

Nuclear Weapons Convention

Monitor

Updating the debate on the prohibition and elimination of nuclear weapons

April 2000

Issue 1

Welcome to the NWC Monitor

This is the first in a series of periodic bulletins exploring progress on and challenges to a Nuclear Weapons Convention (NWC) – a treaty to prohibit and eliminate nuclear weapons under a verifiable international regime. The opinions and analyses presented here address political, legal, and technical questions critical to the future course of nuclear disarmament.

The *NWC Monitor* is a continuation of the discussion surrounding the Model NWC drafted by a non-governmental team of lawyers, scientists, and disarmament specialists, and distributed by the United Nations as a discussion document in 1997. A revised and annotated version of the Model NWC is contained in the book *Security and Survival: The Case for a Nuclear Weapons Convention*.

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Endnotes appear at the end of each section.

Introduction

International desire and demand for the elimination of nuclear weapons have existed since nuclear weapons themselves have existed. A recent publication, *Security and Survival: The Case for a Nuclear Weapons Convention*, argues for a treaty to prohibit and eliminate nuclear weapons as part of the political process that will lead to the goal of nuclear weapons abolition (see information on back page). *Security and Survival* includes a review of the political context, a revised and annotated version of the Model Nuclear Weapons Convention released in 1997 and distributed as a UN discussion document, and a range of comments addressing questions critical to the feasibility and functioning of a Nuclear Weapons Convention (NWC).

The release of the Model NWC and the publication of *Security and Survival* have generated reactions to critical questions such as enforcement, international security, deterrence, terrorism, health and environment, nuclear energy, nuclear knowledge, reversibility, conversion, research, and more. The *NWC Monitor* is a continuation of the debate surrounding these questions, as well as the concept and content of a future Nuclear Weapons Convention. (See inside back page for information on submitting contributions.)

The contributions to the *NWC Monitor* reflect a range of topics and opinions. Some look at the consequences of past policies, some examine the present political environment, and others look at future requirements of a Nuclear Weapons Convention. All are responses to the critical political, legal, or technical questions that must be addressed to make complete nuclear disarmament possible.

In this issue, Section 1 looks at **Nuclear Disarmament Today: Setbacks, Next Steps, and the Ultimate Goal**. The contributions to this section examine policy within the current security environment, identify some of its shortcomings, and suggest immediate measures that would facilitate nuclear disarmament. They help bridge the rhetorical and largely artificial gap between incremental approaches to nuclear disarmament and the comprehensive approach suggested by a Nuclear Weapons Convention. The discussion and examples contained in “International Security: Signs of Change and Conflict” look at policies and debates within the nuclear weapon states. These provide the background against which it is necessary to evaluate progress on nuclear disarmament today.

Section 2 provides an update of the **Public and Political Profile for a Nuclear Weapons Convention**, including policies, perspectives, and actions of governments, parliamentarians, non-governmental organizations, and the general public. This section reviews official and unofficial discussion and consideration given to the NWC throughout the world.

Section 3 covers issues related to the **Implementation and Verification of a Nuclear Weapons Convention**. The contributions to this section, for the most part, respond directly to elements of the Model Nuclear Weapons Convention contained in sections 2 (Model NWC) and 4 (Verification) of *Security and Survival*, and to the concerns often voiced that a Nuclear Weapons Convention could not adequately address the dangers of terrorism or breakout.

Section 4 looks at **Scientific Responsibility in the Nuclear Age** and the role of scientists, both in the past as shapers of the nuclear age and in the future as potential contributors to a non-nuclear world. The technical aspects of large-scale comprehensive and irreversible nuclear disarmament are not being adequately explored and developed today. Strategic planning for nuclear disarmament would entail academic and industry support at least on the scale of today’s nuclear weapons facilities and academic support institutions, from political science to nuclear science. This requires the awareness and commitment of scientists globally, in order both to drive and implement government decisions to pursue universal nuclear disarmament.

The international security environment today might appear discouraging for nuclear disarmament advocates. However, the Nuclear Weapons Convention – as a goal, as an indication of change in global security policy, and as a catalyst to further change – does not depend exclusively on arms control and short-term incremental progress. Efforts toward next steps in arms control and non-proliferation are conceivably blocked precisely because they have avoided the fundamental underlying dilemma posed by nuclear weapons: whether a global security regime based on threat of mass destruction, unevenly distributed, is consistent with global survival.

As outlined in Section 5, **Social Context and Political Change**, a commitment to the elimination of nuclear weapons and irreversible steps toward that goal require a fundamental change in this concept of security. Some change is inevitable because a security policy based on force projection, yet grounded in a larger community that aspires to the rule of law, necessarily carries internal contradictions and conflicts of interest. There are simply too many competing trends to maintain the illusion of “stability” that nuclear deterrence and strategic balance presumably create. These trends include real and potential proliferation of weapons of mass destruction, missile technology, regional conflicts, and terrorism. Some forces of change will come from outside the security system in the form of social and environmental movements reacting to institutions and policies that benefit from the connection between militarization and economic and political power.

The argument that it is premature to prepare for a Nuclear Weapons Convention rings particularly hollow in light of ongoing preparations to shape the international security environment of the future around nuclear weapons. The US Quadrennial Defense Review, which presents a thorough examination of the entire US defense structure, recognizes the role of the present in shaping the future:

In order to support [its] national security strategy, the US military and the Department of Defense must be able to help shape the international security environment in ways favorable to US interests, respond to the full spectrum of crises when directed, and prepare now to meet the challenges of an uncertain future. These three elements – shaping, responding, and preparing – define the essence of US defense strategy between now and 2015.¹

Likewise, a future world free of the threat of nuclear weapons requires planning and preparation, beyond incremental measures based only on what appears immediately feasible. It requires breaking out of current defense thinking, *shaping* the international security environment in ways favorable to global interests, *responding* to crises with means other than force, and *preparing* for large scale nuclear disarmament and reduced reliance on the threat of mass destruction as a security doctrine.

Section 1

Nuclear Disarmament Today: Setbacks, Next Steps, and the Ultimate Goal

Editor's Introduction

The next logical steps in control and reduction of nuclear weapons and related technology have been identified and studied. They include bilateral reduction, deep cuts, de-alerting, fissile material register, cut-off, and ban, and possible changes in security policy such as missile technology control, no use or no first use of nuclear weapons, and deterrence. Some of these are discussed in the contributions to this section.

While other analyses debunk the theory of nuclear deterrence through logic and security considerations,² Alan Cranston directly challenges the wisdom and morality of nuclear deterrence in terms that reflect the urgency of the current situation. Scilla Elworthy looks at this situation and offers a set of proposals that can take us to the next stage on the path to abolition of nuclear weapons. Waheguru Pal Singh Sidhu makes the case for de-alerting of nuclear weapons as an important immediate measure, and Hui Zhang proposes a policy of no first use of nuclear weapons as an intermediate step. Charles Ferguson argues that US plans for missile defense would undermine potential progress toward nuclear disarmament.

These comments, grounded in today's political realities, point towards the type of policy and action that will reconfigure these realities in favor of nuclear disarmament. Progress along the lines they recommend can only contribute to the goal of nuclear abolition, but by themselves these steps do not guarantee the eventual elimination of nuclear weapons. Incremental steps, without a coherent overarching policy of nuclear disarmament, are not enough to meet the obligation to negotiate and conclude "nuclear disarmament in all its aspects under strict and effective international control."³

The abolition of nuclear weapons will not necessarily follow a linear progression from arms control and non-proliferation to disarmament. A qualitative change in national security concepts is a more essential prerequisite. This change is related to concepts of self-defense and sovereignty – concepts that are fundamental to the psychological mindset of any policy maker living today, or even within the past few centuries. Today these concepts are in a state of flux, and their very foundations are being challenged. (See "International Security: Signs of Change and Conflict" in this section.)

To say that change is inevitable because of internal and external forces, however, is not to say that it will necessarily lead to abolition. But many of the qualitative changes in the policies and institutions that are likely to be challenged over the next few decades are related, directly and indirectly, to the policies and institutions that depend on nuclear weapons. So there are likely to be opportunities to further the goal of nuclear abolition at the level of policy making and also through attention to the causes and consequences of current nuclear policy.

But even the exercise of looking beyond immediate measures is often termed unrealistic and admittedly some of the next steps might appear farther away than ever in today's political environment. As a result, initiatives that focus from the outset on the "ultimate" goal – abolition of nuclear weapons – are accused of idealism. This perspective argues that only incremental progress can pave the way for future disarmament steps, leading to the elimination of nuclear weapons. This "realistic" approach, however, tolerates dangerous political trends and current power struggles, allowing them to dictate the terms of nuclear disarmament. Is this realism, or is this fatalism?

The word "ultimate" divides arms control and abolition, deflecting the urgency of the latter and obscuring the distinction between proliferation and possession in the policies of the nuclear weapon states. Nuclear weapon states use the word "ultimate" to reconcile demands for abolition with their own possession and this makes the ultimate goal of eliminating nuclear weapons even more remote. Yet, if there is an element of good faith in the nuclear weapon states' declared ultimate goal, then the question

arises whether “ultimate” can serve as a bridge between arms control and abolition by identifying a shared goal and allowing incremental movement forward to the extent that there is a common purpose.

In other words, “ultimate” should not be used to justify the indefinite extension of the status quo, but it could be used to build consensus on the urgency and necessity of disarmament. This would require examination of the concepts that are obscured by the use of the word “ultimate” and might reconcile the step by step approach with the qualitative change necessary for nuclear disarmament to occur.

Pre-Negotiation Preparations for Nuclear Disarmament

Besides the continuation of the bilateral dialogue on nuclear arms control, a number of other partial measures might be helpful, namely:

1. Successful negotiations on a treaty banning the production of fissile material for nuclear weapons....
2. Unilateral reductions by nuclear weapon states of their nuclear arsenals should be encouraged....
3. A joint, multilateral, politically binding declaration establishing the ultimate goal of the complete elimination of nuclear weapons....
4. International agreements on non-first use or non-use of nuclear weapons....

Besides these partial measures it is important to undertake the professional preparation for negotiations on nuclear disarmament. As can be seen from the history of negotiations on arms control and disarmament, an inevitable precondition for future negotiations is a preliminary, non-negotiating stage at which important issues related to the proposed subject of negotiations are identified and elaborated. In some cases such a preliminary process takes a longer period than the negotiations that might follow.

Let us recall how the Chemical Weapons Convention (CWC) was concluded. The first Draft Convention...was presented in 1969. This and other drafts, which followed, were submitted for general discussion in the Committee on Disarmament (CD) and at UNGA sessions.... After that, in 1980, the CD established an Ad-Hoc Committee with a non-negotiation mandate “to define, through substantive examination, issues to be dealt with in the negotiation on a multilateral convention on the complete and effective prohibition of chemical weapons.” Only after four years of such preparatory work did the CD establish an Ad-Hoc Committee to Negotiate a Convention (1984). Nine years later those negotiations resulted in the signing of the CWC (1993).

The history of the Comprehensive Test Ban Treaty, which is even longer (since 1954), also included an exploratory stage, during which an Ad-Hoc Committee, prior to the negotiations, did “substantive work on specific and interrelated test-ban issues, including on structure and scope as well as on verification and compliance.”

As far as nuclear disarmament is concerned... the CD is paralyzed by the rule of consensus, and is not likely to arrive at a decision on this issue. That is why it would be worthwhile to start such a process outside the CD, on the non-governmental level, with the involvement of disarmament experts, scientists and lawyers. The purpose of such an in-depth, comprehensive and practical exploration of the problem would be to elaborate possible practical approaches to the problem (which in the future might be used by the CD or by any other intergovernmental forum dealing with nuclear disarmament), as well as to give non-nuclear weapon states technical information relating to the practical aspects of the reduction, elimination and prohibition of nuclear weapons and their means of delivery.

Yuri Nazarkin

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Source: *Total Nuclear Disarmament – But when and how?* Olof Palme International Center, 1999

Deterrence: Is It Wise?

The US Senate's rejection of the Comprehensive Test Ban Treaty and the Russian Duma's delay in ratifying START II suggest the two nations with the largest nuclear arsenals intend to hold onto them forever.

Is it worthy of any nation to base its security on terror, on the threat to annihilate millions of innocent humans, on the threat of genocide?

Is the policy of Mutual Assured Destruction – a policy that puts the human race at risk of extinction – worthy of civilization?

Is it wise?

“We cannot at once hold sacred the miracle of existence and hold sacrosanct the capacity to destroy it,” says General Lee Butler, former Commander-in-Chief of the US Strategic Command.

“Deterrence...at best is a gamble no mortal should pretend to make. At worst it invokes death on a scale rivaling the power of the creator.”

Alan Cranston
Global Security Institute
Former US Senator

A Russian Perspective on Abolition

[With respect to] the sacramental question of whether it is possible to conceive going below 200 nuclear warheads and eventually reaching complete nuclear disarmament...it should be emphasized that the issue is not just whether it is technically, strategically, or politically possible, but rather whether the United States, Russia, and other states are willing to pay the price for a world free of nuclear weapons. In any case, what is meant by nuclear disarmament is varying degrees of depth of deactivation of nuclear weapons, implying different costs and time delays for reconstitution.

Nuclear weapons are the ultimate instrument and pillar of national sovereignty, and an expensive, dangerous, and provocative instrument at that. That is why so few states acquired nuclear weapons during the first half century of the nuclear age, and this is why those that have done it are so reluctant to give up nuclear arms.

Giving up nuclear weapons without making the world safe for conventional wars or creating too great a risk of nuclear cheating by some state or terrorist group would require enormous sacrifice of national sovereignty by major powers. To fill the gap created by abolishing nuclear deterrence as a primary factor of power politics, they would have to construct effective international organizations for conflict resolution, peacekeeping, and peace enforcement. They should be ready to abide by the decisions of such organizations, even against their perceived national interests. The international hierarchy would change dramatically, which would first affect Russia but eventually the United States as well. The right of veto in world affairs would have to be abandoned by major powers, and they would be severely constrained in their security policies and defense programs. They would have to concede all nuclear industries and dual-purpose technologies to comprehensive controls and possibly international management and profit extraction. They would also have to transfer all missile technologies, programs, and employment to international corporations for use and for exploration of outer space.

Alexei Arbatov, State Duma of the Russian Federation Defense Committee

Source: “Deep Cuts and De-alerting: A Russian Perspective” in Harold A. Feiveson, ed., *The Nuclear Turning Point: A Blueprint for Deep Cuts and De-alerting of Nuclear Weapons*, Brookings Institution Press, 1999, pp. 323-324.

Next Steps

Three cardinal arms control treaties are currently in danger of unravelling: the 1968 Non-Proliferation Treaty (NPT), the 1972 Anti-Ballistic Missile (ABM) Treaty and the 1996 Comprehensive Test Ban Treaty (CTBT). The impression not only among researchers and NGOs, but also among officials of the P5 nations, is that we are going backwards, that Cold War thinking has re-asserted itself, and that a new arms race is beginning.

This is a time when it is tempting for officials and policy makers to become fatalistic, and to be overwhelmed by the rhetoric of other nations, the perceived negativity of erstwhile allies, even the cynical attitudes of colleagues.

This is a time when it is tempting for officials and policy makers to become fatalistic, and to be overwhelmed by the rhetoric of other nations, the perceived negativity of erstwhile allies, even the cynical attitudes of colleagues. Public opinion is quiet, generally uninformed, and therefore no spur to proaction.

This is a time when it is essential to work with officials and to offer them support. This support can take many different forms: it can simply be attentive listening, it can be re-examination of what the root problems are, it can be the making of connections and communications with counterparts who can act, it can take the form of imaginative proposals to break a stalemate or overcome objection. Such proposals could include:

- Taking the lead in negotiations for a treaty to ban the production worldwide of the fissile materials used to make nuclear weapons. This would reduce the risks of proliferation and increase the transparency necessary for multilateral disarmament.
- Convening a conference of all the nuclear weapon states to define how nuclear weapons worldwide can be taken off hair-trigger alert. This would immediately reduce the risk of nuclear holocaust happening by accident, making the world a much safer place.
- Promoting negotiations to multilateralise the ABM Treaty. This would prevent the collapse of this fundamental global safety measure.
- Within NATO, Britain could take the lead in the current re-consideration of NATO's nuclear policy, in the direction of reducing reliance on nuclear weapons in the international system.
- In the United Nations the P5 could cease to veto Resolution No. 54/54G "Towards a nuclear-weapon-free-world: the need for a new agenda," put forward by the New Agenda Coalition (Brazil, Egypt, Ireland, Mexico, New Zealand, South Africa, and Sweden) in 1998 and 1999.
- Making sure that heads of state attend the NPT Review Conference in April 2000.

We may have to come very close to losing a vital treaty like the NPT before we wake up to the starkness of the choice facing us, namely nuclear anarchy or nuclear abolition. Paradoxically, it is in this kind of moment that real change can come.

