

Can the NPT Survive? The Theory and Practice of US Nuclear Non-proliferation Policy after September 11

MARIO E. CARRANZA

Imagine the circumstances if the United States or other nuclear-weapon states were to say: 'We've been lying. We have no intention of ending our reliance on nuclear weapons. We will not fulfill our commitment under article VI of the NPT, but we will continue to expect non-nuclear weapon states to fulfill theirs of never acquiring nuclear weapons'. It would be a toss-up between which reaction would come faster or in larger measure – the beginning of nuclear weapons programmes in a number of countries or a major breakdown in global political relations. What *is* certain is that both would occur.¹

The US has played a key role in international efforts to control the spread of nuclear weapons since the beginning of the nuclear age, and it was one of the main architects of the Nuclear Non-Proliferation Treaty (NPT), signed in 1968 and entered into force in 1970. The NPT is the linchpin of the nuclear non-proliferation regime; a complex variety of international agreements, domestic laws and export regulations, administered by national and international agencies, such as the International Atomic Energy Agency (IAEA). The NPT was made possible by a compromise between the US and the Soviet Union, and during the Cold War US non-proliferation policies had a major impact on the NPT regime, especially after the adoption of an export policy emphasising technology control following the Indian detonation of a 'peaceful' nuclear device in 1974. Since the end of the Cold War, US non-proliferation policies have had an even greater impact on the NPT and the broader non-proliferation regime. The US played a key role in the indefinite extension of the NPT in 1995. The Bush administration's new approach to non-proliferation is forcing the Nuclear Suppliers Group to revise its guidelines in order to accommodate the new US policy toward India that reverses more than a quarter century of US declaratory policy. This article examines the impact of US non-proliferation policies on the prospects for survival of the NPT in the post-Cold War/post 9/11 era.

The NPT is the major legal and political barrier against the proliferation of nuclear weapons. Its main goal is to prevent the spread of nuclear weapons to states that do not possess them. Historically, the greatest challenge to the treaty came from its discriminatory design. It was criticised from its inception by important holdouts, such as Argentina, Brazil and India. When the NPT was discussed in the UN General Assembly on 22 May 1968, Argentine ambassador Jose Maria Ruda explained that his country would not join the treaty because it legitimised the 'disarmament of the unarmed'.² Joseph Nye has argued that under certain conditions, sovereign states

may well accept nuclear inequality if they know that 'in current circumstances the efforts to create a world in which either all or none should have nuclear weapons', 'might significantly increase the risk of nuclear war'.³ In a world of sovereign states in which the right of self-defence is embodied in article 51 of the United Nations Charter, 183 countries have agreed to forgo acquiring the most destructive weapons of self-defence in exchange for the right to the 'fullest possible exchange' of nuclear technology for peaceful uses and a commitment by the five treaty-recognised Nuclear Weapons States (NWS) to end the nuclear arms race and achieve nuclear disarmament.

During the Cold War, the inequality built into the NPT could be justified by the NWS by the special circumstance created by the global contest between the US and the Soviet Union. However, as Schell notes, 'once the Soviet Union disappeared, the foundations of the argument shifted... Now it appear[ed] that the Western nuclear powers believed that no special circumstance was needed to justify nuclear arms'.⁴ The end of the Cold War has arguably exacerbated the NPT's discriminatory nature by depriving the NWS of their main rationale for having nuclear weapons; making Nye's 'logic of inequality' less compelling and increasing the responsibility of the US – as the only superpower left – to exercise leadership among the nuclear-haves to implement their side of the NPT bargain. When the Cold War ended, the US was 'uniquely positioned to put the momentum of its improving relations with the Soviet Union behind strenuous efforts to breathe new life into nonproliferation policy', discarding 'the Cold War ways of thinking and behaving that [had] traditionally made nonproliferation take a back seat to other, supposedly more important, security concerns'.⁵

The signing of the second Strategic Arms Reduction Treaty (START II) with Russia in 1993 showed the Clinton administration's willingness to exercise leadership in implementing the nuclear-haves' side of the NPT bargain. At the 1990 NPT review conference the Non-Nuclear Weapons States (NNWS) party to the treaty had reiterated their concerns about the lack of implementation of Articles IV and VI. The treaty was indefinitely extended in 1995, even though a number of Non-Aligned countries had serious misgivings about this decision.⁶ Certain positive steps by the NWS before the conference, such as strong US support for the Comprehensive Test Ban Treaty (CTBT), signed in 1996, and South Africa's active diplomacy resulted in a 'package deal' according to which the NPT would be indefinitely extended in exchange for a strengthened review process, the adoption of a document called 'Principles and Objectives for Nuclear Non-Proliferation and Disarmament', and a resolution on the Middle East which *inter alia* endorsed the establishment of a Middle Eastern 'zone free of nuclear weapons as well as other weapons of mass destruction including their delivery systems'.

Yet nuclear non-proliferation began to founder in the late 1990s. In 1998, India and Pakistan tested nuclear weapons, openly becoming nuclear-weapon states; and in 1999 the US Senate voted against the CTBT. At the 2000 NPT Review Conference the parties agreed to implement '13 Practical Steps' to meet their commitments under Article VI of the treaty, including 'an unequivocal undertaking by nuclear weapon states to eliminate their nuclear arsenals'. Many NNWS are very disappointed with

the failure of the five declared NWS to fulfill this commitment, as well as with the absence of progress to enter the CTBT into force and to achieve an effectively verifiable Fissile Material Cutoff Treaty.

After September 11 there has been a significant shift in the dominant discourse on non-proliferation, away from the 13 Practical Steps. In June 2002 the Bush administration adopted the doctrine of unilateral pre-emptive strikes against rogue states as official US policy,⁷ abandoning the Clinton administration's treaty-based, multilateral approach to non-proliferation. Problems of compliance with NPT treaty obligations on the part of NNWS (Iraq, North Korea and Iran) have relegated the nuclear disarmament commitments of the NWS to the back burner. From the US perspective, the more serious threat to US national security is the possible acquisition of nuclear weapons by 'rogue' states such as North Korea or Iran and the potential transfer of weapons-grade fissile material from a nuclear-capable rogue state to a terrorist organisation such as Al Qaeda.

The inability of the May 2005 NPT Review Conference to agree on a common agenda and produce a final document is a symptom that the NPT is in great jeopardy. The 150 NPT parties who attended the conference share responsibility for the conference's failure, and several analysts agree that its inability to adopt a consensus document was due to politics, especially the entrenched positions of a small number of influential states, including the US, France, Iran and Egypt.⁸ As Simpson and Nielsen note:

It was clear from both the president's consultations and public statements by President Bush and others that key states did not see the NPT Review Conference as central to meeting contemporary nuclear proliferation challenges and thus had low expectations of what it could offer in meeting them.⁹

Arguably, due to its weight in the post-Cold War/post 9/11 world, the US had a unique responsibility to make the conference succeed.

The central thesis of this article is that US non-proliferation policy and the future of the NPT are inextricably linked. My hypothesis is that an underlying acceptance of proliferation optimism has led to the shift in US policy away from non-proliferation and towards a policy of condoning selective nuclear proliferation among friendly states; centred on US-led 'coalitions of the willing' rather than the NPT. I argue that the US indefinite retention of nuclear weapons despite Article VI of the NPT and its continuing reliance on the doctrine of deterrence undermine the core bargain of the NPT and threaten the treaty's survival. I further argue that the Bush administration's greater reliance on counter-proliferation (the threat of use of military force) against 'rogue' or 'irresponsible' states is a bad policy that threatens the NPT and could lead to the emergence of a 'nuclear armed crowd'.

I develop this argument in four stages. First I place the Bush administration's new approach to nuclear arms control and the NPT within the broader framework of the proliferation optimism-pessimism debate. Second, I consider whether Washington is actually abandoning the NPT regime, by looking at US policy toward India, Pakistan, North Korea and Iran. Third, I examine the deadlock at the 2005 NPT Review Conference and the lack of consensus on the next steps for stopping the spread of

nuclear weapons. Fourth, I discuss four scenarios for the future of the NPT and argue that the best strategy to address the challenges of post-9/11 nuclear proliferation is to reconnect nuclear non-proliferation with nuclear disarmament.

Theories of Non-proliferation and the Proliferation Optimism–Pessimism Debate

The nuclear proliferation literature can be broken down into two sets: studies on the causes of proliferation,¹⁰ and studies on the consequences of proliferation. The proliferation optimism-pessimism debate is about the consequences of nuclear proliferation.

Proliferation *optimists* claim that the spread of nuclear weapons has a positive impact on international and regional stability, because ‘the chief impact of nuclear weapons is to deter war between their possessors’.¹¹ They base their analysis on Kenneth Waltz’s monograph, *The Spread of Nuclear Weapons: More May Be Better*.¹² Devin Hagerty applies Waltz’s framework to the India-Pakistan nuclear arms competition, arguing that in South Asia, the ‘logic of nuclear deterrence is more robust than the logic of nonproliferation’.¹³ According to Hagerty, the mere existence of nuclear weapon capabilities in South Asia deters India and Pakistan from conventional or nuclear war.

By contrast, proliferation *pessimists* argue that nuclear proliferation is bad, because it produces international and regional instability. In the 1960s, the leading advocates of the NPT, inside and outside the US government, were ‘absolute pessimists’.¹⁴ For proliferation pessimists, the logic of non-proliferation is better than the logic of nuclear deterrence because the latter *can* fail, and nuclear proliferation *could* lead to nuclear war, with catastrophic results. A local war involving nuclear weapons in the Middle East, South Asia or the Korean peninsula, ‘would have severe political and psychological repercussions throughout the world’.¹⁵ Pessimists have argued that even if new nuclear states want to manage their arsenals cautiously, it will be very difficult for them to build effective command and control systems and they will face insurmountable technological and organisational obstacles to achieve deterrence stability, increasing the danger of nuclear use by accident, miscalculation or a nuclear *coup d’état*. Scott Sagan has shown that:

the actual behavior of new proliferators will be strongly influenced by the powerful military organizations within those states and that the common biases, rigid routines, and parochial interests of these military organizations will lead to deterrence failures and uses of nuclear weapons despite national interests to the contrary.¹⁶

Several studies have concluded that the rational deterrence theory of optimists is more supported by the historical record than the pessimists’ decision-making and organisational approach. Optimists point to the ‘peaceful’ resolution of regional crises (such as several Indo-Pakistani crises) without full-scale war as proof that pessimism has ‘failed’ under ‘favourable’ circumstances. Every day that goes by without a deterrence failure seems to confirm proliferation optimism. However, as

Knopf notes, 'the way the debate is presently framed [as a theory contest] makes the pessimist case appear weaker than it actually is'.¹⁷ According to a variety of sources, during the 2002 India-Pakistan crisis the South Asian rivals deployed ballistic missiles armed with nuclear warheads along the border, increasing the danger of accidental, unauthorised or inadvertent use of nuclear weapons, as well as the risk of nuclear use by miscalculation.¹⁸ The theory that nuclear-weapon states do not fight wars with one another is simply not true considering that India and Pakistan fought the Kargil war in May–July 1999 suffering more than 1,000 casualties each. Moreover, the nuclear peace hypothesis is probabilistic, not ironclad: 'there may simply not have been enough interactions between nuclear-armed states to produce a deterrence failure'.¹⁹ Arguably, proliferation pessimism is incomplete without a case for the need of nuclear disarmament. Far from being utopian, the case for nuclear disarmament is compelling even from a purely rational choice perspective; especially in the post-9/11 era that has added urgency to the need for a Fissile Material Cutoff Treaty to diminish the possibility of catastrophic nuclear terrorism.

