow the purposes and principles for safeguarding international peace and security contained in the Charter of the United Nations and other relevant international legal norms. 2. The ultimate goal of disarmament is the complete prohibition and thorough destruction of nuclear weapons and other weapons of mass destruction (including chemical and biological weapons), the complete prohibition of outer space weapons, and reductions in conventional arms as benefits actual circumstances. 3. Prevent the proliferation of weapons of mass destruction. 4. All nations have the right to maintain an appropriate national defence capability and to legitimate self-defence. 5. All nations, especially developed nations, should strictly control the transfer of sensitive materials, technologies and military equipment, practise restraint and halt the irresponsible transfer of weapons. 6. All nations should endorse, respect and support the arms control and disarmament measures adopted after voluntary consultation, negotiation and agreement between nations and in the light of actual regional circumstances. For many years, China has adhered to these basic principles, bearing its due share of international arms control and disarmament obligations and responsibilities.13
China has made substantial progress in its nuclear disarmament and arms control policy by the measures detailed below.

2.1 Active promotion of the process of international nuclear disarmament

China has long stressed and supported international nuclear disarmament. As early as 1963, the Chinese government issued a statement calling for the complete, thorough, utter and resolute prohibition and destruction of nuclear weapons. On 16 October 1964, the first day it acquired nuclear weapons, the Chinese government put forward a solemn proposal: that a summit conference be held to discuss the complete prohibition and thorough destruction of nuclear weapons and that nuclear weapon states (NWS) commit themselves not to use nuclear weapons against non-nuclear-weapon states and nuclear-weapon-free zones or against each other.\(^1\)

In order to gradually implement the objective of building a world free from nuclear weapons, at the 49th session of the UN General Assembly held in 1994 China put forward a complete, interrelated proposal for the nuclear disarmament process. All nuclear weapon states should unconditionally declare that they will not be the first to use nuclear weapons, and immediately begin negotiations towards a treaty to this effect; endeavours to establish nuclear-weapon-free zones should be supported and guarantees given not to use or threaten to use nuclear weapons against non-nuclear-weapon states; a comprehensive nuclear test ban treaty be negotiated and concluded no later than 1996; the major nuclear powers should implement existing nuclear disarmament treaties as scheduled and further substantially reduce their nuclear weapon stockpiles; a convention banning production of fissile materials for nuclear weapons be negotiated and concluded; a convention prohibiting all nuclear weapons be signed, whereby all nuclear weapon states undertake to completely destroy existing stocks of nuclear weapons under effective international supervision; prevent the proliferation of nuclear weapons while promoting the nuclear disarmament process and international cooperation in the peaceful uses of nuclear energy.\(^1\)

Since then, China has put forward further views about nuclear disarmament. China's current position on nuclear disarmament can be catalogued as follows:

- Nuclear major powers should give up their nuclear first-use policy;
- Nuclear weapon states with large nuclear arsenals should further substantially reduce their nuclear weapons;\(^1\)
- All nuclear weapon states should commit themselves not to use or threaten to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones, and should conclude international legally binding documents on this issue as soon as possible;
- All nuclear weapon states should commit themselves not to use outer space weapon systems and missile defenses, which will disturb strategic security and stability;
All states should negotiate and conclude international legally binding documents on the complete prohibition and thorough destruction of nuclear weapons.\textsuperscript{18} China has acceded to a series of major international nuclear arms control treaties. They include, among others, the Antarctic Treaty; the Treaty on Principles of Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty); the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof (Seabed Treaty).

2.2 Extensive progress in establishing nuclear confidence-building measures

In September 1994, the leading figures of China and Russia issued a joint statement on "no-first-use of nuclear weapons against each other and on not targeting their respective strategic nuclear weapons at each other". This is the first bilateral agreement on no-first-use (NFU) of nuclear weapons against each other in the world.

During the China-US summit meeting in Beijing in June 1998, both sides decided that the two countries would not target the nuclear strategic weapons under their control against each other. This was the first bilateral agreement of confidence-building measures (CBMs) on nuclear weapons between China and the United States. The agreement is beneficial for the security and peace of both countries.

In May 2000, China and the four other nuclear weapon states made a joint statement that all nuclear weapons owned by them would not target any state.\textsuperscript{19} On 5 April 1995, China made an official statement, reiterating its unconditional provision of "negative security assurance" to all non-nuclear-weapon states, at the same time undertaking to provide these nations with "positive security assurance". The positive security assurance includes the proviso that if a non-nuclear-weapon state is attacked by nuclear weapons, China will take action in the Security Council of the United Nations, so that the UN Security Council can take appropriate measures to provide necessary aid to the victim state, and to impose serious and effective sanctions against the attacker state. These positions taken by China have won the support of many countries without nuclear weapons.

Efforts by China and other members of the UN Security Council resulted in the UN Security Council passing the historical Resolution 984 on 11 April 1995, in which China and the other four nuclear weapon states, namely the United States, Russia, Britain and France, committed themselves to stand by the side of non-nuclear-weapon states threatened by nuclear weapons.

China as a nuclear weapon state has always insisted on fulfilling its due obligations and has advocated that nuclear weapon states should undertake not to be the first to use nuclear weapons. China has repeatedly proposed that nuclear weapon states negotiate and conclude an international treaty on the no-first-use of nuclear weapons against each other. In January 1994, China formally presented a draft for the Treaty on the No-First-Use of Nuclear Weapons to the United States, Russia, Britain, France and other countries, proposing that the five nuclear weapon states hold first-round discussions on the treaty in Beijing as soon as possible.

2.3 Pursuit of a positive policy of prevention of nuclear proliferation

The Chinese government has persistently pursued a policy of not advocating, not encouraging, and not engaging in nuclear prolif-
China's nuclear strategy and nuclear disarmament policy

China's nuclear strategy and nuclear disarmament policy emphasize prevention, as well as not helping other countries develop nuclear weapons. China advocates the prevention of the proliferation of nuclear weapons as part of the process of eliminating such weapons. The Chinese government holds that in the process of reaching the objective of complete prohibition and thorough destruction of nuclear weapons, nuclear proliferation should be prevented.

China supports the three major goals set forth in the Treaty on the Non-Proliferation of Nuclear Weapons (NPT): preventing the spread of nuclear weapons, accelerating nuclear disarmament, and promoting international cooperation in the peaceful utilization of nuclear energy. In March 1991, China formally became a party to the NPT Treaty. In May 1995, at the Conference on the Review and Extension of the NPT Treaty, the Chinese government expressed its support for the decision to indefinitely extend the treaty. China believes that the indefinite extension of this treaty reaffirms the objectives of international cooperation in nuclear disarmament, the prevention of nuclear proliferation and the promotion of the peaceful use of nuclear energy and should not be interpreted as permitting the nuclear weapon states to retain their possession of nuclear weapons forever.

When cooperating with other countries in the peaceful use of nuclear energy, the Chinese government has adhered to three principles: 1. To ensure that all projects are used only for peaceful objectives; 2. All projects must be under the supervision of the safeguards of the International Atomic Energy Agency (IAEA); 3. Relevant items and technologies should not be transferred to a third party without the permission of China. China does not provide help for any nuclear facility which has not accepted the safeguards of the IAEA. China maintains that the safeguards regime of the IAEA is an important component of measures to assure the effectiveness of the NPT. Even prior to acceding to the treaty, China undertook to fulfil the obligations stipulated by the IAEA statute, including the obligation to apply IAEA safeguards. Since becoming a party to the treaty in 1992, it has strictly fulfilled all its obligations under the treaty, including the obligation to cooperate fully with the IAEA in safeguard application. China follows three principles regarding nuclear exports: exports are to serve peaceful use only; IAEA safeguards are to be accepted; and no re-transfers to a third country are permitted without China's consent. The Chinese government regulates that all export of nuclear materials and equipment should be subject to IAEA safeguards.

In 1985, China declared that it would of its own free will submit part of its civilian nuclear facilities to the IAEA for safeguards. In 1987, the Chinese government issued the Regulation on Management of Nuclear Materials. In 1988 China and the IAEA signed an agreement on voluntary safeguards, under which China provided the IAEA with a listing of facilities subject to such safeguards, and established a State System of Accounting for and Control of Nuclear Material (SSAC). The system is supervised, administered and operated respectively by the competent government department, the facility concerned and the technological support unit. The competent government department is responsible for organizing the implementation of the safeguard agreement between China and the IAEA. The nuclear facility management is responsible for establishing measurement, recording and reporting regimes in line with the requirements of the agreement, as well as receiving on-site inspections by IAEA inspectors.

With a view to supporting the IAEA, in November 1991 China officially declared that it would report to the IAEA on a continuing basis any export to or import from non-nuclear-weapon states involving nuclear materials of one effective kilogram or above.
In July 1993, China formally promised that it would voluntarily report to the IAEA any imports or exports of nuclear materials, and all exports of nuclear equipment and relevant non-nuclear materials.

On 28 March 2002, the Chinese government informed the IAEA that China had completed the domestic legal procedures necessary for the entry-into-force of the Additional Protocol of Safeguards Agreement with IAEA.22 The Agreement has been formally effective since that day. China was the first of the five nuclear weapon states to have the Additional Protocol in effect.

In May 1997, the State Council of the People's Republic of China (PRC) issued the "Notice on Strictly Pursuing China's Policy of Nuclear Exports", which clearly regulates that no nuclear materials, nuclear equipment and their technologies, non-nuclear materials to be used for nuclear reactors, and dual-use equipment, materials and technologies relevant for nuclear applications are permitted to be exported to the nuclear facilities of other countries which have not been under the supervision of the IAEA. It also regulates that no Chinese companies are permitted to cooperate and to exchange experts and technology information with the nuclear facilities of other countries.

On 10 September 1997, the State Council of the PRC issued the "Regulation on Nuclear Export Management" which stipulates: 1. All businesses dealing with nuclear exports should be monopolized by the units assigned by the State Council of the PRC, and no other units or personnel in China are permitted to do this business; 2. A license system is applied to all nuclear exports, and an application for permission and license must be made for every item and relevant technology listed on the List of Nuclear Export Management; and 3. The List of Nuclear Export Management will be the same as the Trigger List of the Zangger Committee (ZAC).

In October 1997, China became a full member of the Zangger Committee. On 1 June 1998, the State Council of the PRC passed the Regulation on Export Management of Nuclear Dual-Use Items and Their Relevant Technologies.

China has taken a positive attitude towards negotiation on the Fissile Material Cut-off Treaty (FMCT). During the Geneva Conference on Disarmament (CD) held in March 1995, a mandate was given to establish an ad hoc committee to consider how to ban fissile material production for weapon purposes. However, because of disagreement concerning existing stockpiles of military plutonium and highly-enriched uranium (HEU), and the relation between nuclear disarmament and arms control in outer space, negotiations remained deadlocked until recently. Although in August 1998 it was decided to start negotiations on a treaty to halt the production of fissile material, the process has been thwarted since the CD has been unable to reconvene the ad hoc committee charged with negotiating the treaty.

2.4 Major contribution to the prohibition of nuclear tests

China advocates the total prohibition of nuclear weapon explosion tests during the process of advancing towards the objective of complete prohibition and thorough destruction of nuclear weapons, and a nuclear-free world.

On 29 July 1996, the Chinese government declared that China had suspended its nuclear explosion tests. China actively participated in the negotiations on the Comprehensive Test Ban Treaty (CTBT), and showed a constructive spirit and flexible attitude during the negotiations. On 24 September 1996, the Chinese government signed the CTBT Treaty. The treaty is the first international legally binding document which prohibits any nuclear weapon explosion test or other
nuclear explosion test in any environment and any place in the world, and which is conducive to the process of nuclear disarmament and the prevention of nuclear proliferation, so as to improve international peace and security.

China endorses the verification measures to be taken in accordance with the regulations of the CTBT treaty. At the same time, China objects to any country abusing its rights and interfering in China's internal affairs in order to harm China's proper security interests.

China holds that the prohibition of nuclear testing itself is not the objective but only one of the steps required to realize the final goal of the complete prohibition and thorough destruction of nuclear weapons.

However, on 13 October 1999, the United States Senate failed to ratify the CTBT. That has exerted a considerable negative influence over the process of international arms control and may lead to new nuclear proliferation. Because of the failure, both India and Pakistan have still refused to sign the CTBT. Concerned about the intentions of the United States, some other countries have slowed down the process of their ratification of the treaty. The Russian State Duma ratified the CTBT on 21 April 2000.

2.5 Strong support for the establishment of nuclear-weapon-free zones

China in general supports the establishment of nuclear-weapon-free zones (NWFZs) because China considers that the establishment of such zones is of great importance to the advancement of nuclear disarmament, the prevention of nuclear proliferation, and the promotion of international and regional peace and security.25 In a statement to the NPT Review and Extension Conference on 18 April 1995, the Chinese Foreign Minister stated: "China supports the efforts of relevant countries and regions to establish nuclear-weapon-free zones or zones free of weapons of mass destruction through voluntary consultations."24

On 15 September 1997, China presented its seven principles on the creation of NWFZs. They include the following four important principles:

1. Establishing nuclear-weapon-free zones should follow the purpose of the Charter of the United Nations and established principles of international law; 2. Nuclear-weapon-free zones should be established on the basis of equality and voluntary consultations between relevant countries according to the realities of their region; 3. The geographical scope of nuclear-weapon-free zones should not include continental shelves and exclusive economic zones (EEZ) as well as areas over which there are disputes with countries outside the nuclear-weapon-free zone about territorial sovereignty and marine rights; 4. The nuclear-weapon-free status of nuclear-weapon-free zones should not be subject to influence by any other security mechanisms, and countries in nuclear-weapon-free zones should not refuse to fulfil their obligations under any excuses, including that of a military alliance.

To date, China has signed and ratified the following relevant legal binding documents related to nuclear-weapon-free zones: the Additional Protocol II of the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelolco), the relevant protocols of the South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga), and the African Nuclear-Weapon-Free Zone Treaty (Treaty of Pelindaba). On 15 July 1999, during his visit to Mongolia, Chinese President Jiang Zemin stated that China respects the nuclear-weapon-free status of Mongolia. On 27 July 1999, during the ASEAN Regional Forum, Chinese Foreign Minister Tang Jiaxuan said that the Chinese government has agreed in
principle to sign the Protocol of the Southeast Asia Nuclear-Weapon-Free Zone Treaty.

The other four nuclear weapon states, namely the United States, Russia, Britain and France, have also signed the relevant protocols of the Tlatelolco, Rarotonga and Pelindaba Treaties, and thereby committed themselves not to use or threaten to use nuclear weapons against regional state parties. Nuclear-weapon-free zones (NWFZs) are part of the architecture that can usefully encourage and support a nuclear-weapon-free world. The progress of NWFZs has been taking us ever closer to the ultimate realization of a nuclear-weapon-free world.

To date, there are four existing populated NWFZs, created by the Treaty for Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelolco), the South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga), the African Nuclear Weapon-Free Zone Treaty (Treaty of Pelindaba) and the Southeast Asia Nuclear Weapon-Free-Zone Treaty (Treaty of Bangkok). In addition, the Antarctic Treaty demilitarizes the Antarctic Continent. The combined areas of the zones created by the Antarctic, Tlatelolco, Rarotonga, Pelindaba and Bankok Treaties constitute about 45 per cent of the earth's surface. With the entry into force of the Pelindaba Treaty, virtually all of the southern hemisphere and parts of the northern hemisphere have been covered by NWFZs.25

This progress has demonstrated that regional nuclear non-proliferation mechanisms based on NWFZs have been playing roles just as important as global nuclear non-proliferation mechanisms; in some cases, even more important than the latter. For example, both non-nuclear-weapon states and nuclear weapon states undertake more responsibilities in NWFZs than in the global non-proliferation mechanism. All four existing NWFZs have their own supplemental safeguards with regional mechanisms and procedures, so the scope of the verification regimes of NWFZs goes beyond the full application of IAEA safeguards. Nuclear weapon states provide negative security assurance to regional parties, including a commitment not to use or threaten to use nuclear weapons against regional state parties. Furthermore, whether nuclear threshold states or de facto nuclear weapon states return to the status of non-nuclear weapon states will depend mainly on the relaxation of the regional security situation. Both NWFZs and the International Atomic Energy Agency are also necessary to supplement each other to prevent the status of the states from reversing.

2.6 Measures to further arms control in outer space

China opposes the arms race in outer space and is of the opinion that arms control in outer space has some impact on nuclear disarmament. Beginning in 1984, it has on numerous occasions proposed to the UN General Assembly draft resolutions on preventing such an arms race in outer space. China maintains that outer space belongs to all mankind and should be used exclusively for peaceful purposes. No country should develop any kind of weapon to be used in outer space: outer space should be kept "weapon-free".

On 27 June 2002, China and Russia jointly presented a working paper entitled "Possible Elements for a Future International Legal Agreement on the Prevention of the Deployment of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects" to the Conference on Disarmament in Geneva. The Basic Obligations of the draft are: 1. Not to place in orbit around the earth any objects carrying any kinds of weapons, not to install such weapons on celestial bodies, or not to station such weapons in outer space in any other manner;
2. Not to resort to the threat or use of force against outer space objects; 3. Not to assist or encourage other states, groups of states, international organizations to participate in activities prohibited by this treaty.26

As a responsible major power, China will in the near future continue its current nuclear disarmament policy, by playing a positive and active role and investing considerable efforts towards a nuclear-weapon-free world. In particular, it will lay far more stress on the importance of the non-proliferation of nuclear weapons and of increasing nuclear transparency.

**Ongoing participation in international nuclear non-proliferation and arms control mechanisms**

In recent years, China has participated in a series of nuclear non-proliferation regimes, including the Treaty on Non-Proliferation of Nuclear Weapons (NPT), signing of the Comprehensive Test Ban Treaty (CTBT), commitment to observe the guidelines and parameters of the Missile Technology Control Regime (MTCR), and so on. In accordance with these international commitments, the Chinese government has been taking a series of measures to control the exports of its nuclear technology and materials as well as missile items and materials. At the same time, China has cooperated with other countries on the non-proliferation of weapons of mass destruction.