Scilla Elworthy
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De-alert Nuclear Weapons

The Berlin Wall was the most striking edifice of the Cold War and the *raison d'être* for the colossal Russian and American nuclear arsenals (well over 50,000 weapons at the height of the confrontation). Ironically, although a decade has gone by since the fall of the wall and the end of the Cold War, the weapons remain. According to one estimate there are still over 13,000 strategic nuclear weapons in the inventories of Moscow and Washington. Indeed, so untenable is the present scenario that new voices, including those of former Cold Warriors, are calling for the complete elimination of nuclear weapons. Paul Nitze, a member of the hawkish Reagan administration recently stated in the *Washington Post* that “the simplest and most direct answer to the problems of nuclear weapons has always been their complete elimination... it is the presence of nuclear weapons that threaten our existence.”

While the proposed Nuclear Weapons Convention provides a well thought out route for the complete elimination of nuclear weapons, this journey is unlikely to be completed overnight. Meanwhile, over 5,000 weapons remain on “hair-trigger” alert – ready to be launched within 15 minutes. Even with the best command and control and safety systems in place (though this may not be the case in Russia), these are 5,000 accidents waiting to happen.

This alarming situation has led to the realization that the only way to prevent these accidents is to de-alert the nuclear forces as soon as possible. One manifestation of this concern is the creation of a new alliance and the launch of a new campaign titled “Back from the Brink” which aims to make de-alerting an issue in the 2000 US presidential campaign. The campaign's website (www.dealert.org) provides convincing argument both in favour of de-alerting nuclear arsenals and also informs how this can be achieved. Highlighting the former issue is crucial to create the necessary ground for future leaders to build a national consensus in favour of de-alerting nuclear forces. However, the latter issue (of how de-alerting would actually work in practice) also needs to be seriously addressed by all the relevant parties – the policy makers, the armed forces, the weapons laboratories, and arms control and disarmament negotiators.

Waheguru Pal Singh Sidhu,
MacArthur Fellow, St. Antony's College, Oxford

Some Ways to De-alert Nuclear Weapons

- Store warheads separately from their delivery systems (this requires secure storage areas and containers; complete de-alerting of all warheads by this method may therefore take some time);
- Pin open the switches used to fire missile motors;
- Remove the pneumatic mechanisms that open missile silo covers;
- Remove the guidance systems of missiles;
- Cover land-based missile silos with large mounds of dirt that would have to be removed before a missile could be fired;
- Remove the tritium bottles from warheads;
- Insert an explosion-neutralizing wire in the hollow core of the plutonium “pit,” making it physically impossible for the weapon to explode.

Sources: “Back from the Brink” Campaign (www.dealert.org) and Federation of American Scientists, *Public Interest Report*, March/April 1998

No First Use: One Key Step Toward the NWC

Nuclear weapons have the capability to destroy all the creatures of this Earth. As long as nuclear weapons exist, there is a danger of accidental or deliberate use with disastrous consequences. Therefore, the negotiation of a NWC is vital to all humanity. However, such negotiations have not started yet because of the opposition of the nuclear weapon states (except China). The NWC negotiations will not make progress without these states' participation. The main reason for these nuclear states' objections to NWC negotiations is that they continue to rely on the deterrence role of nuclear weapons, despite there being no rationale for deterrence since the end of the Cold War. To reach the goal of the NWC, therefore, the major steps are to reduce the deterrence role of nuclear weapons and to render such weapons unusable.

To reduce the role of nuclear weapons, we should take some specific and practical steps in the initial phase such as:

1. Taking nuclear forces off alert and removing warheads from delivery vehicles. The US and Russia should accept a workable de-alerting option at first. Then the system can be extended to other nuclear weapons states under a condition of deeper cuts;
2. Committing to further reduction of nuclear weapons. The US and Russia should implement the START-II and START-III as soon as possible and commit to deeper cuts in their arsenals to a level comparable to that of the other three nuclear weapon states, at which time the latter will join in nuclear disarmament. Also it is necessary to maintain the ABM treaty because without it deep cuts will not be possible;
3. Accepting a policy of no first use of nuclear weapons.

A global agreement on no first use (NFU) should be a key step to decreasing the role of nuclear weapons and eventually realizing the goal of the NWC. Among the five NWS, however, only China has adopted the NFU policy (China is also the only nuclear weapon state supporting the NWC); that is, it undertakes not to be the first to use nuclear weapons at any time or under any circumstance and not to use or threaten to use nuclear weapons against non-nuclear weapon states or nuclear weapon free zones at any time or under any circumstance. France, the UK, the US, and now also Russia maintain policies that permit first use of nuclear weapons even when nuclear weapons are not used or threatened against them. In practice, in the post-Cold War era, there is no rationale for these states holding the first-use policy, and NFU would be not only beneficial to international security but also in their national interests.

A no first use policy would be an important measure to strengthen the non-proliferation regime and to promote further reductions of nuclear weapons. As far as non-proliferation is concerned, as long as nuclear weapon states rely on their use for any purpose, other nations will be tempted to develop or acquire such weapons or other weapons of mass destruction in response. Inversely, NFU would discourage other states from seeking nuclear weapons while the role of such weapons is decreasing

More important, NFU would facilitate the nuclear disarmament process. Under NFU, the military strategy of each state will be switched from offensive to defensive. The size of the operational nuclear arsenal whose only purpose is for retaliation should be much smaller than that intended for first use. This would make the deeper cuts more feasible; NFU would ban all tactical weapons to reduce the risk of first use; NFU could limit the deployment of silo-based MIRVs intended for first nuclear attacks; NFU would require taking nuclear forces off alert and removing warheads from delivery vehicles; NFU would also require not deploying a national missile defense system, because such a system could encourage a country to use nuclear weapons first. Consequently, as an important confidence-building measure, the policy of NFU would make the NWC much easier to implement.

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Missile Defense: A Roadblock to Nuclear Disarmament

Like physics, politics follows a law of equal and opposite pairs of action and reaction forces – what could be called a Newton's Third Law of Politics. Unlike physics, politics fortunately is not required to always adhere to this law. The tension between defensive and offensive military and political forces is perhaps best illustrated by the tendency to attempt to erect defenses against ballistic missiles.

In response to missile defense proposals, other nuclear-armed nations can react in one or some combination of three ways:

1. Strengthening their nuclear-armed missile force by building more missiles, arming these missiles with multiple warheads, and developing countermeasures;
2. Agreeing to strict limits on any proposed missile defenses (essentially promising not to defend an entire nation), thereby enshrining nuclear deterrence and mutually assured destruction; or
3. Alleviating the ballistic missile threat by deeply reducing the quantity of these weapons, moving toward nuclear disarmament.

In the past, nuclear-armed nations have pursued the first two courses, as demonstrated by the nuclear arms race during the Cold War and the 1972 Anti-Ballistic Missile (ABM) Treaty. The ABM Treaty and other arms control limitations established enough stability to allow the third option to be pursued to some extent, stopping far short of complete nuclear disarmament.

Like a Mini-Me version of Dr. Evil, missile defense development has reemerged as a Star Wars-lite that could morph into a larger system and is receiving various levels of support from both Democratic and Republican leaders in the US. While the Administration has been fuzzy about who it would direct these proposed defenses against, Republican leaders have not been reticent about including China in the short list along with the so-called rogues gallery of North Korea, Iran, and Iraq. For China's part, in October, it sponsored with Russia and Belarus a draft resolution in the United Nations First Committee on Disarmament and International Security, calling for "continued efforts to strengthen the [ABM] Treaty and to preserve its integrity and validity so that it remained a cornerstone of global strategic stability and world peace and in promoting further nuclear arms reductions."

Concurrently, China is proceeding with a gradual modernization of its long-range missile force. In a worrying sign that the US may approve of the beefing up of China's nuclear arsenal, a senior Defense Department official stated in December, "By China's own momentum, China will have a viable deterrent by the time we get our system in place." He was responding to a concern about how Chinese military planners would perceive the impact of an American national missile defense against China's twenty or so intercontinental ballistic missiles. If the US builds this missile defense system, China will have little incentive to reverse any missile buildup. In Russia, even if the new acting President Vladimir Putin convinces the Duma to ratify START II this spring, the Duma will likely attach the condition that the US must adhere to the ABM Treaty, or else Russia will abandon START II.

Before arriving at these impasses, disarmament advocates will have many opportunities to oppose missile defenses.

The Clinton Administration, and presumably the next Administration, will base a decision to proceed with national missile defense deployment by 2005 on four criteria: the threat, the impact on arms control, the costs, and technical readiness of the proposed defense system. Key milestones are pending soon. This June, the Pentagon will conduct a Deployment Readiness Review. Later in the summer, as a result of this review and other political pressures, President Clinton will probably feel compelled to support deployment. However, this support could be couched in terms that downplay the decision. For instance, he could point out that Congress has mandated that the next Administration must perform a quadrennial defense review. The next President, therefore, could use this review as an occasion to

Before arriving at these impasses, disarmament advocates will have many opportunities to oppose missile defenses.

reevaluate the perceived need for missile defense. Of course, this scenario depends on what party has won the White House and whether Republicans maintain control of Congress.

Nonetheless, before the next President takes office, the US may be forced to abrogate the ABM Treaty as early as November, unless Russia agrees to treaty modifications, because the US must give six months notice prior to any action that would violate the treaty. Although what exactly constitutes ABM Treaty violation is debatable, Russia would presumably interpret groundbreaking, which is currently scheduled for spring 2001, in Alaska as violating the treaty. Instead of abrogating the ABM Treaty, Russia and the US will probably find some way to finesse around the predicament through treaty modification or reinterpretation, or the US could pass this deployment initiative to the next Administration.

Those opposed to missile defenses are advised to:

1. Win over allies in Congress, especially among Democrats and moderate Republicans;
2. Try to convince the Clinton Administration to not make a definite deployment decision this summer while recognizing its political constraints; and
3. Demonstrate that missile defenses fail the above four criteria as follows.

Missile defenses are too expensive, and other nations could spend far less money to defeat defenses. Moreover, the current and future threats are magnified out of proportion to other global security problems and do not justify missile defenses. Further, the two reports issued by the panel headed by General Larry Welch, other statements by Ballistic Missile Defense Organization officials, and the intercept test failure in January call into question the technological readiness of the system under development. Finally, missile defenses will adversely affect arms control and will likely stall nuclear disarmament. More ominously, these defenses could spark renewed arms races.

Charles Ferguson
Director, Nuclear Policy Project
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International Security: Signs of Change and Conflict

Editor's Introduction

Bilateral reduction in numbers of nuclear weapons, cutoff of fissile material, and other proposed and ongoing incremental measures are welcome and necessary, but by themselves do not challenge the strategic defense policies of the nuclear weapon states. The future is indeed uncertain, as defense planners assert, but it is also shaped by the policies of today. The question therefore is why plan only for further reliance on nuclear weapons, which will make conflict more likely, rather than for reduced reliance and eventual elimination, which will only be possible if planning at a government level actually begins.

The security policies of today in the nuclear weapon states and their allies contain fundamental inconsistencies based on selective interpretation and application of the rights of self-defense and sovereignty. One state's self-defense policy, if it includes force projection, is likely to be perceived as a threat to another state. It is fairly common – not only among states – to give oneself the benefit of the doubt but suspect others' motives.

Assumptions about intent, aggression, and resort to force – which affect interpretation of another's actions or words – contribute to the possibility of hostility. Military planners prepare for “the worst” and seek to project a credible threat, or in some cases ambiguity, as a deterrent in the minds of real, potential, or perceived adversaries. It is not clear, however, that they adequately take into account the range of possible reactions to the threats projected. Perceived threats or uncertainty in the minds of the other might be a direct cause of reactive decisions to assume and prepare for the worst.

The statements and analyses of policy that follow indicate what nuclear weapon states are planning, what they are debating internally, and what they see as threats. These examples indicate the centrality of nuclear weapons to the security doctrines of the nuclear weapon states. They also indicate that despite their objections to negotiating a Nuclear Weapons Convention on the grounds that this involves projecting into an unknown future, policy makers of the nuclear weapon states have no problem projecting nuclear weapons into the future.

As these extracts show, nuclear weapon states continue to invest in deterrence as the basis of stability, despite the current state of flux. The US, Russia, and China recognize a substantive change in the global security environment and perceive the emergence of qualitatively new threats. The US is driven by fear of “rogue” states, while Russia and China share a view that the current international security environment has shifted dramatically, and that the greatest threat comes from the United States. The examples from France indicate possible directions that future policies might take if universal nuclear disarmament is not pursued as a viable security option. Of the official nuclear weapon states, the UK has given the most public attention, in the form of democratic debate, to the Nuclear Weapons Convention.

Statements of Policy – United States

“Nuclear forces are an essential element of US security, serving as a hedge against an uncertain future and as a guarantee of US commitments to allies.”

William Cohen, Annual Report to the President and the Congress, Chapter 6, “Nuclear Forces and Missile Defenses”, Department of Defense, 2000

“Our nuclear deterrent posture is one of the most visible and important examples of how US military capabilities can be used effectively to deter aggression and coercion, as reaffirmed in a Presidential Decision Directive signed by President Clinton in November 1997.”

President William J. Clinton, A National Security Strategy for a New Century , The White House, October, 1998

“The fundamental challenge confronting the Department of Defense is simple, but daunting. Our armed forces must meet the demands of a dangerous world by shaping and responding throughout the period from 1997 to 2015. To do so, we must meet our requirements to shape and respond in the near term, *while at the same time* we must transform US combat capabilities and support structures to be able to shape and respond effectively in the face of future challenges.

“To meet this challenge, we must prepare now to meet the security challenges of an unpredictable future. As we move into the next century, it is imperative that the United States maintain its military superiority in the face of evolving, as well as discontinuous, threats and challenges. Without such superiority, our ability to exert global leadership and to create international conditions conducive to the achievement of our national goals would be in doubt.”

William Cohen, The Report of the Quadrennial Defense Review, Section III, Defense Strategy, Department of Defense, May 1997

“Our nuclear posture also contributes substantially to our ability to deter aggression in peacetime. The primary role of US nuclear forces in the current and projected security environment is to deter aggression against the United States, its forces abroad, and its allies and friends. Although the prominence of nuclear weapons in our defense posture has diminished since the end of the Cold War, nuclear weapons remain important as a hedge against NBC [nuclear, biological, and chemical] proliferation and the uncertain futures of existing nuclear powers, and as a means of upholding our security commitments to allies.

“In this context, the United States must retain strategic nuclear forces sufficient to deter any hostile foreign leadership with access to nuclear weapons from acting against our vital interests and to convince such a leadership that seeking a nuclear advantage would be futile. Thus, for the foreseeable future, the United States will continue to need a reliable and flexible nuclear deterrent – survivable against the most aggressive attack, under highly confident, constitutional command and control, and safeguarded against both accidental and unauthorized use. We believe these goals can be achieved at lower force levels. Consistent with this, the United States remains committed to negotiating further reductions in US and Russian strategic nuclear arsenals consistent with the agreed START II framework once Moscow ratifies the START II treaty.”

William Cohen, The Report of the Quadrennial Defense Review, Section III, Defense Strategy, Department of Defense, May 1997

Statement of Policy – Russia

The situation in the world is characterized by a dynamic transformation of the system of international relations. Following the end of the bipolar confrontation era, two mutually exclusive trends took shape. The first of these trends shows itself in the strengthened economic and political positions of a significant number of states and their integrative associations.... The second trend shows itself in attempts to create an international relations structure based on domination by developed Western countries in the international community, under US leadership and designed for unilateral solutions (including the use of military force) to key issues in world politics in circumvention of the fundamental rules of international law.

... [A] number of states are stepping up efforts to weaken Russia politically, economically, militarily and in other ways. Attempts to ignore Russia's interests when solving major issues of international relations, including conflict situations, are capable of undermining international security, stability, and the positive changes achieved in international relations....

Russia's national interests in the military sphere lie in protection of its independence, sovereignty and state and territorial integrity, in the prevention of military aggression against Russia and its allies and in ensuring the conditions for peaceful and democratic development of the state....

Threats to the Russian Federation's national security in the international sphere can be seen in attempts by other states to oppose a strengthening of Russia as one of the influential centres of a multi-polar world, to hinder the exercise of its national interests and to weaken its position in Europe, the Middle East, Transcaucasus, Central Asia and the Asia-Pacific Region....

...The growing technical advantage of a number of leading powers and their enhanced ability to create new weapons and military equipment could provoke a new phase of the arms race and radically alter the forms and methods of warfare....

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

Source: Russia's National Security Concept, issued January 10, 2000, excerpts of the text as published in Russian in the January 14 issue of *Nezavisimoye Voennoye Obozreniye* and translated by the US foreign Broadcast Information Service, in *Arms Control Today*, January/February 2000, p. 15

Analysis of Policy – Russia

A close examination of the conditions and sequence of the use of the totality of the means and methods of preventing and stopping aggression shows that the use of nuclear weapons by Russia is prompted by the onset of a situation that is critical for the existence of the state when the use of conventional forces and means in combination with non-military means proves ineffective and aggression cannot be stopped. So, the claims that Russia has allegedly lowered the ceiling of the use of nuclear weapons are incorrect. Russia does not claim broader rights than those of other members of the "nuclear club". It is important to understand that Russia commits everything to the goal of deterrence and will use the whole power of the state [to] administer a resolute and firm rebuff to the aggressor. But Russia itself will never become an aggressor, which is ensured by its legislation and the Concept of National Security.