From a realist perspective, the NPT regime is an anomaly, because it is very difficult to establish international regimes in the security issue-area. For a realist, a security regime can only exist when 'the great powers want to establish [it] – that is, they must prefer a more regulated environment to one in which all states behave individualistically'.²⁰ As Davis points out, the non-proliferation regime was based on great power cooperation and US leadership, to achieve certain goals, namely, to prevent states with latent nuclear weapon capabilities from 'going nuclear'.²¹ The NPT can be seen as a marriage of convenience between:

the nuclear powers, who were its architects and chief protagonists, and the non-nuclear countries that had little potential and no likelihood of being able to go nuclear for decades to come (the 'never nuclears'). Because of their perceived common interest in preventing the major industrial states, such as West Germany and Japan, and such Third World countries as India, Israel, and Brazil, from going nuclear, the great and small powers entered into a tacit alliance in an effort to prevent the near-nuclear and potential nuclear powers from going nuclear.²²

In the early 1990s, constructivist and neoliberal institutionalist scholars had faith in the robustness of the norm against nuclear proliferation and its linchpin, the NPT.²³ On the other hand, realist scholars argued that after the Cold War, horizontal nuclear proliferation was inevitable. More NNWS regardless of their NPT membership, would make the decision to 'go nuclear'. From a realist/neorealist perspective, all the motivations for 'going nuclear' during the Cold War are present in the post-Cold War era. Given the anarchic nature of international relations, the diffusion of power and technology and the weakening or ending of the Cold War security alliances would produce a multipolar international system in which states such as Germany and Japan would have strong incentives to go nuclear.²⁴

The decline of nuclear and conventional arms control in the late 1990s and early 2000s (some analysts even talk about the 'death' of arms control) has gone hand-in-hand with growing doubts about the prospects for survival of the NPT and the

non-proliferation regime. The US has continued its old nuclear deterrence policy even after the end of the Cold War. New nuclear dangers have emerged, including the possible resumption of nuclear testing on the part of the US and the other declared nuclear powers, and the unilateral US decision to deploy a national missile defence while holding on to its nuclear arsenal indefinitely.

After September 11, the Bush administration's National Security Strategy seemed to challenge proliferation optimism's assumption that nuclear deterrence could keep a 'nuclear peace', arguing that the promise of massive retaliation 'against shadowy terrorist networks with no nation or citizens to defend' would not deter them from attacking the US with nuclear, chemical or biological weapons.²⁵ However, Secretary of State Colin Powell assured the Senate Foreign Relations Committee that the new American pre-emption doctrine against a potential alliance of terrorist organisations such as Al Qaeda and 'rogue states' did not mean that the US had abandoned 'containment' or deterrence.²⁶ The Bush administration's rejection of traditional bilateral and multilateral arms control treaties, such as the ABM and CTBT marked a break with the past. Yet despite the end of the Cold War, the US still maintains a nuclear strategy based on 'detering' a Russian attack although, as Schell notes, nobody could seriously argue that Russia has any thought whatsoever of launching a nuclear strike against the US and is stopped only by a fear of US retaliation.²⁷ On the other hand, the Strategic Offensive Reduction Treaty signed by the US and Russia in May 2002 does not require the destruction of nuclear weapons, does not include tactical nuclear weapons, and it has very limited verification provisions.

The Bush administration has not only adopted arms control à la carte – picking and choosing the arms control agreements it likes and rejecting those it does not like – but also it has completely redefined the meaning of arms control and non-proliferation, preferring 'informal' regimes, such as the Proliferation Security Initiative that do not target friendly states such as Israel, India and Pakistan. The Bush administration has decided to remove a ban on civilian nuclear technology sales to India, thus according it a much sought-after seat in the 'responsible' nuclear club.²⁸ If approved by the US Congress, the nuclear deal with India violates the US commitment under the NPT and Nuclear Supplier Group guidelines not to provide sensitive nuclear technologies to non-NPT parties, unless they place *all* their nuclear facilities under IAEA safeguards.²⁹

This new approach to nuclear arms control and non-proliferation can be explained by the ascendance of counter-proliferation in the 1990s (the Pentagon's 1993 Defense Counterproliferation Initiative) and the loss of faith – after the discovery of Iraq's violations of the NPT – in the ability of the NPT/IAEA safeguards to prevent NPT parties from pursuing secret nuclear weapons programmes. US arms control allergy can also be explained by 'past experience that arms control treaties can be very difficult to change'.³⁰ At stake is the survival of the political bargain between the nuclear-have-nots and the nuclear-haves embodied in the NPT.

The durability of the post-Cold War 'unipolar moment' has emboldened the US to try to impose its own vision of the NPT to the nuclear-have-nots. The Bush administration is pessimistic over the prospects for multilateral non-proliferation efforts: 'In this view, the problem of proliferation is not nuclear weapons per se, but nuclear

weapons in the wrong hands; hence, US nuclear capabilities are not part of this problem, and can be part of its solution'.³¹ This vision is at odds with the NPT bargain of 1968: NNWS agreed to forswear nuclear weapons while the NWS agreed to make good faith efforts toward nuclear disarmament. Assistant Secretary of State Stephen Rademaker claims that the Bush administration has an 'impeccable' record of compliance with Article VI of the NPT, invoking the Moscow Treaty with Russia, but he does not mention the fact that both parties can keep the 'reduced' nuclear warheads in a state of readiness, and that they are free to build up their nuclear arsenals again in 2012.³²

For the Bush administration, achieving global non-proliferation compliance, i.e., strengthening Articles II and III of the NPT is much more important than showing good faith in implementing its nuclear disarmament obligations under Article VI of the treaty. For all practical purposes the Bush administration's non-proliferation strategy refuses to acknowledge the NPT bargain and wants to strike a new bargain, closing the loophole in Article IV that allows 'rogue' states to misuse the right to peaceful nuclear energy to do research on or actually develop nuclear weapons capabilities. The US vision of the NPT would make obligatory the more intrusive inspections regime of the IAEA's Additional Protocol, and would make it illegal for NNWS to possess uranium enrichment or plutonium reprocessing facilities, but these proposals conflict with Article IV of the NPT and would require an amendment to the treaty. The NPT bargain has largely worked for 36 years and the NNWS are unlikely to limit their rights under Article IV without US concessions on the other side of the bargain under Article VI.³³

The Clinton and Bush II Administrations and the Shift from Proliferation Pessimism to Proliferation Optimism

Since the early 1960s, when the NPT was negotiated at the UN, the conventional wisdom in the US policy-making community has been that horizontal nuclear proliferation is bad and must be stopped. The US supported the nuclear weapon status of Britain in 1952 and France in 1960, but after the NPT entered into force in 1970 it consistently sustained the normative package embodied in the NPT, including the principle that the acquisition of nuclear weapons is not legitimate and must be avoided. In this sense, proliferation pessimism has been 'the touchstone for US non-proliferation policies'.³⁴ However, the US never completely abandoned the proliferation optimism that led to the admission of Britain, France and, later on, China, to a select 'nuclear club' in the 1950s and 1960s.

The conventional wisdom among US non-proliferation scholars is that Waltz's proliferation optimism has had at most a minimal impact on US non-proliferation policy. According to Peter Feaver, proliferation optimism 'never caught on in the policy world'.³⁵ Yet there is abundant empirical evidence that the US looked the other way while Israel and Pakistan were actively engaged in nuclear weapons programmes during the Cold War.³⁶ This policy of nuclear double standards has become more dominant since the end of the Cold War; particularly after September 11, when the Bush administration decided to subordinate US nuclear non-proliferation

policy to the paramount objective of winning the War on Terror. Since September 11, the US has lifted all the remaining economic and military sanctions on India and Pakistan, despite the fact that the AQ Khan international nuclear smuggling network was based in Pakistan. Pakistan's assistance was crucial in the campaign against the Taliban regime and Al Qaeda in Afghanistan. Lifting all the remaining sanctions was considered a necessary security tradeoff in the post-9/11 threatening security context faced by the US.³⁷ Like Israel and India, Pakistan has been given a pass by the US on nuclear matters because it plays a central role in the US-led War on Terror.

The first Clinton administration (1993–97) strongly supported nuclear arms control and was initially committed to nuclear non-proliferation as a top foreign policy priority. Clinton reversed more than a decade of opposition to a universal Comprehensive Test Ban by signing the CTBT in 1996, and his administration was committed to make progress toward a Fissile Materials Cutoff Treaty and the marginalisation of nuclear weapons from international politics.³⁸ The mood of the early 1990s, when it seemed possible to make substantial progress towards global nuclear disarmament, was summarised by Paul Nitze, former arms control negotiator and ambassador-at-large during the Reagan administration: 'Is it Time to Junk Our Nukes?'.³⁹ A *New York Times* editorial claimed that 'if [Clinton's] efforts succeeded, [he] could do more for US security than those who built up America's nuclear arsenal in the first place'.⁴⁰

The move from proliferation pessimism to proliferation optimism began on 31 January 1995, when then-Secretary of Defense William J Perry announced a fundamental reversal of US non-proliferation policy in South Asia:

'I recognize that the nuclear capabilities of India and Pakistan flow from a dynamic that we are unlikely to be able to influence in the near term', Perry said in a talk before the New York-based Foreign Policy Association. 'Rather than seeking to roll back – which we have concluded is unattainable in these two countries – we have decided, instead, to seek to cap their nuclear capabilities'.⁴¹

This significant policy shift was based on the wrong assumption that Indo-Pakistani nuclear relations could be stabilised at the level of non-weaponised deterrence (NWD). The idea that NWD would maintain a 'nuclear peace' in South Asia was inspired by Waltz's deterrence optimism.⁴²

In announcing the US Nuclear Posture Review in 1994, Secretary of Defense Perry had talked about the need:

to achieve the proper balance between what I would call leading and hedging. By leading, I mean providing the leadership for further and continuing reductions in nuclear weapons, so that we can get the benefit of the savings that would be achieved by that. At the same time, we also want to hedge against the reversal of reform in Russia.⁴³

The second Clinton administration (1997–2001) paid occasional lip service to full nuclear disarmament, but by January 2000 US officials declared their intention to keep the nuclear arsenal indefinitely, refusing a Russian proposal to go down to

1,500 nuclear weapons on each side in then envisaged START III talks. The rationale given by the State Department's then-spokesperson, James Rubin, was deterrence optimism, i.e., the need to preserve a condition of mutual nuclear deterrence with Russia.⁴⁴ The tension between deterrence optimism and deterrence pessimism that had bedevilled the Clinton administration since the Perry speech in 1994 ('leading' vs. 'hedging') finally resolved itself in favour of deterrence optimism.