Furthermore, since the first day it acquired nuclear weapons, China has committed itself to realizing the final objective of the comprehensive ban and thorough destruction of all nuclear weapons worldwide. That has formed the basis for China to participate in the international nuclear disarmament process in the future. The more closely China has integrated itself into the international community, the more willingly it would like to play a responsible role in international nuclear non-proliferation and arms control mechanisms.

**Active promotion of endeavours to establish a nuclear-weapon-free world**

The ultimate goal of nuclear disarmament should be the total elimination of all nuclear weapons. In order to achieve this end, China attaches much importance to creating a suitable global political climate. The reason is that only by the improvement of relations between countries, the resolution of existing and potential conflicts, and the further relaxation of regional situations, can nuclear weapon states further reduce and even eliminate their nuclear weapons, and nuclear threshold states give up their nuclear options.

If the United States and Russia reduce their deployed nuclear warheads to 1,000 for each of the parties, then France, Britain and China will be able to join them in an international nuclear weapon disarmament regime, and all recognized nuclear weapon states should reduce their nuclear arsenals to a level of 200 warheads each under stringent verification; and the three de facto nuclear states, namely India, Pakistan and Israel, should stop developing and producing nuclear weapons, and store their weapon-level nuclear materials under strict international verification. When international conditions become mature, both the recognized nuclear weapon states and de facto nuclear weapon states should dismantle all their nuclear weapons. After that, all the countries should sign a Nuclear Weapons Convention, which will make nuclear weapons illegal and prohibit the development, testing, production, stockpiling, transfer, use and threat of use of nuclear weapons in the world. At the same time, global verification mechanisms for a nuclear-weapon-free world should be established, in which the United Nations will play the key role.
Increased nuclear transparency

In traditional Chinese military thinking, there was no mention of transparency. However, since the end of the Cold War, China has gradually accepted the concept of transparency. Especially when China feels more confident about its relationship with other countries and about its international security environment, it can adopt a more active and positive attitude towards arms control issues and transparency issues. In fact, it has made some progress in improving its nuclear transparency. For example, China has published white papers on both arms control and national defence. It intends to publish more white papers on national defence, which will include reference to China's policy of nuclear arms control and disarmament.

Maintaining the NPT regime

The NPT is both the basis of the international nuclear non-proliferation regime and the prerequisite for progress in the nuclear disarmament process. The NPT must be observed in full and in good faith. Otherwise, international efforts at nuclear disarmament and non-proliferation will be seriously harmed. Those countries which have not joined the NPT should do so at the earliest possible date so as to make the treaty truly universal. China will make every effort to observe the NPT in full and to maintain a regime of nuclear non-proliferation.

Ratification of the CTBT

The international community should continue to strive towards preventing nuclear proliferation. In order to do this, the Senate of the United States should soon ratify the CTBT. At the same time, India and Pakistan should sign the treaty and other countries should also ratify it. The Standing Committee of the People's Congress of the PRC is considering the issue of ratifying the CTBT. If the Senate of the United States ratifies the CTBT, China will ratify it soon.

Prevention of the arms race in outer space

The international community should strive to do everything possible to prevent the arms race from expanding into outer space. The Conference on Disarmament in Geneva should discuss the issue and make every effort to conclude the treaty on the Prevention of Arms Race in Outer Space (PAROS) which would prohibit the deployment of weapons in outer space. China will continue to attach great importance to this issue.

Prohibition of the production of missile material

The Fissile Material Production Cut-off Treaty (FMCT) would ban the production of fissile material for use in nuclear weapons, so as to benefit both nuclear disarmament and the prevention of nuclear proliferation. China will support the objective of negotiating and concluding the treaty.

3. China supports the establishment of a Nuclear Zero world

China would go to great lengths to build a safer and harmonious world for all without nuclear weapons. To this end China fosters a peaceful and stable international environment, the resolution of international disputes through peaceful means, and increasing the sense of security for all countries. China also promotes development, the eradication of poverty, and the removal of the root causes of conflict and instability.

In order to realize such a world, China holds that we should maintain a global strategic
China's nuclear strategy and nuclear disarmament policy

balance and stability, and vigorously advance nuclear disarmament. All nuclear weapon states should fulfill in good faith their obligations under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons, and publicly undertake not to seek permanent possession of nuclear weapons. Countries with the largest nuclear arsenals should continue to take the lead in making drastic and substantive reductions in their nuclear weapons. The Comprehensive Nuclear Test Ban Treaty should be brought into force at an early date, and negotiations on the Fissile Material Cut-off Treaty should start as soon as possible.

When conditions are ripe, other nuclear weapon states should also join the multilateral negotiations on nuclear disarmament. To attain the ultimate goal of complete and thorough nuclear disarmament, the international community should develop, at an appropriate time, a viable, long-term plan composed of phased actions, including the conclusion of a convention on the complete prohibition of nuclear weapons.\(^\text{27}\)

China also maintains that all nuclear weapon states should abandon the nuclear deterrence policy based on first use of nuclear weapons and take credible steps to reduce the threat of nuclear weapons. All nuclear weapon states should make an unequivocal commitment of unconditionally not using or threatening to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones, and conclude a legally binding international instrument in this regard. In the meantime, nuclear weapon states should negotiate and conclude a treaty on no-first-use of nuclear weapons against one another.

Notes

3 Ibid.
4 Ibid.
5 Ibid.
6 Ibid.
7 Ibid.
8 Ibid., p. 3.
9 Ibid.
14 Ibid., pp. 26-27.
15 Ibid., pp. 28-29.
17 Ibid., p. 604.
18 Ibid.


"Global Zero" and the future of non-proliferation

Michael Rühle

The vision of a world without nuclear weapons is aimed at facilitating measures to strengthen the global non-proliferation regime. However, the logic of "Global Zero" ignores too many realities of the international security environment to become a guiding principle for US policy. If the United States were to subordinate its security policy to the Global Zero narrative, the results might well be counterproductive, as a weakening of the US role as a security provider would fuel rather than contain nuclear proliferation.

1. Introduction: the return of non-proliferation

Over the last few years, the vision of a world free of nuclear weapons has advanced into one of the most intensely debated issues of the international security debate. Sparked by growing concerns about the world reaching a nuclear " tipping point", the view has gained ground that time was running out, and that there was now the last opportunity to prevent nuclear anarchy. To exploit this opportunity, however, a new political momentum was needed – a momentum that could only be generated if it were based on the unequivocal commitment of the Nuclear Weapon States to seek a world without nuclear arms. Without such a commitment, so the argument goes, the international community would remain divided over the issue of nuclear possession, thus rendering serious progress on non-proliferation impossible.

That the end of the Bush Administration would lead to a revival of traditional non-proliferation policies was to be expected. Despite having scored two major non-proliferation successes – the uncovering of the A. Q. Khan network and the voluntary denuclearization of Libya – the Bush Administration could not escape the charges that its unilateralist policies had contributed to an erosion of the non-proliferation regime. Many observers argued that the Bush Administration's view, according to which the crisis of non-proliferation was first and foremost a crisis of compliance, was too narrow and purposefully sought to deflect attention from the Nuclear Weapon States' own obligations. According to many observers, Washington's attempt to carve out for itself the widest margin of manoeuvre, while seeking to constrain others, was ultimately counterproductive, as it only served to deepen existing rifts between the nuclear "haves" and "have-nots". Inevitably, therefore, a successor Administration would seek to repair the damage done and re-commit the US to established non-proliferation principles and processes.

However, while this re-commitment was to be expected, the way in which it manifests itself was not. The degree to which the Obama Administration has endorsed "abolitionist" arguments was as surprising as was the degree to which the new Administration appeared willing to subordinate US foreign and defence policy to non-proliferation concerns. Shortly after President Obama took office, a deft political choreography sought to generate a new political momentum in non-proliferation and arms control. President Obama's Prague speech in April 2009, in which he unveiled his vision of a nuclear-free world, was followed by a US-
inspired UN Security Council Resolution that echoed this same sentiment. In early 2010, a new US-Russia treaty on the reduction of strategic nuclear arms was signed, followed by a Nuclear Security Summit in Washington, and the publication of a Nuclear Posture Review that claimed to reduce the role of nuclear weapons in US defence strategy. By investing a lot of political capital the US Administration also achieved a successful conclusion of the 2010 NPT Review Conference. All these steps were meant to create the impression of an irresistible political force – a charismatic US President leading the world on a project that seemed both morally appealing and politically necessary.

### 2. The non-proliferation narrative as a useful policy guideline?

It is obvious that this policy follows a distinct "script" – it is clearly based in the world view of the orthodox non-proliferation community. Indeed, no other US Administration appears to be more strongly influenced by the thinking of this community. The Obama Administration's policy reflects many of the core beliefs of this community: that nuclear weapons have turned from an asset into a liability and that there is now a unique opportunity to rid the world of these weapons; that the crisis of non-proliferation is essentially a result of the Nuclear Weapons States not fulfilling their part of the NPT bargain (and of US unilateralist delusions); and that, consequently, the US must lead by example in re-launching the non-proliferation process. In short, the policy is based on an action-reaction paradigm which sees US behaviour as the catalyst to induce change on a global scale. Simply put, once the US starts changing its nuclear policies, the rest of the world is bound to follow. As more and more countries become convinced of the US' sincerity about seeking genuine change, a virtuous circle of reciprocal, confidence-building steps will emerge that will gradually move the world away from the nuclear abyss. While the goal of a nuclear-free world is not likely to be achieved any time soon, it is essential to keep clinging to it, as it remains the ultimate proof of the United States' sincerity.

It is easy to see why this general narrative of non-proliferation orthodoxy is so attractive. It follows a clear, comprehensible logic; it revolves around noble notions of equality and justice; and it is, at its most basic, about creating a better future. Equally importantly, it also appeals to a deeply ingrained US desire to exert (benign) leadership. Still, it remains doubtful whether this policy can achieve its aims. As a closer look reveals, a policy that takes its cues from the non-proliferation/Global Zero repertoire will fail both conceptually and politically. Conceptually, such a policy fails to capture the complex nature of nuclear proliferation dynamics, and advocates solutions that will only deal with a small part of the problem. Politically, Global Zero overestimates the ability of the US to lead the process, delegitimizes Western security policies, and risks undermining the credibility of US extended deterrence. In short, the outcome could well be paradoxical: a policy that seeks to roll back proliferation might ultimately end up encouraging it.

### 3. Proliferation dynamics

There are currently five recognized (US, UK, France, Russia, China) and four unofficial Nuclear Weapons States (India, Pakistan, Israel, North Korea). The fact that most of these countries achieved their nuclear status a long time ago, and that several would-be nuclear nations either reconsidered (South Africa, several states from the former Soviet Union) or were prevented from realizing their nuclear ambitions (Iraq, Libya) has made nuclear proliferation proceed rather slowly overall. It is impossible to prove with certainty whether we owe proliferation's
slow pace to the NPT or simply to the fact that most nations had no interest in going nuclear in the first place. The popular argument that proliferation has proceeded more slowly than many analysts predicted in the early 1960s means very little: it simply measures "success" by a 1960s yardstick, i.e. against a period of widespread proliferation pessimism. Moreover, the fact that several countries joined the NPT with the clear intention to go nuclear "inside" the Treaty suggests that the NPT was not as instrumental to non-proliferation as its most ardent supporters suggest.

It is equally impossible to produce a unified theory of proliferation. The motives for countries to go nuclear are too diverse to allow for a single explanation. Among the likely causes for going nuclear are regional security concerns (Israel in the 1950s); fears of abandonment (Taiwan in the 1960s; South Korea in the 1970s); balance-of-power considerations (China and India in the 1960s and 1970s; Brazil and Argentina in the 1970s; India and Pakistan since the 1970s); bargaining power (North Korea since the 1990s); regional hegemonic ambitions (Iran today) or simply a craving for more prestige and respect (Iraq and Libya in the 1980s). What unites all these cases, however, is that the NPT does not appear to have been a major limiting factor. While the NPT and its complementing regime of export controls helps to ensure that developing a military nuclear programme remains time-consuming, expensive, and difficult to hide over the long term, it has not prevented determined proliferators from realizing their ambitions.

The sui generis character of each proliferation case also makes predictions about future proliferation trends next to impossible. The fact that more than 30 countries are currently assumed to have the advanced civilian nuclear infrastructure for building nuclear weapons has little explanatory value, all the less so as many of these countries are transparent democracies without existential security problems. However, if one tries to draw up a list of countries which are either suspected of building a bomb, or might choose to do so if their security situation was taking a turn for the worse, the list of countries that are mentioned in the specialist literature is still over a dozen countries long: Iran, Myanmar (Burma), the United Arab Emirates, Saudi Arabia, Egypt, Syria, Algeria, Turkey, Japan, South Korea, Taiwan, Bangladesh, Kazakhstan, Brazil and Venezuela.

The fact that this list includes several countries that would appear to be too technologically backward to develop nuclear weapons indicates the fundamental changes that have occurred over the past twenty years: the diffusion of technology as a result of globalization, the increasing commercialization of proliferation (including through semi-private networks), and the undiminished interest in civilian nuclear energy have created opportunities for less developed countries that were hitherto unavailable. The A. Q. Khan network’s support for Iran, Iraq, North Korea and Libya, as well as North Korea’s selling of nuclear reactors to Syria and possibly other countries, demonstrate that proliferation proceeds in ways that were unanticipated by the inter-state non-proliferation regime. Even functioning warhead designs (i.e. those that do not need to be tested) are available for purchase. In the years to come, this trend may be reinforced by other considerations, such as assuring access to affordable fossil fuel. This has already become visible in China’s resistance against tougher sanctions on Iran that could compromise its energy ties with Tehran. However, the case of China is not likely to remain unique. As the global economic crisis proceeds and natural resources become even scarcer, national security considerations will increasingly be influenced by economic interests – at the expense of traditional non-proliferation norms.
4. Solutions

Despite these new opportunities for states with nuclear ambitions, there is nothing inherently deterministic about the future shape of the proliferation landscape. For example, if Iran were to decide to remain a mere "virtual" nuclear power, several countries in the region might reconsider their choice as well, and a "proliferation cascade" in the Middle East might be avoided. In short, a major new proliferation wave is not inevitable. Still, as arbitrary as the above list may seem, it allows for two preliminary conclusions.

First, effectively dealing with such a motley crew of current and potential proliferators will follow individual rather than "universal" approaches. This has already been demonstrated in the case of Libya's voluntary disarmament, the Iraq war, the different types of negotiations with Iran and North Korea, the unravelling of the A. Q. Khan network, the US-India nuclear deal, and Israel's destruction of the Korean-built Syrian reactor in September 2007. Each case was handled differently, with a wide range of "carrots and sticks" – all the way to the application of military force. Moreover, each case was largely dealt with outside the NPT framework. And each case was – and continues to be – managed predominantly by the United States.

To be sure, this does not diminish the value of the NPT as the central framework for ensuring transparency, identifying unwelcome behaviour and initiating appropriate responses. However, developments in the recent past demonstrate that the NPT is increasingly being augmented by other approaches. One such approach is the internationalization of uranium enrichment and the agreement on a Fissile Material Cut-Off Treaty. Other interesting developments are the leading role played by the UN Security Council in dealing with specific proliferation cases, the introduction of new legislature like UNSCR 1540, and voluntary arrangements like the Proliferation Security Initiative (PSI).

The second conclusion that can be drawn is that US extended deterrence will remain a key instrument for preventing proliferation. About half of the countries on the aforementioned list are US Allies, some of which had already been flirting with a nuclear option in the past when they had perceived a lessening US willingness to defend them. Several other countries on the list are likely to be persuaded from going nuclear by an extension of US security commitments.

5. How does Global Zero measure up?

A diverse group of nations with diverse rationales for going nuclear; a trend towards a commercialization of proliferation; a growing dominance of economic and energy concerns over non-proliferation norms; a diversification of non-proliferation approaches, all the way from "carrots" to "sticks"; and an undiminished relevance of US extended deterrence: if these are the most significant characteristics of the current and possibly future proliferation landscape, then it becomes obvious that a policy based on the Global Zero narrative does not address most of them.

One major flaw of the Global Zero narrative is its obsession with the need for the Nuclear Weapon States, above all the US, to demonstrate "credibility" on disarmament. The non-proliferation mainstream – including the Obama Administration – has bought into the narrative according to which the lacking disarmament credentials of the Nuclear Weapon States were the main reason for the crisis of the non-proliferation regime. Consequently, a re-commitment to
Article VI is seen as the key to a rejuvenation of that regime. This "credibility thesis" (Christopher Ford) has been overplayed to the point where it has effectively become the single issue of the current non-proliferation debate. Large parts of the Western public have now been sold on the argument that Iran's nuclearization was somehow the fault of the existing nuclear powers, notably the US, and that given Israel's nuclear arsenal Iran's ambitions were somehow understandable. Such simplistic action-reaction imagery not only de-politicizes fundamentally political issues; it also seems to postulate a moral equivalence between countries that risks causing alienation between the US and its nuclear-armed allies. For the sake of its own intellectual consistency, the "abolitionist" narrative must not distinguish between friend and foe, irrespective of the political ramifications of such an approach.

Predictably, Israel has become the first ally to be singled out by the US as an obstacle for "getting to zero", yet in order to maintain the momentum of this policy, France and the United Kingdom will also be expected to make their contribution. Moreover, the Global Zero narrative has already been interpreted by many Western analysts and politicians as a blank cheque for advocating all kinds of nuclear reductions – witness the current debate about the future of tactical nuclear weapons in Europe. This debate – which remains a debate entirely within the West – demonstrates another drawback of the Global Zero narrative: the logic of embarking on a gradual disarmament process through carefully managed reciprocal steps is too complex for the short-term and parochial policy-making process in Western democracies. The sense of drama and urgency that Global Zero seeks to instil in order to influence policy does not square with the long-term character of the proposed solutions. Simply put, if the world is said to be approaching Armageddon, a long-term, gradualist approach does not look like a promising solution.