Sergei Ivanov, Secretary of the Security Council, February 15, 2000, reprinted in *Disarmament Diplomacy* No. 43, January/February 2000, p. 51

Analysis of Policy – China

With the arrival of the new century, the United States has markedly stepped up its National Missile Defence (NMD) programme.... The real motive of the US Government is to make use of the country's unrivalled economic and technological might to grab the strategic high ground for the 21st century in both the scientific and military fields, so as to break the existing global strategic balance, seek absolute security for itself and realise its ambition for world domination.

...Since the end of World War II, the world has undergone tremendous changes. Yet, there is one important factor that has remained constant in the ever-shifting global strategic landscape: a certain degree of deterrence—along with strategic checks and balances—has always existed in the interrelationships between the major powers. No single country is strong enough to believe that it can use force to threaten the security of others without having to worry about the threat of retaliation.... However, as the only superpower with economic, technological and military capabilities that remain unmatched by any other country... the United States seems to be less and less satisfied with the status quo in international relations. What it wants is absolute security, because it is only from a position of absolute security that it can enjoy complete freedom of action in dealing with other countries. The US Government and Congress have found in NMD the best means to deliver this....

...US efforts to seek its own absolute security to the detriment of the security of others have poisoned the atmosphere of international co-operation in the field of non-proliferation, which will ultimately undermine its own security.

Though the US Government has publicly denied that China is a major target of its NMD programme, the history of missile defence programmes and the acknowledged design capabilities of NMD show that the proposed system can be directed against China and can seriously affect China's limited nuclear capability.

Ambassador Sha Zukang, "US Missile Defence Plans: China's View" in *Disarmament Diplomacy* No. 43, January/February 2000, pp. 3,4.

Analysis of Policy – France

[W]e have obviously not yet reached, and are far from reaching anything remotely resembling an international world order. In a context of growing instability, we need the stability and predictability that international agreements offer. This is not to say that we should blindly entrust our security interests only to treaties, but that we should not either throw the baby out with the bath water....

On nuclear disarmament, France has done its share. Like others, we scaled back our SSBNs. More significantly, France has become the first Nuclear Weapon State to completely dismantle its ground-to-ground nuclear systems. It is, for the moment, the sole nuclear power to have dismantled its weapons fissile materials production facilities.... Likewise, we trust that our friends and allies will recognize the importance of the concrete steps that we have already taken, while maintaining a credible deterrent.

What is the situation now? First, we can no longer take for granted the same degree of understanding among the five [nuclear weapon states] on central strategic questions.... Second, we have to acknowledge a certain number of setbacks in the field of arms control and non-proliferation.... A combination of the continuing rejection of CTBT ratification and a unilateral abrogation of the ABM treaty would seriously put in jeopardy the whole edifice of non-proliferation and arms control....

Ambassador Gerard Errera, Political Director for the French Ministry of Foreign Affairs, Address to Carnegie International Non-Proliferation Conference, March 16, 2000. (www.ceip.org/npp)

Discussion of Policy – France

A group of French lawmakers, military leaders and political scientists is recommending a reappraisal of France's nuclear doctrine.

Such an assessment, which might form the basis for a European nuclear policy, could touch on nuclear arms testing, limitations to the use of nuclear weapons and anti-ballistic missile systems.

Since 1996, France has declared a moratorium on nuclear testing and fissile material production and vowed not to undertake preemptive strikes. The country now maintains a downsized nuclear force, with no more ground-based ICBMs and a reduced quantity of airborne and submarine-based nuclear weapon systems. The policy is rooted in the government's determination to remain independent of the US and other superpowers – a stance dating back to the 1960s.

"[Current French doctrine] served a most useful role during the Cold War, 10 years ago," said Pierre Lellouche, a member of the French Assembly's defense committee. "But this context is now in rapid flux. So why shouldn't [the doctrine] be opened to public discussion?"

Adm. Marcel Duval (Ret.), former chairman of the defense R&D committee, urged that discussion be extended as rapidly as possible to the European level. US defense experts have severely criticized Europe's failure to address its military shortcomings, which include coming to terms with the need to develop a common nuclear doctrine....

...French officials pointed an accusing finger at Russia for failing to approve START 2 and, in particular, at the US for refusing to ratify the Comprehensive Test Ban Treaty and embarking on national and theater anti-ballistic missile systems. Gen. Henri Paris (Ret.), president of the Paris-based Democracy Club, claimed that, by moving to develop and deploy ABM systems, Washington had in effect "restarted the arms race."

The comments, made earlier this month at parliamentary hearings at the French Senate, were significant because the speakers were primarily from the opposition right-wing Gaullist party, which drew up the present nuclear doctrine....

Among the concepts proponents of debate would like to see discussed are:

- Resumption of nuclear testing....
- Acquiring an anti-ballistic missile capability....
- Expanding criteria for the use of nuclear arms [including] "active defense" and allowing preventive strikes....
- Broadening the nuclear arsenal....

Michael A. Taverna, "Policy Makers Urge Debate on French Nuclear Doctrine" in *Aviation Week and Space Technology*, March 20, 2000, p. 79.

Statements of Policy – United Kingdom*

On July 8, 1998 the British Secretary of State for Defence, George Robertson, announced the outcome of the Labour Government's Strategic Defence Review, which indicated some progress from the UK in the area of nuclear disarmament.

In a speech to the Conference on Disarmament on July 30, 1998, Ambassador Ian Soutar, Permanent Representative of the United Kingdom, said that:

As a result of the Review, the British Government has decided that: overall, the United Kingdom will maintain fewer than 200 operationally available warheads (compared with the previously announced ceiling of 300); a Trident submarine on deterrent patrol will carry only 48 warheads (compared with the previously announced ceiling of 96 warheads on each submarine); only one of our four Trident submarines will be on deterrent patrol at any one time; and this submarine's missiles will not be targeted and will routinely be at a "notice to fire" measured in days (rather than the few minutes' quick-reaction alert sustained throughout the Cold War).

The Review argued that "greater transparency about nuclear programmes also adds to international trust and security", and thus announced Britain's holdings of fissile materials for military purposes: 7.6 tonnes of plutonium; 21.9 tonnes of highly enriched uranium and 15,000 tonnes of other forms of uranium.

While the Review indicated that "the Government wishes to see a safer world in which there is no place for nuclear weapons," the UK clearly does not envisage giving them up any time soon or in the absence of significant moves by other nuclear powers: "while large nuclear arsenals and risks of proliferation remain, our minimum deterrent remains a necessary element of our security."

To maintain and possibly modernise this deterrent, the UK is continuing programs of research and development. George Robertson, Secretary of State for Defence, said in the House of Commons on Wednesday June 9, 1999:

[F]or as long as the United Kingdom has nuclear forces we will ensure that we have a robust capability to underwrite the integrity of our nuclear warheads without recourse to nuclear testing. As part of that I have approved investment in the US National Ignition Facility (NIF). This will guarantee the United Kingdom access to a high-powered laser, which is a key element of our stewardship programme. Participation in the NIF will be a joint venture under the auspices of the 1958 UK/US Mutual Defence Agreement.

Analysis of Policy – UK

On the Nuclear Weapons Convention, the UK has softened its opposition to the UN resolutions calling for negotiations leading to conclusion of a Nuclear Weapons Convention (see Section 2) by abstaining in 1998 and 1999 on operative paragraph 1, which affirms the International Court of Justice conclusion that there exists an obligation to pursue in good faith and bring to a conclusion negotiations on nuclear disarmament in all its aspects.

A number of UK officials, in informal discussions, have shown considerable interest in the Model Nuclear Weapons Convention and in the book *Security and Survival: The Case for a Nuclear Weapons Convention*. John Stellar a Member of Parliament (MP) and Minister of State for the Armed Forces has remarked that the book is "... a useful contribution to the international debate on how to make progress towards the global elimination of nuclear weapons."

* The update on UK policy, including statements, analyses and developments, was collected and authored by Alyn Ware, with advice from Scilla Elworthy and George Farebrother.

Menzies Campbell, Liberal Democrat foreign affairs spokesman, in an article in the *Guardian* on March 24, 2000, warned that current developments are increasing nuclear insecurity and that there is a need for leadership from the UK “lest we slip back towards the so-called balance of terror, at a time when equilibrium is fragile and proliferation likely... Britain should be prepared to argue forcefully at the April NPT Review Conference for the negotiation of a nuclear weapons convention to match those for chemical and biological weapons, to formalise the commitment of all nuclear weapon states to nuclear disarmament.”

There has been considerable debate in the UK House of Commons on the general issue of nuclear disarmament, and the more specific question of support for a Nuclear Weapons Convention. Below are excerpts from these debates.

Discussion of Policy - UK

Mr. Hoon for the Secretary of State for Defence, 10 January – 11 February 2000:

The United Kingdom's minimum nuclear deterrent is consistent with international law. It follows that UK military personnel engaged in the operation or support of Trident are acting legally under the Nuremberg Principles. This has been made clear down the chain of command, and members of the Armed Services who seek further guidance on these issues can in the first instance do so through their chain of command.

Guidance on the Law of Armed Conflict for the Armed Services is set out in the draft Joint Service Manual on the Law of Armed Conflict (Joint Service Publication 383) currently under preparation. We aim to publish this later this year, as we pledged at the 50th Anniversary Conference of the International Red Cross in November 1999. When it is published a copy will be placed in the Library of the House. The relevant section on Nuclear Weapons was reconfirmed following the 1996 Advisory Opinion of the International Court of Justice on the use or threat of use of nuclear weapons. It reads:

“There is no specific rule of international law, express or implied, which prohibits the use of nuclear weapons. The legality of their use depends upon the application of the general rules of international law, including those regulating the inherent right of self-defence and the conduct of hostilities. Those rules cannot be applied in isolation from any factual context to imply a prohibition of a general nature. Whether the use, or threatened use, of nuclear weapons in a particular case is lawful depends on all the circumstances. Nuclear weapons fall to be dealt with by reference to the same general principles as apply to conventional weapons. However, the new rules introduced in Additional Protocol I [to the Geneva Conventions] are not intended to have any effect on and do not regulate or prohibit the use of nuclear weapons.”

January 18, 2000:

Mr. Malcolm Savidge (Labour – Aberdeen):

I should like to refer to the proposal advanced by the Liberal Democrat spokesman, the right honourable and learned Member for North-East Fife (Mr. Campbell), during the debate on the Queen's Speech (November 22, 1999). He said that the United Kingdom could take the initiative by convening a conference of the members of the United Nations Security Council. The conference would discuss: setting up new strategic arms reduction talks – START III – involving all nuclear weapon states; reviewing all treaties, including the ABM treaty; promoting a declaration of all nuclear weapons stocks, with the aim of producing an inventory, which the UN would keep; ... and engaging in serious negotiations on weapons reduction and entry into a nuclear weapons convention.

That is a serious and sensible suggestion. The United Kingdom has already taken a lead on two of the other major issues facing our species: climate change and third-world debt. As we enter the new millennium, we could give no better lead than on the crucial issue of nuclear non-proliferation.

Mr. Paul Keetch, (Liberal Democrat – Hereford):

We should also work to bring about an annual declaration of all nuclear weapons held by de facto nuclear weapons states under a UN weapons register. We should proceed with negotiations on a nuclear weapons convention to match those for chemical and biological weapons, and we should formalise the commitment of all nuclear weapons states to nuclear disarmament. We believe that an EU decommissioning agency should be established to co-ordinate EU-financed efforts to decommission the obsolete civil and military nuclear hardware of the former Soviet Union.

It is almost 39 years to the day that John F. Kennedy said in his inauguration speech as President: “Let us never negotiate out of fear – but let us never fear to negotiate. The United Kingdom can help to achieve that and the Government should take that forward.

Mr. Tony Lloyd (Labour – Manchester, Central; former Assistant Foreign Minister):

We must examine the future – the not-too-distant future – of our own nuclear weapons, because technological change inevitably brings the possibility of technological obsolescence...The current Government have already done far more to achieve transparency in that respect than any previous UK Government or, indeed, any other Government in the world. By setting such an example to the rest of the world, we enhance our ability to tell countries such as France and even China that it is important to seize the opportunity to de-escalate. The alternative is escalation... We must strip away the mythology – that having nuclear weapons is about national aggrandisement, when, in fact, it is rooted in national insecurity. We must persuade the people of India and Pakistan that nuclear weapons do not enhance their security. However, to do that we must be open and honest about our own long-term ambitions and our desire for nuclear de-escalation.

Mrs. Ann Cryer (Labour – Keighley):

If our country helped to halt the proliferation of weapons of mass destruction, we would not only achieve a more secure future for generations to come, but contribute to the well-being of the millions who are undernourished, the children who are uneducated and the sick who are untreated. By reducing our reliance on nuclear weapons, we could take a lead in the world and set an example, especially for the underdeveloped countries.

Dr. Julian Lewis (Conservative – New Forest, East):

Article 6 of the Nuclear Non-Proliferation Treaty is often said to create an obligation for a nuclear-free world. I have always argued that such an outcome would make the world safe again for conventional warfare, which has killed countless millions in years gone by, especially in the century that has just ended. Article 6 brackets a nuclear-free world with a requirement for general and complete disarmament: one is not expected to happen before the other. I would be perfectly happy with a nuclear-free world, provided that there was also general and complete disarmament. However, I advise honourable Members not to hold their breath.

Mr. Peter Hain (The Minister of State, Foreign and Commonwealth Office):

Since the end of the Cold War, we have reduced the number of our operationally available warheads by 50 per cent. We have taken steps to maintain our remaining nuclear forces at a reduced state of readiness. We have been completely transparent about our stocks of nuclear material, military as well as civil. Work is in hand to develop expertise at Aldermaston in verifying the reduction and elimination of nuclear weapons and we have made it clear that, when we are satisfied with progress towards our goal of the global elimination of nuclear weapons, we will ensure that British nuclear weapons are included in those negotiations.

Legal Developments - UK

On October 20, 1999, three women who had admitted damaging Trident nuclear submarine equipment were acquitted by a Scottish judge, Sheriff Gimblet, on the grounds that deployment of the Trident nuclear system was illegal in light of the 1996 decision of the International Court of Justice. The acquittal led to a discussion in the Scottish Parliament on the legality of the deployment of Trident submarines in Scotland and the responsibility of Scotland arising from this. The Lord Advocate of Scotland then referred the case to the High Court of Justiciary to clarify the situation. Preliminary hearings were held on April 4, 2000, and the full hearing is scheduled for October, 2000.

Michael Douglas, UN Messenger for Peace, visits the UK

Michael Douglas, a United Nations Messenger for Peace, addressed a meeting of parliamentarians in the House of Commons under the auspices of the All Party Group for Global Security and Non-Proliferation and the Oxford Research Group on the evening of March 20, 2000. The meeting was packed with Members of both the House of Commons and the House of Lords and their researchers. Mr. Douglas told MPs that disputes between nations could become a “death warrant” for the world unless urgent action were taken towards complete nuclear disarmament. He referred particularly to the implementation of disarmament obligations under the NPT and the significance of the NPT Review Conference in April-May 2000. Malcom Savidge MP, Peter Hain (Minister of State at the Foreign Office), Cheryl Gillan (Conservative), and Menzies Campbell (Liberal Democrat) also spoke. Mr. Douglas later met Foreign Secretary Robin Cook to argue his point further.

Endnotes to Section 1

¹ William Cohen, *The Report of the Quadrennial Defense Review*, Section III, Defense Strategy, Department of Defense, May 1997.

² Robert D. Green, *The Naked Nuclear Emperor: Debunking Nuclear Deterrence, A Primer for Safer Security Strategies*, The Raven Press, 2000. See also *Security and Survival*, Section 3-9.

³ Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion of the International Court of Justice, July 8, 1996, UN Doc A51/218 (1996), para. 105, *Dispositif*, section 2F. Available at www.ddh.nl/org/ialana/opiniontable.html.

Section 2

Public and Political Profile for a Nuclear Weapons Convention*

Introduction

Support for and understanding of the Nuclear Weapons Convention amongst academics, decision makers and the public globally could be perceived to be like the first covering of autumn ice on a lake – widespread but very thin. Public opinion polls in the nuclear weapon states and their allies indicate that an overwhelming majority support negotiations for a Nuclear Weapons Convention. Yet very few of these people seem to be actively engaged in any process for making it happen. Similarly, a large majority of United Nations members support the UN resolution calling for negotiations leading to a Nuclear Weapons Convention. Yet few of these seem to be engaged with much depth, as evidenced by the low number of responses to the UN Secretary General on this resolution and the low level of official response to the Model Nuclear Weapons Convention after being distributed as a UN document.