After the 1998 nuclear tests, the Clinton administration imposed several economic sanctions on India and Pakistan that were not sustained long enough to become effective. The US too quickly recognised India's 'need' for a 'credible minimum [nuclear] deterrent'.⁴⁵ The administration's proliferation optimism reflected the deterrence optimism of US nuclear strategy. Yet several scholars believe that after the nuclear tests achieving stable nuclear deterrence in South Asia has become problematic, and the risk of an Indo-Pakistani nuclear war 'is much higher than most policymakers and analysts recognize'.⁴⁶

Clinton's visit to India in March 2000 reflected the tension between the strong commitment to non-proliferation of the first Clinton administration and the deterrence optimism of the second Clinton administration. In his speech to the Indian Parliament, Clinton mentioned South America's and South Africa's nuclear abstinence to make the point that 'most of the world [was] moving toward the elimination of nuclear weapons' while India and Pakistan were moving in the opposite direction. Yet this rhetorical point was weakened by the US Senate's refusal to ratify the CTBT on 13 October 1999 and Clinton's recognition that the US 'has possessed nuclear weapons for fifty-five years and more'.⁴⁷ On the eve of his visit Clinton had referred to South Asia as 'the most dangerous place on Earth' but in his speech to the Indian Parliament he recognised India's sovereign right to 'determine if it will benefit from expanding its nuclear and missile capabilities', setting the stage for a tacit recognition of India's nuclear weapon status.⁴⁸ A quick review of the Singh/Talbott 'nuclear dialogues' between June 1998 and June 2000 shows that they were inspired by deterrence optimism.⁴⁹ A critical benchmark of these talks was the pursuit of a 'strategic restraint regime' in South Asia, i.e., a freeze in the production of fissile material for nuclear weapons and restraint in the development and deployment of missiles and aircraft capable of carrying nuclear weapons. Yet even a 'strategic restraint regime' in South Asia became unattainable, and despite repeated promises in the Singh/Talbott talks, India did not sign the CTBT. At the end of the day, India got the best of all possible worlds: the bomb and the progressive lifting of US sanctions.

The Bush administration pursued in earnest the policy of engaging India as a strategic partner that began after Clinton's visit to India. US non-proliferation policy towards the region was now clearly informed by proliferation optimism, on the wrong assumption that India and Pakistan could become 'responsible' nuclear weapon states and that nuclear deterrence would guarantee the stability of a nuclear 'balance of terror' in the subcontinent. However, proliferation pessimists have proved right. In the Kargil crisis and war (May–June 1999) Pakistan clearly overestimated the deterrent effect of its nuclear might, showing that nuclear weapons are falsely reassuring. After this war, India was ready to cross the Line of Control in Kashmir 'no matter what'. Pakistan made veiled threats of nuclear use

three years later, during the May–June 2002 crisis, and both countries gambled again with the nuclear danger.⁵⁰ There is no guarantee that nuclear weapons will not be used in the next crisis. After September 11, the danger of nuclear terrorism adds an explosive intervening variable to an already unstable ‘balance of terror’ in South Asia. However, the US has abandoned any pretence of incorporating India and Pakistan to the NPT as NNWS, accepting both countries as unofficial members of the ‘nuclear club’.

Both the Clinton and Bush II administrations accepted the premises of rational deterrence theory from which Waltz’s proliferation optimism derives. Nuclear deterrence was reaffirmed as the official US strategic doctrine during the Clinton administration and it is still official US doctrine, even if the Bush II administration appears to be moving from a deterrence-only policy to a policy that would combine nuclear deterrence with National Missile Defense and the preventive or pre-emptive use of military force against terrorist groups and ‘rogue states’, conflating the anti-terrorism and non-proliferation agendas.⁵¹ By accepting the premises of rational deterrence theory from which proliferation optimism derives, the US has slowly abandoned its traditional strong opposition to *any* kind of horizontal nuclear proliferation; introducing a dangerous distinction between ‘responsible’ and ‘irresponsible’ proliferators, while subordinating non-proliferation to other foreign policy goals, such as the establishment of strategic partnerships with certain countries.

US Non-proliferation Policy after September 11: Abandoning the NPT Regime?

From the beginning of the nuclear age, and especially after the NPT entered into force in 1970, US non-proliferation policies have been torn by an unresolved dilemma between a security-oriented strategy of living in a ‘nuclear-armed crowd’ while managing nuclear proliferation or moving decisively toward nuclear disarmament, abiding by US obligations under Article VI of the NPT. Under George W Bush, this dilemma seems to have been solved in favour of a fully security-oriented strategy, even if the Bush administration does not openly challenge the legitimacy of the norm against proliferation embodied in the NPT.

A fully security-oriented strategy has several implications for US non-proliferation policy. First, it requires the strengthening of security guarantees to restrain proliferation among potential strategic partners and US allies. Second, it implies recognition that ‘there will be a need [for the United States] to maintain thousands of deployed nuclear weapons in a triad of bombers, submarines, and land-based missiles for the indefinite future’.⁵² As Schell notes, current US policies imply a ‘profound and complacent belief in the virtue of nuclear arms’.⁵³ Third, a fully security-oriented non-proliferation strategy implies the distancing from, if not abandonment of, a norms-oriented strategy seeking to de-legitimise nuclear weapons use and acquisition, and an increasing emphasis on unilateral non-proliferation strategies, including the use of force against presumably undeterrable ‘rogue states’.

There is still widespread international support for the principle that the acquisition of nuclear weapons is not legitimate and must be avoided, and for the idea that the

NPT is essential to international peace and security. However, the dramatic changes in US foreign policy since George W Bush became president in 2001 have significantly undermined the US commitment to the norm of non-proliferation – the conviction that acquiring nuclear weapons is not legitimate behaviour – embodied in the NPT.⁵⁴ As Potter notes:

Gone are the days when the United States routinely lined up on the side of those pursuing the goal of halting and reversing the spread of nuclear weapons. This change in Washington's nonproliferation game plan has been under way for some time, but it was most clearly expressed in the July 18, 2005 India-US Joint Statement. This extraordinary document, which reverses more than a quarter-century of US declaratory policy, suggests that the national security team of George W. Bush regards nuclear proliferation to be both inevitable and not necessarily a bad thing.⁵⁵

The Bush administration's Nuclear Posture Review, announced in December 2001, called for 'greater flexibility' in nuclear forces and planning in order to maintain a 'credible deterrent' against new adversaries and re-legitimised nuclear weapons as weapons of war as official US nuclear doctrine.⁵⁶ The contradiction between the Nuclear Posture Review's nuclear first-use options and Negative Security Assurances (NSAs) also undermines the US commitment to the norm of non-proliferation.⁵⁷ NSAs are widely viewed 'both as an incentive for states not to seek nuclear weapons as well as a concrete step toward nuclear disarmament'.⁵⁸ The US plans to retain a nuclear force indefinitely and the renouncement of the 13 Practical Steps toward nuclear disarmament undermine the US commitment to the norm of non-proliferation, by sending the message that the US is not seriously committed to implementing NPT Article VI. Arguably, the Bush administration has abandoned treaty-based nuclear arms control as a foreign policy goal.

Bush's non-proliferation strategy can be described as qualified optimism: while accepting the premises of deterrence theory and proliferation optimism it does not share Waltz's claim that 'more may be better', no matter who gets the bomb. Unlike Waltz's hard-core optimism, the Bush administration argues that in the post-9/11 era more nuclear proliferation among rogue states is definitely worse and must be stopped, even by the use of military force as in the Iraq war. Yet unlike proliferation pessimism, the Bush administration makes the distinction between 'friendly' and 'unfriendly' proliferators, as in the 18 July 2005 nuclear deal with India.

The De Facto Recognition of India and Pakistan as Nuclear Weapon States

US non-proliferation policy towards South Asia under the Bush administration has taken the proliferation optimism of the last two years of the Clinton administration to its logical conclusion, deepening the 'strategic dialogue' with India, reviving a military alliance with Pakistan to fight the War on Terror, and completely abandoning the early 1990s policy of rolling back India's and Pakistan's nuclear weapons programmes.⁵⁹

The US has in practice recognised India and Pakistan as nuclear-weapon states, assuming that (a) nuclear weapons will preserve an 'imperfect' peace in South Asia;⁶⁰ and (b) the existence of non-assembled, non-deployed nuclear weapons in

the subcontinent does not create the risk that terrorist organisations will gain access to them. However, even if nuclear deterrence can be stabilised in South Asia (a big 'if')⁶¹ many non-proliferation experts believe that there is a real danger that nuclear weapons, or weapons-grade fissile material, may fall into the hands of terrorist organisations operating in South Asia, especially in Pakistan, where the AQ Khan international nuclear smuggling network managed to buy and sell key nuclear weapons capabilities for more than two decades without being detected. It is precisely the need to stabilise nuclear deterrence that creates this danger:

Part of the problem is that in order to keep its focal enemy, India, from destroying its arsenal in a pre-emptive strike, Pakistan has hidden its nuclear weapons throughout the country; some of them may be in regions that are effectively under fundamentalist Muslim control. Moreover, Pakistan's official alliance with the United States in the war on terror has only increased the danger posed by al-Qaeda sympathizers within its nuclear establishment.⁶²

On the other hand, securing India's and Pakistan's nuclear arsenal against the inter-related dangers of theft, loss of command and control, or accidental nuclear war is at best problematic, among other reasons because in order to provide effective nuclear assistance to the South Asian rivals, the US would have to violate its obligations under Article I of the NPT.⁶³ The provision of US nuclear assistance to India and Pakistan would further weaken the already damaged credibility of US commitments at NPT review conferences to take meaningful steps toward global nuclear disarmament.

The Nuclear Deal with India: Abandoning the NPT Regime?

After September 11, supply-oriented approaches to nuclear non-proliferation have become extremely important. Yet the 18 July 2005 nuclear deal between the US and India – as part of the 'global partnership' between the two countries announced by President Bush – undermines the NPT bargain, showing NPT parties that decided to renounce nuclear arms because help with their civilian programmes was judged to matter more, that they too could have it both ways.

On the other hand, if implemented, the nuclear deal with India would weaken the US focus on technology denial to prevent nuclear weapons from falling into the hands of terrorist groups. As Squassoni notes:

At a time when the United States has called for all states to strengthen their domestic export control laws and implementation and for tighter multilateral controls, US nuclear cooperation with India would require loosening its own nuclear export legislation, as well as creating an exception to NSG [Nuclear Suppliers Group] full-scope safeguards requirements.⁶⁴

The Bush administration's nuclear double standards in implementing export restrictions on sensitive technologies not only undermine the Nuclear Suppliers Group agreement of 1992 (which prohibits reactor sales to recipients operating nuclear facilities that are not under IAEA safeguards) but could tempt a nuclear Iran or North Korea to follow the 'Indian model' of 'unofficially' joining the

nuclear club as non-NPT nuclear-weapon states. As Spector notes, 'If you open the door for India, a lot of other countries are likely to step through it'.⁶⁵

The Bush administration's dramatic departure from traditional US non-proliferation policy raises the issue of whether the US is effectively abandoning the NPT regime. The restrictions on exports of sensitive nuclear technologies embodied in the US Nuclear Non-Proliferation Act of 1978 were imposed after India exploded a nuclear device in 1974, showing that nuclear technology transferred for peaceful purposes could be used to produce nuclear weapons. As a result, the US refused to continue supplying nuclear fuel for the Tarapur reactor, spurring a controversy that was only settled during the Reagan administration, when France agreed to take over the supply of fuel for Tarapur, relieving the US of this obligation, while India agreed to continue the safeguards already in force under a 1969 trilateral agreement between the US, India and the IAEA.⁶⁶

The US-India 2004 Next Steps in Strategic Partnership Initiative and the 18 July 2005 nuclear cooperation agreement involve the abandonment of a long-standing US policy of denying nuclear technology to India until it formally renounces nuclear weapons by joining the NPT as a NNWS, and accepting full-scope IAEA safeguards in *all* its nuclear facilities. Under the 18 July 2005 agreement, India is expected to 'identify and separate' its civilian and nuclear facilities and programmes.⁶⁷ This is an express recognition of India as a NWS and there are no measures in the accord to restrain India's nuclear weapons programme. As Squassoni points out, 'a significant question is how India, in the absence of full-scope safeguards, can provide adequate confidence that US peaceful nuclear technology will not be diverted to nuclear weapons purposes'.⁶⁸

The US continues rhetorically condemning the spread of nuclear weapons as 'bad'. Yet in practice US non-proliferation policy has abandoned a blanket condemnation of nuclear proliferation – that would imply that *all* extra-NPT nuclear weapons proliferation should be reversed – condoning selective nuclear proliferation among the 'good guys', such as India, Pakistan or Israel, while looking for ways to roll back the nuclear weapons programmes of the 'bad guys', such as North Korea and Iran. The Bush administration could even condone the acquisition of nuclear weapons by countries such as South Korea or Taiwan, because it subordinates nuclear non-proliferation to other foreign policy goals, such as the War on Terror. This policy could eventually lead to the emergence of a 'nuclear armed crowd', that would not necessarily guarantee a 'nuclear peace'. On the other hand, once the norm against nuclear proliferation embodied in the NPT is abandoned, the distinction between 'good' and 'bad' nuclear proliferation could become blurred. Today's 'good guys' may become tomorrow's 'bad guys', if accused of supporting anti-US terrorist organisations.