6. Nuclear deterrence revisionism

Another flaw of the Global Zero narrative is its ambivalence regarding the utility of nuclear deterrence. In order to make Global Zero possible, it needs to be demonstrated that nuclear weapons are becoming less relevant and, hence, can safely be discarded once certain conditions have been met. This argument is complemented by a host of other claims, for example that the non-use of nuclear weapons during the Cold War may not have been the result of nuclear deterrence, but rather the consequence of both political camps being geopolitically saturated; that conventional weapons could take over the operational role of nuclear weapons; that the end of bipolarity and the emergence of a multi-nuclear world were making the continued reliance on nuclear weapons increasingly risky; and that nuclear deterrence was ineffective against 21st century threats such as international terrorism or failed states.

Since it is impossible to prove why an event did not occur, it cannot be proven whether the "long peace" was a direct result of the nuclear stand-off. However, the sharp drop in interstate wars since 1945 would suggest that the advent of nuclear weapons and the emergence of nuclear deterrence did indeed have a moderating effect on international politics. Equally problematic is the argument that the prospect of a multi-nuclear world would turn nuclear weapons into a liability. Few would dispute that a multiple-player game contains a far greater risk of miscalculation than the old bipolar system, and there is a widespread consensus that many new threats cannot be deterred by threatening nuclear retaliation. However, these developments do not diminish the value of nuclear deterrence per se. Put differently, for the current nuclear possessors nuclear weapons may have become less central, but not less important. Indeed, as even one of the most prominent supporters of this school of thought, William Walker,
admits, as long as the most ardent defenders of the NPT refuse to acknowledge the importance of nuclear deterrence, they are missing an essential part of the issue.

7. The elephant in the room: Global Zero and extended deterrence

Nowhere does this self-serving nature of the Global Zero narrative become more apparent than in its handling of extended deterrence. While many non-proliferation experts acknowledge the non-proliferation dimension of US extended deterrence commitments, they also realize that this policy justifies high US nuclear force levels and thus runs counter to Global Zero aspirations. Not surprisingly, the Global Zero narrative seeks to downplay the continued value of extended deterrence, arguing that the nuclear abstinence of America's allies and friends was now so firmly ingrained that fears of a new proliferation wave among these countries were unfounded. Accordingly, they argue that the nuclear umbrella could safely be reduced, replaced by a conventional umbrella, or removed altogether.

Here, too, the narrative appears counter-intuitive and self-serving. While extended deterrence is on the back burner in regions that are secure, it remains of central importance for those countries that feel exposed. This has become particularly obvious with respect to Asia, where the US role as a nuclear protector of Japan, South Korea and Taiwan remains undiminished. A similar effect can be observed in the Middle East, where the nuclear shadow cast by Iran has made many countries lean towards the US. Even in Europe, where the security situation is far better, a renewed debate about NATO's role as a provider of reassurance has set in. The palpable desire of Central and Eastern European allies to host US installations, and their concern about a withdrawal of US Tactical Nuclear Weapons from Europe are strong reminders of the continuing need for an "American Pacifier" (Josef Joffe).

All these developments demonstrate that the non-proliferation successes of the past 40 years were not just a result of the Non-Proliferation Treaty, but also of US extended deterrence commitments. After all, the nuclear abstinence of states in pivotal geopolitical regions is not a law of nature. Rather, it is conditioned on a predictable international system. And, irrespective of the new debate about a "post-American" world, that system is still being upheld by the United States. The US thus faces a dilemma. In order to pursue long-term non-proliferation goals, the United States and the other Nuclear Weapons States need to make a credible commitment to nuclear disarmament; yet the current nuclear reality requires credible US extended deterrence commitments. If the United States were to reduce or even end its role as a nuclear protector, this could result in the largest wave of proliferation since the dawn of the nuclear era. That is why no US Administration – and no US Congress – will go down this path.

In sum, a policy that is based on the Global Zero narrative is based on a flawed interpretation of the international system. It presumes the existence of a universal non-proliferation norm, yet fails to acknowledge that this "norm" is dependent on specific political constellations. If these constellations change, for example, by the emergence of a nuclear challenger, the security calculus of states changes as well – and the security paradigm begins to trump non-proliferation considerations. This flawed interpretation of the international system accounts for the massive discrepancy between the long-term logic of a disarmament-centric or even non-nuclear order and the short-term requirements to address pressing geopolitical developments. To put it simply, if the current proliferation cases cannot be resolved, there is little point in arguing about grand global
disarmament schemes. Indeed, it is precisely the proliferation pressure generated by Iran and to a lesser extent by North Korea that will reinforce rather than invalidate traditional notions of nuclear counter-deterrence and extended deterrence, i.e. the very tenets of security policy that the "abolitionists" seek to discard or even discredit.

8. Conclusion

A policy that is built on the Global Zero narrative cannot guide US security policy for very long. The "abolitionist" logic is analytically too weak and too self-serving to determine the policy of a superpower which continues to be the most important global security provider. Moreover, the very idea that the US could lead and sustain such a "grand geopolitical engineering exercise" (Lawrence Freedman) over a period of decades reveals a stunning neglect of both the complexities of the international security environment and the role of the US in this environment. As the US Administration becomes entangled in other difficult foreign policy issues, and as domestic priorities begin to dominate the agenda, it is quite conceivable that this policy will fall off the priority list and fade from the public limelight. This appears all the more likely as Global Zero remains an elite project, without a broad public constituency.

It would be unfair to dismiss this policy as just another showcase project of a US Administration that has become notorious for raising expectations beyond its capacity to meet them. The urge to re-launch the global non-proliferation process is clearly inspired by a noble mission: a last-ditch attempt to set the world on a better track before the West's clout as a global norm-setter will have disappeared. Still, the current intellectual excitement about forging a new, nuclear-free international order remains a purely Western creation – a Western soliloquy out of touch with the realities of the globalization age.

Note

* Deputy Head, Policy Planning Unit, NATO. The views expressed in this paper are the author's own and do not constitute an official view of the North Atlantic Treaty Organization.
Nuclear weapons in the twenty-first century

W. Bruce Weinrod

The focus of this paper will be on the question of how and why nations make decisions regarding the acquisition of nuclear capabilities or nuclear weapons. The more general question of the future of nuclear weapons will also be addressed. The approach will be to offer a series of assertions on these issues and, it is to be hoped, provoke further discussion on some of the areas.

The subject of nuclear weapons in the twenty-first century will be considered in this paper from the perspective of determining what role they serve for the protection and advancement of the national security interests not only of the United States of America (US) but also of those nations where there has been mutual agreement with Washington that the United States would play a significant role in ensuring their security; what role the possession of nuclear weapons by the US plays in countering the proliferation of nuclear capabilities, and implications of US nuclear weapons for regional stability as well.

As a starting point, let me present my own views on the overall question of nuclear weapons and especially the implications of global disarmament for international security. To put it succinctly, it is my opinion that an agreement for global nuclear disarmament under current or foreseeable international political and security conditions would be inadvisable. Such an outcome would produce great instability and would also put at risk the security of the United States and its allies and friends.

Thus, I view the retention of a meaningful number of nuclear weapons by the US, by its allies the United Kingdom and France, and also by the North Atlantic Treaty Organization, as being essential for the foreseeable and likely indefinite future. This means that among other things, for better or worse, a nuclear-free world is not a desirable end point in the current global security environment, and in any event is also not practically implementable.

Nuclear weapons in the twenty-first century retain their classical role of deterrence. During the Cold War, deterrence by the US, its allies, and NATO was directed against the Soviet Union. Of course, today there is no clear and present threat of the use of nuclear weapons by Russia. At the same time, as long as Moscow chooses to retain significant numbers of nuclear weapons in its military arsenal, the US (and its allies) should retain the nuclear capability to deter a Russia that, however unlikely at present, chooses a different path.

Further, the People's Republic of China possesses a growing nuclear capability. The US continues to provide a security blanket for the Republic of China against any possible military action by the PRC based upon its claims over ROC territory. For this reason, the US nuclear capability remains necessary to deter a possible PRC attack on Taiwan. Can such deterrence work? One can only extrapolate from past experience and state that deterrence appears to have been a significant factor in constraining Soviet expansionist ambitions during the Cold War era.
The question has been raised whether a continuing growth of nuclear capabilities globally can be prevented, and if so, how. At least a partial answer to this question might be obtained by a review of the actions and decisions of those nations which have chosen to either not start a nuclear program or else end an existing nuclear program or capability.

For example:

– In the case of Brazil and Argentina, their concerns about each other's intentions were eased when civilian democratic governments took power in each nation and mutual transparency led to mutual confidence and confidence-building measures.

– In the case of South Africa, a combination of factors led Pretoria to the abandonment of nuclear weapons. These factors included the end of the Cold War, which also ended South African government concerns about Soviet involvement in the region; further, the strong desire of the South African leadership to be accepted by the West; and finally, a desire by the government not to see nuclear weapons potentially in the hands of a successor African National Congress-led government.

– In the case of Libya, serious contact with the US and the UK regarding giving up its WMD capabilities began just after the US entered Iraq in 2003, and became really serious after the capture of Saddam Hussein. As the Soviets used to say: "this is no coincidence, comrade". While other factors may have been involved, it is very reasonable to conclude that the principal motivation of Libya's ruler Gaddafi was simple perceived self-preservation.

Other examples could be discussed but the key point is that each situation and motivating factors were unique.

Two types of security guarantees or assurances are relevant in the context of nuclear weapons. The first is a negative security assurance advocated by some observers. For example, the US would pledge not to take certain actions if a specific country refrained from pursuing nuclear capabilities. The second type reflects security guarantees to allies, such as the US provides through treaties and otherwise.

With respect to negative security assurances, it has been suggested by some that there is a clear way to get nations to give up nuclear capabilities – and that is by offering so-called security assurances or guarantees. However, a review of those nations that have given up nuclear development or capabilities does not reveal any single silver bullet approach that would inevitably result in the end of nuclear programs or capabilities. In reality, each separate case has arguably been sui generis. As reviewed above, in no case did security assurances from the US (of the type that some commentators suggest) play any role in the various national decisions to abandon nuclear programs or nuclear weapons.

There are additional questions which should be asked when such assurances are suggested for rogue nations. Rogue nations by definition reject the existing international order and often also seek to undermine that order. Would such nations ever in reality accept such security guarantees and would they change their international behavior fundamentally? Further, why would the nations that support the existing international order want to limit significantly the range of actions that could be taken against such nations?

The paradox is that those nations that would likely be reassured by negative security guarantees have by definition reasonable governments from which threats or actions
that might require a nuclear capability to deter or respond are not going to occur. At the same time, those nations which are given security guarantees that have in fact rejected the fundamentals of the existing international order will not likely change their goals and approaches just because they have received security guarantees from nations whom they view as the guarantors of an international order that they fundamentally reject.

It has also been argued that some nations develop and possess nuclear capabilities because they resent an alleged double standard by which the US (and a few other nations) can develop and/or possess nuclear capabilities but they are not permitted to do the same. The above examples also do not support this theory. Rather, it appears that at the end of the day various nations have simply decided for various reasons that they did not need or want nuclear capabilities even though a few nations, including the US, did possess such capabilities. Put another way, US decisions or actions are not a determining factor for other nations with respect to nuclear capabilities.

Positive security assurances, on the other hand, clearly have an important role to play in the nuclear area. Specifically, the US assures other nations that their security is protected by the US and this entails either explicitly or implicitly the possibility of the use by the US of nuclear weapons. This is in effect the flip side of extended deterrence, and its use has two effects. First, US assurances can deter a potential adversary of a US ally but such assurances can also be a decisive factor in a decision by such nations not to pursue their own nuclear capabilities. Among other things, the US security assurance gives confidence to allies and friends that the acquisition of nuclear weapons by an adversary will not subject them to coercive influence from the adversary. The existence of an extended deterrent also can deter intimidation by a nuclear power against non-nuclear nations.

Nations that have the capacity to develop nuclear weapons even now but have chosen not to do so include Japan, South Korea, Taiwan and also some European nations. In these cases security assurances do play a very important role in constraining the development of nuclear capabilities. As a result primarily of positive security assurances, these nations have chosen not to develop nuclear weapons even though they have the capability to do so. Thus, these positive security assurances have in fact served as a key mechanism for accomplishing non-proliferation objectives.

Further, if the US security assurance were to no longer exist or alternatively lose its credibility, this could actually result in increased nuclear proliferation as nations could at that point decide they need to develop their own nuclear capabilities for their security.

As to the subject of the future of nuclear weapons, a brief comment: put simply, nuclear weapons will be a part of the international security equation for the indefinite future. From a US perspective, nuclear weapons are necessary for deterrence in order to protect its allies and friends, and also to negate the possibility of these friends and allies deciding to acquire nuclear weapons.

For the US, nuclear weapons serve primarily to deter and reassure. Within that context, it is nonetheless appropriate to strive for the lowest number of nuclear weapons necessary to protect US national security and also to provide for security, assurance and stability. At the same time, the overall approach to reductions should be cautious. Any initiatives launched or agreements reached should not undermine the deterrence value of US nuclear weapons or the role of such weapons in assuring allies. Further, given that the US is the only nation with nuclear weapons that is not modernizing them, the US should in fact modernize its nuclear capabilities.
My own view is also that the US nuclear deterrent should also deter not only against nuclear attack but also against the possible use of chemical or biological weapons. In fact, at least in the past, officials have also conveyed a willingness to actually use such weapons under specified circumstances. According to informed reports, the US deterred Saddam Hussein from using such weapons during the two Gulf Wars. It is interesting that in 1996 the US concluded that Libya was developing a capability to produce chemical-warfare agents. Secretary of Defense William Perry stated that the United States would consider a wide range of options to ensure that the facility in question did not become operational. Perry stated that any country attacking the United States with chemical weapons would "have to fear the consequences of a response from any weapon in our inventory". He further elaborated that "we could make a devastating response without the use of nuclear weapons, but we would not forswear that possibility".

Finally, let me offer a few concluding comments regarding nuclear disarmament. First, however desirable as an ideal, the elimination of nuclear weapons – assuming it could actually be accomplished – would under current or foreseeable international political and security conditions make the world a more dangerous place; and would also leave the free and democratic nations more at risk.

Second, the US will need nuclear weapons for security assurance purposes and thereby also help constrain the proliferation of nuclear nations. Third, nuclear disarmament is simply not feasible in any event. In other words, one cannot really get from here to there. Among other things, verification cannot be ensured and the result of a formal ban on nuclear weapons would actually be more instability, uncertainty and insecurity.

Fourth, the concept held by some that US nuclear policies or actions will provide an incentive or motivation for other nations to end or abjure nuclear capabilities has no basis in the historical record.

Fifth, we should keep in mind the important role that missile defenses can play in reducing nuclear-related risks. Finally, any nuclear reductions by the US should not undermine the role of nuclear weapons in deterrence and in assuring its friends and allies.

It is also necessary to bear in mind that nuclear weapons are a symptom and not a cause of international tensions. No one is or indeed should be concerned about French or UK nuclear weapons because they pose no threat to any nation. Given the general track record and approach of democracies, nuclear weapons might be more safely reduced to a minimum if and when there is a world of real democratic governments.

Finally, I will close by quoting Winston Churchill, who warned in his last address to the United States Congress: "Be careful above all things not to let go of the atomic weapon until you are sure, and more than sure, that other means of preserving peace are in your hands".
The issue of curbing the proliferation of weapons of mass destruction is becoming increasingly relevant against the background of globalization and the emergence of various centres of power on the planet. In order to be effective, the response to current threats and challenges has to be comprehensive. Consequently, multilateral efforts have gained in importance, along with instruments such as traditional diplomacy and the implementation of new approaches involving new actors.

Nuclear weapons have been a factor of global politics and international relations since the mid-1940s. Until the end of the Cold War, the traditional system of global security was based on bipolar checks and balances which – despite all their deficiencies and the lack of mutual trust – proved in the end to be quite effective in maintaining global peace and security through the use of political and diplomatic tools. This factor has dominated the global security system even in the post-Cold War era: a phenomenon that can be explained not so much by the inertia of the containment philosophy as by the acute sensitivity of contemporary international relations to the impact of scientific and technological developments. The rapid growth of nuclear science ('vertical development') in the world has been accompanied by an increase in the number of states and non-state actors, who for various reasons, not necessarily military ones, are interested in its development.

1. Proliferation in a monopolar system

In the early 1990s, about 40 new member countries joined the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), among them France and China. In 1995, the treaty was extended for an indefinite time, and only five countries have remained outside it – India, Pakistan, Israel, Cuba and the Cook Islands. Seven countries gave up their military nuclear programmes and the nuclear armaments they had previously possessed, while others had them removed by force (Brazil, Argentina, the Ukraine, Belarus, Kazakhstan, South Africa, and Iraq).

But the last decade of the previous century also witnessed manifestations of negative trends in international affairs, among them the first series of major wars on the European continent. There was a marked deterioration in many other regional conflicts, both old and new. Moreover, they tended to turn into hotbeds of terrorism, crime and narcotics. In some cases, there were reports on the alleged use of radioactive munitions or their components. Despite continued efforts to reverse the situation, Iraq and Afghanistan continue to be bleeding wounds on the body of our planet.

Other trends of that kind include rising nationalistic and separatist movements and religious extremism as well as increasing inter-civilizational tensions. There were many reports about the threat of nuclear weapons or fissile materials falling into the hands of terrorists. On the other hand, no less dangerous was the possibility that the special services of some countries may decide to use radioactive materials for their own purposes: be it for political provocation or the achievement of some other goals.
There were setbacks on the non-proliferation front as well. In the late 1990s, nuclear proliferation gained momentum after India and Pakistan carried out a series of nuclear tests in 1998. The tests sparked serious and well-grounded fears over the military nuclear programmes being conducted by North Korea, Iran and several other countries. Suspicions with regard to Iraq's nuclear programme served as a pretext for, if not the cause of, the US war against that country in 2003, even though no nuclear weapons have been found in Iraq since the end of the military campaign. At the same time, North Korea declared its withdrawal from the NPT and its ability to quickly develop nuclear weapons. In Iran, facilities for enriching natural uranium were discovered which Tehran had been concealing from the International Atomic Energy Agency in violation of the NPT. It also turned out that Pakistan (and perhaps some other countries as well) was engaged in an active secret trade in nuclear technologies and materials with Iran, Syria and North Korea.¹

In light of the increased use of force in the world, some countries are tempted to acquire weapons of mass destruction as a perceived means of ensuring their security. There is also a risk that such weapons might fall into the hands of terrorists, with all ensuing disastrous consequences. The prime focus of the international security agenda is on the proliferation of nuclear weapons (nuclear proliferation), which is defined as an increasing number of non-nuclear states and, possibly in the future, non-state organizations, gaining access to nuclear weapons. This is a top priority issue in the official national security policies of the United States, Russia and many other leading countries in the world. Efforts to check nuclear proliferation involve the intensive work of secret services, the use of force against individual states and even large-scale military operations. It is crucial that these efforts are successful if the world's prospects and global security are to be assured in the foreseeable future.²

The situation with non-proliferation regimes is far from ideal and serious problems in that area are closely connected with the stagnation of the disarmament process. The arms race has not stopped. In fact, it has reached a new technological level and could lead to the emergence of a whole arsenal of destabilizing weapons and to the deployment of offensive systems in outer space. The nature of some of the latest technologies suggests that they are intended to solve strategic tasks rather than to combat terrorism. And it is necessary to take that into account.