There is, however, a considerable amount of unofficial discussion and consideration being given to the Nuclear Weapons Convention, though this is not reported in media and is thus unseen. It could thus be said that support for a NWC is more like an iceberg, which has 90% of its mass unseen under the water and only the small tip showing. The following developments since the publication of *Security and Survival* are indicative of this.

Nuclear Weapons Convention Discussed in UK Parliament

During debate on the Queen's Speech in the UK Parliament, Liberal Democrat spokesman and Member for North-East Fife, Menzies Campbell said that the United Kingdom should convene a conference of the members of the United Nations Security Council to promote a declaration of all nuclear weapons stocks with the aim of producing an inventory, and to engage in serious negotiations on weapons reduction and entry into a Nuclear Weapons Convention.

In a discussion on the Nuclear Weapons Convention in the UK House of Commons on January 18, 2000, Malcolm Savidge (Aberdeen, North) supported the call for such negotiations. Mr. Savidge was asked by Dr. Julian Lewis (New Forest, East) whether he envisaged such negotiations resulting in Britain giving up all its nuclear weapons while countries such as Russia, the United States, France or China retain some of theirs, to which he replied: "I tend to think of such questions as technical matters that can be considered during negotiations. I say that for two reasons: first, the question of whether all countries would give up their weapons at the same time would be a matter for negotiation; secondly, we should remember that we belong to military alliances, which means that Britain could be in a position to give up its weapons before certain other countries did. It could be rather difficult to say that Britain would give up all its weapons before certain other countries did." (See UK Update in "International Security: Signs of Change and Conflict," Section 1, for more excerpts from UK Parliament speeches.)

Nuclear Weapons Convention in the United Nations

The Nuclear Weapons Convention has continued to receive attention in the United Nations through statements of support in the First Committee (Disarmament and International Security), an annual UN resolution, and statements to the UN Secretary-General on a Nuclear Weapons Convention.

UN Resolution on a Nuclear Weapons Convention

On December 1, 1999, the United Nations General Assembly adopted a resolution entitled "Follow-up to the Advisory Opinion of the International Court of Justice on the Legality of the Threat or Use of Nuclear Weapons." The resolution welcomes the unanimous conclusion of the ICJ that "There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects

* Section 2 was authored by Alyn Ware, Lawyers' Committee on Nuclear Policy.

under strict and effective international control,” and “Calls once again upon all States immediately to fulfil that obligation by commencing multilateral negotiations in 2000 leading to an early conclusion of a nuclear weapons convention prohibiting the development, production, testing, deployment, stockpiling, transfer, threat or use of nuclear weapons and providing for their elimination.” (UNGA Res. 54/54Q (L.43)) The resolution was similar to ones adopted by the UN General Assembly in 1996, 1997 and 1998.

Of the official and *de facto* nuclear weapon states, China, India, and Pakistan supported the resolution. The other official nuclear weapon states, some of their NATO allies and Israel opposed it. The United States has explained its opposition to the resolutions by stating that it is “a repetition of calls made earlier in other resolutions for immediate multilateral negotiations on the timebound elimination of nuclear weapons.”

Unlike the Group of 21 proposal, however, for a timeframe for the elimination of nuclear weapons, L.45 calls for the commencement of multilateral negotiations leading to the conclusion of a Nuclear Weapons Convention without proposing a timeframe for either conclusion of the negotiations or the actual elimination of nuclear weapons. New Zealand, in supporting the resolution in 1996, explained that this “allows for [such] a programme of intermediate steps towards the final goal of a convention banning nuclear weapons. It does not seek to impose a timebound framework on these negotiations.”

In introducing the resolution, Ambassador Hasmy Agam, Permanent Representative of Malaysia to the United Nations, attempted to clarify some other misunderstandings about the Nuclear Weapons Convention approach:

- “It has been alleged that the Draft Resolution's call for multilateral negotiations leading to an early conclusion of a nuclear weapons convention is unrealistic and lacked credibility. Let me clarify: the Draft Resolution calls on States to commence multilateral negotiations leading to an early conclusion of the convention; it does not talk in terms of commencing immediate negotiations on the convention. It thereby allows for the very same kinds of disarmament measures that the nuclear weapon states themselves are committed to support. Therefore, the approach called for by the resolution, is not unrealistic but is in fact compatible with the incremental approaches mooted by others.”
- “The contention that the resolution relieves non-nuclear-weapons-states of any disarmament responsibility does not hold water. It calls upon all States to fulfil the obligation to negotiate nuclear disarmament; it does not single out nuclear-weapon-states only.”
- “A further contention was that the resolution removed the obligation under Article VI of the NPT in relation to ‘general and complete disarmament.’ The Court, in arriving at its conclusion, relied on international law, of which the NPT obligation in Article VI is part, as well as other disarmament and customary law. The Court's conclusion that there is an obligation to negotiate nuclear disarmament made no linkage between such an obligation and ‘general and complete disarmament;’ neither does the NPT make a direct link. It merely states that there is an obligation to do both.”

The resolution was cosponsored by Algeria, Bangladesh, Brazil, Brunei Darussalam, Cambodia, Colombia, Congo, Costa Rica, Ecuador, Egypt, Fiji, Ghana, Guyana, Honduras, India, Indonesia, Iran, Iraq, Jamaica, Kenya, Lao People's Democratic Republic, Lesotho, Malawi, Mexico, Mongolia, Myanmar, Namibia, Nepal, Niger, Nigeria, Panama, Papua New Guinea, Peru, Philippines, Samoa, San Marino, Sierra Leone, Singapore, Solomon Islands, Sri Lanka, Sudan, Suriname, Thailand, Uruguay, Vanuatu, Vietnam, and Zimbabwe and was adopted by a vote of 114 in favour, 28 against and 22 abstentions.(For further discussion on the UN resolutions, see “The Nuclear Disarmament Journey: Steps Leading to the Final Goal. Comments on the United Nations Draft Resolution on the World Court Advisory Opinion”, Lawyers’ Committee on Nuclear Policy. www.lcnp.org.)

Statements to UN Secretary-General on a Nuclear Weapons Convention

Five countries made written statements to the UN Secretary-General in 1999 in response to a request in UN resolution 53/77W, calling for views of member states on the implementation of the International Court of Justice advisory opinion through the commencement of negotiations leading to a Nuclear Weapons Convention. (UN Document A/54/161)

Mexico stated its support for the resolution and reported on actions taken with a view to giving effect to the resolution including:

- On June 9, 1998, Mexico, together with Brazil, Egypt, Ireland, New Zealand, Slovenia, South Africa, and Sweden, made the joint declaration on nuclear disarmament entitled “Towards a nuclear-weapon-free world: the need for a new agenda” which sets out an action plan for nuclear disarmament (A/53/138).
- In the context of the Conference on Disarmament, Mexico supported the initiatives to define the mandate of the working group on nuclear disarmament, as well as the negotiation of an international legal instrument on negative security assurances. Furthermore, Mexico notes with regret the persistent opposition to initiatives for the establishment of an ad hoc committee on nuclear disarmament charged with developing a convention on the banning of nuclear weapons in accordance with the proposal contained in document CD/1501.

The Kingdom of Saudi Arabia reported that it “does not own, develop, produce, test, deploy, stockpile, transfer, threaten to use, or use weapons of mass destruction in general, or nuclear weapons in particular. It reiterates its firm rejection of weapons of mass destruction of all kinds and affirms that the continued existence of nuclear weapons poses a threat to all mankind, that their use would have consequences for the planet Earth, and that safety from such a disaster lies in the complete elimination of weapons of mass destruction in general, and of nuclear weapons in particular.”

The Democratic Peoples’ Republic of Korea, India, and Cuba also made statements of support.

In 1998, New Zealand, Malaysia and Mexico made statements to the UN Secretary-General on this question. New Zealand’s submission included the text of the June 1998 Declaration of Foreign Ministers of Brazil, Egypt, Ireland, Mexico, New Zealand, Slovenia, South Africa and Sweden calling for a new agenda for nuclear disarmament.

All states are invited again to inform the Secretary-General of the efforts and measures they have taken in response to the UN resolution calling for the implementation of the ICJ advisory opinion through negotiations leading to the conclusion of a Nuclear Weapons Convention.

Support Builds for US Congressional Resolution on a Nuclear Weapons Convention

On February 24, 1999, US Representative Lynn Woolsey submitted House Resolution 82 to the Committee on International Relations. The resolution:

- Welcomes the Model Nuclear Weapons Convention as a discussion document intended to further negotiations on complete nuclear disarmament;
- Urges the President to initiate multilateral negotiations leading to the early conclusion of a Nuclear Weapons Convention; and
- Requests the President to inform the Secretary-General of the United Nations of the efforts and measures the United States has taken on the implementation of United Nations General Assembly Resolution 52/38 O and nuclear disarmament.

Current endorsers of the resolution include Representatives Robert Andrews, Tammy Baldwin, Earl Blumenauer, Sherrod Brown, Lois Capps, PeterDeFazio, Anna Eshoo, Eni Faleomavaega, Bob Filner, Barney Frank, Charles Gonzales, Earl Hilliard, Maurice Hinchey, Rush Holt, Carolyn Kilpatrick, Denis Kucinich, Barbara Lee, Nita Lowey, Bill Luther, Carolyn Maloney, Edward Markey, Jim McDermott, James McGovern, Cynthia McKinney, George Miller, Patsy Mink, Jerold Nadler, Eleanor Holmes Norton, John Olver, Major Owens, Lynn Rivers, Bobby Rush, Janice Schakowsky, Louise McIntosh Slaughter, Pete Fortney Stark, Mike Thompson, John Tierny, Edolphus Towns, Robert Underwood, Henry Waxman.

Consultations and Roundtables on the NWC

A number of governmental and non-governmental consultations, roundtables, panels, and workshops on the Nuclear Weapons Convention were reported in *Security and Survival: The Case for a Nuclear Weapons Convention* (Section 2-61). Others since then include:

- On March 19, 1999, the University of Costa Rica hosted a workshop on the Model Nuclear Weapons Convention and prospects for achieving an actual Nuclear Weapons Convention. The workshop was convened by Dr. Carlos Vargas, who represented Costa Rica in the ICJ advisory opinion on nuclear weapons, and included Sr. Rodrigo Carazo, former President of Costa Rica.
- From Oct 28-29, 1999, the Simons Foundation in Canada, in conjunction with Simon Fraser University, Project Ploughshares, and the Nuclear Age Peace Foundation, brought together government officials, arms control experts, lawyers, and NGO representatives to consider in particular, “the question of how to move forward from a Model Nuclear Weapons Convention to a Nuclear Weapons Convention.” The report of the consultation is available from the Simons Foundation in Vancouver.
- From Jan 26-27, 2000, the Carter Center in Atlanta, Georgia, USA, hosted a consultation of US officials, ambassadors and government representatives from other key countries, arms control experts, and members of the Middle Powers Initiative, to discuss the nuclear disarmament agenda. The consultation included a session on the NWC and when it might be achievable. Interestingly enough, none of the officials from nuclear weapon states or any others said that a Nuclear Weapons Convention was not feasible. Many did think, however, that it was not possible for a number of decades.

Support for a Nuclear Weapons Convention in Aotearoa-New Zealand

On February 23, 2000 the New Zealand Parliament adopted without dissent a motion moved by Prime Minister Helen Clark, marking the dawning of the year 2000 with an appeal to all member states of the United Nations to join in fulfilling the obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.

In September 1999, Merav Datan and Alyn Ware, co-authors of *Security and Survival: The Case for a Nuclear Weapons Convention*, undertook a speaking tour in Aotearoa-New Zealand. They spoke with government officials and members of parliament, at public meetings, with members of the media, with lawyers groups, and with peace groups about the Model Nuclear Weapons Convention and the road towards achieving an actual Nuclear Weapons Convention. Following the tour, a New Zealand branch of the International Association of Lawyers Against Nuclear Arms was formed to focus on the Nuclear Weapons Convention, and the Labour Party, which became the major governing party in November, amended its policy to include specific support for a Nuclear Weapons Convention.

The Public Supports a Nuclear Weapons Convention

Public opinion polls and organisations and municipalities internationally indicate growing support for a Nuclear Weapons Convention.

Public Opinion Polls Show Support for Nuclear Disarmament, if Under NWC

Public opinion polls conducted during 1997 and 1998 in nuclear weapon states, Western states and others consistently indicate a small to medium majority supporting nuclear disarmament. However, such support is increased considerably (up to 90%+) when the public is asked whether they support negotiations for a Nuclear Weapons Convention. The results were as follows:

United States:

Do you want your government to negotiate a Nuclear Weapons Convention?

Agree: 87%, Disagree: 10%, Undecided: 3%

Russia:

Do you think that any country with nuclear weapons should abolish them, or are they necessary in order to protect the country?

Abolish: 61%, Are Necessary: 31%, Undecided: 8%

United Kingdom:

Do you want your government to negotiate a Nuclear Weapons Convention?

Agree: 87%, Disagree: 11%, Undecided: 2%

Canada:

Do you want your government to lead negotiations for a Nuclear Weapons Convention?

Agree: 92%, Disagree: 7%, Undecided: 1%

Norway:

Do you think Norway should work actively for a ban on nuclear weapons?

Agree: 92%, Disagree: 5%, Undecided: 3%

Germany:

Do you think that any country with nuclear weapons should abolish them?

Agree: 87%, Disagree: 9%, Undecided: 4%

Belgium:

Do you agree that Belgium should work actively for a ban on nuclear weapons?

Agree: 72%, Disagree: 10%, Undecided: 18%

Australia:

Do you want your government to help negotiate a Nuclear Weapons Convention?

Agree: 92%, Disagree: 7%, Undecided: 1%

Japan:

Do you think that any country with nuclear weapons should abolish them, or are they necessary in order to protect the country?

Abolish: 78%, Are Necessary: 18%, Undecided: 4%

Source: Global Resource Action Center for the Environment (GRACE), New York

The findings indicate a general understanding and strong preference for a Nuclear Weapons Convention. The concept of a Nuclear Weapons Convention appears considerably more attractive than a general call for nuclear abolition, indicating that the public in general does perceive a Nuclear Weapons Convention as both a feasible and effective path towards nuclear disarmament and one that addresses the various security concerns surrounding nuclear disarmament.

Abolition 2000 Builds Support for a Nuclear Weapons Convention

Abolition 2000, a global network to eliminate nuclear weapons, was formed in 1995 with a specific objective to support the conclusion of a Nuclear Weapons Convention. Over 1700 non-governmental organisations and municipalities have supported Abolition 2000's call for the immediate commencement of negotiations leading to the conclusion of a Nuclear Weapons Convention. Abolition 2000 aims to increase this number to 2000 by the end of 2000. In addition, over 13 million individuals have signed the A2000 petition supporting a NWC. For more information visit the Abolition 2000 website at www.abolition2000.org.

Section 3

Implementation and Verification of the Nuclear Weapons Convention

Editor's Introduction

The contributions to this section look at some of the challenges to implementation and verification of a Nuclear Weapons Convention. Among the most frequent questions about the NWC are whether it is enforceable and whether it is verifiable. To address these questions, it is necessary to think beyond the limited approach to enforcement that prevails today to appreciate that the risks inherent in implementing a Nuclear Weapons Convention – and there will be risks – pale in comparison to the risks posed by maintaining the status quo. The contributions to this section are a step in this direction, addressing the particular challenges to a Nuclear Weapons Convention.

As discussed in *Security and Survival: The Case for a Nuclear Weapons Convention* (Section 3-3), a Nuclear Weapons Convention should emphasize compliance over enforcement, offering incentives that would make compliance more attractive than non-compliance. In today's world, the concept of enforcement brings to mind the capacity to overpower, to force compliance, or to deter based on this capacity. Enforcement might also include suspension of technical assistance in certain areas, or targeted sanctions, tailored to affect the offending parties and not a civilian population. Verification mechanisms would provide means of assessing compliance and building confidence in the NWC. Towards this end, the Model NWC proposes "preventive controls," building on International Atomic Energy Agency (IAEA) safeguards, and suggests mechanisms for societal verification. (See *Security and Survival*, Section 4.)

Questions about implementation and verification are very context specific, and the context here is a future security regime, impossible to predict but possible to shape. The general premise behind calls for abolition is that it *can* happen, with a range of opinions on whether it *will* happen. It is not difficult to imagine a world even more militarized, conflict ridden, and dangerous than today's. One need only take a cursory look at the current plans and policies of the world militaries, the industries that support them, and the non-state actors that react to them with extremist or terrorist tendencies. But it is also possible to imagine a nuclear weapons free world, as a way of identifying the necessary changes that would make realizing this goal more likely.

Terrorism is sometimes offered as a reason why nuclear weapons are necessary – to overpower or deter the terrorist. But nuclear weapons would not prevent a determined terrorist, while a Nuclear Weapons Convention could in fact lessen the threat of nuclear terrorism, as Rebecca Johnson explains. Trevor Findlay addresses the breakout problem – another often-heard argument – and verification of the NWC. Building on the lessons of the Chemical Weapons Convention, Treasa Dunworth examines the challenges of national implementation of a Nuclear Weapons Convention, and Kathleen Lawand discusses confidentiality. Michael Kraig's analysis of command, control, communication, and intelligence facilities touches on key questions about the overall future security system. Anabel Dwyer looks at the role of societal verification in ensuring compliance with the Nuclear Weapons Convention.