The Bush Administration's Challenge to the Core NPT Bargain

Since 9/11, the US is making significant efforts to reshape the rules of the NPT on the peaceful use of nuclear energy, thus challenging the NPT bargain. The treaty allows countries that forswear nuclear weapons to possess uranium enrichment and plutonium reprocessing facilities as long as they declare these plants to the IAEA and

permit the agency to inspect them. The problem is that uranium enrichment and plutonium reprocessing cannot only be used to fuel nuclear reactors for energy production, but to produce fissile material necessary to make nuclear bombs. Thus a state with nuclear weapon ambitions can legally seek control over the nuclear fuel cycle and then invoke Article X of the NPT to withdraw from the treaty on three months' notice and proceed to build a nuclear arsenal. North Korea's withdrawal from the NPT and Iran's nuclear weapon ambitions illustrate this problem. It is not clear whether the Bush administration will succeed in closing this loophole.⁶⁹ For many NNWS, many of them developing countries, the option to pursue nuclear energy is considered vital to the achievement of energy independence and economic subsistence.

On the other hand, the Bush administration's penchant for 'arms control à la carte' is eroding the treaty-based non-proliferation regime, while weakening the US commitment to eventually eliminate its nuclear arsenal. The Bush administration is against a protocol to establish a verification regime for the Biological and Toxin Weapons Convention. It has announced that it will oppose provisions for inspections and verification as part of a Fissile Material Cutoff Treaty,⁷⁰ despite the importance of such a treaty to prevent nuclear terrorism, and it opposes the entrance into force of the CTBT, that is so important to make progress toward global nuclear disarmament. As Keeny notes, 'Bush's intentions became clear when he surrounded himself with advisers drawn almost exclusively from a small circle of individuals who share the belief that arms control is fundamentally contrary to US interests because it places limits on US development and deployment of weapons'.⁷¹

The Bush administration's unilateral foreign security policies are also wearing down the NPT regime. The US National Security Strategy of September 2002 announced the adoption of a 'proactive' counter-proliferation strategy where the threat has to be eliminated before it can be 'unleashed'.⁷² Confronted with the threat of nuclear terrorism the Bush administration has turned to what it calls pre-emption but what is actually prevention.⁷³ Bush's doctrine of preventive war creates considerable incentives for NNWS party to the NPT to reconsider their nuclear abstinence. Moreover, the absence of US leadership in implementing the 13 Practical Steps agreed upon at the 2000 NPT Review Conference has significantly eroded the international norm against nuclear proliferation and its linchpin, the NPT. As Knopf notes, acceptance at this conference 'of such goals as progressive reductions and irreversibility implied a commitment that new arms control treaties [such as a CTBT, and a verifiable FMCT] would have to satisfy these new criteria'.⁷⁴ In the absence of new arms control treaties, nuclear weapons may return to centre stage in world politics.

Some controversial aspects of the Bush administration's nuclear strategy, such as the claim that it reserves the right to use nuclear weapons to respond to or prevent chemical weapons or biological weapons attacks, have blurred the distinction between conventional and nuclear weapons and significantly eroded the taboo against nuclear weapons use.⁷⁵ The Nuclear Posture Review announced in January 2002 concluded that the US required greater flexibility when it came to nuclear weapons and nuclear doctrine, specifying certain contingencies in which the US

would consider nuclear strikes, thus lowering the threshold of use of nuclear weapons.⁷⁶ A recent example is contingency plans for a major bombing campaign in Iran that originally included the possible use of a nuclear device against Iran's uranium enrichment plant at Natanz.⁷⁷ The Bush administration has allowed the foreign ministers of France, Britain and Germany to take the lead in negotiations over Iran's nuclear programme and it has promoted six-party talks over North Korea's nuclear programme, but after September 11 the US proclaims the right to wage preventive wars and to act alone 'against... emerging threats before they are fully formed', as Bush put it.⁷⁸

Another example of the Bush administration's 'smart unilateralism' – providing an apparently multilateral 'coalition profile' but without the burden of committee decision-making – is the Proliferation Security Initiative (PSI) which is in essence a 'coalition of the willing' rather than a formal multilateral organisation.⁷⁹ Countries such as China and Russia are concerned that actions under the PSI, which seeks to block illicit transport of WMD materials by sea, land or air, could go beyond the PSI stated goals, violating international law, hampering international commerce and allowing greater powers to the US military. Since the NPT is very difficult to amend, in the absence of US leadership to make progress towards global nuclear disarmament, the Bush administration's policies may slowly but surely condemn the treaty to irrelevance, as the dominant non-proliferation discourse focuses predominantly on the need to prevent illicit nuclear transfers from rogue states such as North Korea or Iran to terrorist organisations.

North Korea and Iran: Test Cases for the Future of the NPT

The challenge of modifying US non-proliferation policy to meet the terrorist threat has introduced a critically important intervening variable in the 'optimism vs. pessimism' debate. Before September 11 and the emergence of catastrophic terrorism as a top foreign policy challenge for the US, the academic debate centred on whether minor proliferators would develop as safe and 'survivable' nuclear arsenals as neo-optimists would have us believe.⁸⁰ After September 11, and President Bush's denunciation of 'axis of evil' countries as proliferation threats, the debate among US security scholars has shifted to the potential transfer of WMD capabilities, including nuclear weapon capabilities, from 'rogue states' to terrorists and whether the Bush administration's pre-emption doctrine is an adequate response to such potential threat.

A central element of the Bush administration's international security policy is the claim that the nuclear arsenals of 'rogue states' such as North Korea and Iran increase the danger of catastrophic terrorism. This claim would place the Bush administration in the pessimists' camp: further nuclear proliferation will be dangerous, especially after September 11.⁸¹ However, the traditional US policy of being more worried about its potential enemies getting the bomb than its friends and allies has been exacerbated during the Bush administration. The acceptance of selective proliferation for balance of power purposes (as in the recognition of India as a NWS to balance China) undermines Bush's pessimist credentials and moves US non-proliferation policy toward the neo-optimist camp. Neo-optimists argue that the nuclear arsenals

of new NWS do not challenge international stability, peace and security, because (a) they can easily become effective nuclear deterrents; and (b) they can be easily managed.⁸²

The Bush administration's diplomatic negotiations with Iran and North Korea to rollback both countries' nuclear weapons programmes in exchange for Western recognition and economic concessions,⁸³ and the attempt to repair relations with Europe after the rift provoked by the Iraq War have been interpreted as showing that in his second term President Bush will 'pursue interests rather than ideals and conciliation rather than confrontation'.⁸⁴ The victory of the realist camp (best represented by Secretary of State Condoleezza Rice) within the Bush administration could reinforce US non-proliferation policies inspired by the neo-optimist school. It could even lead to a quiet acceptance of Iran and North Korea as new members of the non-NPT nuclear club⁸⁵ (current members are India, Pakistan and Israel); placing counter-proliferation and the pre-emption doctrine of George W Bush's first term in office on the back burner, and partly decoupling non-proliferation policies from the War on Terror. This scenario is more likely in the case of North Korea. As Wade Huntley notes, 'there are indications that the Bush administration is prepared to accept a nuclear North Korea as a *fait accompli*, and might even look more benignly than its predecessors on Japan becoming a nuclear-armed state as a consequence'.⁸⁶

Both North Korea and Iran are, or were, NPT parties, and tackling the issue of their alleged nuclear weapons proliferation has become a litmus test for the NPT regime. Although President Bush has designated both countries (together with Saddam Hussein's Iraq) as part of an 'axis of evil', they have completely different political systems, and different security and military needs and postures.

North Korea reportedly stated at a meeting with US diplomats in Beijing on 24 April 2003 that it already has nuclear weapons,⁸⁷ while Iran claims that its nuclear programme is for peaceful purposes only and that it is only exercising the legitimate right of NPT parties to produce low-enriched uranium for their light-water reactors.⁸⁸ The problem is that there is not a clear-cut distinction between good 'atoms for peace' and bad 'atoms for war'.⁸⁹ The same technological process allowing a country to make fuel for its nuclear-power reactors (uranium enrichment) provides a country with the capability to produce highly enriched uranium that can be used as fissile material for nuclear weapons. Moreover, 'because highly enriched uranium is sometimes used to fuel research reactors, a nation can have legitimate reasons for obtaining small quantities of this material, despite its usefulness in nuclear explosives'.⁹⁰

President Bush has called for re-writing the NPT bargain, but the treaty is very difficult to amend and NNWS are unlikely to give up their 'inalienable right' to obtain peaceful nuclear technology, recognised by Article IV. This right presumably includes the right to fully control the nuclear fuel cycle under full-scope IAEA safeguards. An Additional Protocol, signed by 107 nations, including Iran, has significantly strengthened the latter, enabling the IAEA to conduct anytime special inspections to undeclared nuclear facilities where it suspects nuclear weapon-related activities are taking place.⁹¹

Yet the US and the EU countries suspect that Iran has nuclear weapon ambitions, because after the AQ Khan nuclear smuggling network was uncovered, Iran

acknowledged that it had secretly bought components for its nuclear programme from that network, insisting that its programme was for electricity production, not nuclear weapons.⁹² Neither a November 2003 IAEA report nor an August 2005 dossier by scientists from the US, France, Japan, Britain and Russia found any evidence of a current nuclear weapons programme in Iran.⁹³ However, in February 2006 the US and the three EU countries that have been negotiating with Iran convinced the IAEA board of governors that Iran's suspicious nuclear activities warranted a referral to the UN Security Council for possible sanctions due to Iran's refusal to fully answer questions from the IAEA and suspend its uranium enrichment programme. In June 2006, the US and the EU offered a package of incentives to settle the matter with Iran, but in the absence of an early response the UN Security Council passed a resolution on 31 July 2006 demanding that Iran halt its enrichment work or face the possibility of economic and political sanctions by the end of August 2006.⁹⁴

The Bush administration is pursuing a strategy of incremental coercive diplomacy against Iran, but it does not rule out the possibility of pre-emptive strikes on Iran's controversial nuclear facilities.⁹⁵ In early August 2005, US intelligence agencies estimated that it would take at least six and as many as ten years for Iran to build a nuclear weapon, but some experts believe that Iran is much closer than that to becoming a nuclear-weapon state.⁹⁶ Iran wants to achieve full control of the nuclear fuel cycle both to avoid depending on other countries to obtain fuel for its power reactors (energy independence) and for security independence. Iran seeks to keep the enrichment 'option' for security, since enrichment technology brings it closer to having the capacity to build nuclear weapons; and if the security situation deteriorates, Iran could exercise this option.⁹⁷ Iran also has a legitimate right, under the NPT regime to become a major supplier of civilian nuclear fuel cycle materials, as long as they are properly safeguarded in accordance with the Nuclear Supplier Group Guidelines and similar international agreements.