The build-up of nuclear armaments by the largest states, concomitant with the desire of an increasing number of non-nuclear countries to obtain them, have remained closely interconnected phenomena. This is why any nuclear arms race is often described as nuclear proliferation: there exists 'vertical' proliferation (a nuclear build-up by the leading nuclear states) and 'horizontal' proliferation (an increase in the number of countries having nuclear armaments in their arsenals).

Russian analysts believe that a number of interacting causes explains the lax post-Cold War situation in the area of non-proliferation. For example, the leadership of the influential Centre for International Security of the Institute for World Economy and International Relations (IMEMO) believes that there are many reasons for the growing process of proliferation. This new stage was caused above all by the transfer of international conflicts to the regional level, and by the superpowers' decreased control over global developments, together with their decreased involvement in regional affairs. At first, this factor contributed to their interaction in various fields and enhanced the role of the United Nations, including the realm of non-proliferation. But as antagonisms between the superpowers increased in this area of international politics and technical cooperation, regional conflicts and the proliferation process escalated beyond their control.
The new stage is characterized by an information revolution, broader access to nuclear power specialists, technologies and materials, the formation of a nuclear black market, technological progress, and the proliferation of dual-use technologies and materials.

As distinct from the Cold War years, public opinion in the US, Western Europe and Russia has overcome its fear of nuclear weapons and no longer worries about the prospects for nuclear disarmament. However, the change of administration in the USA may have opened doors for new possibilities to improve the situation.

On 8 April 2010 Russia and the US signed the Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms. The New START treaty, of 10-year duration, was concluded as a follow-up to START and the Strategic Offensive Reductions Treaty (SORT). As the President of Russia put it, in this new treaty "both parties have won. And taking into account this victory of ours, the entire world community has won. This agreement enhances strategic stability".

An analysis of recent developments in the world shows that the comprehensive strengthening of the nuclear non-proliferation regime has now become ever more relevant. Of course, the danger of nuclear materials falling into the hands of terrorists, as well as the emergence of clandestine proliferation networks and black market trade in nuclear materials are of major concern. No less an important task is the need to seek the establishment of an architecture of international cooperation in the field of peaceful uses of atomic energy that would reduce the risk of spreading sensitive technologies in the world while ensuring the observance of the rights of states complying with their non-proliferation obligations to meet their legitimate energy needs. Regional challenges to the nuclear non-proliferation regime should remain in focus and require an early politico-diplomatic settlement through active efforts of all the parties concerned.

2. Regional contexts

The next issue to consider is Russia's position on non-proliferation from the perspective of regional contexts. There are three such regions with proliferation-related concerns: the Middle East, Iran and the Korean Peninsula.

The Russian Federation is a principled proponent of the idea to establish a nuclear-weapon-free zone in the Middle East. It is necessary to create an atmosphere conducive to furthering the disarmament process and engaging all states without any exception. The Russian Federation is prepared to pursue the expansion of the area of nuclear-weapon-free zones and the strengthening of the non-proliferation regime in the Middle East, as well as to enhance the efficacy of the mechanisms aimed at combating nuclear terrorism.

Efforts in that area serve the long-term interests of the regional states and contribute to the strengthening of international peace and security. If it could be established there, a zone free of nuclear weapons in the Middle East would create what might be called "a regional nuclear symmetry" and create uniform obligations and verification controls.

There is a certain positive dynamic in the development of the situation concerning the nuclear problem of the Korean Peninsula. This relates primarily to the February 2010 agreements concerning the first-stage denuclearization measures and the beginning of institutionalization of the Six-Party Talks process through establishing five working groups on key aspects of the settlement. The most important outcome of the work that has been done lately is the easing of tension that resulted from the well-known developments of July-October 2006, as well as the preven-
tion of a descent into confrontation. The parties directly involved should continue to search for ways of settling the "banking issue" so that it does not affect the prospects of the negotiation process in the nuclear field. Russia supports the idea, advocated by the USA and other partners, of holding a meeting of foreign ministers of countries taking part in the Six-Party negotiations to consolidate the progress achieved and to add momentum to further steps towards denuclearization.

North Korea is the only country to have withdrawn from the treaty, and non-proliferation experts worry about the precedent that withdrawal sets for countries like Iran. The withdrawal sets a bad example since it came about as a result of increased pressure on the part of the international community, primarily by the United States, upon the Korean government on nuclear proliferation issues. At the same time, an example of the opposite policies on the part of Washington vis-à-vis Israel yielded positive results in the mid-1960s. According to the influential Council of Foreign Relations, Israel was the sixth nation to develop nuclear weapons, using for this its reactor in Dimona which was built under a civilian nuclear deal with France. Declassified US intelligence documents show it is believed to have started production of weapons in 1968, the same year many other countries acceded to the NPT. In response to pressure from the United States to join the NPT, a year later the Israeli government refused but pledged not to become a declared nuclear country and "not use its nuclear status capability for diplomatic gains", according to a report by the Nuclear Threat Initiative, a non-profit organization focused on non-proliferation. Israeli leaders from all the major political parties have been remarkably restrained and consistent on the nuclear issue, and nuclear weapons have remained largely in the background of regional and domestic affairs.

The US-based Arms Control Association estimates Israel's nuclear arsenal is somewhere between seventy-five and two-hundred warheads. But this arsenal has not served as a major deterrent against low-level conflicts with its neighbours. The London-based daily The Guardian recently published an article alleging that back in 1975 Israel had considered supplying nuclear weapons to the then apartheid regime in South Africa. In quoting the Council of Foreign Relations paper and the article in The Guardian, one has of course to keep in mind all the differences between the Israeli and North Korean regimes and mentalities.

Regardless of circumstances, it is necessary to continue collaboration aimed at easing the tension surrounding the Iranian nuclear programme and settling the current situation through political and diplomatic means, as well as to pursue a dialogue with Iranians to encourage them to take a constructive approach.

Russia believes it necessary for Iran to solve all issues through cooperation with the IAEA and negotiations on the steps that are needed to clarify the outstanding questions concerning its past nuclear activities and to restore confidence in its current nuclear efforts. This is the only possible way of settling the situation concerning the Iranian nuclear problem.

As to Iran, there is opposition to further sanctions not only from Arab states that are irritated by Israel's refusal to join the NPT, but also from countries like Brazil and Turkey, which just negotiated a deal in which Iran will ship about half of its nuclear fuel to Turkey.

In the context of its consideration of disarmament issues, Russia introduced a draft resolution on transparency and confidence-building measures in outer space activities. The Russian side appreciates the support given by its partners to that draft resolution at the 61st UN GA session and counts on further cooperation. In addition, the Russian
side intends to promote the initiative to conclude a treaty banning the deployment of weapons in outer space.

Also, Russia is working for the adoption of a resolution on developments in the field of information and telecommunications in the context of international security which provided, inter alia, for a relevant study to be conducted in 2009 by a group of government experts.

3. The role of the UN and other international organizations

The Russian side attaches considerable significance to the discussion of the issue of interreligious, intercultural, and inter-civilizational dialogue in the UN and is prepared to take an active part in that discussion. It is important that constructive cooperation be established with the representatives of all religious groups in order to find joint solutions to the global problems of the modern world. Furthermore, it is planned to strengthen the cooperation with the Organization of the Islamic Conference – Russia has an observer status in the OIC – as well as with Islamic countries on a bilateral basis. Russia has joined the Group of Friends of the United Nations Alliance of Civilizations (AoC) and supports the activities of President Jorge Sampaio, who in 2007 was appointed as the High Representative for the AoC by UN Secretary-General Ban Ki-moon.

The international community can adequately respond to the challenge of international terrorism only on the basis of and subject to a strict observance of rules and principles of international law, including, first of all, the UN Charter. It is the UN that plays the central coordinating role in the organization and promotion of international counter-terrorism cooperation. And it is important to note that this organization has demonstrated its ability to do that adequately and efficiently. The consensus adoption by the UN General Assembly of the Global Counter-Terrorism Strategy is just another proof of that. The strategy can potentially consolidate the international community and help enhance the organization's counter-terrorism activities.

Russia attaches great importance to the entry into force on 7 July 2007 of the International Convention for the Suppression of Acts of Nuclear Terrorism adopted, on the basis of consensus, by the UN General Assembly on 15 April 2005. With Al-Qaida and other terrorist organizations trying to acquire a nuclear potential, that treaty should be instrumental in maintaining international peace and security. The key feature distinguishing it from other global conventions is that it was adopted as a pre-emptive measure, before any terrorist act employing nuclear materials or other radioactive substances has been committed. Russia was the first to sign that convention and the first among nuclear powers to ratify it in October 2006.

The Russian Federation is in favour of an early finalization and adoption of the draft Comprehensive Convention on International Terrorism. The convention unequivocally condemns terrorism, stressing that no reason or motive can justify it. Moreover, it clearly defines activities falling within the concept of terrorism.

One of the issues often raised by the countries which are close to developing capabilities of production of weapons of mass destruction is the right of self-defence. Russia's position is based on the fact that the limits to self-defence are clearly defined in Article 51 of the UN Charter which is still adequate and does not require any revision. A state acquires the right of self-defence when an "armed attack" against it has already occurred, including in the form of a large-scale terrorist attack. To exercise that right, the state should not necessarily wait for negative consequences of the armed attack. Of key importance here is the determination of the moment of the beginning of the attack.
4. Summary

To sum up Russia's position, we may say that the nation is committed to the goals of the Treaty on the Non-Proliferation of Nuclear Weapons in all of its three pillars: non-proliferation, disarmament and the peaceful uses of nuclear energy. Russia respects the inalienable right of all the parties to the treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with articles I and II of the NPT. It shares the view of states that consider nuclear power to be an important contributor to enhanced energy security, economical and social development and the mitigation of climate change. At the same time, steps must be taken to ensure that the increased use of nuclear materials and technologies and the development of civil nuclear power take place within the global non-proliferation regime and meet the highest non-proliferation standards.

The nuclear fuel cycle poses specific proliferation risks, which should be minimized without prejudice to the rights of states under article IV of the treaty. The widespread promotion and practical implementation of multilateral approaches to the nuclear fuel cycle could reduce proliferation risks while also strengthening energy security and ensuring that all interested states have optimal and economically attractive access to the nuclear fuel required by their power reactors.

Any such mechanism should be apolitical and non-discriminatory, and should be accessible to all states that are in compliance with their non-proliferation obligations. Furthermore, it should not require a state to renounce its rights regarding the development of any stage of the nuclear fuel cycle.

In January 2006 Russian President Vladimir Putin announced his country's intent to develop a network of multilateral centres providing nuclear fuel cycle services and, as the first step in its implementation, the International Uranium Enrichment Centre was established in Angarsk in September 2007. States participating in the Centre will have guaranteed access to enrichment services to meet their nuclear fuel needs. Russia welcomes the decision taken by the International Atomic Energy Agency (IAEA) Board of Governors in November 2009 to approve the agreement between the Russian Federation and IAEA to establish a reserve of low-enriched uranium (LEU) for the supply of LEU to IAEA for the needs of its member states, and also the model agreement between IAEA and the governments of member states for the supply of LEU for the operation of specific nuclear power plants.

The internationalization of the nuclear fuel cycle and mechanisms of guaranteed nuclear fuel supply will help to establish new proliferation-resistant architecture for international nuclear energy cooperation.

Among positive developments, one could note the emergence and consolidation of new forms of multilateral diplomacy and the increased awareness of the unique potential of the UN. Russia has been a consistent proponent of principles of multipolarity and equal security for all countries. No country has enough military, political or economic resources to secure and maintain its sole leadership in the modern world.

In his statement at Helsinki University in 2009, President Dmitry A. Medvedev of the Russian Federation clearly defined the conditions enabling nuclear disarmament.

First, we must prevent the militarization of outer space. Despite all the references made to this topic, it remains a very important and complicated one.

Second, it is unacceptable to compensate nuclear reductions by developing strategic systems which are equipped with conventional weapons. This would be an unequal exchange.
And third, we must ensure the impossibility of creating so-called recoverable nuclear capabilities.

It would be underestimating the case to confine nuclear disarmament issues to US-Russian relations. Russia is convinced that the task of nuclear disarmament concerns not only nuclear weapon states, but every party to the NPT without exception. The ambitious goal of reaching Nuclear Zero can only be addressed together with other international issues, such as settling regional conflicts and ensuring the consistent viability of the key disarmament and non-proliferation instruments.

It is impossible to create a just and democratic world order without ensuring an unequivocal respect for international law. There is an imperative need for a uniform interpretation and application of its rules on a global scale. In that connection it is extremely important to strengthen the central role of the UN and its Security Council which provide a universal mechanism to maintain international peace and security.

It is necessary to establish a way through which decisions can be worked out that would reaffirm the role of the NPT as the proper basis for addressing the current challenges and threats to non-proliferation, determine the instruments for improvement and universalization of the IAEA’s safeguards system, facilitate the early entry into force of the Comprehensive Nuclear Test Ban Treaty and give an impetus to launching negotiations at the Conference on Disarmament on a treaty banning the production of fissile materials for nuclear weapons.

Current challenges in the field of nuclear non-proliferation can and must be addressed on the basis of the NPT by fully proceeding from the inviolability of its provisions, strictly abiding by the norms of international law and with due regard for all states' legitimate security and development interests. Much work is still remains to be done to ensure universal compliance with the treaty's non-proliferation requirements. This work will require extensive political consultations and difficult decisions in the course of negotiations.

Notes


2 Ibid., p. 136.

3 Ibid., p. 137.


5 http://www.guardian.co.uk/world/2010/may/23/israel-south-africa-nuclear-weapons/print
Realism (past / present) and idealism (Global Zero) in arms reduction

William Schneider, Jr.

Realism and idealism have an enduring history of coexistence in public policy disputes. Russia's aspirations to codify its post-Cold War need for "equality" with the US in order to reclaim its superpower status have converged with utopian aspirations to eliminate all nuclear weapons – the early 21st century Global Zero campaign. Though this campaign can be seen as little more than an iteration of the 1970 Article VI commitment in the NPT to "general and complete disarmament", its top-down advocacy has given the concept early political traction. However, the forces of nuclear proliferation and the need for effective extended deterrence are causing the US and NATO leadership to adopt more "realist" rather than idealistic or utopian policies. Further, legacy Cold War arms control concepts have failed to assimilate technological change that is diminishing the effectiveness of 20th century strategic arms control arrangements. Realism seems likely to trump idealism.

1. Introduction

Realism and idealism have had enduring parallel paths in assessing and responding to the human condition, but perhaps nowhere more than in security affairs. Ageless images of brutality and glory in warfare have co-existed with revulsion at the wanton destructiveness and loss of life that warfare entails. As warfare has become more destructive, revulsion at warfare has increasingly been expressed through the emergence of utopian political and religious anti-war movements. Industrialization has permitted the implementation of the Napoleonic concept of a "nation at war" to new depths of destruction and loss of life. Moreover, the capacity to destroy adversary states has caused non-combatant casualties and civil destruction to far exceed those of combatants. However, it is the military application of atomic energy that has created the most diverse range of utopian, idealistic, and realistic responses to the threat posed, especially to civil society. The notion that inter-state warfare could be conducted using nuclear weapons caused many to see nuclear weapons as a societal threat that justified extreme measures. The initial employment of nuclear weapons by the United States in 1945 produced widespread civil casualties and the destruction of the civil infrastructure, but the targets chosen had a focused military rationale. Hiroshima was the lynchpin of the defense of Western Japan, while Nagasaki was the Imperial Japanese Naval Headquarters.

Nuclear weapons were not manufactured and produced in large numbers until the 1950s when doctrinal development and delivery system innovation became financially feasible following the Korean War (1950-53). The US defense budget was increased by a factor of four from its post-World War II low point. At this stage, ICBMs, SLBMs, heavy bombers, and nearly three dozen nuclear...
weapon applications were developed and deployed. The shape of the modern US nuclear doctrine began to emerge during the early 1960s as major nuclear delivery systems were produced and deployed with the specialized military units which were assigned nuclear missions.

Anti-nuclear utopianism was slow to develop until US former Secretary of Defense Robert McNamara's codification of mutual assured destruction in the mid-1960s. Actual US nuclear targeting doctrine and war plans were not aimed at civilian targets. However, routine descriptions in the news media and in Congressional testimony of tens of millions of non-combatant casualties resulting if urban-industrial targets were brought under attack accelerated the creation of utopian anti-nuclear movements and contributed to the abandonment of realist approaches to nuclear weapons.

Further, efforts to mitigate the risk to civilians by measures such as ballistic missile defense or improved delivery accuracy of nuclear weapons to minimize unintended damage were rejected by mutual assured destruction advocates. This paper seeks to assess the phenomenon of the coexistence of realism and idealism in nuclear weapons policy in the light of its current utopian manifestation, Global Zero: a campaign to eliminate nuclear weapons.