Nuclear Weapons Cannot Counter Terrorism

Especially in the United States, terrorism has been the “fear” icon of the 1990s, as nuclear war was for the 1980s (at least in Europe). Press the button marked “terrorist threat” using nuclear, chemical, or biological (NBC) weapons and everyone jumps. But in different directions.

American – and increasingly British and French – officials and politicians hide behind “nuclear deterrence”, though the United States also seeks to deploy national missile defences. Terrorist threat has become the principal new mission for retaining nuclear weapons after the end of the Cold War. Can it work? No. By its nature, terrorism is not susceptible to the logic of deterrence, which requires an identifiable adversary, rational calculations, and the fear of the threat of overwhelming retaliation. India’s nuclear capability did not prevent fundamentalists from hijacking an Air India flight from Kathmandu in December. On the contrary, the persistent possession of nuclear weapons by a self-chosen few (now eight) countries raises the stakes and advertises the enduring attractiveness of this ultimate weapon of mass destruction.

The lack of transparency and accountability with regard to fissile materials and nuclear weapons production and stockpiles enhances the real risk of terrorists acquiring nuclear materials or bombs.

The continued existence of nuclear weapons may also help to hype the value of biological and chemical weapons, perceived as the “poor dictator’s nuclear bomb,” thereby retarding the achievement of universal adherence to treaties banning those weapons, the 1972 Biological and Toxins Weapons Convention (BWC) and the 1992 Chemical Weapons Convention (CWC). At the same time, the lack of transparency and accountability with regard to fissile materials and nuclear weapons production and stockpiles enhances the real risk of terrorists acquiring nuclear materials or bombs. Saddam Hussein was slow to make nuclear weapons because he had to develop the facilities to enrich the uranium. Nowadays, he would be more likely to buy

weapons-grade uranium or plutonium, skimmed off from some inadequately monitored weapons programme, probably Russia’s.

A Nuclear Weapons Convention would lessen the threat from nuclear terrorism in two important ways: by placing rigorous controls and accounting on all nuclear programmes and materials as a first (and therefore immediate) stage in overseeing reductions and dismantlements of weapons and facilities; and by declaring nuclear weapons off limits for everyone.

In addition to accounting and controls, the production of fissile materials needs to be halted and the reprocessing and enrichment facilities dismantled. Notwithstanding the careful distinction made in the Model NWC between civilian and military purposes, addressing the commercial separation and trade in plutonium will be necessary if the world truly wants to minimise the possibility of terrorists acquiring nuclear weapon materials.

In declaring nuclear weapons “off limits,” it may be objected that terrorists (in government or sub-national groups) do not particularly respect or abide by legal, moral, or political norms. Advocates of nuclear deterrence argue that terrorists would instead be emboldened by the nuclear disarming of the major powers. Even advocates of deep cuts sometimes argue that some power (the United States in its self designated role of world police-force, for example) should retain a few nuclear weapons, to deter terrorists. As suicide bombers around the world prove, some terrorists are completely prepared to die for the cause, and don’t mind how many innocent others they take with them. Even if a nuclear weapon could be aimed roughly in the direction of the terrorist’s group, friends, or allies, it would inevitably incinerate a largely innocent population. Even if the weapon managed to destroy the actual adversary, that is too high a price to pay. Such indiscriminate carnage may well not deter the terrorist, but it ought to stay the hand of the world police (a calculation the terrorists would no doubt make). So in such a situation, nuclear weapons would be unusable, and retention of a handful, pointless.

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The “Breakout” Problem and Verification

Although in the abstract a breakout event might seem cataclysmic, in reality its impact would depend on the particular circumstances: whether the violator then threatened to use such weapon (or weapons) to coerce a neighbour or the international community generally; the state of readiness and deliverability of the purported weapons; the relative conventional military strengths of the violator and the rest of the international community combined; the willingness of the international community to respond; and the existence of defences against whatever delivery system the violator might try to use.

Potential responses to such an event include not only sanctions against a violator – political, economic, and military – but guaranteed mutual assistance in the case of threatened or actual nuclear attack. Missile defences against nuclear attack by ballistic missile and aircraft could decrease the threat for states most concerned about breakout. (In a nuclear weapons free world ballistic missile defences would not be destabilizing.) Perhaps most important would be the residual ability of states to quickly reconstitute a nuclear device or arsenal in order to deter the violator. For the former nuclear weapon states, depending on how long a nuclear weapons free world had existed, this might amount to only a month or two. The threat could then be countered, albeit at the risk of re-igniting a nuclear arms race. An alternative suggested by some observers is a small deterrent arsenal under international control, although this would raise command and control difficulties and be incompatible with total nuclear disarmament.

Since the achievement of nuclear disarmament would require consensus among the great powers that their relationships had improved so much as to obviate the need for nuclear weapons, the main threat to a nuclear weapons free world would be a “rogue state” which had not previously produced nuclear weapons. In considering such a case, one has to ask what might be the motivation for acquiring an illicit nuclear arsenal. If it were to be used for political purposes, presumably blackmail, the existence of the arsenal would have to be revealed, or at least hinted at, thereby alerting the international community to a major violation of the treaty. A “demonstration shot” would have the same effect (and, humiliatingly, might fail). The

possibility of an illicit nuclear weapon being used to alter the course of a major conventional war would be presaged by the outbreak of such a war: efforts would have to be made to prevent any nuclear-capable state being backed into such a corner.

The possibility of an illicit nuclear weapon being used to alter the course of a major conventional war would be presaged by the outbreak of such a war: efforts would have to be made to prevent any nuclear-capable state being backed into such a corner.

The most worrying scenario would be a “bolt-from-the-blue” pre-emptive strike by the proverbial madman – a nuclear Hitler. Such a “rogue state” would already be subject to intensified scrutiny by the verification system, including on-site inspections when suspicions were aroused. Any weapon(s) produced would be untested, could not be deployed until the last minute, and could probably not be delivered by conventional means. Overt training for use would have been impossible. Such a scenario is, of course, possible today and in some respects is more likely today, given the weakness of existing verification regimes. In the current nuclearised world, such an attack is deterred by the certainty of nuclear counterattack. In a nuclear weapons free world it would have to be deterred by devastating and increasingly accurate and powerful conventional attack, the credibility of which would be enhanced by mutual guarantees by the great powers to come to any state’s assistance were it to be threatened or attacked by nuclear weapons.

These hypothetical scenarios notwithstanding, what is clear is that neither the technology of verification nor the broader verification and compliance system can solve the breakout problem alone. Verification can never provide complete assurance that a small clandestine nuclear arsenal or hidden cache of plutonium will be discovered. What verification can do is to significantly, albeit unquantifiably, reduce the likelihood of breakout occurring through a mix of deterrence and enhanced warning time through early detection.

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National Implementation of the Nuclear Weapons Convention: Some Experiences from the Chemical Weapons Convention

The verification system of the proposed Nuclear Weapons Convention (NWC) is broadly comparable to that of the Chemical Weapons Convention (CWC) in a number of respects one of which, the subject matter of this comment, is the steps its state parties will need to take to implement the treaty's verification regime at the national level. The experience of the CWC, which entered into force in April 1997, is that national implementation is not so much a separate element of the treaty's verification mechanisms, but is the foundation on which the verification system as a whole is constructed. The same will hold true for the proposed NWC for at least four reasons.

First, state parties agree to make certain declarations/notifications to the Agency and allow access for subsequent inspections and monitoring. Thus, states will have to ensure that their national laws or procedures will facilitate these obligations. For example, in implementing the CWC, many states found that they have had to amend legislation dealing with immigration, aviation and customs. Second, state parties are required to criminalise certain activities and in most cases this will involve at least amending existing legislation and in many cases it will involve creating entirely new criminal offences. Third, state parties are required to regulate and/or monitor certain activities which will necessitate putting in place pertinent regulations and/or procedures. Finally, state parties must create both an obligation for citizen reporting and protection for "whistle-blowers." In most if not all states, this will entail legislative amendment.

Recognising the correlation between national and international implementation, the CWC explicitly requires state parties to "adopt the necessary measures to implement its obligations under this Convention" (Article VII.1). This is also the case in the draft NWC (Articles I.2(j) & VI.1). Further, both treaties require their state parties to notify the implementing body of the "legislative and administrative measures" taken to implement the treaty. (Article VII.5 and Article VI.5 respectively.) Despite the intrinsic role of national implementation in the overall verification system, however, in the case of the CWC neither provision has worked as envisaged. In particular, the notification obligation has been neglected, if not ignored, by many state parties.

Inevitably, this failure has had negative consequences. For example, problems have arisen during some inspections whereby the state being inspected has found itself unable to authorise the import/export of inspection equipment due to a prior failure to amend customs regulations. Another example is the failure to provide initial declarations by some states due to a lack of legislation authorising the state authorities to collect and transmit this information. These are specific consequences of the failure to implement the treaty at a national level. A far more serious general consequence, however, is that continuing and wholesale failure to observe obligations in the Convention, albeit "secondary" obligations, inevitably erode the authority and status of the Convention itself and the norms it seeks to establish.

In a significant number of cases, and particularly among the non-possessor states with a small or insignificant chemical industry, there is nothing to indicate that the failure to attend to national implementation tasks is due to anything other than a lack of understanding on the part of state officials or a lack of resources, or sometimes both. Early on in the life of the treaty's Preparatory Commission (established when the treaty opened for signature and tasked with preparing for entry into force), a common reaction by such states to inquiries about national implementation was that it was simply irrelevant for them. Ratification of the treaty was seen as a political gesture and one that did not really involve any legal obligations. However, the benign explanation for much of the non-compliance does not mitigate its pervasively negative effect.

The problems with national implementation have arisen despite the fact that from the earliest days of the Preparatory Commission, a great deal of effort was spent on disseminating information on the Convention and promoting the central importance of national implementation in the overall verification regime. Work took place in a number of distinct phases. Initially, the emphasis was on raising the general awareness of the political importance of the treaty. Information was provided in accessible language on various subjects including the aims and operation of the Convention, the impact on and obligations of the chemical industry, the structure of the verification system and the need for national implementation, including criminal legislation. A model for implementing legislation for non-possessor states was drawn up and circulated. In subsequent stages, the information and focus became more detailed, extending to workshops and seminars on the actual steps

involved in national implementation. Finally, work progressed to providing practical assistance in the preparation of declarations, with a type of mentoring system being instituted. This work is ongoing.

In examining the viability of the verification system in the proposed NWC, accepting that it too will depend on national implementation, it is instructive to consider some of the reasons why the CWC has not achieved a greater standard of compliance. At least part of the answer lies in the fact that national implementation was not taken seriously enough, early enough by a great many states – particularly the non-possessor states with little or no chemical industry. Another problem is that due to the failure by states to notify the implementing body as required by Article VII.5, it has been impossible to assess what level of compliance there is with the substantive requirements of national implementation. While it is obvious whether or not declarations have been filed, it is not so obvious to determine whether the other secondary obligations which facilitate the in-country verification processes have been addressed. Part of this problem is that the CWC does not indicate a time limit within which the notification should take place. Consequently, it has been extremely difficult to label non-notification as “non-compliance” and take more concrete steps to rectify it. Finally, there is no provision in the treaty addressing the consequences of a failure to meet these “secondary” obligations.

Turning then to the draft NWC, it seems that a number of steps could be taken which might prevent these difficulties. First, a time limit within which the state should notify the Agency of its national measures should be introduced. It would be appropriate for the time limit to match that provided for notification of the state party’s national authority pursuant to Article VII.4 of the draft, which is on entry into force of the Convention. Second, some form of sanction might be introduced for non-compliance with these secondary obligations. One possibility might be to provide that the Technical Secretariat’s report on implementation (Article VIII.40) include a reference to the compliance rate for these obligations. Even this type of political reprimand would raise the profile of the obligation and thus give it more status, which could result in a better compliance rate. A more radical proposal might be to introduce a provision whereby ratification of the treaty cannot take place without evidence that all national implementation measures are in place.

In addition to these textual improvements, problems might also be prevented if those responsible for the treaty’s implementation adopt a proactive and systematic approach to national implementation. In this regard, assistance may come from the NWC’s innovative Article VI.7, which places an explicit legal obligation on states to disseminate information about the treaty and to provide training to appropriate personnel. Clearly the primary aim of this provision as currently drafted is to support the system of societal verification, which can only work if officials are familiar with the terms of the treaty and the protection it offers. The first step in effective national implementation, however, is a proper and thorough understanding of the Convention among state officials and others affected by its provisions. Thus, Article VI.7, by creating a legal requirement to disseminate information, may well assist in the overall national implementation project.

The first step in effective national implementation is a proper and thorough understanding of the Convention among state officials and others affected by its provisions.

There is no comparable provision in the CWC – indeed, this is the first time that the education and dissemination obligations familiar in the context of the Geneva Conventions have appeared in the world of arms control. Nonetheless, lessons can be learnt from the OPCW which undertook dissemination and education projects in response to practical necessity, rather than legal obligation. But help may well be available from another quarter: there is a wealth of information and experience to be gleaned from the work of the International Committee of the Red Cross, which not only was instrumental in bringing about the Geneva Conventions, but which has also been active in dissemination and education among state officials and civilians alike. Indeed, such an undertaking would be singularly appropriate given that both the Geneva Conventions and the draft NWC share the same ultimate aim: a more humane world.

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The Protection of Confidential Compliance Information: A Prerequisite for Effective Verification of Compliance with the NWC

“It seems likely that the viability of verifiable nuclear disarmament in a world with nuclear energy will turn on the degree of surveillance, accounting and control of nuclear facilities that those affected are willing to tolerate.” *Security and Survival*, Section 3-24.

“A guiding principle should be the search for a regime sufficiently restrictive to ensure the highest level of confidence in compliance, but also sufficiently permissive to allow states to join without jeopardising their legitimate security interests and commercial activities.” *Ibid.*, Section 4-2.

Effective verification of nuclear weapons disarmament and non-proliferation will require international scrutiny of both a state’s nuclear weapons installations and its nuclear energy facilities. This may entail access to sensitive compliance-relevant information and data which, if misused or publicly disclosed, may damage State security or commercial property. In the experience of the Chemical Weapons Convention (CWC), which entered into force in April 1997, states will only open their military and industrial facilities to scrutiny if assured that the verification body is held to strict rules regarding the handling and dissemination of sensitive compliance information and that breaches of confidentiality will be dealt with appropriately. Indeed the CWC, which provides for highly intrusive onsite inspections as a means of verification of compliance, would not have received such widespread support, in particular from key chemical weapons possessors and chemical industry, were it not for the inclusion of such assurances in the treaty.

Although the Model NWC contains several provisions referring to the protection of confidential compliance information, these will have to be reinforced by a more detailed framework, such as that of the CWC’s Confidentiality Annex, defining the respective rights and obligations of the verification body (i.e. the Agency and, in particular, its Technical Secretariat) and of States Parties in relation to access, handling, and dissemination of sensitive compliance information. This framework could also include references to clearance procedures for Agency staff (based on the “need-to-know” principle), a classification system, and measures and procedures to deal with breaches of confidentiality.

While a confidentiality framework should serve to assure states of the Agency’s ability to protect their confidential compliance information, it must also remind them that the Agency is entitled to access and extract relevant information, albeit confidential, where necessary for demonstration of compliance. The right of access to relevant information is critical to the verification regime’s ability to build confidence in compliance. While this may seem self-evident, in the implementation of the CWC some states have taken the position that confidential compliance information can under no circumstances exit their territory, and have grounded their view on ambiguously worded provisions of the CWC and decisions of the OPCW’s policy making organs. The Model NWC’s confidentiality provisions, notably paragraph 15 of Article V, should be redrafted in such a way as to remove any doubts in this regard. At any rate, it must be made clear that states parties may take measures to protect confidentiality *provided that they fulfil their obligations to demonstrate compliance* in accordance with the Convention (see paragraph 13 of the CWC’s Confidentiality Annex).

Confidentiality is not meant to affect the *substance* of verification, but only its *form*, e.g. by restricting the number of persons who may have access to information to those with a need to know and by establishing special procedures on the handling, storage and dissemination of confidential information. Moreover, confidentiality is only meant to affect the *external* transparency of the verification regime to the extent that it renders the information off limits to the public. *Internal* transparency is not substantially affected by confidentiality (though it may be procedurally affected) to the extent that states parties and the verification body’s policy making organs have a standing entitlement to that information, which they require to be assured of the continued compliance of each state party with the treaty. Accordingly, the MNWC (and in particular paragraphs 56 and 57 of Article VIII) should make clear that while confidential information shall not be included in the Registry, it shall be made available to States Parties for compliance determination in accordance with the Convention.