North Korea's nuclear weapon ambitions are often presented as a more serious and imminent danger for US security than Iran's. For the Bush administration, North Korea is a paradigmatic example of a rogue state that must be prevented from acquiring nuclear weapons or fissile material. US non-proliferation policy towards North Korea has oscillated between a hard-line, rejectionist, 'crime and punishment' perspective, and a soft-line accommodative perspective.⁹⁸ North Korea signed an Agreed Framework with the US in 1994, providing for oil, food and financial assistance in return for a freeze on its nuclear weapons programme.⁹⁹

The Agreed Framework began to unravel when North Korea began its covert uranium enrichment programme in 1997–98, at a time of increasing North Korean complaints of US failure to implement the broader promises of the agreement.¹⁰⁰ North Korea was one of the potential targets for pre-emptive military action in the National Security Strategy Statement of the US released in 2002, and the Bush administration has 'held open the possible use of nuclear weapons against North Korea, despite pledges in the Agreed Framework to provide Pyongyang with assurances against the use of these weapons'.¹⁰¹ President Bush has openly called for regime change in North Korea.

North Korea responded to the Bush administration's hard-line rejectionist approach by reactivating its 5MWe research reactor at Yongbyon, creating fears that it would soon start reprocessing 8,000 spent fuel rods – that had been 'frozen' under the Agreed Framework – to produce weapons-grade plutonium. North Korea's violations of the Agreed Framework could lead to suspension of the construction of two light-water reactors by a US-sponsored consortium with Japan and South Korea that according to the 1994 agreement were supposed to be completed by 2003. Since the date of completion had slipped for sometime in 2009, North Korea could argue that the US was not fulfilling its obligations under the Agreed Framework.

The current North Korean nuclear crisis erupted in October 2002, when North Korean diplomats admitted to US Assistant Secretary of State James Kelly that Pyongyang had an active uranium enrichment programme. Since then, the US has sought to obtain the complete dismantling of North Korea's nuclear weapon programme through multilateral diplomatic negotiations, known as the Six-Party Talks, including representatives from the US, North Korea, South Korea, China, Japan and Russia.

In December 2002 North Korea expelled IAEA inspectors and on 10 February 2005 it claimed that it had 'manufactured' nuclear weapons as a response to the hostile policies of the Bush administration.¹⁰² On 9 October 2006 North Korea tested a small nuclear device. Five days later the UN Security Council passed a resolution imposing sanctions aimed at preventing North Korea from importing or exporting material for WMD or ballistic missiles. According to different press reports, quoting US intelligence estimates, North Korea is believed to possess between two and eight nuclear weapons.¹⁰³ Some non-proliferation experts doubt the accuracy of these rough calculations.¹⁰⁴ Others argue that North Korea is well on its way to becoming a nuclear-weapon state. According to Wade Huntley, the Bush administration's mistaken policies have allowed North Korea to 'shed the shackles that had successfully constrained its plutonium-based nuclear program for nearly a decade', and in the absence of a 'grand bargain' with the US it will inevitably join the club of non-NPT nuclear-armed states.¹⁰⁵

Like Iran, North Korea wants to preserve its right to have a peaceful civilian nuclear energy programme as part of a comprehensive settlement of the nuclear issue with the US. Yet unlike Iran, North Korea has formally withdrawn from the NPT (on 10 January 2003) without giving the three months' notice required by the treaty. The fourth round of Six-Party Talks resulted in a Joint Statement of Principles to de-nuclearise North Korea, signed on 19 September 2005. In exchange for economic aid, security guarantees, a possible normalisation of relations with the US and a large infusion of electricity from South Korea, North Korea agreed to give up 'all nuclear weapons and existing nuclear programs', re-enter the NPT, and allow IAEA inspectors unhindered access to *all* its nuclear facilities. A remaining sticking point is the provision of light-water reactors (LWR) to North Korea.¹⁰⁶

The North Korean and Iranian cases are critical for the future of the NPT and the broader nuclear non-proliferation regime. Failing to meet them could trigger nuclear proliferation chains in East Asia and the Middle East while further de-legitimising the norm against proliferation embodied in the NPT. Conversely, meeting the North Korean and Iranian cases successfully would strengthen the norm against

proliferation while paving the way for striking a new 'bargain' between nuclear-haves and nuclear have-nots that could revive and reinforce the NPT.

The Failure of the 2005 NPT Review Conference: Is There a Way Forward?

The failure of the May 2005 NPT Review Conference to produce a final document with concrete steps for stopping the spread or eliminating nuclear weapons raises the issue of the prospects for survival of the NPT. The conference has been described as a tremendous lost opportunity to strengthen the treaty:

Instead of utilizing their four weeks and resources to tackle the vital challenges and debate practical ideas for implementing the treaty's commitments more effectively, the government delegations tangled themselves in procedure, lost a lot of time, and then...they gave up the pretence. On the final day they agreed to a procedural document that numbered the participants and meetings and indicated how they would cover the financial costs; they made a few more speeches and went home.¹⁰⁷

The key issue is whether the new agenda of the nuclear-haves (the five *de jure* and three *de facto* NWS) makes nuclear disarmament irrelevant and, if so, what does that mean for the NPT. After the May 1998 Indian and Pakistani nuclear tests, Graham and Shaw described the dilemma facing the NPT as 'nearing a fork in the road': 'Are we resigned to living in a world where nuclear weapon proliferation may occur on a wide scale and we merely attempt to manage this process, or are we ready to move decisively toward the ultimate elimination of nuclear weapons?'¹⁰⁸

Some scholars interpreted the indefinite extension of the NPT in 1995 as marking the birth of a new era that would lead through a series of gradual 'incremental short steps' to the marginalisation of nuclear weapons from international politics and eventually to their total elimination.¹⁰⁹ From this perspective, the last three NPT holdouts (India, Pakistan and Israel) would become increasingly isolated. Diplomatic pressure from the New Agenda Coalition (which played a key role in reaching a compromise between NNWS and NWS at the 2000 NPT Review Conference) and key advanced industrial states, such as Germany, Japan and South Korea would force the five declared NWS to seriously engage in global nuclear disarmament negotiations. However, with the possible partial exception of Britain, none of them has taken seriously the 13 Practical Steps agreed at the 2000 NPT Review Conference. The US has managed to redefine the non-proliferation agenda by focusing on supply-side denial of access to nuclear technologies and materials, backed up by coercive diplomacy and the threat of use of military force. The Bush administration claims that this is the best non-proliferation strategy in the post-9/11 era, using the Libyan case as a model for a potential solution of the North Korean and Iranian nuclear crises.¹¹⁰

On the other hand, a slow consensus has been emerging among US-based non-proliferation scholars on the need to incorporate India, Pakistan and Israel to the NPT regime as *de facto* NWS.¹¹¹ The rationale for this policy is that even under strong pressure from the non-nuclear-weapon NPT parties, these states are

not likely to sign the NPT. Since it is very difficult to amend the treaty (see Article VIII), and the nuclear have-nots are unlikely to legitimise an amendment that would allow the three NPT holdouts to join the treaty as NWSs, it has been suggested that a special protocol providing for associate membership to the NPT for these three states would solve the problem. The argument in support of this protocol is that leaving India, Pakistan and Israel outside the NPT regime 'undermines global security'.¹¹²

Yet global security is more undermined by the refusal of the five declared NWS to take significant steps to eliminate their nuclear arsenals. According to Cohen and Graham, associate membership to the NPT would require India, Pakistan and Israel to cooperate with international nuclear export controls, prohibit further nuclear testing and oblige them to participate in the phased elimination of fissile material production.¹¹³ Yet except for nuclear export controls, the other commitments would be meaningless until there is progress at the global level to sign a Fissile Material Cutoff Treaty while making progress to achieve the entrance into force of the 1996 CTBT. Both treaties have been blocked by the US, arguing that their verification provisions are unreliable.¹¹⁴ Recognising India, Pakistan and Israel as 'associate members' of the NPT could eventually lead to a 'nuclear armed crowd' of 'responsible' NWS. Where to draw the line? What if countries with a 'latent nuclear weapons capability' such as Germany, Japan, Argentina, Brazil, South Africa, Egypt or Indonesia apply for the special status of 'associate' member of the nuclear club?

The insistence on the part of the five declared NWS in keeping their nuclear arsenals indefinitely and the persistent problems of non-compliance with the NPT obligations illustrated by the North Korean and Iranian cases create the danger of a return of nuclear weapons to centre stage in world politics. Perkovich claims that there are no 'serious prospects' of convincing India, Pakistan and Israel to join the NPT as NNWS.¹¹⁵ However, this is the only policy consistent with proliferation pessimism's central idea that nuclear weapons are bad in themselves and states should not be rewarded for acquiring them. The only possible scenario in which India, Pakistan and Israel will consider joining the NPT as NNWS is one in which the declared NWS, led by the US, take seriously the 'unequivocal undertaking' to move toward nuclear disarmament adopted at the 2000 NPT Review Conference. US unilateral non-proliferation policies under the Bush administration have weakened the norm against nuclear weapons embodied in the NPT.¹¹⁶ The longer the nuclear-haves show no interest in fulfilling their part of the NPT's 'political bargain' the more likely that the nuclear-have-nots will reconsider their decision to renounce nuclear weapons, especially if they are denied the right to use nuclear energy for peaceful purposes recognised by Article IV of the treaty.