2. The Nuclear Freeze and Global Zero: utopian political movements

Idealistic and utopian aspirations for nuclear disarmament are not a new phenomenon. The notion of complete disarmament is a central part of the Nuclear Non-Proliferation Treaty, and improving US "compliance" with the NPT's Article VI was a significant factor in the timing for completion of the US-Russian negotiations on the extension of the START Agreement. Article VI, negotiated in 1968 and ratified in 1970, commits its signatories to negotiate a treaty on "general and complete disarmament under strict and effective international control". The US commitment to Article VI has remained formally part of US policy because the NPT as ratified is part of US law. However, US nuclear weapons holdings and doctrine have changed radically during the period since the Treaty was ratified, without significant involvement with Article VI compliance.

To a considerable extent, the emergence of idealistic and utopian advocacy groups focused on political action reflected the irrelevance of Article VI to US defense planning. If Article VI was to be implemented, it would require concrete action by the US government that could only be produced through the political process.

The emergence of two significant utopian movements over the past three decades, one during the late Cold War and the other a post-Cold War movement, illustrate how the content and process of idealist and utopian arms control advocacy has changed. These two initiatives demonstrate the characteristics of anti-nuclear idealism and in particular, the divergent paths they have taken to political influence.

The first, the Nuclear Freeze movement, was stimulated by a pamphlet published in 1978 by the late Randall Forsberg. Its simplicity accounted for its extensive (if brief) political appeal. The initiative, a late Cold War political movement, achieved prominence in the US and Western Europe.

The Nuclear Freeze movement was a significant late Cold War utopian movement that achieved some political traction in the run-up to the 1984 presidential election campaign. However, it swiftly vanished thereafter when the presidential aspirant who advocated a nuclear freeze as an arms control policy objective, former US Vice President Walter Mondale, suffered a record defeat in losing 49 of the 50 US states.3
The intent of the movement was to diminish what its advocates believed to be the inherent risk of nuclear conflict arising from the strategy of mutually assured destruction through a bilateral US-Soviet agreement to cease producing nuclear weapons. As a political movement, it succeeded in obtaining Congressional approval of a non-binding resolution in 1983, but it was ignored by the incumbent President (and anti-nuclear utopian) Ronald Reagan because it offered no answer to the question of how to mitigate the risks of proliferation.

The Nuclear Freeze movement was "arms control from below" – an effort of committed non-governmental activists to propagate their views into policy change through political advocacy. Propelled by a media tail-wind, the movement was at first superficially successful. According to the Los Angeles Times, in 1982 "freeze initiatives went before voters in eight states and won in seven, including California. Politicians in Washington introduced freeze resolutions in the House and the Senate as national polls showed that more than 70% of Americans favored halting the arms race. A 'No Nukes' march and rally in New York City drew nearly 1 million people".4

Forsberg’s subsequent comments as the Nuclear Freeze movement began to unravel in 1983 offered some insights into why this utopian endeavor – whose success was attributed to its simplicity – failed. In a 1983 interview with the "Los Angeles Times" as a doctoral candidate at MIT confronting the realities of governance she said:

"I learned at MIT that armed force was not just for defense but for influencing the course of world history. And I discovered that the peace groups at the time weren't even aware of this. There was a consensus on complaints – too many weapons, too much testing and too high a military budget – but no consensus on alternatives."

Such is often the fate of idealistic and utopian concepts for most complex questions of public policy. Multiple competing interests and the inflexibility of simple concepts to cope with the complexities of reality, even when they are co-opted by public figures or serving politicians lead to the rapid end of such efforts. Nevertheless, a paradoxical American political figure that rejected the nuclear freeze had an even more radical perspective.

President Ronald Reagan (March 1983) proposed instead the Strategic Defense Initiative as part of his own vision about how nuclear weapons could be eliminated. He saw effective missile defense as the enabler of a military posture that could permit the elimination of offensive nuclear weapons. In what turned out to be the boldest American arms control initiative of the Cold War, at the US-Soviet summit at Reykjavik in 1987 Reagan proposed the elimination of all nuclear weapons to his Soviet counterpart. It was, however, rejected by President Gorbachev. The 1987 Reagan initiative at Reykjavik has become the intellectual basis for the contemporary Global Zero, though it omits a crucial element of Reagan's utopian vision – extensive missile defense to cope with non-compliance. Ironically, the proponents of Global Zero were almost entirely (apart from Reagan's former Secretary of State, George Shultz) intense opponents of Reagan's defense policies at the time – including former Soviet President Gorbachev.5

The Global Zero movement, developed by US arms control advocates and with an international following, has become the most important post-Cold War utopian arms control movement.

In contrast to the Cold War nuclear freeze initiative, Global Zero is a top-down approach that was developed by political elites to be propagated through the political proc-
ess at the leadership level. The concept was driven into the Democratic Party's platform in 2008, and energetically pursued by President Obama. The post-Cold War circumstances of the Russian nuclear weapons establishment differ significantly from the apparatus available to President Gorbachev in 1987 when he rejected President Reagan's nuclear abolitionist overture. Most significantly, Russia's industrial base – particularly for intermediate and intercontinental missiles – collapsed when the Ukraine became independent in 1991 since most of the industrial capacity for long-range missiles was located there. The Russian government has been unable to recreate the scientific and industrial capacity to do more than sustain the long-range ballistic missile ceiling proposed in the recently negotiated new START Agreement to replace its Soviet-era counterpart.

As a result, the Russian leadership has sought to drive the number of US strategic nuclear delivery systems to a level that is equal to the level the Russian government can sustain – both for industrial and political reasons. Hence, the Global Zero initiative has given way to the Move to Zero Nuclear Weapons, reflecting the Administration's incremental approach to its Global Zero aspiration.

The new START Agreement is now before the Senate for ratification. The concessions the Obama Administration offered to induce Russia to sign the agreement are likely to be controversial: establishing a legally binding linkage between offensive force reductions and active defense, and scoring non-nuclear conventional systems as nuclear delivery systems while allowing Russia's 4,000 plus inventory of theater nuclear weapons (and its very active modernization effort) to grow without limit. The Administration has described the new START Agreement as "transitional" and promises a further effort to reduce offensive nuclear arms.

3. Factors shaping a realistic approach to nuclear weapons

Every US president since the dawn of the nuclear age has sought to reduce the role and number of nuclear weapons, but has been compelled by circumstances to do otherwise. While a description of this aspect of the history of the US strategic nuclear weapons program is beyond the scope of this paper, it is worth noting two factors that are likely to bear on US presidents throughout the first quarter of the 21st century, and perhaps beyond. These factors are likely to affect the ability of any US president to pursue utopian aspirations

3.1 Nuclear proliferation

The technology of nuclear weapons is nearly seven decades old and the physics and engineering of nuclear explosives are widely understood. The computing capability to perform the bomb geometry calculations is now found in desk-top computers. However, it is no longer necessary to develop a nuclear weapon since a fully engineered, tested weapon (not a device) is now available on the international market, and in series production.

China's lamentable decision to provide Pakistan with the complete industrial engineering details to produce its CHIC-4 nuclear device in 1982 has proven to be the crucial enabler of the proliferation of nuclear weapons in the Third World – particularly in "rogue states". Pakistan was able to reproduce the device and add some modern features that have made it easier to manufacture with commercial technologies.

The PRC tested the Pakistani-built nuclear device at China's Lop Nur nuclear test facility in Xinjiang province on 26 May 1990. The Pakistani design and the Chinese source documents have been widely proliferated. They were provided to Libya and Iran as
part of the A. Q. Khan network's sale of the Pakistani design, and another copy was found in the possession of the Swiss high-tech criminal trade diversion family, the Tinner family (father Friedrich and sons Urs and Marco). The document was subsequently destroyed by the government of Switzerland – 30,000 pages of documentation – though it is unlikely that the copy destroyed was the last one on earth.7

The challenge and risk in the clandestine acquisition of nuclear weapons has diminished significantly in the past two decades and differs fundamentally from the environment the authors of the NPT anticipated. The phenomenon of a networked supply chain based on a carefully targeted acquisition strategy using the Chinese/Pakistani design avoids the need for a vertically integrated trial-and-error development effort for a nuclear explosive that is likely to be observed. Moreover, neither the weapon nor the device needs explosive testing since its design heritage has been tested at full yield by both China and Pakistan in underground and atmospheric nuclear tests.

The most formidable barrier remaining to nuclear weapons is gaining access to fissile material. Decades of labor by the "club" of producers of nuclear material – the Nuclear Suppliers Group – have sought to deny access to fissile material to non-signatories of the NPT through an elaborate process of export controls, diplomacy, and active intervention. However, since the mid-1990s, a new path for potential nuclear weapon states to access fissile material under the NPT has been created.

Both Iran and North Korea have demonstrated that it is practical to produce fissile material for nuclear weapons under the NPT. In North Korea's case it has been able to test two devices following its withdrawal from the NPT while having enjoyed access to nuclear technology under the NPT while it was a member. Iran has been able to accumulate several metric tons of low-enriched uranium that can be converted in a matter of months to highly enriched uranium suitable for weapons applications.

The lesson of Iran and North Korea is not lost on other nations seeking to maintain a nuclear option. The number of nations seeking civil nuclear power information from the International Atomic Energy Agency (IAEA) has increased 50% in the past decade to nearly 60 countries. The failure of the international community to prevent North Korea and Iran from pursuing their interests in nuclear weapons makes it likely that the US will need to both deter the threat or use of adversary nuclear weapons against US interests as well as to reassure friendly nations facing a choice of whether or not to acquire nuclear weapons.

The mission of providing extended deterrence to allied and friendly nations is perhaps the most demanding of the post-Cold War security roles of nuclear weapons, but is often overlooked in the shaping of utopian nuclear abolitionism.

### 3.2 Extended deterrence

Extended deterrence is the most decisive issue in nuclear non-proliferation policy. A Congressional Commission established in 2008 co-chaired by former Secretaries of Defense William Perry and James Schlesinger focused on ways to adapt the US nuclear posture to 21st century realities.8 This is a "realist" document that recognizes the practical circumstances of contemporary regional security. While the Commission was unable to agree on whether or not to recommend ratification of the Comprehensive Test Ban Treaty (CTBT), it was able to agree on the importance of extended deterrence as necessary to prevent the "cascade" of nuclear states if they come to fear that the United States will be unable to extend its nuclear umbrella to make it unnecessary for these
nations – mostly nations that have friendly relations with the United States – to have their own.

The Defense Science Board conducted a study in 2007 that addressed the linkage between extended deterrence and nuclear proliferation. The evidence from two dozen examples of states that considered acquiring nuclear weapons as well as those which decided to abandon the effort concluded that the confidence in the credibility of the US nuclear deterrent was a decisive consideration in their decision-making.

This is so because of an ironic development. As the US and other major industrial nations have relentlessly improved their capacity for conventional combined arms operations, the ability of regional powers to deter US (or allied nation) intervention has diminished sharply as US conventional military superiority has grown. As a consequence, the appeal of nuclear weapons and their means of delivery has become the central aspiration of nations that seek to deter foreign intervention, either directly against them, or against their regional interests. Nuclear weapons have become the instrument of choice as the barriers to entry into the nuclear club – technical, industrial, financial, and political – have declined.

Nuclear abolitionist idealism that neglects this inconvenient truth is likely to eventually find it necessary to modify or hedge such policies.

4. Evolution of "realist" initiatives in a "utopian" political environment

The cumulative impact of the intensification of the pressure of nuclear proliferation and the associated need to sustain the credibility of extended deterrence has caused the Obama Administration to hedge its Global Zero aspirations immediately following completion of the new START Agreement extension. In its recently published National Security Strategy, President Obama said:

"As long as any nuclear weapons exist, the United States will sustain a safe, secure and effective nuclear arsenal, both to deter potential adversaries and to assure U.S. allies and other security partners that they can count on America's security commitments."

Asserting political or diplomatic functionality for nuclear weapons as President Obama and former Secretaries Perry and Schlesinger found it necessary to do is resisted by utopian advocates of Global Zero. References to the functionality of nuclear weapons in official documents, programs, and military operations reflect the fact that utopian rhetoric is likely to continue to coexist with rhetorical support for utopian policies.

The "NATO 2020 Report" published in May 2010 by a distinguished "Group of Experts" led by former US Secretary of State Madeleine Albright reached a similar conclusion:

"As long as nuclear weapons exist, NATO should continue to maintain secure and reliable nuclear forces, with widely shared responsibility for deployment and operational support, at the minimum level required by the prevailing security environment."

The utopian diagnosis of the international security environment has also neglected to capture the extent to which technology is evolving that will materially alter the environment in which nuclear weapons will be involved in US foreign policy. The number of targets to which the unique characteristics of nuclear weapons (energy density, thermal, and ionizing radiation) are needed has diminished sharply as most targets are vulnerable to precision non-nuclear strike. The delivery accuracy of a military payload is now independent of the distance from which it is launched. The integration of kinetic and
non-kinetic military operations is likely to be more effective in achieving military objectives than the physical destruction of civil and military infrastructure.

Nor will the intercontinental delivery of weapon payloads necessarily require the use of ballistic missiles. Non-ballistic glide weapons (such as the recently tested US experimental X-37 and X-51 systems) can be placed at high altitudes by guided rather than ballistic missiles or aircraft. This sort of technological change reaffirms how advances in defense technology are undermining the legacy Cold War-era arms reduction concepts. These inherited concepts are currently driving the advocacy for utopian solutions to international security and arms control aspirations, but seem destined to collide with the reality of 21st century technology and its international security environment.

5. Conclusion

The history of nuclear arms control suggests that the agenda is often driven by idealists, but it is implemented by realists. As a consequence, utopian aspirations have a relatively short half-life in public policy. The interacting forces of international security imperatives and the subversive impact of technological change are at work to make utopian positions untenable for a prolonged period.

Notes

1 Keegan, John: A History of Warfare, New York 1993. Keegan cites Hitler's 1940 abrogation of the tacit agreement to spare civilian targets that led to allied city bombing tactics in Germany, p. 374.

2 Imperial Japan's Army planned a defense of Japan along the lines of its defense of Okinawa that involved the extensive use of civilians as combatants; Hiroshima was the headquarters of the IJA for Western Kyushu where such Japan-wide planning was implemented in August, 1945 under Field Marshall Shunroku Hata. See Bratby, Roger S.: Beyond the Bamboo Screen, ed. by Tom McGowan, Dunfermline, Scotland, 2000. For a detailed description of the planned use of civilians as combatants, the memoir of the Imperial Japanese Army colonel who planned the defense of Okinawa is useful; see Col. Hiromichi Yahara, New York 1995. The American experience, particularly of Okinawa, that influenced the nuclear target selection in Japan is graphically described in the memoirs of a USMC enlisted man, E. B. Sledge: With the Old Breed at Peleliu and Okinawa, New York 1990.

3 The Nuclear Freeze movement in the US was coincident in time with intense anti-US European opposition to the (ultimately successful) US deployment of the Pershing II and Ground Launched Cruise Missiles in Western Europe. The anti-American nature of the European protest movement detracted from the effectiveness of the advocacy for the Nuclear Freeze. The avalanche of post-Soviet archival material revealed the intense effort of the Soviet Union to exploit the peace movement in the 1980s that in turn was driven by the belief that the US was preparing a nuclear attack on the Soviet Union (Operation RYAN; Raketno-Yadernoye Napa-denie – Nuclear Missile Attack), Andrew C. & Mitrokhin V.: The Sword and the Shield: The Mitrokhin Archive and the Secret History of the KGB, New York 1999, p. 456.

4 Woo, Elaine: Randall Forsberg, 64; founder of nuclear freeze movement in 80s, Los Angeles Times, 1.11.2007, http://articles.latimes.com/2007/nov/01/local/me-forsberg1/3


6 The PRC tested Pakistan's 10-kt solid core enriched but unboosted uranium bomb derived from the Chinese CHIC-4 design matching the performance characteristics of Pakistan's in-
digenous nuclear test on 28.5.1998. See Reed, T. C. / Stillman, D. S.: The Nuclear Express: A Political History of the Bomb and its Proliferation, Minneapolis 2009, p. 252. Reed was a former US Secretary of the Air Force and a research scientist at the Lawrence Livermore National Laboratory; Stillman was formerly Director of Technical Intelligence at the Los Alamos National Laboratory.

7 Reed / Stillman, op. cit., p. 275.


11 The most recently published example of this sort is David Cortright and Raimo Väyrynen, Towards Nuclear Zero, London: IISS, May 2010.

Effectiveness of enforcement of reduction agreements: NATO's role

Guy B. Roberts

NATO has a vested interest and a role to play in the global non-proliferation initiative. With regard to its role, enforcement of arms control agreements does not mean that NATO will transform itself from a defensive alliance into a global police force. Rather, this article describes how – through exercises and education; strengthening inspection, verification, detection and crisis response – NATO is actively deterring proliferation and non-compliance, while not 'enforcing' arms reduction treaties per se. By further developing the capacities of Allies and Partners through programmes and initiatives, and working to build a network of networks to create a web of denial for would-be proliferators and terrorists, NATO is making key contributions to preserving international non-proliferation legal norms and, when called upon, to enforcing multilateral arms control agreements.

The problem of enforcing reduction-of-arms agreements is indeed challenging and vexing, particularly in the case of nuclear weapons. It is impossible to avoid the fact that to achieve the vision of a world without nuclear weapons we need more than just comprehensive arms limitation treaties and reduction agreements – these will only fail if we cannot provide an effective verification system and compliance mechanisms that can quiet the anxiety of suspicion and offer the comfort of certainty. If the world community is to have any chance at achieving the aspiration of "global zero", the threat of punitive action in the event of non-compliance must be credible and understood.

Even before the advent of today's nuclear non-proliferation regime, Dr. Fred Iklé in 1961 eloquently identified the crux of the problem in words which remain even more relevant today, as comprehensive arms limitation treaties and reduction agreements cannot alone achieve the vision of a world without nuclear weapons. Enforcement plays a key role in this endeavour:

"Yet detecting violations is not enough. What counts are the political and military consequences of a violation once it has been detected, since these alone will determine whether or not the violator stands to gain in the end. In entering into an arms-control agreement, we must know not only that we are technically capable of detecting a violation but also that we or the rest of the world will be politically, legally and militarily in a position to react effectively if a violation is discovered." 1

Consequently, while the Alliance fully supports the new START Agreement between the US and Russia, and hopes to see eventually negotiations on reducing and eliminating tactical nuclear weapons in Europe, verification and compliance are critical to achieving the proposed reductions and elimination of nuclear weapons without diminishing Alliance security. Nations will not tie their hands and limit their strategic leverage if they cannot be certain their counterparts are doing the same. While the Alliance has made it clear that it will not undertake further nuclear arms reductions in the present security environment unless as part of a negotiated arms control agreement, there must also be high confidence that such agreements are verifiable and that the costs of non-compliance remain high.
Unfortunately, the record of compliance and enforcement has been exceedingly poor. Recently, for example, countries such as Iran and North Korea have violated their Nuclear Non-Proliferation Treaty (NPT) obligations, and yet the international community is unable to forge the necessary resolve to enforce compliance with non-proliferation norms accepted and embraced by the international community.