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Difficulties in Eliminating C3I Facilities: The Emergence of Dual-Use Systems in US Military Missions and Operations

In Section XI of the Model Nuclear Weapons Convention, there is a subsection on “Command, Control, and Communications Facilities and Deployment Sites” that stipulates “Each State Party shall . . . destroy any facility, system or sub-system designed or used *solely* for the purpose of launching, targeting, directing, or detonating a nuclear weapon or its delivery vehicle, *or for aiding or assisting in any of these purposes*” [emphasis added]. To summarize this point, those systems with both *direct* and *indirect* functions in nuclear operations are to be eliminated or converted under the NWC.

The greatest conundrum concerns the *indirect* facets of the nuclear complex: the supply of early warning data; and the operation of communications systems. The US Department of Defense (DOD) is now spending billions of dollars to enhance and integrate these capabilities for both conventional and nuclear missions. The recent high-level strategy document *Joint Vision 2010* has called for improved “dominant maneuver” and “precision engagement” of forces based on improved C3I systems. The US Navy has argued that:

To achieve information superiority over an adversary, the Warfighter must be able to collect, process, and disseminate an uninterrupted flow of information. DOD and the Navy are deploying a *global infosphere* to achieve that superiority anywhere, anytime, and in the performance of any mission. . . The *Defense Information Infrastructure (DII)* delivers the infosphere’s communications networks, computers, software, databases, applications, and other capabilities [emphasis added].

To the extent that this doctrine is implemented, the goals of the above section of the NWC might be impossible to realize. For instance, as part of the overall “Defense Information Infrastructure,” all strategic and attack submarines are now being equipped with faster and more flexible communications systems. Attack submarines (SSNs) in particular have both conventional and nuclear roles. Even if Tridents (SSBNs) are destroyed and SSNs are given purely conventional missions, these fleets will continue to require the communications systems now associated with nuclear operations.

Moreover, part of current and ongoing NORAD computer upgrades is the transition of nuclear-specific communications lines to this global, integrated network. Similarly, the early warning sensors that supply data to NORAD, and the computer programs that correlate and filter that same data for human consumption, are now utilized to warn of “theater missile events” such as SCUD missile attacks in the Middle East.

Perhaps most alarming, there is now concrete bureaucratic planning for converting the delivery systems and launch platforms themselves into conventional vehicles, which would also undermine the NWC’s attempt to eliminate those command systems with *direct* nuclear functions. Congress has funded plans for converting some Trident SSBNs for cruise missile launching in engagements with rogue states, while Minuteman ICBMs might soon carry conventional payloads for “precision strikes” against rogue-state WMD targets. These developments would jeopardize the elimination of navigational information (for ICBMs); delivery vehicles (for ICBMs); launch platforms (for ICBMs and Tridents); and *command and control systems associated with these vehicles and platforms*. Certainly, Strategic Command would itself have to retain all computer systems and databanks that allow target identification, battle management, targeting of weapons, tracking of delivery vehicles, and communications with these vehicles and platforms. The NWC would be reduced to the elimination of warheads and nuclear production facilities alone, with all other infrastructure essentially intact.

To guard against these developments, all dual-use strategies, doctrines, missions, and planning must be thoroughly investigated with the goals of the NWC in mind. Policymakers should be made aware of the consequences of systems integration now being undertaken by the military, lest it become a tangled web that can never be unwoven.

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Societal Verification

Societal verification refers to the idea that an agreement or treaty made by authorities in a given society is truthful when it comports with methods by which these people live and with observations they make in that society. A nuclear disarmament treaty can be verified when societal practice openly mirrors the present public desire and legal obligation for nuclear disarmament.

US society poses special opportunities and problems for nuclear disarmament. The vast majority of US citizens want nuclear disarmament and the economy is ripe for a systematic transition away from the nuclear system. But some individuals and corporations covet the vast and inertial power from Cold War institutions and the “might makes right” world view. These institutions also reflect how deeply all aspects of the nuclear cycle from uranium mining through nuclear weapons, power, and waste are embedded in US society. Further, more information about the health and environmental impacts and costs of this system remains largely inaccessible and inadequately documented, shielding those who profit in the short term from the real costs of harms.

First-hand accounts of these impacts are central to understanding how the nuclear system actually works and sustains itself. Testimony such as that collected in *This is My Homeland: Stories of the effects of nuclear industries by people of Serpent River First Nation and the north shore of Lake Huron* (Rekmans, Lewis, and Dwyer, eds, Serpent River First Nation, Cutler, Ontario 1999), unmask the corporate and governmental decimation of health, environment and culture with radioactive and chemically toxic substances. There, as elsewhere, these ongoing wrongs and dangers have been inflicted on uranium miners, workers, residents, downwinders, future generations and members of the armed services, and on the societies in which they function.

The unmasking of these wrongs clears the way to redressing them. We can now identify certain corporations and governmental agencies that have acted in cahoots and in ways we can clearly define as noxious and unacceptable. These activities include: 1) wanton, intentional, or grossly negligent environmental destruction, including the production and distribution of radioactive and chemically toxic waste; 2) unjust, unsafe labor practices; 3) intentional or grossly negligent harm to health, including experimentation; 4) trading in, profiting from, or producing inherently ultrahazardous commodities, such as uranium, thorium, plutonium; and/or 5) purposeful destruction of cultures or ways of life.

Essential changes in US society will occur when we devise forums including suits, hearings, and actions that make corporate heads, bureaucrats, and their corporations and agencies accountable. The Model Nuclear Weapons Convention thus presents part of a larger picture in which nuclear weapons no longer exist. Nuclear disarmament will be verifiable in US society when we:

1. Declare (i.e., map and quantify) all nuclear sites from all aspects of the nuclear cycle and all corporations and agencies involved in particular activities which maintain and justify each particular part of the nuclear system.
2. Demand an end to public subsidies for and contributions from corporations doing business in weapons (including nuclear weapons), or nuclear power, with environmentally damaging activities, or with unfair, unjust unsafe labor practices. (In this vein we can enact local and state divestiture and selective purchasing acts from such corporations, end the Price-Anderson Act, which caps insurance liability for nuclear power accidents, and eliminate the Feres Doctrine and Warner amendments, which prevent radiation victims from claims under the federal Tort Claims Act.)
3. Redress and remediate harms and dangers inflicted by all aspects of the nuclear system including concerted actions against major international offenders.

These actions define the kinds of changes needed in US society to expedite the inevitable process of nuclear disarmament.

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Section 4

Scientific Responsibility in the Nuclear Age

Editor's Introduction

The Model NWC presupposes and reinforces the concept of professional scientific responsibility to society and to the communities that support it or feed it resources. It suggests an affirmative obligation to promote education aimed at furthering nuclear disarmament and recognizing potential proliferation risks inherent in nuclear science, research, and development. Considering where nuclear science has brought us to date, there is a long way to go to develop and apply the notion that science as a profession and scientists as individuals have an important role in shaping the future security environment away from nuclear weapons and towards nuclear disarmament.

To practice medicine or law usually requires an oath or a license. As professions, they integrate a sense of ethics; how this works in practice may be debated. Indeed, these overt declarations of professional ethical responsibility help create the expectations society has of those entrusted with its health or commercial and criminal practice. Thus overt mistrust, even ridicule, of lawyers' ethics is not uncommon where deviation from stated standards is apparent. Similarly, the voicing of resentment towards health practitioners when access to healthcare appears threatened reflects society's sense of dependence on the profession for life and health.

The professional responsibility of scientists to society deserves no less scrutiny. To be sure, scientists do give attention to ethical questions and consider the relation of their profession to policy. Many universities have programs on technology, science, policy, arms control, disarmament, and other aspects of policy. They aim to understand the relation of their profession to society and to enable individuals to make informed choices that have an impact on policy.

The causes and effects of scientists' choices in relation to society, however, might take shape over the course of decades, rather than days, and the personal professional interaction is less direct than in the case of law or medicine. One might use many forms of technology throughout one's life, benefiting from science without contracting directly with scientists as a matter of course. Thus the basis for scrutiny of individual scientists' ethical choices is diluted by the time delay between cause and effect, and because their work is often part of a much larger and not completely visible whole. The limitations on choices facing scientists and the interests shaping these choices are not always obvious.

Scientific contributions to the course of nuclear disarmament would need to address the critical issues identified by Martin Kalinowski. Opportunities for this work should be increased because the choices available today, as MV Ramana shows, have been significantly shaped by governments and scientists over the past decades to further military interests. The choice suggested by Peace Pledge Movement for Scientists founders Tatsujiro Suzuki and Susan Pickett, not to participate in weapons work to the best of one's knowledge, underscores the importance of informed consent. Andreas Toupadakis, who recently made a choice to resign from nuclear weapons work, makes clear in an open letter that the nuclear weapons nature of work is not necessarily clear from the start.

In other words, we live in a world where a scientist might end up working on nuclear weapons not by deliberate choice but through lack of informed consent. The choice not to work on nuclear weapons then requires actively severing professional ties and abandoning secure employment. For this to change – for the range of options open to scientists to be part of the process of demilitarizing and denuclearizing the globe – scientists must educate themselves about the role their work plays and demand a different set of options.

A Scientific Expert Group Could Prepare Grounds for a Nuclear Weapons Convention

The role that scientists and engineers played in developing the CTBT suggests the role they might play in preparing the grounds for a future NWC.

Role of scientists and engineers in establishing a (CTBT)

It took more than four decades until the Comprehensive Nuclear Test Ban Treaty (CTBT) was concluded in 1996. Scientific experts contributed significantly to the success of the negotiations. There was a parallel development of the global verification system and the political conditions for the CTBT. It is very remarkable that there were phases when the political process was in a deadlock and, nevertheless, scientific activities were carried on even with a political mandate. For some years, scientific activities kept up the momentum and prepared the grounds for political progress. This was clearly the case with the Geneva Group of Experts (1958-1960) as well as with the Group of Scientific Experts (since 1976) which formed the main basis for continuity for almost two decades until the CTBT negotiations started in 1993. The experiences gathered by these two groups are summarized in the following table.

Lessons from the Geneva Group of Experts (1958 – 1960):

- Scientists were given an independent role in negotiating security issues for the first time.
- Scientists negotiated before diplomats were able to negotiate.
- Scientists prepared the technical basis (verification, circumvention).
- Comprehensive treaty anticipated, limited achieved.

Lessons from the Group of Scientific Experts (since 1976):

- The GSE had a political mandate.
- Scientific members were appointed by governments.
- Progress was not at all times connected to political negotiations.
- At times, the GSE established a substitute for negotiations.
- International coordination of national technical means was started.
- The work was based on a lasting common agenda.
- The work was supported by infrastructure financed through states.
- The GSE created a common understanding and furthered knowledge.

From these experiences and in view of the current deadlock in nuclear disarmament one can dare conclude that scientists and engineers may have the chance to make a significant difference in preparing the grounds for a political breakthrough towards a nuclear weapon free world. It makes sense to start scientifically based work early and even when the comprehensive goal appears to be remote. The lessons learned in the experience of the four decades leading to the CTBT are encouraging and need to be carefully taken into account.

Proposals for a scientific expert group on global elimination of nuclear weapons

This year, the Conference on Disarmament (CD) may pick up the NATO-5 proposal for a working group to study ways and means of establishing an exchange of information and views on nuclear disarmament. This would be an ideal opportunity for scientists to offer their expertise and to suggest the creation of a scientific expert group on verification and other technical aspects of complete nuclear disarmament. Even without an

agreement on formal political discussions on nuclear disarmament, scientists could offer to establish this working group. It would address the following critical issues:

- 1. Verification of dismantlement of all nuclear weapons.**
- 2. Detection of hidden nuclear weapons.**
- 3. Detection of hidden nuclear-weapons-usable material.**
- 4. Detection of clandestine production of nuclear weapons.**
- 5. Verification of non-development of nuclear weapons (beyond the scope of the CTBT).**

In April 1998, the International Network of Scientists and Engineers Against Proliferation (INESAP) proposed to start a study process, tentatively entitled "Beyond technical verification: Transparency, verification, and preventive control for the Nuclear Weapons Convention."¹ The main purpose of this proposed study would be to increase awareness concerning the scientific-technological constraints and boundary conditions for a way leading to a nuclear-weapon-free world. It would illuminate the verification needs and limits and it would stress especially the importance of transparency. INESAP recommended a comprehensive approach which carries the Nuclear Weapons Convention as the central element.

Martin Kalinowski
International Network of Engineers and Scientists Against Proliferation
www.th-darmstadt.de/ze/ianus/inesap.htm

Scientists and the Military

A common perception is that scientists became close to the defense establishment only during the Second World War. But in reality the connections go back a long way – at least to Aristotle, who is believed to have invented giant catapults, and Galileo, who suggested that his telescope be used to spot enemy ships at a distance. In the United States, organized participation of scientists in military affairs began with the First World War. There were even earlier efforts – the National Academy of Sciences was, after all, created by Lincoln during the Civil War to aid the war effort. But they were on a relatively small scale, both in size and in scope.

One of the prominent figures in the effort to “penetrate the sanctum” of the military was George Ellery Hale, a distinguished astronomer and foreign secretary of the National Academy of Sciences. Early in his life, Hale had gone to Europe to study science and had come back with this lesson: “to accomplish great results” academies had to “enjoy the active cooperation of the leaders of the state.”² With the unanimous endorsement of the National Academy, a delegation of scientists went to meet President Wilson at the White House. Stressing the importance of research for defense, Hale and others argued that the Academy could plan an arsenal of science for the country. In response to the President’s official request, the National Research Council was set up, in secret, with the objective of encouraging pure and applied research for “national security and welfare.”

This trend, started during World War I increased hugely during World War II and the establishment of the Manhattan Project and the development of the Radar.³ The Manhattan Project, more than anything else, cemented a solid relationship between scientists and the military. The decades that followed saw the economic benefits of that relationship flow to the academy in general, and the physical sciences in particular. With the Korean war, overall federal expenditures for research and development passed the \$1 billion mark; by 1956, it was over \$3 billion.⁴ In the physical sciences, the bulk of the funding came from the Department of Defense or the Atomic Energy Commission. Apart from the expected subjects, such as nuclear physics or electronics, there were also unexpected ones: Earth Sciences, for example, grew enormously as a result of DOD’s desire to detect nuclear weapon tests.⁵ This is not to say that each project supported by DOD or the AEC was directly related to the development of weapons or related equipment or knowledge. They were not. But the influence of this pattern of funding can certainly not be discounted.

Having found the key to the treasury, the science establishment has to keep coming up with newer and “technically sweet” ideas to maintain this access. This technological and bureaucratic momentum does not respect arms control or any other measures of restraint.

The process of militarization of science did not necessarily change the way scientists perceived themselves and their work. An example is Arthur Compton’s characterization of the destruction of Hiroshima as “a technical reply to a technical question.”⁶ Indeed, as this comment shows, there is a deliberate effort to separate out the moral and the technical in their activities and to maintain an image of scientists as somehow apolitical. The sociologist C. Wright Mills said: “These actions are not necessarily sadistic; they are merely businesslike; they are not emotional at all; they are efficient, rational, technically clean cut.”⁷

While maintaining this image of themselves, scientists, especially some of the leaders, have been busy lobbying for increased expenditure on armaments and defense related research. Having found the key to the treasury, the science establishment has to keep coming up with newer and “technically sweet” ideas to maintain this access. This technological and bureaucratic momentum does not respect arms control or any other measures of restraint.

Some Examples

The drive towards constant “technological innovation” has led to several weapons programs. In the sixties, there was the development of the MIRV (Multiple Independently-targeted Reentry Vehicles) warheads. Resulting largely from the effort to build counter weapons to the first generation of Ballistic Missile Defense Systems (such as the Nike-Zeus), the program to develop MIRV warheads built up momentum during the

1960s and became virtually unstoppable. Several scientists, including prominent members of the JASON committee (a division of the Institute for Defense Analysis whose elite scientists, mostly physicists are recruited to work on problems related to defense), tried to argue against it on the grounds that it was destabilizing.⁸ Within the bureaucracy, ACDA (Arms Control and Disarmament Agency) officials were opposed to it. But nevertheless MIRVs were developed and deployed, making the SALT treaty somewhat of a mockery.

More recent efforts are the Star Wars program and, its successor, the current ballistic missile defense programs. The list of programs is long:

1983-1993 – Strategic Defense Initiative

- Kinetic Energy Weapons
- Directed Energy Weapons
- Airborne Laser Laboratory
- Neutral Particle Beam
- Charged Particle Beam
- X-Ray Laser
- Space-Based Radar

Recent Efforts

Theater Missile Defense:

- HAWK
- MEADS
- Navy Area
- Patriot
- THAAD
- Navy Upper Tier
- Airborne Laser
- Boost Phase Intercept
- Arrow
- THEL/Nautilus

National Missile Defense:

- Ground Based Interceptor
- Sensors
- Ground Based Radar
- Upgraded Early Warning Radar
- X-band Radar
- Space Based Infrared System
- Space and Missile Tracking System
- Battle Management

With such a long list of programs, one can imagine how many thousands of scientists and engineers are involved and the kind of pressure they exert. If missile defenses do end up being deployed, they would have a serious effect on the future of arms control. The struggle to oppose these has to take cognizance of the force that such lobbies they exert.