After the 2005 NPT Review Conference failed to agree on any concrete new measures to implement the 13 Practical Steps, a number of non-nuclear-weapon NPT parties argue with hindsight that agreeing to indefinite extension in 1995 was a mistake, because a shorter rolling extension would have guaranteed greater leverage for full implementation of the 'Principles and Objectives for Nuclear Non-Proliferation and Disarmament', established in 1995. Those principles committed all parties to a programme of action, including the completion of a CTBT by 1996; the 'early

conclusion' of an FMCT, and 'the determined pursuit by the nuclear-weapon states of systematic and progressive efforts to reduce nuclear weapons globally, with the ultimate goal of eliminating those weapons...'.¹¹⁷ These commitments were not legally binding, but a strengthened review process – including annual preparatory committee meetings – was supposed to hold member-states accountable. In May 1995, once the majority of NPT parties agreed to extend the treaty indefinitely, Extension Conference President Jayantha Dhanapala warned the NWS that with such an extension comes 'permanence with accountability'. However, as Rebecca Johnson notes, '[they] continue to treat their disarmament obligations as second-class commitments, to be pursued at their own time and pace and only if completely convenient'.¹¹⁸

Whether the NPT can survive without accountability is an open question. The Bush administration has expressly disavowed US nuclear disarmament commitments. At the Third Session of the Preparatory Committee for the 2005 NPT Review Conference, US Undersecretary of State for Arms Control and International Security, John Bolton, claimed that NPT parties should concentrate on suspected cases of proliferation, such as North Korea and Iran, rather than focusing on, as he deemed them, 'Article VI [i.e., nuclear disarmament] issues that do not exist'.¹¹⁹ In the absence of progress to implement the 13 Practical Steps, the NPT runs the danger of 'becoming irrelevant, except as an expression of a collective wish-list',¹²⁰ even if the NWS continue paying lip service to some of these steps, such as the need to meet the challenge posed by the spread of sensitive technologies by concluding an effectively verifiable FMCT.¹²¹

The NPT has also been weakened by some non-nuclear weapon parties (Iraq's and North Korea's clandestine nuclear weapons programmes and Iran's suspicious behaviour), by the difficulties in verifying compliance by Iran and North Korea, by the AQ Khan international nuclear smuggling network, and by the disunity within the Non-Aligned Movement (NAM) which suffered a major blow when India and Pakistan tested nuclear weapons in May 1998. The weakening of the international anti-nuclear movement (that was so powerful in the 1980s, when it attracted millions of supporters) has also played a role in the weakening of the NPT and the nuclear non-proliferation regime. This is part of a broader process: the undermining of multilateralism during the George W Bush administration and the decoupling of nuclear disarmament from non-proliferation. The dominant non-proliferation academic discourse and US non-proliferation policy have shifted from preserving the NPT regime to preventing terrorist organisations and rogue states from acquiring nuclear weapons or fissile material. As a result, the non-proliferation regime and its linchpin, the NPT, suffer a legitimacy crisis, despite the fact that the overwhelming majority of the non-nuclear-weapon NPT parties still believe that security without nuclear weapons is better than security with nuclear weapons.

A World Without the NPT?

If present trends continue, the nuclear non-proliferation regime risks being turned into a militarised set of international law enforcement activities, as the US-sponsored Proliferation Security Initiative and UN Security Council Resolution 1540 become the 'real game' of nuclear non-proliferation.¹²² The formal NPT regime is increasingly

less influential, deeply affected by ineffective review conferences. What are the alternatives? Can the NPT survive in the post-9/11 international security environment? In the wake of the fiasco at the 2005 NPT Review Conference, there are five major scenarios for the future of the treaty.

1. The NPT slowly becomes irrelevant, as the US aggressively pursues unilateral non-proliferation policies and a number of non-nuclear-weapon NPT parties consider the possibility of developing a nuclear weapon option to counter potential US coercion. These states would not withdraw from the NPT. Instead, they would take advantage of the treaty's loopholes to develop an independent nuclear weapon option.

Uranium enrichment and plutonium separation do not violate the NPT if done for peaceful purposes under IAEA inspections, but a latent proliferator that is not bound by the IAEA's Additional Protocol could follow the Iranian model of not declaring all of its sensitive nuclear activities to the IAEA.¹²³ The post-9/11 focus on nuclear smuggling problems and the small number of active proliferators (so-called 'rogue states') should not distract our attention from the largest potential proliferation problem represented by the growing number of latent nuclear-weapon states.¹²⁴ Even if the NPT does not formally collapse, a silent crowd armed with nuclear weapon capabilities could come into existence if countries such as Argentina, Brazil, Japan or Taiwan decide to reconsider their decision to give up nuclear weapons and secretly pursue a nuclear weapon option while remaining NPT parties.

2. Collapse provoked by a chain reaction of defections. A latent proliferator party to the NPT could build or acquire uranium enrichment and plutonium reprocessing plants (such as Japan's Tokai Mura), place them under IAEA safeguards and then withdraw from the treaty giving the three months' advance notice required by Article X.¹²⁵ A chain reaction of defections would erode the norm of non-proliferation embodied in the NPT, as well as the role of the treaty as a confidence-building measure. The credibility of the IAEA safeguards system has already been undermined by the discovery of secret nuclear weapons programmes in Saddam Hussein's Iraq and North Korea and by the discovery of undisclosed – suspicious – nuclear activities in Iran.

After North Korea's withdrawal from the NPT in 2003, there have been several proposals to prevent a chain reaction of withdrawals from happening by reforming the procedure for withdrawal. The German proposal recommends, among other things, 'determining that withdrawal cannot be exercised when a state is judged in non-compliance with the treaty', and that NPT members could hold a defector 'accountable for breaches or acts of non-compliance committed while still being a party to the NPT'.¹²⁶ Implementing this proposal would require organising a conference to amend the treaty, following the cumbersome procedure described in Article VIII.

Enforcing member-states' compliance with the NPT is only possible if the IAEA's Board of Governors decides to refer a case of non-compliance with NPT/IAEA safeguards to the UN Security Council. The NPT lacks a mechanism to hold defectors accountable for violations committed while party to the treaty. Member-states can always claim that until the treaty is amended they have the sovereign right to withdraw from it.

3. *NPT amendment.* This scenario is unlikely because it is very difficult to amend the NPT. Article VIII requires any amendment to be approved by the vote of, and then ratified by, the governments of a majority of all parties to the treaty, including in that majority all the NWS parties and all other parties to the treaty that are members of the Board of Governors of the IAEA at the time the amendment was circulated.

There have been several proposals to amend the NPT. In his speech at the National Defense University, on 11 February 2004, President Bush proposed seven steps to help combat the development and spread of WMD. They included an expansion of the US-sponsored Proliferation Security Initiative, obligatory signing of the IAEA Additional Protocol as a condition for countries seeking imports for their civilian nuclear programmes, and preventing any state under investigation for proliferation violations from serving on the IAEA Board of Governors.¹²⁷ If implemented, some of these steps would legitimise US unilateral non-proliferation policies undertaken in the past few years, and are unlikely to be accepted by the NNWS. The proposal that the Nuclear Suppliers Group agree not to transfer enrichment or reprocessing technology or equipment to any states not already possessing full-scale functioning enrichment and reprocessing plants (e.g. Japan) would probably be rejected by the non-nuclear-weapon NPT parties because it would deprive them of their 'inalienable right', under Article IV of the treaty, to have access to such technology or equipment under IAEA safeguards.

IAEA Director General El Baradei has proposed:

that we revisit the availability and adequacy of controls provided over sensitive portions of the nuclear fuel cycle under the current non-proliferation regime. We should consider *limitations on the production of new nuclear material through reprocessing and enrichment*, possibly by agreeing to restrict these operations to being exclusively under multinational controls.¹²⁸

He has also proposed 'multinational approaches to the management and disposal of spent nuclear fuel'.¹²⁹ While these proposals deserve serious consideration, in the absence of a concrete road map for verifiable, irreversible nuclear disarmament (the other side of the NPT's 'grand bargain') the NNWS are unlikely to accept the Baradei proposal or related plans. The success or failure of such plans is also contingent on economic considerations.

4. *NPT revival and reinforcement.* This scenario would involve a combination of effective collective enforcement against non-compliers such as Iran and North Korea and a renewed commitment on the part of the NWS to implement their Article VI obligation to dismantle their nuclear arsenals. It would require an about-face in current US non-proliferation diplomacy, repairing the damage to the non-proliferation regime caused by the US-India nuclear deal and moving decisively in three fronts:

- a) obtaining US ratification of the Comprehensive Test Ban Treaty at an early date;
- b) reviving global talks to achieve a verifiable Fissile Materials Cutoff Treaty at the UN Conference on Disarmament in Geneva; and
- c) a binding commitment on the part of the nuclear-weapon states not to use or threaten to use nuclear weapons against the NNWS.

The chances for revival of the NPT at the 2010 Review Conference depend on a renewed commitment to the treaty on the part of member-states, especially the US and the other four declared NWS. In 2009 a Democratic president could abandon the Bush administration's policies and recommit the US to the total elimination of nuclear weapons and a multilateral approach to nuclear non-proliferation. However, renewed US leadership is a necessary, but not sufficient condition to save the NPT. The other half of a new 'grand bargain' at the 2010 Review Conference is to find ways to address the post-9/11 security concerns of the nuclear-haves, especially the US. The 188 NPT parties and the four holdouts (India, Pakistan, Israel and North Korea) could sign a Protocol to the NPT committing themselves to the physical protection of nuclear materials and facilities to prevent their theft by terrorist organisations.¹³⁰

On the other hand, after the diplomatic showdown between the US and Iran over the latter's uranium enrichment programme it has become critically important to prevent abuses of Article IV for the purposes of developing nuclear weapons options or programmes. The Baradei proposal is a sensible way of addressing this issue. The challenge for the preparatory committees for the 2010 NPT Review Conference is to devise mechanisms for increased transparency to make sure that the NNWS do not have hidden nuclear weapons programmes. This would require a strengthening of IAEA safeguards, going beyond the expanded inspection rights and tools of the Additional Protocol, and providing the NPT with enough institutional powers to take responsibility for overseeing compliance and enforcement.¹³¹

5. *A new NPT.* A completely new treaty is negotiated, with a concrete time frame for achieving a global nuclear disarmament agreement.¹³² IAEA safeguards are further strengthened, paving the way for a Nuclear Weapons Convention, an abolitionist accord comparable to the Biological and Toxin Weapons Convention, entered into force in 1975, and the Chemical Weapons Convention, entered into force in 1997. Despite its discriminatory nature, the NPT was conceived as a first step towards more far-reaching disarmament measures. In this sense, the NPT implicitly questioned the soundness and acceptability of basing international peace and security on perpetual nuclear deterrence. As Scheinman notes, 'if the NPT denies the legitimacy of new nations acquiring nuclear weapons, then measures to delegitimize them more generally become relevant'.¹³³

Unless the US fundamentally changes its international security and non-proliferation policies, a Nuclear Weapons Convention is unlikely in the near future, due to the severe blows suffered by the NPT regime in the past eight years that have destroyed the radical nuclear disarmament agenda potentially brought within reach by the NPT/CTBT breakthroughs of the mid-1990s.

Beyond the Proliferation Optimism–Pessimism Debate

The NPT survived the end of the Cold War but it may not survive in the post-9/11 world. The 2005 NPT Review Conference ended in a draw:

The nuclear weapon states were probably pleased to avoid any new disarmament obligations, some NAM members could take satisfaction in preserving

the 2000 NPT Review Conference package rather than having it supplanted by a weaker set of commitments, and Iran had to be relieved to escape without an official rebuke of its nuclear activities.¹³⁴

Yet this is a very unstable status quo. Is the NPT on its way to irrelevance? Will it collapse?

The international norm against nuclear proliferation is arguably still strong, and the overwhelming majority of the 183 NNWS party to the treaty comply with their commitment not to 'go nuclear', and are still committed to achieving global security without nuclear weapons. However, three key states, India, Pakistan and Israel, remain outside the treaty while one NPT party (Iran) and a former NPT party (North Korea) are apparently pursuing a nuclear weapons programme. Moreover, the US under the Bush administration is pursuing a foreign policy agenda that undermines nuclear arms control. For example, the US refused a Russian demand to promote the CTBT at the 2005 NPT Review Conference. These developments could erode the norm against proliferation embodied in the NPT and its role as a confidence-building measure.

The emerging conventional wisdom among US scholars is that persuading India, Pakistan and Israel to join the NPT as NNWS while rolling back their nuclear weapons programmes is a futile endeavour. Instead, they propose to press these states to commit themselves 'politically' to non-proliferation obligations similar to those of the five recognised NWS.¹³⁵ The July 2005 nuclear deal between the US and India goes in that direction. This is a wrong policy, for two reasons.