Since the 1967 Harmel Report, NATO has been a firm supporter of non-proliferation, disarmament and arms control efforts as an inseparable element of NATO's contribution to security and stability. That commitment of support is reflected in Paragraph 40 of the 1999 Strategic Concept which affirms the Alliance's commitment "to actively contribute to the development of arms control, disarmament, and non-proliferation agreements as well as to confidence and security building measures. The Allies take seriously their distinctive role in promoting a broader, more comprehensive and more verifiable international arms control and disarmament process". Of course, with regard to NATO's role, 'enforcement' of arms control agreements does not mean that NATO will transform itself from a defensive alliance into a global police force. Undoubtedly, NATO is a political-military defence alliance with the capabilities to take action and enforce a treaty's provisions in the event of non-compliance, but only if called upon in accordance with a UN Security Council mandate in conformity with international law or the invocation of Article V of the Washington Treaty.

In 2010 NATO will agree on a new Strategic Concept for the 21st Century. Given the strong support for NATO to continue to play a role in addressing the threat of weapons of mass destruction (WMD) proliferation and terrorism, as discussed in more detail below, the new Strategic Concept will re-enforce and perhaps expand NATO's support efforts.

1. NATO and non-proliferation

As noted earlier, NATO has long supported arms control, disarmament and non-proliferation efforts, and this has been consistently reflected in numerous high-level meetings of heads of state and government. In 2004 at the Istanbul Summit, NATO acknowledged the need to establish a Comprehensive Political Guidance for the further development of military capabilities with special attention to the threats posed by the proliferation of WMD. The Comprehensive Political Guidance was agreed to by NATO Heads of State and Government at the Riga Summit in 2006 where leaders stressed that the proliferation of WMD is "likely to be the principal threat to the Alliance over the next 10 to 15 years ...." At subsequent summits in Bucharest and at Strasbourg / Kehl in 2009, heads of state and government again emphasized the danger of the threat and the importance of supporting international measures to stop proliferation and support arms control and disarmament.

Just as the rest of the international community, NATO remains concerned over the recent serious challenges to global non-proliferation norms. The threats are readily self-evident: North Korea's withdrawal from the NPT and its continued missile testing in the face of global condemnation; Iran's demonstrated intransigence in the face of repeated UNSC resolutions and the discovery of its covert nuclear programme; Syria's efforts to acquire nuclear components for a possible nuclear weapons programme; and recent speculation that Myanmar may be collaborating with North Korea on a nuclear programme are all troubling indications that the status quo is not working.

In response to these developments NATO has made strong statements that all states should comply fully with their international legal obligations including relevant UN Security Council resolutions. NATO fully supports the UN Security Council's deter-
mination that North Korea's nuclear test constitutes a clear threat to international peace and security. The North Atlantic Council has also demanded that the Iranian government suspend all enrichment-related and reprocessing activities including research and development, to be verified by the International Atomic Energy Agency.

As established by Paragraph 40 of the Strategic Concept, non-proliferation is an important NATO activity, and this was re-affirmed in 2009 in the Comprehensive, Strategic-Level Policy for Preventing the Proliferation of WMD and Defending against Chemical, Biological, Radiological and Nuclear (CBRN) Threats. Endorsed by NATO leaders at NATO's 60th anniversary Summit at Strassbourg / Kehl, the new Comprehensive Policy is a political mandate to seek out opportunities to work with NATO partners and others, including international organizations, to support arms control, disarmament and non-proliferation initiatives. This document reflects the Alliance's commitment to ensuring that its populations, territories and forces will be secure from CBRN threats, and ensuring that Allies, Partners and others will not be coerced by threats of WMD.

The Comprehensive Policy acknowledges that NATO faces a whole range of complex challenges and threats to its security, much different from the threats faced by Allies when the Alliance was formed, but it directs (and challenges) Allies to work together to meet these new threats and challenges. The new Strategic Concept will likely confirm these threats and challenges; incorporate the mandate contained in this Comprehensive Policy; affirm NATO's full support for efforts to prevent the proliferation of all WMD (but particularly nuclear weapons); and support progress towards a world free of nuclear weapons.

The new Comprehensive Policy describes three main pillars of a "comprehensive approach" to addressing the threat of WMD proliferation and terrorism. These are:

- Preventing proliferation of WMD – how NATO can support traditional measures of proliferation prevention that can dissuade and impede proliferant states and terrorist networks.
- Protecting against a WMD attack or CBRN event – the Alliance defence posture must have the capability to appropriately and effectively address the risks associated with the proliferation of WMD and their means of delivery, which pose a potential threat to the Allies' populations, territory and forces. A balanced mix of forces, response capabilities and strengthened defences is needed in order to deter and defend against the use of WMD.
- Recovering from a CBRN attack or CBRN event – when efforts to prevent or defend against a WMD attack do not succeed, NATO must be fully prepared to recover from the consequences of WMD use against our populations, territory and forces whether by hostile states or by terrorists, and similarly to assist our partners, if requested, and agreed.

The Comprehensive Policy is clear on how NATO would respond should measures to de-escalate a crisis with a WMD dimension prove ineffective:

NATO will employ defenses to defeat WMD use, to protect Alliance populations, territory and forces against WMD attack, and to explore ways to assist partners. NATO forces will be ready to disrupt WMD delivery, respond against the sources of any WMD attack, mitigate the effects of a WMD attack and destroy or dismantle residual WMD capabilities of an aggressor to prevent follow-on attacks.

The Comprehensive Policy also makes clear that NATO's nuclear deterrence posture has a strong role to play in preventing and deterring the use of WMD against the Allies.
2. Specific initiatives

NATO has embarked on a number of initiatives to support efforts at deterring and preventing WMD trafficking or their use by terrorists. One such NATO initiative is the establishment of the Maritime Interdiction Working Group (MIWG) of relevant NATO bodies. This group provides guidance and options on possible NATO activities in support of international efforts to prevent the trafficking by sea of WMD, related materials and their means of delivery. The maritime environment is one of the more critical areas where illicit trafficking remains a significant and growing problem. The MIWG is a useful body for coordinating NATO's response, reaching out to other maritime organizations, and supporting international interdiction operations if requested. It is also a useful vehicle for raising NATO's profile in the field of arms control, disarmament and non-proliferation.

Another key role for NATO in enforcement of arms reduction treaties, and non-proliferation more broadly, is capacity building among Allies and Partners. Through training and education, as well as the provision of resources to Allies and Partners, NATO is building future capabilities for verification, compliance and anti-proliferation. NATO adds value to non-proliferation efforts by fostering the development of Allied capabilities to impede or stop the trafficking of WMD, related materials and their means of delivery.

Additionally, NATO has established training courses at the NATO School in Oberammergau, Germany for inspectors for Conventional Forces in Europe (CFE), the Vienna Document and Open Skies Agreement. In addition, with the strong support of Greece, NATO recently opened a new Maritime Interdiction and Operations Training Centre in Souda Bay, Crete to train maritime forces in all aspects of interdiction at sea. Also recently established at the Training Centre is a Maritime Interdiction of WMD Trafficking Course. The purpose of the course is to train navy, coastguard, port authorities and other law enforcement organizations on methods, procedures and issues related to interdiction of suspected cargoes of WMD and related materials.

NATO schools have the capacity and are able to also provide education and capacity building towards achieving our arms control and non-proliferation goals of verification and compliance. NATO schools can do this by offering the training to help detect non-compliance, proliferation and the transfer of sensitive materials through inspection or interdiction training. Helping Partners and Allies to build robust networks of detection and disruption of trafficking patterns will send the message that trafficking in illicit WMD materials will only result in capture, seizure and arrest. This would be, in effect, deterrence by denial to enforce arms reduction agreements and our non-proliferation goals.

NATO can also contribute to denying potential aggressors the political objective they are seeking, and altering their cost-benefit calculation. This is being done through exercises and activities that prepare Allies and Partners for any situation where WMD may be employed. This is something NATO is already doing and we are constantly developing new ideas related to this effort. For example, in terms of responding to a WMD crisis, NATO has established two deployable laboratories that could be deployed on short notice within 48 hours to do initial assessments of a CBR attack.

Also, NATO recently hosted a CBRN Outreach Event organized by the NATO WMD Centre and CBRNe World, an industry association, showcasing new technologies for responding and detection of WMD. Supporting Allies and Partners with capabilities to detect and respond functions as a deterrent and also contributes to the enforcement of arms reduction treaties.
Another example is a NATO-Russia seminar on Improvised Nuclear or Radiological Devices held at NATO headquarters in June 2010. Not only was this an opportunity for cooperation, trust building, openness and transparency, it also helped develop (through the use of a scenario) an enhanced understanding among nuclear weapon states and non-nuclear weapon states of the roles and responsibilities, as well as procedures and plans, for actions in response to situations and events involving the use of an improvised nuclear or radiological device. Assuming the successful outcome of this seminar, the intent is to conduct a full field exercise early in 2011.

3. Future activities

While the Comprehensive Policy establishes the fact that non-proliferation and support for arms control is a NATO priority, it remains an unfunded mandate. Nevertheless, NATO is working through the WMD Centre to find innovative ways to develop future programmes and activities to support Allies and Partners in the effort to restrain proliferator activities through aiding verification, export control, inspection and detection. The Comprehensive Policy urges Allies, for example, to create a trust fund for paying for a series of activities to help partners develop capabilities to enforce compliance of non-proliferation norms.

NATO is also looking at ways to cooperate with other intergovernmental organizations (IGOs) and non-governmental organizations (NGOs), to build a network of networks working together on verification, compliance, anti-proliferation and crisis response. For example, last year NATO representatives co-hosted a conference with the Swiss government in Geneva, Switzerland on a Comprehensive Approach to Combatting Illicit Trafficking. Over thirty IGOs participated in addition to several non-governmental organizations (NGOs), and Swiss and US Government officials.

This was the first ever meeting devoted exclusively to exploring ways in which IGOs can collaborate and share capabilities in response to the scourge of illicit trafficking. At this event the IAEA representative and the WHO representative approached NATO and asked for a meeting to discuss further collaboration in the areas of training and exercises. Participants agreed to consider establishing additional strategic partnerships with other IGOs, including especially regional IGOs, and to look for future opportunities for collaboration, to include joint training and exercises.

As a result of this conference, NATO is now discussing with the International Atomic Energy Agency (IAEA) the possibility of partnering with them and the US Domestic Nuclear Detection Office to hold a nuclear forensics and attribution workshop which would discuss technical issues and explore opportunities for future NATO cooperation with the IAEA and national forensics / attribution networks.

NATO is methodically and not without some controversy slowly developing cooperative efforts with the EU to complement and reinforce both organizations' commitment to non-proliferation. For example, all EU member states have signed the treaty establishing the European Atomic Energy Community – the Euratom Treaty. This body coordinates the EU member states' research programmes for the peaceful use of nuclear energy by pooling knowledge, infrastructure and funding of nuclear energy, as well as ensuring the security of atomic energy supply within the framework of a centralized monitoring system. Sharing information on these issues would enhance NATO's knowledge of possible areas of proliferation concern, and both NATO and the EU non-proliferation initiatives would benefit through such collaboration.

Since 2006, NATO has been working to identify ways to support and complement
international non-proliferation efforts through ad hoc initiatives, in what could be called the new arms control, such as the Proliferation Security Initiative (PSI), the Global Initiative to Combat Nuclear Terrorism (GICNT), and others. Although PSI is not a NATO activity, all NATO nations support PSI and the GICNT as well as other ad hoc non-proliferation initiatives. Launched by the US, the PSI is a global partnership of countries seeking to halt the flow of dangerous technologies to and from states or non-state actors engaged in or supporting WMD proliferation programmes. Supported by NATO, many participating countries are Alliance members and the initiative is open to any country wishing to cooperate in combating WMD proliferation in this way. Currently, the PSI is targeted at an undisclosed set of 'states or non-state actors of proliferation concern'. Participating countries agreed a Statement of Interdiction Principles (all of which are directly tied to UNSC Resolution 1540 requiring nations to ensure their territories are not used for WMD trafficking and to implement legal frameworks to that effect), which commit them to undertaking effective measures, either alone or in concert with other states. Its participants have stressed that the interdiction activities will be undertaken in a manner that is consistent with international law.

These include: interdicting the transfer or transport of WMD, their means of delivery and related materials to and from states and non-state actors of proliferation concern; adopting streamlined procedures for rapid exchange of relevant information concerning suspected proliferation activity; protecting the confidential character of classified information provided by other states as part of this initiative; dedicating appropriate resources and efforts to interdiction operations and capabilities; and maximizing coordination among participants in interdiction efforts.

4. Conclusion

In this way – through exercises and education; strengthening inspection, verification, detection and crisis response – NATO is actively deterring proliferation and non-compliance, while not 'enforcing' arms reduction treaties per se. By further developing the capacities of Allies and Partners while working to build and develop a network of networks to create a web of denial, NATO is poised to make key contributions to preserving international non-proliferation legal norms and, when called upon, to contribute to enforcing multilateral arms control agreements. The new Strategic Concept will no doubt re-confirm the twin imperatives of NATO's core mission in the 21st century: specifically, assuring security for its members, safeguarding our liberty and promoting the rule of law, and engagement wherever necessary to minimize threats. Raising NATO's profile in supporting, enforcing and monitoring arms control compliance is a natural and likely expansion of NATO's already robust commitment to stopping proliferation and enhancing security for all.

Notes

* The views expressed are those of the author and do not necessarily represent official NATO positions. NATO intern, Ms Karli Johnston, was instrumental in the preparation and research of this paper.

Nuclear proliferation: controversial facts and assumptions

Henri Conze

The May 2010 NPT Review Conference in New York highlighted the issue of nuclear proliferation and the current debate on the evolution of the nuclear posture by raising some fundamental questions which do not have an obvious or clear answer. This article sets forward some of the parameters which should be taken into account in such a complex debate. A credible solution can only be achieved on the basis of agreement about a comprehensive review of nuclear weapons postures and policies. Such agreement is premised on accurate knowledge of the facts of the situation, and this article will set out some of the conditions which have to be fulfilled before possible scenarios can be presented on how the relevant institutions will evolve.

1. A comment on the NPT Review Conference

At first glance it looked as if the meeting of international bodies had met with success. The text approved on 28 May 2010 in New York by the 189 signatory states of the NPT overcame ten years of disagreement. A major feature of the final document is the call for all Middle East states to participate in a conference to be held in 2012 which would agree to the establishment of a "zone free of nuclear weapons and all other weapons of mass destruction" in the Middle East. Such a decision put Israel – which is not part of the NPT and remains for the time being the only nuclear nation in the area – under extreme pressure. And yet Iran – even though it does not comply with the non-proliferation regime – was not named in the final text.

The final document which was approved covers the three pillars of the NPT: non-proliferation, disarmament, and the peaceful uses of nuclear energy. The objective of achieving a world free of nuclear weapons, as outlined by President Obama during his speech in Prague in 2009, was reaffirmed even though there was no commitment to a specific agenda.

And yet question marks remained. The text contained a paradox insofar as nations which are not members of the NPT – India, Pakistan, Israel, and North Korea – were directly targeted, while any accusation against Iran – which attended the conference – was avoided. A further deficiency concerned mechanisms for reinforcing the verification of civilian nuclear energy activities. This issue was treated much less stringently than originally forecast, although the Americans and Europeans had wanted this to be compulsory.

What will be the reaction of Israel? Israel neither can nor ever will accept nuclear weapons in Iran. The apparent gap which appeared between Israel and the US could well convince Israel to play the game alone and to decide to take some actions against Iran of the type it recently took off the coast of Gaza. Even if Israel has admitted some "overshooting", this event shows that the nation has defined clear limits as to what it will consider unacceptable. A possible interpretation of this event could well be that it was meant as a message to Iran – that it was one element of the country's deterrent posture.
2. Are nuclear weapons still needed?
If so, to do what?

During the Cold War, there was no major uncertainty on this issue, and the answer to both these questions was based on mutually shared perceptions. Today, the answers seem to be totally in the mind of the beholder. This can be illustrated by an analogy with the insurance which has to be taken out by law in order to cope with unpredictable natural disasters. Why do people agree to pay for it? They do so because it is generally considered too ill-advised or too reckless not to do so, as long as the cost remains low.

It is the same in the case of the nuclear posture. Today, the only reason for maintaining a nuclear capability is the assumption that it would be foolish, maybe even suicidal, not to have it. Many swords of Damocles are currently hanging above the heads of many nations: the proliferation of weapons of mass destruction is one such sword. This will increasingly become a key factor influencing our lives as the world evolves and as weapons of mass destruction come more and more within the reach of rogue states or terrorist mafias. It is no doubt an exaggeration to state that mankind today has an inborn propensity to claim that it is irrational not to have a nuclear posture; and yet it is difficult to explain why public opinion in most countries has not yet really begun to question the existing situation.

Most publics today seem to be aware that there is a current existing inventory of more than 10,000 strategic nuclear weapons. This is accompanied by genuine apprehension that sooner or later, in this decade or the next, the Middle East or Kashmir or the 38th Parallel will be the theatre of a nuclear explosion.

Nuclear weapons certainly exist, but to do what? There can only be subjective answers to the question as to what possible interest or advantage there can be in possessing a nuclear capability. Consequently, any extensive discussion about the detailed conditions under which nuclear weapons would be employed is entirely spurious and irrelevant. It would be almost impossible to describe any likely scenario where the utilization of any nuclear weaponry could play a clear and well-defined role.