MV Ramana
Center for Energy and Environmental Studies
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Peace Pledge Movement for Scientists

As the Cold War has ended, Russia and the United States of America have begun the disarmament process and reductions of nuclear arms. However, the arms reduction process is moving slower than expected. Furthermore, the management of the resulting weapons-usable material presents additional security concerns. In addition, the future of the nuclear scientists who once committed themselves to the construction of nuclear weapons is a serious issue. The nuclear tests by both India and Pakistan, the suspicions regarding Iraq and nuclear development, the development and testing of missiles by North Korea, raise serious concerns in the international community over nuclear and other weapons related technology developments.

In observing the development of nuclear weapons and other related weapons of mass destruction, one should not ignore the role that scientists have played. Throughout the 20th century, the role that scientists have played in the development of weapons has had a monumental impact on the environment and humanity – an impact which ranges from national weapons projects to smaller terrorist related activities. Most recently, the Sarin gas attack in the Tokyo subway in 1995 illustrates the possibility for scientists to participate in terrorism. This has become a great source of concern around the globe. On the other hand, the role of the scientist is also consequential in preventing nuclear war and contributing to disarmament and non-proliferation of weapons of mass destruction.

Considering this background, we believe the role of scientists is critically important. We, as researchers of nuclear energy as well as technology policy with international experience, have been thinking about the role of the individual scientist in the peace effort. As a result, we have decided to launch a Pledge Movement for scientists to strengthen commitment to non-proliferation of nuclear and other weapons of mass destruction. In particular, as we begin this movement in Japan – a country, which both on the national and citizen level, has a strong commitment regarding non-proliferation, we hope that it will have a expansive impact on the international community. The Peace Pledge itself will not take any position with regard to civilian uses of nuclear energy, in order to maximize the chance of increasing the number of signees and thus enhance meaningful dialogue. The essence of the Movement is as follows:

1. Commitment to peace: We initiate a Pledge Movement for scientists to express commitment to peace as an individual by signing the pledge, committing not to participate in the research, development, manufacture, acquisition, and/or utilization of nuclear weapons and other weapons of mass destruction.
2. Self awareness and responsibility: This movement is intended to increase awareness and responsibility of each scientist regarding the role of science in international peace.
3. Enhance dialogue: This movement intends to enhance dialogue among scientists whose views toward nuclear weapons and other weapons of mass destruction may be significantly different.
4. Contribution to international peace: By expanding this movement, we hope to contribute to transparency of each country. By doing so, we would like to contribute to confidence building and enhancing regional security and international peace.
5. Internet will be the primary mode of the Pledge Movement. All names will be confidential unless the member agrees to allow his/her name to be disclosed. All Pledge members will receive a Pledge Card.

PLEDGE: I, undersigned below, pledge with honor and dignity:

To the best of my knowledge, I will not participate in research, development, manufacture, acquisition and utilization of nuclear weapons as well as of other weapons of mass destruction.

NAME

SIGNATURE

DATE

Peace Pledge Movement for Scientists

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Open Letter to the Director of Lawrence Livermore National Laboratory: The Reasons for My Resignation from Lawrence Livermore National Laboratory

We have a moral obligation and duty to think, speak, and act first as citizens for a peaceful world, and next as scientists. The higher our education is, the higher our responsibilities are for a humane world. Should we talk about science before we even think about what our science is for? That is precisely what we are doing. And that is why I resigned from my position as a scientist in the nuclear weapons program at the Lawrence Livermore National Laboratory (LLNL) as of January 31, 2000.

Albert Einstein warned us about the unleashed power of the atom: "This basic force of the universe cannot be fitted into the outmoded concept of narrow nationalisms." The Lawrence Livermore National Laboratory's logo is: Science in the National Interest. I believe that if Albert Einstein were alive today, not only would he not be working at LLNL, but he would also be strongly condemning its mission. And what is the logo of Los Alamos National Laboratory? *Science Serving Society*. Do the national labs believe that they are serving society by endangering its very existence?

My purpose in writing this letter is to make known the reason for my resignation from LLNL. It is simply that my conscience does not allow me to work for the development or maintenance of nuclear weapons. In direct relation to this, I would also like to make known my concern about the hiring practices of the Lab. When I was hired by LLNL, I was not adequately informed about the specifics of my job responsibilities. After being hired, I found myself expected to work on weapons maintenance in the Stockpile Stewardship Program. I believe that I am not alone in having this experience of not being directly informed.

I find it quite curious that informed consent is common practice in our society, yet prospective employees at the US nuclear weapons laboratories are not asked to provide written consent to their job responsibilities before being hired. This attitude of indirectness is demonstrated in US Department of Energy Secretary Bill Richardson's own words on another topic during an interview with CNN on Jan. 29. "Yes, there were exposures, the workers weren't actively lied to, but they were not informed of potential exposures, so it's not a direct lie, but it could be they were not leveled with." And in the *New York Times*, which reported the story first, he said: "This is the first time the government is acknowledging that people got cancer from radiation exposure in the plants." ...

I am asking DOE the same question: If many scientists knew that sooner or later they would find themselves entangled in nuclear weapons work, would they have joined the National Labs? I believe that we are dealing with unethical practices in not leveling with people and that serious questions are raised regarding the integrity of our leaders. The outcome, as in every similar case, is that no one individual by name is accountable, and eventually it is the taxpayers of the country who pay for all these wrong doings. Upon realizing on the one hand the obviously questionable practices in the workplace, and on the other hand, the real mission of the national scientific laboratories, I decided to withhold my scientific skills and resign. I cannot forget what my ancient Greek teachers taught me, which I now see being practiced worldwide: "Science without virtue is immoral science." – Plato

On November 5, 1999 in *NewsLine*, a LLNL newsletter, Edward Teller addressed Livermore's citizens of the year 2100. He wrote, "This letter is written at a time of both great fortune and very real danger." He continued, "The United States has won the Cold War without any bloodshed. This victory was made possible by scientific advances and technical progress that sufficed to eliminate violent confrontation between the United States and the Soviet Union." He expressed his confidence in the coming generations, saying that they will find a way to avoid the misuse of technology. He also mentioned brotherhood. Nevertheless, despite the hopes and confidence of the father of the hydrogen bomb for a safe future, many others know that the real world is headed towards new high-tech arms races and increasing dangers of global confrontations....

How can we continue to go back home after work every day and look in our children's eyes and tell them that we are working for a safer world for them? Have our hearts become stones? Every person alive today, if we go deep enough into the contradiction between one's conscience and one's outward life, is in a state of despair. We, the scientists, have tried to justify our involvement in building and maintaining nuclear arsenals by claiming that we are doing it for peace. How can we have peace when, by our work on weapons, we are raising fear in the hearts of those who do not have the same technology for killing?...

True peace is based on mutual trust. The argument that I have heard so many times from weapons scientists is this: Since the last big war, we have not had another one, so the invention of terrible weapons of destruction has put an end to war because, they say, everyone knows how terrible it would be if they dared to start one. This is an error. Who has led them to this amazing delusion? Who has led them to lose themselves in the temporary daily demands of their scientific careers and to forget about eternal demands of their conscience?

My fellow scientists and engineers, the national labs must change from labs of war to labs of peace if there is to be a chance to avoid the extinction of all life on earth. Environmental work is not the same as work on weapons, and environmental work is not environmental work when it creates space for more weapons. Does nonproliferation work advance the goal of nonproliferation when, at the same time, we are building more weapons? Who are we trying to fool? Many scientists are hired at the national labs to do environmental or other work, seemingly not directly related to weapons work. But because of budgetary considerations these scientists sooner or later find themselves being expected to work on the making or maintenance of nuclear weapons. I propose therefore the use of an informed consent document during these hires so such unwelcome surprises can be avoided.

Those who work on environmental projects or nonproliferation projects at the nuclear weapons labs have not realized that such a thing is an illusion. What environmental work? What nonproliferation work? Last October 13 the US Senate voted down the 40-years-in-the-making Comprehensive Test Ban Treaty. Now, through the deceptively-named "Stockpile Stewardship" program, not only are weapons expected to be tested, but new weapons are also to be made. In simple words: we are burying the waste so we can make more, and building more weapons so that other nations will follow our example.

It is apparent that DOE is also luring civilian establishments to participate in the development of a new generation nuclear arsenal and is seeking to incorporate the nation's leading universities into an effort to attract and train yet another generation of nuclear weapons designers. But I consider the most inexcusable DOE practice to be the luring of high school students into the world of weapons. Innocent and naive young people are invited every summer into the national nuclear weapons laboratories. They are taught the myth of keeping the world safe by building and maintaining thousands of constantly improved nuclear warheads. But their teachers fail to tell them that the fate of these weapons will ultimately be determined by the mood of a future dictator, and that it will be too late then for anyone to stop the great violence to be committed against humanity....

I know without any doubt in my heart that the people who work on nuclear weapons are as good as people who work anywhere else. I have met some people with such beautiful souls that I find it impossible to explain why they would work on weapons. The only way I can explain it to myself is that they are in a state of hypnosis. They are working on science in a detached way, not thinking about what will happen as a result outside of the laboratory.

Let's not comfort ourselves that someone else, man or God, is watching out for humanity. The train is now on the bridge and is going very fast. The first compartment is full of scientists and educated people who profess that they know what they are doing. The middle compartments are full of people, nearly six billion people! The last compartment is loaded with ammunition, violence and death. The compartments are being held together very tightly. I am appealing to all who read these words to come out of the train now. You will hear this appeal again and again, every time you look in the mirror of your soul, every time you look in the eyes of your children and in the eyes of the people you love, and yes every time you look at a flower and at a bird. Come out....

Thus I appeal to you for introspection and serious consideration of your actions. If humanity has need for science, it is not for immoral science. How many scientists are necessary to change immoral science to moral science? A crime into a virtue? One man putting together some chemicals in a garage to make a bomb is breaking the law even though he may not kill anyone. If he does kill a fellow creature, he is tried as a murderer. If two men do so, they too, are called murderers. But a weapons laboratory, a government, or a nation can make thousands of nuclear bombs, threatening to kill as many people as it chooses, and that will not be called murder, but a great and noble action....

DOE is funding the projects, providing millions of dollars and access to the supercomputers housed at the US's three weapons labs. DOE apparently is using academic intellectual resources to do work on nuclear weapons. Here we see how civilian research and military research are losing their identity and becoming one. Universities even contribute leveraging funds for these experiments.

We urgently need an international campaign to help scientists and engineers see that they must withhold their skills from war-science. I hope that my letter of appeal will start this campaign and that individuals from every nation will offer their support for the idea. My letter is a wake up call to all those who can hear the call of their conscience....

Having contemplated on these matters, and having recognized the real and misrepresented mission of the US National Laboratories, I have decided to resign. I cannot live my life in a way that goes against my conscience.

These are some of the issues that concerned scientists and engineers should immediately start working on worldwide:

1. Establish informed consent hiring practices at national weapons laboratories and all other scientific/military establishments.
2. Stop bringing high school and college students into the weapons labs.
3. Encourage and help scientists to withhold their skills from weapons work.

Andreas Toupadakis
Former Employee of Los Alamos National Laboratory
And Lawrence Livermore National Laboratory

February 16, 2000

US Nuclear Weapon Plans

The Energy Department plans to renovate more than 6,000 aging nuclear warheads during the next 15 years, almost double the number the United States is allowed to deploy under the START II arms reduction treaty according to senior U.S. officials....

“While the president is talking about the dangers of nuclear weapons, technicians at the national laboratories are working to refurbish a stockpile the size of which is unaffected by any agreement or treaty,” said Janne Nolan, director of international programs for the Century Foundation and a former official in the Arms Control and Disarmament Agency....

The plan to keep an “inactive reserve” of 2,500 to 3,000 more warheads than permitted to be deployed under START II is the product of a little-publicized Clinton administration nuclear policy called “lead and hedge.” It was described to Congress in 1996 by Harold P. Smith Jr., then assistant to the secretary of defense for nuclear, chemical and biological defense programs.

He said that while the administration “leads” by pushing for force reductions in arms-control negotiations, the United States has to “retain the ability to hedge by returning to START I levels.”

- Walter Pincus, “U.S. Plan to Renovate Warheads Stirs Opposition” *Washington Post*, 26 March 2000, p. A2

Atomic Workers Respond

The timing of these past decisions and the start of sub-critical testing at the Nevada Test Site proves, if anyone needed proof, that these tests never had any purpose not related to nuclear weapons. Much of the renovation work could take place in Nevada at the DAF (Device Assembly Facility) complex on the Nevada Test Site built during the 1990's but never used.

From a purely military standpoint the existence of an “inactive reserve” of nuclear weapons combined with the US dependence on cruise missiles, which have always been designed to be used as either conventional or nuclear delivery systems, leaves the US with the option to double its nuclear force overnight.

Senate rejection of the CTBT, threats to abrogate the ABM Treaty, congressional prohibitions on cutting US forces below START I levels until the Duma ratifies START II, even though the Russians are unilaterally moving toward a 1,500 warhead arsenal that they propose for START III, all question the United States commitment to observe any arms control treaty unless there is some military advantage to do so. The military industrial complex DOES run the United States

Charlie Hilfenhaus
Director, Atomic Workers Division
Alliance of Atomic Veterans

Endnotes to Section 4

¹ Martin B. Kalinowski, Wolfgang Liebert, Jürgen Scheffran: Beyond technical verification. Transparency, verification, and preventive control for the Nuclear Weapons Convention. INESAP Briefing Paper No. 1/1998.

² Daniel J. Kevles, *The Physicists: The History of a Scientific Community in Modern America*, Harvard University Press, 1995, p. 111.

³ Robert Buder, *The invention that changed the World : how a small group of radar pioneers won the Second World War and launched a technological revolution*, Simon & Schuster, 1996.

⁴ Kevles, p. 369.

⁵ Raymond Siever, “Doing Earth Science Research During the Cold War,” in Noam Chomsky *et al*, *The Cold War and the University: Toward an Intellectual History of the Post War Years*, The New Press, 1997, pp. 147 – 170.

⁶ Robert Jungk, *Brighter than a thousand suns*, Harcourt Brace Jovanovich, Inc., 1958, p. 11.

⁷ C. Wright Mills, *Power, Politics and People* Oxford University Press, 1963, p. 238.

⁸ Ted Greenwood, *Making the MIRV: A study of Defense Decision Making*, University Press, 1988, p. 110.

Section 5

Social Context and Political Change

Editor's Introduction

This section addresses the context and consequences of the nuclear age, indicating conceptual changes necessary for nuclear disarmament. They raise questions about political, economic, environmental, and psychological aspects of current and past policies regarding nuclear weapons.

The comments that follow point to the need for increased awareness of the causes and effects of the nuclear age – the special vulnerabilities it has created, the societal damage it has done, and the more subtle type of change that a Nuclear Weapons Convention implies. Inherent in the idea of a Nuclear Weapons Convention is a shift from security based on military strength and expressed along national lines, to one based on recognition of collective interests.

The current state of flux in the national security policies of the nuclear weapon states (see Section 1) has reverberations at the individual and communal levels as well. Movement on the social and environmental fronts is also likely to reinforce a shift in thinking about security, sovereignty, and long term survival. Part of this process will be realizing the peculiar political, social, and economic harm and risk created by nuclear weapons, beyond the obvious danger of destruction.

In this section, John Kenneth Galbraith points out the extreme vulnerability that even one nuclear weapon poses to the American economic system. Lorraine Rekmans describes what one aspect of the nuclear weapons industry – its need for uranium – has done to a community. Stephanie Fraser examines how the minutiae of nuclear disarmament relate to the global picture. Felicity Hill discusses the psychosocial aspects of living with nuclear weapons.

These contributions point to damage and danger that cannot be remedied by non-proliferation, arms control, or incremental disarmament measures. They can only be addressed by the abolition of nuclear weapons.

Economic Aspects

In the United States there is certainly a widespread sense as to the destruction and death that would come from nuclear war. As with the eventual certainty of personal death, it is something of which we are aware but which we put aside. Our reaction, as with death, is not to contemplate but to mentally subdue or escape. As an aspect of this escape, we do not reflect on the special vulnerability of the United States to nuclear war, or even to relatively minor nuclear assault. It is this which, as an economist, I here address.

Such is the vulnerability of the American economy that in the form we know it, it could be brought to an end by the most elementary of nuclear attacks. This could be accomplished by a tactical nuclear weapon on downtown New York. With such an attack there would, of course, be massive death and destruction. But additionally the American economy would be made non-functional. No longer in the economic world would it be known what was owned and what possessed in the banks. That knowledge would be destroyed along with the people that convey the information.

The trading of securities would, of course, come to an end but, as seriously, so would the knowledge throughout the country of what is owned. Those with ownership in and income from the financial world – stocks, bonds and other financial instruments – would find a record of their possessions eliminated. It would be true for individuals and for corporations throughout the country. Ownership would come to an end; of assets possessed there would no longer be a record. Capitalism as it is known would be finished. This, to repeat, would be the result of one small nuclear weapon.