First, the fact that NNWS such as Argentina and Brazil are silent about it does not mean that they approve a nuclear deal that rewards proliferation and devalues nuclear abstinence. If India is allowed to have its radioactive cake and eat it too why couldn't Argentina, Brazil or Japan be allowed to do the same? New Agenda Coalition countries such as Brazil have consistently rejected attempts to recognise India, Pakistan and Israel as *de facto* or *de jure* NWS.

Second, recognising these three states as NWS without reviving global fissile material cutoff negotiations and engaging them in those negotiations increases the danger of nuclear terrorism, a very serious problem in the case of Pakistan.

Other non-proliferation experts have recommended the *de facto* admission of the three NPT holdouts to the nuclear club if they accept the same non-proliferation obligations of the NWS. In exchange, they would receive nuclear assistance to make their nuclear arsenals 'safe', but would not gain access to sensitive nuclear technologies in exchange for their 'good behaviour'.¹³⁶ Although this policy recommendation would not condone the July 2005 US-India nuclear deal, it would still reward these three countries by implicitly recognising their nuclear weapon status, even though the overwhelming majority of non-nuclear-weapon NPT parties have 'made clear that these countries [India, Pakistan, and Israel] should not receive new nuclear weapon state status or any special status whatsoever'.¹³⁷ This view is critically important to prevent the NPT from becoming irrelevant and was conveyed to the three NPT holdouts in the 2000 NPT Review Conference Final Document. Legitimising the three NPT holdouts as NWS in return for their fulfilling the obligations that apply

to the declared NWS under the NPT would mark a tipping point in the process (that unfortunately has already begun) of decoupling nuclear disarmament from nuclear non-proliferation; making it much more difficult to make the declared NWS accountable for their Article VI obligations under the NPT and indefinitely postponing serious negotiations to achieve global nuclear disarmament.

Conclusion: Bringing Nuclear Disarmament Back In

The 9/11 terrorist attacks against the US have introduced a new dimension into the proliferation optimism–pessimism debate: the danger of nuclear terrorism practiced by terrorist organisations such as Al Qaeda with the complicity of ‘rogue states’.

Both proliferation optimism and proliferation pessimism fail to address the challenges of post-9/11 nuclear proliferation. Proliferation optimism, not pessimism is behind the NWS’ non-proliferation policies. The interrelated beliefs that nuclear deterrence is stable (the nuclear peace thesis) and that there is no need to move decisively toward global nuclear disarmament permeate US non-proliferation policies, especially since the Indian and Pakistani nuclear tests of May 1998. As Rebecca Johnson notes, since the NPT entered into force in 1970, ‘the most significant bilateral and unilateral reductions in nuclear arsenals took place, not under pressure of a review or extension conference, but because of changing international conditions and security assessments’.¹³⁸ However, those assessments dramatically changed with the start of the War on Terror in 2001–02. In the case of the US, the Bush administration’s security assessments led to an outright abandonment of former president Clinton’s multilateral approach to non-proliferation and to a retrenchment into unilateral counter-proliferation, expanding the original meaning of counter-proliferation to include the use of coercive diplomacy backed up by military force against ‘rogue states’ accused of supporting terrorist organisations.

For the Bush administration, preserving the NPT regime at the May 2005 Review Conference in order to marginalise the role of nuclear weapons in international politics was not important. On the contrary, the US is actively working on a new generation of low-yield nuclear weapons as ‘bunker busters’ for use against ‘rogue states’.¹³⁹ ‘Realist’ members of the Bush team such as Secretary of State Condoleezza Rice and John Bolton were not concerned with the impending crisis of the NPT when the 2001–04 PrepCom meetings for the 2005 Review Conference failed to make progress toward the fulfillment of the NWS’s disarmament-related commitments assumed at the 2000 NPT Review Conference.

Proliferation pessimists have been unable to challenge the dominant neo-optimism that has relegated the debate on how to achieve global nuclear disarmament to the back burner because they accept the premises of proliferation optimism without challenging rational deterrence theory while showing the need to base national and international peace and security on other premises: security *without* nuclear weapons. As Knopf notes:

The organizational and psychological arguments cited by pessimists need not be seen as forming a complete alternative theory to the rational and systemic

approaches favored by optimists. In fact, decision-making approaches are often invoked to explain deviations from rational behavior. . . . In short, existing proliferation pessimism is really a theory of why rational deterrence theory could be wrong.¹⁴⁰

Arguably, the only safe way of avoiding the nuclear accidents analysed by Scott Sagan (a proliferation pessimist) in *The Limits of Safety*,¹⁴¹ is to eliminate nuclear weapons, going beyond rational deterrence theory.

In order to supersede the proliferation optimism–pessimism debate, US scholars and policy-makers must take nuclear disarmament seriously. The reason the NWS are not willing to construct their security and defence strategies on the basis of universal non-proliferation is that they envisage holding on to their nuclear arsenals indefinitely. As Frank Blackaby argued in 1996, it is in the best interest of the NWS to move seriously in the direction of fulfilling their Article VI NPT obligations.¹⁴² Despite the setbacks suffered by the multilateral nuclear disarmament agenda since the late 1990s, it is still true that the NWS would enhance their security in a world without nuclear weapons. After the signing of the CTBT in 1996 it was possible to envisage a road map leading to a Nuclear Weapons Convention by first studying the structural, technical and political requirements of a nuclear weapon-free world (the declared purpose of the NPT) and then taking intermediate steps to achieve that goal, such as a CTBT and an FMCT, a treaty on negative security assurances, and a treaty to prevent an arms race in outer space.

The tipping point leading to the unravelling of this agenda of incremental steps toward nuclear disarmament was the testing of nuclear weapons by India and Pakistan in May 1998. India's opposition to the CTBT was followed by the refusal of the US Senate to ratify that treaty.¹⁴³ As Howard notes, the May 1998 South Asian tests subjected:

the international nuclear non-proliferation and disarmament regime to a terrifying double exposure. On one level, the tests were an attack from outside the dominant, landmark structure of the regime – the central dome, the NPT; on another, they exposed the *inner* weakness, the one-sided construction, of that structure – five states inside the dome, the rest of the world outside.¹⁴⁴

The lifting of the economic sanctions imposed on India and Pakistan after the May 1998 nuclear tests and the Bush administration's policy of recognising both countries' nuclear weapon status has important consequences for the NPT regime: it reinforces the distinction between nuclear-haves and nuclear-have-nots while enlarging the Northern nuclear club with two new members. Paradoxically, the South is more in favour of preserving the NPT's 'grand bargain' than the North. The Bush administration's policies, including the July 2005 nuclear deal with India, have weakened the credibility of the US in NPT review conferences and the possibility that it will meet its nuclear disarmament obligations under Article VI of the NPT.

The NPT was conceived as a stepping-stone to achieve the global elimination of nuclear weapons, and as such it was a fundamental departure from President Eisenhower's Atoms for Peace Program, despite the concessions made in Articles IV

and IX of the treaty. The NPT expressly linked nuclear non-proliferation and nuclear disarmament; it was not just a 'refined, negotiated expression of Atoms for Peace and follow-on efforts by the Eisenhower administration'.¹⁴⁵ The distinction between nuclear-haves and nuclear-have-nots (Article IX.3) was supposed to be temporary, until 'effective measures in the direction of nuclear disarmament' could be implemented (see Preamble to the NPT). Yet the US insists in pursuing two contradictory objectives: 'to try to stop proliferation while simultaneously continuing to hold on to its own nuclear arsenal indefinitely'.¹⁴⁶

The future of the NPT will probably be decided in the domestic political struggles *within* the NWS. If they repudiate or ignore the NPT 2000 plan of action and continue pursuing their own agendas and objectives basing their security on nuclear deterrence, the NNWS will conclude that agreeing to the indefinite extension of the NPT in 1995 was a mistake and will also pursue their own agendas and objectives. In such an anarchic world, in the absence of the norm against proliferation, Schell's warning that once survival becomes 'the twin brother of annihilation', 'we may *get* annihilation', may come true.¹⁴⁷

The key to prevent the NPT from becoming irrelevant is to reconnect nuclear non-proliferation with nuclear disarmament: 'Disarmament will remain unattainable in the absence of multilaterally-based, effective, and verifiable non-proliferation measures. Likewise, without verifiable, irreversible disarmament, the NPT is doomed to failure'.¹⁴⁸ If the NWS recommit themselves to the disarmament roadmap sketched by the NPT 2000 plan of action there is hope that member-states will successfully revive and reinforce the NPT, as a stepping-stone toward a verifiable Nuclear Weapons Convention that will rid the world of nuclear weapons in the 21st century.

ACKNOWLEDGEMENTS

This is a revised and updated version of a paper presented at the Annual Meeting of the International Studies Association-South, held in Miami, Florida, 3–6 November 2005. The author thanks Regina and Aaron Karp, Jeffrey Knopf and three anonymous reviewers for their valuable comments and helpful suggestions. He also thanks Maria Schueneman, Agueda Gonzalez and Belinda De La Garza for library assistance.

NOTES

1. Richard Butler, *Fatal Choice: Nuclear Weapons and the Illusion of Missile Defense* (Boulder, CO: Westview Press, 2001), p.146.
2. United Nations, XXII General Assembly, First Committee, meeting 1572nd, 22 May 1968. An attempt to justify the discriminatory nature of the NPT appears in Joseph S. Nye, Jr., 'NPT: The Logic of Inequality', *Foreign Policy*, No.59 (Summer 1985), pp.123–31.
3. *Ibid.*, p.124.
4. See Jonathan Schell, 'The Folly of Arms Control', *Foreign Affairs*, Vol.79, No.5 (Sept./Oct. 2000), p.31.
5. Jennifer Scarlott, 'Nuclear Proliferation after the Cold War', *World Policy Journal*, Vol.8, No.4 (Fall 1991), pp.696–7.
6. 'Malaysia's delegate to the conference, Hasmy bin Agam, reflected the view of a number of other developing nations when he said the treaty provided a *carte blanche* to the nuclear powers. He said the accord could be interpreted as "justifying nuclear weapon states for eternity".' Barbara Crosette, 'Treaty Aimed at Halting Spread of Nuclear Weapons Extended', *New York Times*, 12 May 1995, p.A10. The Non-Aligned Movement (NAM) was formally established at the Belgrade conference in