What is worse, a number of opponents would take the opportunity of a debate on this issue to demonstrate the total uselessness of nuclear weapons. They would propose to set a good example and to ban them in order to convince others to renounce proliferation. History is full of such noble sentiments but the consequences are always the same.

3. Controversial facts, technical innovation, realistic appraisal

Three highly controversial notions based on reality and facts have to be kept in mind insofar as they will drive any future policy.

First, mankind will not be able to avoid the necessity of continuing to develop nuclear energy for two good reasons – that it is inexhaustible, and that it is climate-neutral. Second, mankind cannot "disinvent" the atom, and any attempt to ignore its existence is doomed to failure. Third, the effects of radiation on the human body were deliberately exaggerated during the Cold War in the interest of the balance of terror, and it is now essential to face the fact that this new information will reduce the attractiveness of nuclear weapons in the minds of potential proliferators.

Seemingly "good ideas" such as no-first-use are in fact facilitating proliferation in that they endow a single weapon with an exaggerated political value, in much the same way that the significance of tens of thousands of US or Soviet weapons was exaggerated in the past.
What is the current reality? Today, the threat is not well defined, and potential enemies are to a greater or lesser degree irrational, tending to believe in rhetoric – especially their own – and not in facts. Even if nuclear weapons will continue to be the weapons of very last resort, the rule should be to keep silent and maintain total ambiguity about how one will react in a crisis. Otherwise, sooner or later and under pressure from some political lobby or other, there may be no other option but to adopt an irresponsible doctrine such as "nuclear deters only nuclear" or "no-first-use". Terrorists and rogue states would no doubt be quite satisfied with such an outcome.

There are three technical considerations to which little attention is paid. First of all, only that which is verifiable can actually be verified. This raises the question whether it is at all possible to ban and control nuclear tests in view of the fact that explosions with a yield of less than 100 tons are virtually undetectable.

Second, some careful thought should be given to possible consequences and repercussions of CTBT. Moore's Law, continuing technological advancements and the worldwide spread of information due to globalization and the internet would give any nation deciding to undertake a nuclear test programme a significant advantage over nuclear weapon states which adhere to the CTBT. At least some of these nations would be able to acquire the same amount of data, or even more, than the United States or France had 20 or 25 years ago. It must also be borne in mind that access to the most powerful computers is now free and their capability is growing exponentially at the speed of Moore's Law. It is to be hoped that there will not be cause to regret the decision on CTBT.

Third, the dissemination of sensitive data is considerably facilitated by the ongoing development of joint international research in certain fields, for example in the area of controlled inertial fusion.

Two aspects concerning public opinion during the Cold War need to be reappraised. The first concerns public perception of nuclear issues. Up to the very end of the Cold War, both Eastern and Western blocs did their best to cast nuclear weapons in the worst possible light (the MAD doctrine, or Mutual Assured Destruction).

Furthermore, public opinion has always claimed that the new phenomenon of nuclear energy first announced its arrival at Hiroshima and Nagasaki, and not in Chicago where the first atomic pile was activated under Chicago Stadium in 1943. In similar vein, the members of the Manhattan Project considered this event a God-given gift allowing humanity access and control of an infinite amount of energy.

The second aspect, which is even more significant, relates to the manipulation of public opinion in the West during the Cold War. In the 1970s, Moscow implemented a comprehensive policy which involved sponsoring the first terrorist groups in Europe, triggering the creation of anti-nuclear movements and easing the emergence of the first "green" political parties. What remains of this today is the vehement opposition of parts of public opinion in various countries to nuclear energy – opposition which was further reinforced by the Chernobyl nuclear power plant disaster of 26 April 1986.

4. Some thoughts for the future debate

Today, opposition to the peaceful use of nuclear energy appears somewhat irrational. Indeed, the effect of nuclear radiation on humans has become much better understood in the last 15 years, and it is now known that its consequences are much less apocalyptic than is usually claimed or published in cer-
tain circles. This truth needs to be promoted since it is obvious that decisions will have to be made in the short term which will affect the new development of nuclear energy programmes. The need for new approaches to nuclear energy is driven in part by strategic, economical and environmental factors.

In fact, it will very soon be time to give up playing the double game with nuclear energy, whereby it is called "bad" if it has a military application and "good" if it is put to commercial use. A choice will have to be made or a compromise found between some of the expressions currently in use, of the type: "nuclear energy is safe, secure and clean" or "nuclear energy is about to spread uncontrollably across the globe, therefore we need to prevent the club of nuclear nations accepting any new members" or "nuclear weapons are the weapons of the Apocalypse". There is little doubt that considerably milder formulations than this will have to be introduced.

The consequence of this on our nuclear posture will be that there will be every good reason to remain silent on strategies and concepts, and not to make any claims on behalf of doctrines. There is much in favour of adopting the British way and abandoning all reference to concepts, favouring instead a straightforward, plain "uncertainty" for as long as there is no obligation to actually commit to a concept.

It is necessary to establish and document the truth about how nuclear radiation really affects the human body. The current overestimation by the public of its effect increases the attractiveness of nuclear weapons in the minds of proliferators.

Similarly, no automatic advantage, privilege or consideration should be conferred on any nation which adopts a nuclear military posture.

Last but not least, it is absolutely essential to eliminate the "Chinese Wall" that has existed from the very beginning between the civilian and the military experts of nuclear energy. The major precondition of any sound policy in such a fundamental field is total transparency and mutual understanding between both sides.
Nuclear proliferation and nuclear disarmament – a view from India

Milan Naidu*

The article traces the considerations that are shaping India's policy for peaceful nuclear use. The article also delves into the security calculus, and the national interests that drive the country's endeavour to continue to make a bid for universal nuclear disarmament.

1. Introduction

As a state's material power and wealth increase, so does its interest in shaping its strategic environment. Its increased interests in its near neighbourhood and in its extended strategic realm take the shape of bilateral, multilateral and collective security arrangements. But before such security collectives can be worked out, a nation's stand on certain issues of international concern must be properly delineated. In the present scenario, nuclear proliferation is second only to terrorism as an issue of concern on the global scale.

In fact, the recently concluded 2010 NPT Review Conference has brought the issue of nuclear proliferation back into the foreground. Although India's relationship with the NPT itself is fraught with controversy, India's relationship with nuclear proliferation and the call for universal disarmament go back a long way. The Indian argument has always been that the distinction made by the NPT between nuclear weapon states (NWS) and non-nuclear weapon states (NNWS) is insufficient in addressing India's position as a state with known nuclear weapon technology. For the foreseeable future, as a non-signatory of the NPT, India's status as a NWS remains elusive. While the classification of India's strategic programmes might be disputed, India remains one of the most important rising powers with nuclear power capabilities.

Indeed, as the dominant regional power of South Asia and as an increasingly important global player, India is likely to be called upon in the near future to take on an important role in the realm of nuclear politics. In this context, India's views on nuclear proliferation and on nuclear disarmament are increasingly crucial. Given the unique nature of India's nuclear power status, it is important to further refine her stance on these issues. Often, India's stand is cloaked in opaqueness for no particular reason. This paper attempts to demystify the Indian view of nuclear proliferation and disarmament.

2. Historical background

In 1953 the first Prime Minister of India Pandit Jawaharlal Nehru co-sponsored a resolution in the United Nations General Assembly (UNGA) calling for a "standstill agreement" on all nuclear testing. India believed that this would be a precursor to achieving universal nuclear disarmament. Unfortunately, the polemics of the Cold War prevented the realization of this resolution.

It was only in 1996, long after the end of the Cold War, that a draft of the Comprehensive Test Ban Treaty (CTBT) was finally voted on in the UNGA and received overwhelming support. However, domestic compulsions and other considerations of some nations prevented the CTBT from gaining universal approval.¹
3. India's relationship with nuclear proliferation

The changing global order has affected the non-proliferation regime in many ways. The NPT has been the most affected part of that regime. Indeed, the fruition of the Indo-US nuclear deal was symptomatic of the winds of change that now beset the non-proliferation agenda. In many ways, the deal was a harbinger of forward-looking changes to the regime itself. When the deal was first announced, it met with intense debate and unrestrained criticism. Arms control organizations decried the deal, despairing at American double standards and Indian opportunism. The non-proliferation community tried every argument to play out the failings and the dangers of the deal. However, the deal went full steam ahead and intense political campaigning brought it to culmination.2

But the deal has opened up a Pandora's Box of questions. The non-proliferation regime has come under close scrutiny and many of its faults will remain open to public debate long after the days of the deal. Will the regime be jettisoned for a more efficient framework? Will it remain the basic structure of counter-proliferation and be supplemented by additional arrangements for non-members? Whichever path is chosen, the non-proliferation regime has had to undergo severe revision. The effects of this were visible in the scepticism faced by the 2010 Review Conference. And India has been at the heart of it all, having plunged the US into an unprecedented course of action that has changed the non-proliferation landscape forever.

At the same time, domestic debate about the deal and about India's nuclear ambitions soared. A healthy and robust public discussion about the political, scientific, energy-related and economic consequences of the deal is still under way. As a watershed in India's non-proliferation history, the Indo-US nuclear deal is unparalleled. Not only were India's credentials in the matter open to widespread scrutiny outside of India, but also within India there were many factions opposed to the deal (some of them still do not toe the line) and it became quite clear how democratic the process was going to be. In fact, the parliament was itself deeply divided on the issue and for the first time in long years, the balance of power within the country shifted on account of a foreign policy issue.

But proponents of the deal within and outside the country argued that India was a "responsible power" which only needed this deal to facilitate its projects on nuclear energy for peaceful use. In an energy-deficient country like India with an exponentially growing energy demand, this is a valid argument. It is also an argument that finally tilted the balance in favour of the deal. India insists that its proliferation record boasted of vertical proliferation for peaceful purposes and of no horizontal proliferation activities. As a "clean" country, it has no parallel in the region which also hosts China and Pakistan. India asserts that even as a non-signatory of the NPT, it has always adhered to two out of the three main pillars of the treaty – a curb on proliferation and the movement towards disarmament. It is now demanding the third pillar – the right to the development of nuclear technology for peaceful purposes. In the past, India's civilian nuclear energy programmes that generate power for peaceful purposes have been severely limited by the non-availability of nuclear technology. However, the recently procured Nuclear Suppliers Group (NSG) waiver entitles India to trade in nuclear fuel and technology for peaceful uses. This waiver is viewed as an immensely important development that recognizes the rights that India has despite being a NPT outsider. Although allegations and counter-allegations followed on the issue of India's proliferation record, it is on the whole clear that India is a responsible nuclear power with aspirations to energy sufficiency.
Additionally, the claim to non-proliferation was further assuaged by the Indian acceptance of IAEA safeguards on its facilities. Under the terms of the Indo-US nuclear deal, all the facilities being supplied with nuclear fuel and/or technology from the US were to be placed under IAEA safeguards that would verify that they are not diverting nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Thus, it was established by repeated claims and actions that although India was against the NPT, it actively supported and encouraged non-proliferation. While others saw this as an inherent contradiction, India has always maintained that the NPT and non-proliferation can be mutually exclusive. India's External Affairs Minister Pranab Mukherjee said during a visit to Tokyo in 2007: "If India did not sign the NPT, it is not because of its lack of commitment for non-proliferation, but because we consider NPT as a flawed treaty and it did not recognize the need for universal, non-discriminatory verification and treatment." Nevertheless, some argued that the US-India nuclear deal, in combination with US attempts to deny Iran civilian nuclear fuel-making technology, may destroy the NPT regime, while others contended that such a move will likely bring India, a NPT non-signatory, under closer international scrutiny.

India is not a member of the NPT and technically has no role to play in the treaty. Rather, the NPT is so rigidly structured that there is no scope to accommodate India in the treaty. In fact, with the NSG waiver, India is now in a category of its own, different even from the other three non-signatories, whose strategic programmes do not have the same acceptability. But transparency has never been an issue associated with the Indian nuclear programmes. Since the second round of nuclear testing at Pokhran in 1998, there has been a lull in the momentum towards further testing and a decided shift towards trade in nuclear energy and technology for peaceful purposes. In this scenario, it was ever more important to emphasize India's long-standing commitment to nuclear disarmament.

4. Nuclear-weapon-free world: Utopia or reality?

Article VI of the Non-Proliferation Treaty requires NPT parties to pursue negotiations on an end to the arms race, nuclear disarmament, and on a treaty on general and complete disarmament. However, in the post-post-Cold War situation, this objective has not been achieved and many states still possess a large arsenal of arms while other states are developing their own. Despite being a non-signatory to the NPT, India took the initiative towards nuclear disarmament and proposed the Rajiv Gandhi Action Plan of 1988, named after late Prime Minister Rajiv Gandhi.3

The Action Plan was introduced by the then Indian Prime Minister Rajiv Gandhi at the Third Special Session on Nuclear Disarmament of the UN General Assembly in 1988. Marking the ten-year anniversary of the plan, Indian Prime Minister Manmohan Singh said that the Action Plan was a comprehensive exposition of India's approach towards global disarmament. Ten years before the nuclear explosions of Pokhran II shook the world, it is interesting to note how the Nehruvian concepts of 'atoms for peace' and 'global disarmament' simultaneously constituted India's nuclear policy. In fact, Rajiv Gandhi had referred to nuclear deterrence as the "ultimate expression of the philosophy of terrorism". It remains to be seen if the Action Plan can still inspire constructive multilateral initiatives for global nuclear disarmament.

The post-Cold War also brought about a paradigm shift from competitive to cooperative security. As decades of hostilities were replaced with dialogue, the unlikely fallout was the weakening of the movement for
global disarmament. No longer threatened by the shadow of a bomb, the momentum for universal disarmament suffered a serious setback. In this scenario, India proposed the Action Plan that on the one hand played with the possibility of a global zero, but equally importantly raised the issue of the "third nuclear wave" and the dangers of the new nuclear environment where the prospects of nuclear violence by non-state actors become more real each passing day.

A hypothetical nuclear-weapon-free world and the non-violent world order that would be required to sustain it has always been an issue of extensive discussion in India. Vice President Hamid Ansari has often suggested that the answers lie in investigating the logic of realism, as the current disarmament process is rendered impotent by a political context it cannot change. As nations live in a system of sovereign states, is it feasible to pursue a goal that is essentially human in nature and does not fit into the Westphalian nation-state-centric framework – "would a higher priority be accorded to the survival of the state if the survival of humanity were at stake?"

In India, we believe that even before the philosophical nuances of nuclear abolition can be further debated, the idea flounders on two basic issues – the desirability of achieving such a state and the feasibility of doing so. The diplomacy of nuclear disarmament requires verification, confidence-building and regional restraint. Assuming that the scope for progress in the short term is relatively modest, pragmatic logic places emphasis on the possible, not the desirable. In the post post-Cold War scenario, the contemporary security calculus gives hope for neither. In fact, the workings of the global nuclear industry place so much emphasis on non-proliferation controls and ownership patterns that the call for disarmament does not find its natural place. As a process, disarmament is by nature incremental; is it then so difficult to achieve that it is eventually less desirable? Is that the reason why disarmament seems less and less probable in the near future?

However, the Rajiv Gandhi Action Plan is in the end consistent with as much as six decades of work inside and outside of the UN to advance the internationally agreed goal of general and complete disarmament. To prevent it from languishing in the corridors of power, the revival of the plan lies in raising other fundamental questions pertinent to the contemporary politico-nuclear scenario. Has the argument for disarmament ceased to be relevant for the survival of the human species? Condoleezza Rice is often quoted as saying that for the first time since the fall of Westphalia, the prospect of violent conflict between great powers is ever more unthinkable. But as nations learn to compete in peace, will transnational, borderless entities increase problems of insecurity? These are issues to be pondered on. Thus, while momentum for disarmament is building in the West, led by countries such as the US, UK and Norway, the emergence of Asia's role and of coalitions across the world such as the Group of Eight, the Six-Nation Initiative and the Mayors for Peace initiative also have interesting potential.

5. Looking to the future

Finally, attention should be drawn to what seem to be three immensely critical issues – evolving state behaviour, the role of the armed forces in a reformed security calculus, and India's commitment to no-first-use (NFU).

In the Third Wave, terrorism benefiting from horizontal proliferation encouraged by irresponsible state behaviour is an ever more real risk. In fact, the divide between the so-called responsible nuclear powers and the supposedly irresponsible nuclear agents, actual or potential, is completely artificial.
The focus on the enormous threat and danger posed by nuclear terrorism specifically and by non-state terrorism more generally is a risky discourse that seeks to shift focus away from what is the primary problem – that of state terrorism in both its nuclear and non-nuclear forms. Where irresponsible states are implicitly involved in sponsoring, aiding or camouflaging terrorist activity of any kind, nuclear terrorism is at its riskiest. It is thus crucial that the differences between state and non-state actors need not be made irreversibly, and where a state is seen as complicit in terrorist activity of any kind, and with a special emphasis on nuclear terrorism, that state be brought to task.

This also impinges on the role of the armed forces of a state in its security and the protection of its territory, property and people. The intense debate on the shape of future warfare has led to the vision of the armed forces of India circa 2020. Brig Gurmeet Kanwal, Director of the Centre for Land Warfare Studies (CLAWS), New Delhi, has suggested in his writing that the most efficient combination of manpower and technology will have to be implemented carefully and judiciously. He emphasizes that the nature of threats to India's security are such that Army 2020 will have to be designed to function in an amorphous security environment, with capabilities to operate across the entire spectrum of conflict from low-intensity conflict to nuclear warfare. This is a real issue that we are dealing with – the urgency of further equipping India's armed forces and upgrading their warfare capabilities in the event of real war or proxy war, which is much more of a reality in India. Indeed, India's rise to regional power status and beyond also depends on threat perception, force structures and the war preparedness of India's armed forces.