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This is a matter not discussed. More remarkable is that the issue is evaded by those who would have most to lose. Generally speaking it is political conservatives who resist nuclear arms control and the reduction of the threat of nuclear weapons and nuclear war. These are the individuals and institutions with the greatest stake in capitalism and therefore its protection. Pressure for the control of nuclear weapons and the elimination of nuclear threat comes from the political Left, as indicated by all recent congressional action. Neither Left nor Right have responded to the extraordinary vulnerability of our economic system to nuclear war or even nuclear accident.

The time must come when, along with our moral obligation, we must see that there are grounds for a very practical economic concern. The American economy as we know it would be totally disabled and destroyed by even the slightest nuclear action. This, on a rational basis, should be a first concern of all defenders of the system.

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Health, Environment, Land, and Treaties

A recent opinion piece in a Canadian news magazine spoke about First Nations people in Canada and their attempts to access social program dollars generated by a provincial casino. The author's comments incensed a fury in me that I thought was dead. For years I had this simmering anger deep within me, but it had been tempered by time, compassion, and understanding that everyone's perception of Canadian history is different. Though we live in the same country, many of us have different histories. Maybe it's not so much a different history, but a difference in cultural perspective, or a difference in what we choose to see as our collective history.

The comment was, "in a country as free and prosperous as Canada, a failure to thrive is more likely a failure of individual determination than discrimination." The comment was directed at Aboriginal peoples of Canada. One thing is for sure, the writer was astute enough to realize that Aboriginal people have not "prospered" on Canadian soil. His reasoning, however, is less insightful. He presents a pretty neat package all sewn up with the rationale that if you are poor, "Hey, it's your own fault." I never realized that poverty, disease, and despair were career choices.

Failure to thrive in Canada cannot be a result of an oppressive Indian Act levied by a white government. Failure to prosper and become wealthy cannot be the result of losing access to natural resources which have been licensed away to white corporations. Failure to thrive cannot be the result of living on lands contaminated with toxic and radioactive wastes. The author reasons that we are poor by choice.

Our history is clear when it comes to understanding the agenda of the settler government and its treatment of native peoples. It is just within this last century that native people have been able to access legal counsel. It is just within this last century that native people have been granted the right to vote. Perhaps discrimination is absent from a white viewpoint. However, from this end of the stick, discrimination is still alive and well.

Within our provinces, governments ignore Aboriginal and treaty rights to lands which have now been deemed Crown. Provincial governments undertake to manage and distribute natural resources without Aboriginal consultation. Canadian governments have determined to mine uranium, produce weapons, and dump wastes on the land without any input from the original inhabitants. Contaminated lands surround the First Nation communities in Canada. Radioactive wastes are abundant. Uranium mining and milling wastes are stored in perpetuity near main water systems feeding Aboriginal communities.

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Prosperity comes from the land. Without access to the land, there can be no prosperity. Even in this age of techno-smoozhery, the land is what we all depend upon. It is the land which ensures we have food to eat and that we are healthy. There are very real and significant spiritual connections to the land we call Canada. To be dispossessed will surely make us unhealthy.

In the United States there is currently a legal action that is examining the very question of this spiritual connection to the land. The case is related to forestry issues; however, the argument presented by the forest companies states that recognizing spiritual/ecological significance is unconstitutional. The argument is that the state has made a decision based on religious beliefs. I thought, how absurd. However, looking at the land we live on and respecting it as the giver of all life is not a religious belief but a philosophy and a way of life.

I can imagine legal experts will examine this in great detail. But it is quite simplistic and palatable to believe that we draw from the earth what we need to survive. If this is not done with care, we endanger our own livelihood. It is not rocket science. It has nothing to do with the current catch phrases, like sustainable development, protecting ecological biodiversity, etc. It has more to do with respect. Our ancestors have taught us respect and reverence for the great Mother Earth. We have named the sun, father and we have named the moon, Nokomis, grandmother. We have named the earth mother.

Our earth is a mother with many children. A mother always has enough to share with all. These are fundamental principles in my society. I find them absent in the thinking of many people in government,

science, and industry. I try to find ways to make people easily understand what we are talking about when it comes to Aboriginal traditional belief systems.

If I were talking to a scientist I would say, "Hey, do you know that First Nation peoples are indicators of environmental health. We are the front line. When something goes wrong or breaks down in the system, we are the people closest to the failing system. We are at the bottom of the totem pole (so to speak)." Maybe in scientific language, "we are near the bottom of the food chain." I would tell the scientist that our Elders were concerned about radioactive waste so close to our drinking water. I would say that even though we did not have all the technological gizmos to measure radiation that we knew this was bad stuff. I would say that my grandmother did not want to drink the water because it smelled different than it did 80 years ago. I would say that our legends told us to leave this stuff in the ground. I would say to the scientist, "Hey, are you there? Where did you go?"

It's kind of like being a guinea pig in an experiment that someone has abandoned.

For many years Aboriginal people have complained about ill health effects because of their proximity to uranium mine waste. They have complained to governments and scientists and doctors and academics. The waste is still there. This is a regional/community reality.

On a national level, we hear that the Canadian government wants to help the world disarm and reprocess weapons grade plutonium from Russia and the USA. On a global level we hear that the world is looking to sign treaties to prevent nuclear proliferation, weapons proliferation, war. The world is quite polarised depending on your perspective. At this level, at the grassroots, we are clamouring in Canada for clean drinking water and clean up of radioactive wastes on our homelands. We are struggling for access to fundamental things like trees and fish. At the global level people want peace. People want to put plutonium some place safe.

We have treaties. We have treaties that were signed with the monarchs in England. The Canadian governments have inherited these treaties but they do not yet honour them. My ancestors signed a treaty to co-exist in 1850. Without respect that treaty will not be honoured. It has the force of law – if you have enough money to bring it to the legal system. It has the force of law – if the judge wishes to interpret the spirit and intent of that treaty. Mostly we have seen literal translations.

Every day, we struggle to have our treaties honoured. Every day, we struggle to teach our history and share our perspectives with the people who share our land. We have made only moderate gains. Our treaties are not complex agreements about preventing war, or ending nuclear weapons production. Our treaties are simple agreements about co-existence on this land. Our treaties were agreements on how we would live together, then, now and into the future.

I commend those people who undertake the work necessary to develop agreements for peace. With this experience, I can only say there is a long and difficult task ahead. I don't believe that peaceful co-existence is impossible. What we all need is a little bit of respect for the land and for each other.

Mügwetch.

Peche

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Language & Pointillism, Minutiae and Macro-disarmament

If you stand close to a Georges Seurat painting all you see is dots, periods really, or maybe commas. It is only when you step back that the big picture emerges. It is the same with international treaties and negotiations. The nagging questions surrounding the details of language often obscure the larger goal.

A fundamental dispute which surrounds the 1970 Nuclear Non-Proliferation Treaty involves a comma. A comma in Article 6, which reads:

Each of the parties to the treaty undertakes to pursue negotiations in good faith on effective measures relating to the cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

The comma in this article is the subject of numerous articles, debates, and policies. The question involved is if and how the comma links the two clauses. It is the debate over such small details that has stopped the process toward nuclear disarmament from evolving positively. It is the minutiae in language which can derail progress already made.

In fact, this comma may be the one dot which, used procedurally, is holding up nuclear disarmament. That is, the nuclear weapon states say that nuclear disarmament is contingent upon general and complete disarmament. Others say, abolish the nuclear arsenals first and then address conventional arsenals. Which is held to be right is a product of interpretation and perspective.

With this in mind the efforts toward a Nuclear Weapons Convention face similar challenges. Fundamental definitions are not held to be the same by all involved parties. Getting to the core assumptions is difficult given such differing perspectives. The details of language, the pointillism, need to be addressed but should not stop the overarching goal of macro-disarmament from being achieved.

The architects of the nuclear weapon abolition regime have a weighty job.

Addressing fundamental assumptions will require asking hard questions. Questions like: When working toward nuclear disarmament, what is the final goal? Is it the dismantlement of the weapons themselves? Or will it include the shutting down of all nuclear research facilities? How does nuclear power fit into achieving the goal of nuclear disarmament? How do nuclear arsenals relate to conventional weaponry? What of other industrial uses of radionuclides, and what of the medical uses? Will nuclear disarmament only happen after the weapons design industry has created the next obscene generation of weaponry thus making the existing nuclear arsenals obsolete? How will the culture of secrecy and hegemony be transformed as part of this new global structure of disarmament? How will the power structure be defined without Mutual Assured Destruction behind it to blackmail full participation? How have nuclear weapons affected the level of violence in our world, and what needs to be done to address the legacies of MAD? And how will the waste, the millions of tons of toxic waste, be dealt with in the next hundred thousand years and beyond?

Further complicating this situation is the disconnected reality that the various "actors" have regarding each other on this stage. On one side, you have the diplomatic community who are for the most part career civil servants who may or may not have disarmament experience or even find it a compelling topic to address. Then there are the state governmental players who have both national and regional security and economic concerns. They make decisions based on electoral concerns and influenced by potential or existing contracts and the creation of jobs. Adding to the mix, there are the people who represent non-governmental organizations (NGOs). Special interest, this group is often called. In this case, the NGOs who focus on nuclear weapons tend to be calling for the survival of the planet. Not exactly a special interest for only one part of the society. Lastly, but not at all least, there are the designers and makers of the nuclear weapons themselves. These actors on the nuclear stage are considered by many in the above-mentioned groups to be passive mouthpieces or spear carrying characters. Nothing could be farther from the truth. The directors of the nuclear weapons labs have the future of the world in their radioactive hands and are fighting dirty for the life of their guild.

The details of language, the pointillism, need to be addressed but should not stop the overarching goal of macro-disarmament from being achieved.

It is through doublespeak and black budget items that the designers get the new facilities and all the resources they need to continue qualitative improvement of nuclear weapons. The Stockpile Stewardship program used to be called Reconfiguration and then it was Complex 21. The working assumption of all these schemes is to continue making nuclear weapons work as well funded as the market will bear. Today, the US is spending annually more on nuclear weapons development than at the height of the cold war. The madness of nuclear weapons has not yet been cured.

The communities of people working for a nuclear weapons free world can also get bogged down in the language. Ultimately though, the labels are meaningless; it is the actions which are of paramount importance.

The fundamental truth is that the issue of nuclear disarmament is connected to every person's life on this planet, including the beautiful baby girl recently born in a tree in the flooded region of Mozambique.

Achieving a Nuclear Weapons Convention will take the common understanding of all people that genocide is to be avoided, and that planning for genocide is tantamount to achieving it. A rejection of the economic structures that threaten extinction is called for, along with the embrace of a vision of a world thriving, with every person working toward a future without the threat of extinction.

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Con(fusion): Down in the Dumps in the Nuclear Age

It is impossible for those examining the psychosocial effects of the nuclear age to identify tangible and verifiable causes and effects. It is undeniable, however, that nuclear weapons have permeated all aspects of politics, identity and culture: the nuclear age is a term in common usage, as is “nuclear family”; power in the international community is determined by the possession of nuclear weapons; and nuclear weapons feature as a means of salvation from Martians and meteors in Hollywood films right up to the latest James Bond film that features plutonium as a great aphrodisiac.

The history of war claims various weapons as markers of human development and as sources of profound social change from the catapult to swords, guns, bombs, and then weapons of mass destruction. The sovereignty-defying nuclear weapon, occurring simultaneous to the sovereignty-based United Nations, has both marked and undermined the political structures of our times, and has influenced the behavioural and linguistic practices between nation states at the United Nations.

The continuous 55-year UN conversation on the subject of nuclear weapons has aroused the use of emotive language by states and their spokespeople. An extremity in language, mostly ridiculed or considered bad taste in the diplomatic code of behaviour, seems to be justified by the absolute nature of this weapon. This reflects the inherent contradiction in the UN as the body designated to resolve political differences through dispassionate dialogue, but structurally incorporating the greatest political dividing lines. The profound nature of the response both from nation states and from “the people” is manifest in expressions of fear and horror, but also of hope for a world in which weapons that are suicidal, genocidal, and ecocidal are not “essential” for the “foreseeable future.”¹

But the visibility of the future has indeed been damaged by this weapon. A 1982 study² interviewed 1,000 Boston grammar and high school students and found that a large majority of the children equated their own death with annihilation from an external source. A Harvard University team of psychiatrists went to the Soviet Union in 1983 to conduct a similar study and results showed that Soviet children had an even deeper fear of nuclear first strike than their US contemporaries. Ninety-nine percent of the Soviet youths interviewed reported they were very worried about war as compared to fifty-eight percent of US youths. Only six percent of the Soviet youths said the two nations would survive a war, twenty-two percent of the US youths thought survival was possible.³

The international security environment has not changed enough qualitatively to eliminate the basis of these fears, nor can we expect the individuals interviewed in 1982 and 1983 to have reason to feel more secure today. We see countless examples in the former Cold War enemy states that the theory of gaining identity through weapons and violence prevails – from national security discourse to the acts of children murdering each other at school or for a pair of Levis jeans.

The World Health Organisation estimates that near one million deaths from suicide take place every year, and that depression is one of the most prevalent of mental health problems, is the fourth major cause of disease burden worldwide, and is the leading cause of the global burden of disease for women between 15 and 44 in both developed and developing countries. The reasons for depression are complex, of course, but the point here is that an international security regime based on nuclear weapons is the pervasive global backdrop of every person’s life today. It can only compound despair and loss of hope.

Many of us simply feel embarrassment that humanity has not evolved from this technically sophisticated form of barbarism. Many are confused and question how the pure science of nuclear physics has led to the pure faith of nuclear deterrence. We question how the nuclear weapon has acquired a civilising role through the theory of deterrence: Has the magnitude of this suicidal, genocidal, and ecocidal weapon really inhibited humanity from annihilating itself or parts of itself? This is a theory, based on a short history of non-use, and it can never be proven. It can only be disproven – and only through use of nuclear weapons.

Many of us simply feel embarrassment that humanity has not evolved from this technically sophisticated form of barbarism. Many are confused and question how the pure science of nuclear physics has led to the pure faith of nuclear deterrence.

In the meantime, the nuclear age is visited upon the lives of ordinary people who contemplate the confusing, cynical, and circular nature of these theories and logic. Not unlike the cancer caused by culpable releases of radiation, it will take generations to document and account for the psychosocial trends and impacts of the nuclear age. My peers and I personally know the fear associated with growing up in a Cold War nuclear target country and I can testify that the looming spectacle of nuclear apocalypse affected choices made by my now dead friends. I believe the stories of women in my organisation who remember with horror and shame the day the bomb dropped, who remember the day they received a letter from the school asking where their child should be sent should the three-minute warning be issued, who describe the days of “duck and cover” as days of horror. In time, we will have more answers about how human beings assimilated these kinds of experiences.

When the Nuclear Weapons Convention enters into force, perhaps then we will culturally acknowledge the burdens carried not only by heads of state and scientists, but by the generations of ordinary people who were not saved from the social and psychological scourge of this weapon.

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Endnotes to Section 5

¹ William Cohen, Annual Report to the President and the Congress, Chapter 6, “Nuclear Forces and Missile Defenses”, Department of Defense, 2000; and William Cohen, Report of the Quadrennial Defense Review, Section III, Defense Strategy, Department of Defense, May 1997.

² American Psychiatric Association Task Force on the Psychosocial Impact of Nuclear Developments, chaired by Dr. Rita Rogers, in William Beardslee and John Mack, *The Impact of Nuclear Developments on Children and Adolescents*, American Psychiatric Association, Task Force Report No. 20, 1982.

³ Toronto Star, 6 December 1983, in Rosalie Bertell, *No Immediate Danger*, The Women’s Press, 1985, p. 329.

Abbreviations

ABM	Anti-Ballistic Missile (Treaty)
AEC	Atomic Energy Commission
C3I	Command, control, communication and intelligence
CD	Conference on Disarmament
CTBT	Comprehensive Nuclear Test Ban Treaty
CWC	Chemical Weapons Convention
DOD	Department of Defense (US)
DOE	Department of Energy (US)
ICBM	Intercontinental ballistic missile
ICJ	International Court of Justice
IAEA	International Atomic Energy Agency
LLNL	Los Alamos National Laboratory
MIRV	Multiple Independently-targeted Reentry Vehicles
MNWC	Model Nuclear Weapons Convention
MP	Member of Parliament
NATO	North Atlantic Treaty Organisation
NBC	Nuclear, biological and chemical (weapons)
NFU	No First Use
NGO	Non-governmental organization
NIF	National Ignition Facility
NORAD	North American Aerospace Defense Command
NPT	Non-Proliferation Treaty
NWC	Nuclear Weapons Convention
OPCW	Organisation for the Prohibition of Chemical Weapons
P5	Permanent members of the Security Council (US, Russia, China, UK, France) Also the official nuclear weapon states under the NPT
SSBN	Strategic nuclear-powered ballistic missile submarine
START	Strategic Arms Reduction Treaty
UN	United Nations
UNGA	United Nations General Assembly
WMD	Weapons of mass destruction