In the same vein, global stability will be hugely aided by the finalization of a universal NFU commitment. While security assurances of the NNWS will significantly reduce the attraction of nuclear weapons, a universal acceptance of NFU by nuclear weapon possessors will remove the possibility of a nuclear exchange between NWS too. The acceptance of NFU will enable de-alerting, de-mating and de-targeting, all three steps that are critical for reducing the existential dangers that accompany nuclear weapons. India's draft resolution 'Reducing Nuclear Dangers', which has been tabled in the UN General Assembly every year since 1998, highlights the fact that the hair-trigger posture of nuclear forces carries an unacceptable risk of unintentional or accidental use of nuclear weapons. The conclusion of a universal NFU treaty will not only reduce the dangers of an accidental launch, but also heighten the chances of no-use of nuclear weapons. Once the centrality of nuclear weapons in security calculations has receded, the gradual delegitimizing of nuclear weapons per se will be a far more achievable objective. Fallouts of the discrepancies of the non-proliferation regime will also be neutralized in this way.

6. Global Centre for Nuclear Energy Partnership

At the Nuclear Security Summit in Washington, DC on 13 April 2010, the Prime Minister of India Dr Manmohan Singh announced the establishment of a "Global Centre for Nuclear Energy Partnership" in India. It will be a state-of-the-art facility based on international participation from the IAEA and other like-minded nations. The Centre will comprise four schools dealing with Advanced Nuclear Energy System Studies, Nuclear Security, Radiation Security, Radiation Safety, and the application of Radioisotopes and Radiation Technology in areas of healthcare, agriculture and food. The Centre will conduct research and development of design systems that are intrinsically safe, secure, proliferation resistant and sustainable.
7. Conclusion

In conclusion it should be noted that the rise of India's standing in the regional or global order need not be exclusive of India's involvement in the furtherance of a collective and cooperative regional mandate. In the post-Cold War world, alliances have given way to strategic partnerships, a concept most befitting India's posture. Such partnerships will foster goodwill, with a direct effect on trade and commerce. As such, the vision of a powerful India stems from an all-inclusive trajectory of progress that does not preclude the interests of other regional powers. In this era of political globalization, India's rise to a regional and global power can only be established on the principle of first among equals. We understand and recognize that, and view our continued and deepening commitment to non-proliferation and disarmament as a priority.

Notes

The implications of nuclear disarmament for global security

Lothar Rühl

The road to Global Zero will be long and the outcome is uncertain. What is in general a good example set by the current nuclear powers in eliminating their arsenals will not have the same positive effect on all the countries which are on the threshold to nuclear armament. National strategic situations, political ambitions and security requirements are different from case to case.

At the 1955 Four-Power Summit in Geneva and ten years after American atomic bombs fell on Hiroshima and Nagasaki, President Eisenhower made an offer to Soviet Premier Marshal Bulganin to eliminate both countries' nuclear arms by sinking them in Lake Geneva. The idea may seem bizarre, but it marked the beginning of American attempts at universal nuclear disarmament. At that time only the US, UK and USSR had developed and tested nuclear explosive devices. Canada had refrained from testing despite its association with nuclear arms research during World War II. Both superpowers' nuclear arms were still in an embryonic stage, particularly in terms of long-range delivery systems and target delivery accuracy, and the number of atomic bombs on both sides was small. British deterrence depended on the privileged "special relationship" with America. Two years after Stalin's death in 1953, there now seemed to be a real opportunity to eliminate all nuclear military hardware, and to control the further international development of nuclear technology through big power cooperation. This opportunity was not only lost by the Soviet leadership but most probably had not even been recognized as such in Moscow.

Three years later in 1958, General de Gaulle was in power in France with a firm resolve to accomplish what the previous governments of the Fourth Republic had started to prepare in 1955-56: a French nuclear arsenal intended as an independent national deterrent – de Gaulle's "force de frappe". Linked to this programme was the ambition in Paris neither to be outdistanced by Great Britain nor to be simply on a par with West Germany in NATO. The FRG with a new national army had been admitted to the Alliance in 1955, albeit with arms control in the Western European Union and a unilateral renunciation of the right to produce atomic, biological and chemical weapons. Even within these limits, German rearmed appeared to pose a real political challenge to France's position in Europe, in much the same way that Britain's nuclear armament seemingly challenged France's position in the world. The Algerian War had begun in November 1954 and the status of France in Africa was obviously at stake after Morocco gained full independence in 1955 and Tunisia in 1956. French atomic arms would offer some compensation, and would correct the emerging new power equations in Europe, the Mediterranean and the Middle East.

There were four official nuclear powers when the Limited Nuclear Test Ban Treaty prohibiting nuclear tests in the atmosphere, under water and in space was concluded in 1963. France did not sign then. China would become the fifth nuclear power by the time the international non-proliferation treaty was negotiated by the US, the UK and the USSR in 1968-69. Although China did not sign that treaty, it profited from the NPT
privileges granted to the nuclear weapon states, as would non-NPT members India and Pakistan thirty years later – India even attaining a privileged status as a technical cooperation partner of the US. Several other countries remained outside the NPT and their nuclear activities were not subject to international limitations – chief among them Israel with its non-declared nuclear arsenal.

Most UN members did eventually join, although not all signatory states have applied the NPT consistently. This has given rise to the two basic problems of verification and enforcement of compliance, neither of which has been resolved. Iran and North Korea are still putting them to the test, as did Iraq up to 1990-91. South Africa joined the NPT in 1991 after secretly developing a nuclear arsenal which it then voluntarily eliminated without any international oversight or even knowledge. Libya abandoned its nuclear arms programme by a negotiated solution with the US and Britain in the context of the Anglo-American military intervention against Iraq in 2003. Twelve years earlier, IAEA inspections in Iraq had not uncovered any secret nuclear armament preparations. The Iraq-Kuwait War destroyed what had been created and since 1991 Iraq did not achieve material progress towards a nuclear weapons programme – contrary to repeated affirmations by the US Administrations of President George H.W. Bush, and later of President George W. Bush after 2001.

These few examples illustrate the difficulties of achieving Global Zero and the risks along the road to a "world free from nuclear weapons". However, they also indicate the prospects for diplomatic solutions, for appropriate "carrot and stick" policies, and for extended, patient efforts over time which would ultimately bring about non-proliferation, defined as the end of nuclear proliferation in each individual case, in one way or another, sooner or later.

South Africa, France and China finally signed the NPT and have applied it since. Iraq, Iran, Libya and North Korea signed it and did or do not apply it consistently. North Korea left the NPT and proclaimed itself a "nuclear power" in possession of nuclear arms. Whether this is true or not remains in question. In an ambivalent sense, Iran has also proclaimed itself a "nuclear power" but insists that its programme, which is partly covert, is not for nuclear armaments but only for energy supply. These two critical cases remain open. The case of Iran in particular underlines the importance of national sovereignty and equal treatment issues in international relations: why should non-nuclear weapon states not have the same rights in the fields of uranium enrichment, reprocessing or plutonium production as the nuclear weapon states privileged by the NPT?

The same question had been asked some forty years before, when the NPT was opened for signature by other nations. The six EURATOM member states, with France as a nuclear weapon state, obtained a collective exemption from IAEA controls since EURATOM exercised its own controls by inspections. They also reserved the right to take over the French or British national responsibility for their nuclear forces and technology in the event that a supranational European institution for collective European security should emerge. This option still stands.

Experience shows that there can be no guarantee of Global Zero for nuclear arms, whatever means and methods of verification of compliance are used, even those currently agreed and applied by the IAEA. It is true that agreements and methods have much improved the technical possibilities of verification since the Iraqi case before 1991 and after 2003. But no guarantee can be given where access to secret installations is denied or physically barred, even more so when knowledge of their existence is lacking.
Many problems must ultimately be solved for Global Zero to come about sometime in the future. Possible options and solutions are described in the international report "Eliminating Nuclear Threats" published in 2009 by Gareth Evans and Yoriko Kawaguchi on behalf of the International Commission on Nuclear Non-proliferation and Disarmament, but no solution is perfect. Four outstanding, essential issues remain unsolved and will be outlined below.

1. **Verification of compliance**

Reliable verification of non-proliferation is extremely difficult and at best uncertain without regular, quasi-permanent, on-site inspections and the technical control of all related installations. This has been shown over time beyond any reasonable doubt and is exemplified by the various cases of South Africa, Libya, Iraq, North Korea and Iran. A further example was the case of private proliferation (although actually condoned by government agencies) by A. Q. Khan, the head of Pakistan's nuclear programme, and the associated clandestine commercial activities in the Gulf arms bazaar; and finally, the secret preparations of the nuclear arms tests in India and Pakistan as well as those in Israel.

This essential precondition can only be met and permanently maintained in a best-case scenario which assumes the full and voluntary cooperation of all countries in question. Former IAEA Director General El Baradei has gone on record many times with the public admission that the IAEA could not properly verify Iraq's compliance with the NPT before 1990, despite inspecting declared installations in Iraq. Surprise on-site inspections on territory which is even outside declared installations – as envisaged by the additional agreements for the control of NPT compliance – would help to improve verification. Radiological testing of samples of materials, soil, water and air would give an indication of nuclear activities or deposits. However, underground installations can remain hidden from aerial or satellite reconnaissance by natural screening, in certain geological formations, or in terrain which is difficult to reach. Only close scrutiny on the ground and with direct access could bring results.

This presupposes openness and cooperation on the part of the countries visited. In other words, the problem of verification would be solved by good will and a change of policy from secret proliferation to voluntary non-proliferation. The declared and privileged nuclear weapon states are not the problem, since without their voluntary cooperation and their own initiatives neither the NPT nor any other treaty on nuclear arms or energy would come into existence or be implemented. This also applies to their willing allies and NPT partners. However, the notable case of Israel and the special case of India as well as Pakistan show the limits of such cooperation and influence by major powers as protectors of the NPT.

2. **Enforcement of compliance**

Verification is not sufficient for arms control, let alone for non-proliferation of nuclear weapons. Compliance must therefore be enforced if persuasion by other means fails. Sanctions and the threat of force may help. But sanctions have so far only had limited success and they mostly hurt the population and not the political leadership or security apparatus, even if they did damage armed forces as in the case of Iraq and Iran. There is only one sanction which can be completely effective if applied properly and over the necessary length of time: total isolation of the country by blockade and freezing of all external assets.

Apart from the legal and political problems posed by the international doctrine according to which a blockade equals an act of
war and would therefore need UN Security Council authorization, which would be difficult to obtain, all neighbours of the country to be isolated would have to cooperate. The cases of Iraq, Iran and North Korea show the limits to such international cooperation even following authorization by the UN. Turkey did not close its borders and roads to traffic with either Iraq or Iran during the entire period of Anglo-American "dual containment". Turkey did not really prevent the black market trade and smuggling across the mountains, nor did Jordan in the case of Iraq. The flow of money by international finance could not be completely shut down in the case of Iraq, Iran, Libya or Afghanistan under Taliban rule, and the same holds for control of telecommunications and transport.

The entire discussion on sanctions in the cases of Iran and North Korea points to a hidden barrier of resistance in many countries against isolation or even the interruption of trade, in particular in those countries which profit by trade across their borders with such neighbours as Iraq or Iran – for example, the case of Turkey as a NATO ally of the US. A shutdown of international air and sea traffic with Iran as a sanction to enforce compliance with the NPT, or even more so to interdict uranium enrichment in Iran, would only be considered the ultimate non-military sanction if Iran were to cross the nuclear arms threshold.

In the case of Iran, economic consequences would have to be considered, such as a sudden increase in the price of crude oil or the closure of the Strait of Hormuz to shipping. Economic sanctions against countries with important assets or of key geostrategic location are a two-edged sword. They are wielded at considerable risk and can be dangerously out of proportion to the purpose they are supposed to serve. That also applies to other countries, for example North Korea, if the country has arms superiority over its immediate neighbours and can pose a credible, vital risk to them – hence the significance of a North Korean nuclear programme and the massive North Korean army facing South Korea across the border where US troops are stationed. In Korea the US is permanently at risk in protecting its troops. The North Korean regime has been able to enjoy a game of provocation and betting in order to gain better international conditions in exchange for its own peaceful behaviour. This game has been going on since 1994 after the IAEA and US discovered signs of secret nuclear activities.

These considerations lead to the "military option" of enforcement. And the "military option" means war, as in the armed intervention against Iraq in 2003 in order to "disarm" it and eliminate "means of mass destruction". This was also the case in 2001 in Afghanistan, although for a different purpose: this time against terrorism, but linked to the supposed danger of "nuclear terrorism". A "war for peace" is the political consequence of using military force to compel compliance with agreed nuclear disarmament to Global Zero levels or to any intermediary level of nuclear arms reduction or non-proliferation of nuclear weapons.

Consequently, proponents of the non-proliferation objective and the Global Zero ideal, whether they be governments, nations or experts in the field, have to admit that the "military option" must be the last resort of counterproliferation, even though its ultimate outcome may be unpredictable. This consequence has been clearly recognized since the Reagan presidency in America. President Reagan's Strategic Defense Initiative for an anti-missile shield across parts of North America and other countries was linked to this insight, that enforcement of non-proliferation means enforcement by counterproliferation, and that ultimately means a military offensive, whether it be "pro-active", "preventive" or "pre-emptive" as the George W. Bush Administration put it two decades later.
In the current context, the solution will probably not be "global war for Global Zero". But it may well be a limited, regional war for counterproliferation, with the possible use of some nuclear arms, and at any rate with armed intervention by Special Forces, missile and air strikes, and electronic warfare to paralyse the government and command authorities of proliferating states. This would occur with or without UN mandate, by the US and its allies, by the US and Russia, or by the US alone. In order to serve this purpose alone, the US, Russia, China, India, Pakistan, and others (the six nuclear weapon states inside or outside the NPT) will continue to maintain the ultimate means of deterrence – usable, reliable and safe nuclear precision forces – under national control. The question of countries such as Iran or Brazil remains open.

3. The specific national situations

Not all countries are equal before or within the NPT. Their specific geopolitical and geosatric situations cannot be put on a par and therefore do not have a common denominator beyond a general interest in avoiding nuclear war. But individual situations and national security problems, such as those of Israel, do not necessarily demand nuclear disarmament.

On the contrary, they may well require the possession of nuclear arms as "weapons of last resort". If threatened with total destruction by an arch-enemy or if unable to defend itself against massive attack, with the prospect of being overrun and destroyed as a state – as Israel was at the beginning in 1948 or in October 1973 at the outset of the Yom Kippur War – a country may well consider nuclear arms an absolute necessity for the ultimate response to attack and as a possible deterrent against the threat to its existence. It is difficult to see why this option should be given up, or what could replace it.

Since the main argument for Global Zero assumes that continuing possession of nuclear arms by the nuclear powers drives nuclear proliferation and that this would lead to escalation into nuclear war or terrorism, the real problem of nuclear disarmament lies in the marginal usefulness of the last nuclear weapon and the usefulness of concealed nuclear arms during the general process of disarmament. The political answer is already inscribed in the NPT: the nuclear powers must first disarm, that is, massively reduce their arsenals to ever lower levels. That is what the US and Russia are doing in the long drawn-out process of START. But the obvious question still remains: what will assure security when the levels are down to where smaller powers could compete or merely threaten and deter? North Korea illustrates one answer to this today; at stake is the security of South Korea and Japan.

There are other possible national perceptions of the requirements for national security or independence. Iran has emerged as the strategic victor of the Iraq War of 2003. It can aspire to dominance in the Gulf region, or at least to a position of strategic denial against any external intervention in the region or even in the Greater Middle East. Its experience of the 1980-88 war, a war of aggression by Iraq, showed its vulnerability under air and missile attack, the dangerous exposure of its oil wells and shipping to the massively armed neighbour. Iraq's experience during the wars of 1990-91 and 2003 was that of military inferiority in a conflict with the US. What conclusions can be drawn from these experiences which benefit Iran or its authoritarian regime? Nuclear arms and the means to deliver them over short or long distances may appear as counterinsurance, a means to deter external intervention as well as to impress neighbours.

Such a perception on Iran's part may appear self-defeating and even suicidal, especially with a view to Israel. But it is still the case
that Iran views itself as being confronted by the US as an external hegemonic power which has allies, bases and forces – however slight or even unfavourably located – in the entire region from Turkey via Kuwait to Oman, as well as in Iraq. A conclusion may well be reached to use the nuclear option as a bargaining chip as well as a symbol of self-defense.

The case of Iran demonstrates the complexity of the reasons for nuclear armament or the nuclear option, as well as the ambivalence of the problems facing Iran. India and Pakistan are no less complex cases although they seem simpler. It was obvious from the start in the 1980s that the original motivation for India's nuclear programme was China and not Pakistan: it was a case of competitive rivalry over who would be the future regional power. Pakistan came second. The Pakistani nuclear weapons and missiles programme provided a second genuine reason. The bilateral relationship has developed into a case of mutual deterrence involving the border conflict over Kashmir and the syndrome of very real Islamic terrorism with roots in Pakistan. This has created a major risk of escalation and a situation in South Asia which is potentially extremely dangerous. Which side would forego nuclear deterrence first? Could simultaneous nuclear disarmament be agreed and controlled by both countries? Could an international environment be shaped by such an example, which would have to involve the US, Russia and China, probably also Iran?

4. The issue of the good example

Since the motivation for nuclear weapons is complex and differs from case to case, examples of nuclear arms reductions and disarmament, if the latter were ever to occur, do not have the same impact on all countries with nuclear ambitions. Inasmuch as the bilateral strategic globalism of the original major nuclear powers has given way to multipolar power distribution and new international competition, the influence of past Great Power politics as incorporated in the NPT and nuclear non-proliferation policies since the 1960s has tended to weaken. The powerful examples set by the historic Great Powers of the 20th century no longer influence national behaviour or international cooperation.

But the symbolism still attracts imitation for how military and nuclear power can be used in conflict or as a deterrent. European perceptions and concepts may still be valid but they are no longer commanding. Even if arms control and nuclear non-proliferation could serve international security outside Europe and globally, the European or NATO / Warsaw Pact model will probably not be replicated. The value of example should therefore not be overestimated.

To summarize: the four crucial nuclear disarmament issues outlined above strongly imply a sceptical conclusion. Global Zero is a possibility in the future but it is difficult to see how this noble aim can be achieved. A more realistic objective could be mutual balanced nuclear force reductions under the joint guidance of America, Russia and China, within a UN framework and based on international treaties centred on the NPT. Such a solution would be incomplete and could only offer a measure of security without any guarantee, but cooperation could well result in further progress.
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