- 1961, as a resistance group of Third World countries seeking an alternative to the Cold War confrontation between the US and the Soviet Union. Some of the leading states in the NAM were Egypt, India, Yugoslavia, Indonesia, Iran, Malaysia, Mexico, Nigeria, Pakistan, and the Philippines. With the end of the Cold War, the NAM has become a loose coalition of states that partly overlaps with the Group of 77, which represents 132 developing countries at the United Nations. The NAM was unable to present a united front at the NPT extension conference in May 1995. Indonesia's proposal to extend the accord for rolling periods of 25 years was opposed by about 10 states, including Benin and South Africa.
7. As Litwak notes, President Bush's speech at West Point, on 1 June 2002, that officially launched the pre-emption doctrine opened up a policy debate on 'whether counterproliferation [would] be pursued as an alternative to or as a complement to traditional nonproliferation policy'. Robert S. Litwak, 'Nonproliferation and the Use of Force', in Janne E. Nolan, Bernard I. Finel and Brian D. Finlay (eds), *Combating Weapons of Mass Destruction: Ultimate Security* (New York: The Century Foundation Press, 2003), p.87.
 8. See Rebecca Johnson, 'Day 26: Spineless NPT Conference Papers Over Cracks and Ends with a Whimper', The Acronym Institute for Disarmament Diplomacy, 27 May 2005, <www.acronym.org.uk/npt/05rep12.htm>; John Simpson and Jenny Nielsen, 'The 2005 NPT Review Conference: Mission Impossible?', *Nonproliferation Review*, Vol.12, No.2 (July 2005), p.286.
 9. Simpson and Nielsen, 'The 2005 NPT Review Conference', p.277. The fact that only a junior official from the Department of Energy was available 'most of the time' to discuss fuel cycle issues confirms the perception that the Bush administration did not expect the conference to make progress on non-compliance issues and its own interpretation of Article IV of the NPT. See *ibid.*, p.298, note 28.
 10. It is beyond the scope of this article to discuss the voluminous literature on the causes of nuclear proliferation. See, e.g., Scott D. Sagan, 'Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb', *International Security*, Vol.21, No.3 (Winter 1996/97), pp.54–86; Saira Khan, 'The State of Scholarship on Nuclear Proliferation', chap. 1 in her book, *Nuclear Proliferation Dynamics in Protracted Conflict Regions: A Comparative Study of South Asia and the Middle East* (Aldershot: Ashgate, 2002), pp.9–34.
 11. Devin T. Hagerty, 'Nuclear Deterrence in South Asia: The 1990 Indo-Pakistani Crisis', *International Security*, Vol.20, No.3 (Winter 1995/96), p.114.
 12. Deterrence optimism is not a new idea. It goes back to the work of Jacob Viner, Arthur Lee Burns, French General Pierre Gallois and Robert Sandoval's 'porcupine theory' of nuclear proliferation. As Lavoy notes, Bernard Brodie provided the intellectual inspiration for deterrence optimism in his often-quoted book, *The Absolute Weapon* (New York: Harcourt, Brace, 1946). See Peter Lavoy, 'The Strategic Consequences of Nuclear Proliferation: A Review Essay', *Security Studies*, Vol.4, No.4 (Summer 1995), pp.700–02.
 13. Hagerty, 'Nuclear Deterrence in South Asia', p.84.
 14. See Lavoy, 'The Strategic Consequences of Nuclear Proliferation', pp.708–09.
 15. Fred Charles Iklé, 'The Second Coming of the Nuclear Age', *Foreign Affairs*, Vol.75, No.1 (Jan./Feb. 1996), p.122.
 16. Scott Sagan, 'The Perils of Proliferation: Organization Theory, Deterrence Theory, and the Spread of Nuclear Weapons', *International Security*, Vol.18, No.4 (Spring 1994), p.102.
 17. Jeffrey Knopf, 'Recasting the Proliferation Optimism-Pessimism Debate', *Security Studies*, Vol.12, No.1 (Autumn 2002), p.43.
 18. At the height of the crisis it was reported that India and Pakistan had moved their tactical nuclear warheads along the Line of Control (LOC) and the international boundary. See M. Ali, 'Tactical N-Warheads Moved along Borders', *The News International*, 28 May 2002. See also Bill Gertz, 'India, Pakistan Prepares for War', *Washington Times*, 31 Dec, 2001, p.1; Seymour Hersh, 'The Getaway', *New Yorker*, 28 Jan. 2002, p.40; Z. Mustafa, 'Nuclear War: An Insane Option', *Dawn*, 28 May 2002. During the crisis both countries played a dangerous game of nuclear brinkmanship, confirming pessimist fears that there is a real danger of nuclear war in South Asia. See P. Hoodbhoy, 'Fearless Nuclear Gamblers', *The News International*, 19 June 2002.
 19. Knopf, 'Recasting the Proliferation Optimism-Pessimism Debate', p.54. Richard Betts and Peter Feaver have forcefully made the same point, namely, that even if deterrence theory can predict a 'nuclear peace' 99.5% of the time, given the stakes involved even a 0.5% possibility of deterrence failure is not trivial: 'The ramifications of the first breakage of the half-century taboo on nuclear use are too unpredictable to tempt us to run the experiment'. See Richard K. Betts, 'Universal Deterrence or Conceptual Collapse? Liberal Pessimism and Utopian Realism', in Victor A. Utgoff (ed.), *The Coming Crisis: Nuclear Proliferation, U.S. Interests, and World Order* (Cambridge, MA: MIT Press,

- 2000), pp.65–6; Peter D. Feaver, 'Proliferation Optimism and Theories of Nuclear Operations', *Security Studies*, Vol.2, Nos. 3–4 (Spring/Summer 1993), p.162.
20. Robert Jervis, 'Security Regimes', in Stephen Krasner (ed.), *International Regimes* (Ithaca, NY: Cornell University Press, 1983), p.176. An international regime is a set of 'principles, norms, rules, and decision-making procedures around which actor expectations converge in a given issue area'. Stephen Krasner, 'Structural Causes and Regime Consequences: Regimes as Intervening Variables', in Krasner (ed.), *International Regimes*, p.1.
 21. See Davis, 'The Realist Nuclear Regime', p.93.
 22. William Epstein, 'Why States Go- And Don't Go-Nuclear', *Annals of the American Academy of Political and Social Sciences* (March 1977), p.17.
 23. See, e.g., Glenn Chafetz, 'The End of the Cold War and the Future of Nuclear Proliferation: An Alternative to the Neorealist Perspective', in Zachary S. Davis and Benjamin Frankel (eds), *The Proliferation Puzzle: Why Nuclear Weapons Spread* (London: Frank Cass, 1993), pp.127–58.
 24. See, e.g., John Mearsheimer, 'Back to the Future: Instability in Europe After the Cold War', *International Security*, Vol.15, No.1 (Summer 1990), pp.5–56; John Mearsheimer, 'The Case for a Ukrainian Nuclear Deterrent', *Foreign Affairs*, Vol.72, No.3 (Summer 1993), pp.50–66; Benjamin Frankel, 'The Brooding Shadow: Systemic Incentives and Nuclear Proliferation', in Davis and Frankel (eds), *The Proliferation Puzzle*, pp.37–78.
 25. See 'The National Security Strategy of the United States of America', White House, September 2002, p.15, <<http://www.whitehouse.gov/nsc/nss.pdf>> .
 26. See Statement of Secretary of State Colin Powell before the Foreign Relations Committee, US Congress, Senate, 'The Administration's Position with Regard to Iraq', 107th Cong., 2nd session., 26 Sept. 2002, <<http://www.state.gov/secretary/rm/2002/13765.htm>> .
 27. Schell, 'The Folly of Arms Control', p.31. The 2002 Nuclear Posture Review and the US withdrawal from the ABM treaty were intended to move away from mutual nuclear deterrence with Russia, but the still enormous US strategic nuclear force still exists primarily to deter a Russian or Chinese attack. As McNamara notes, US nuclear strategy remains basically unchanged since the days of the Cuban missile crisis: 'Of the 8,000 active or operational US warheads, 2,000 are on hair-trigger alert, ready to be launched on 15 minutes' warning'. See Robert S. McNamara, 'Apocalypse Soon', *Foreign Policy* (May/June 2005), p.29.
 28. See Miriam Rajkumar, 'A Nuclear Triumph for India', Carnegie Endowment for International Peace, July 2005; Steven R. Weisman, 'U.S. to Broaden India's Access to Nuclear Power Technology: New Delhi, in Turn, Is to Allow Inspections but Keep Its Arms', *New York Times*, 19 July 2005, p.A1.
 29. If the US Congress ratifies the July 2005 US-India nuclear deal it would have to amend the Nuclear Non-Proliferation Act (NNPA) of 1978, which prohibits US exports of nuclear fuel to countries that have not accepted IAEA safeguards on *all* of their nuclear activities. Under the July 2005 deal, only India's declared 'civilian' nuclear facilities would be placed under IAEA safeguards, but India would be free to decide what nuclear facilities are purely 'civilian' leaving India's nuclear weapons programme beyond the reach of IAEA inspectors. An agreement of this sort contradicts the very purpose (definition) of IAEA safeguards. As Squassoni notes: 'From a technical verification perspective, the existence of India's nuclear weapons program negates potential nonproliferation assurances that nuclear safeguards on civil facilities might provide'. Sharon Squassoni, 'U.S. Nuclear Cooperation with India: Issues for Congress', Congressional Research Service, The Library of Congress, Washington, DC, 29 July 2005, p.4.
 30. Deborah A. Ozga, 'The Reluctant Giant of Arms Control', *Security Dialogue*, Vol.34, No.1 (March 2003), p.94.
 31. See Wade L. Huntley, 'Rebels without a Cause: North Korea, Iran and the NPT', *International Affairs*, Vol.82, No.4 (July 2006), p.739.
 32. See Wade Boese and Miles Pomper, 'Zeroing in on Noncompliance: An Interview with Assistant Secretary of State Stephen G. Rademaker on the US Approach to the 2005 Nuclear Nonproliferation Treaty Review Conference', *Arms Control Today*, Vol.35, No.4 (May 2005), p.14.
 33. Stephen G. Rademaker, the US representative at the 2005 NPT Review Conference, refused to make concessions on the US obligations under Article VI of the NPT arguing that the conference should focus on the non-compliance problems under Articles II and III of the treaty. See Rademaker's Testimony to Congress, cited in Carol Giacomo, 'US Rules out Concessions to Shore UP Nuclear Pact', Reuters, 28 April 2005. Rademaker also suggested that the 13 Practical Steps toward nuclear disarmament agreed at the 2000 NPT Review Conference (including 'an unequivocal undertaking by nuclear-weapon states to eliminate their nuclear arsenals') were irrelevant for dealing with the 'real problems' of today (the threat of non-compliance with Articles II and III of the NPT).

34. David J. Karl, 'Proliferation Pessimism and Emerging Nuclear Powers', *International Security*, Vol.21, No.3 (Winter 1996/97), p.92.
35. Peter Feaver, 'Optimists, Pessimists, and Theories of Nuclear Proliferation Management', *Security Studies*, Vol.4, No.4 (Summer 1995), p.771.
36. See Gerard C. Smith and Helena Cobban, 'A Blind Eye to Nuclear Proliferation', *Foreign Affairs*, Vol.68 (Summer 1989), pp.53–70.
37. India allowed the use of its airspace and the refuelling of US planes in Indian military bases during the military campaign in Afghanistan in Oct.—Nov. 2001.
38. By contrast, in July 2004 the Bush administration announced that it would 'oppose provisions for inspections and verification as part of an international treaty that would ban production of nuclear weapons materials'. See Dafna Linzer, 'U.S. Shifts Stance on Nuclear Treaty', *Washington Post*, 31 July 2004, p.A01.
39. See Paul H. Nitze, 'Is It Time to Junk Our Nukes?' *The Washington Quarterly*, Vol.20, No.3 (1994), pp.97–101.
40. See *The New York Times* (Editorial), 28 Sept. 1993.
41. Quoted in Selig S. Harrison, 'The United States and South Asia: Trapped by the Past', *Current History*, Vol.96, No.614 (Dec. 1997), p.405.
42. Hagerty, 'Nuclear Deterrence in South Asia', first developed this idea. See also his book, *The Consequences of Nuclear Proliferation: Lessons from South Asia* (Cambridge, MA: MIT Press, 1998). Hagerty argued that 'existential' nuclear deterrence was at work in South Asia, using Waltz's 'nuclear peace' thesis. This optimistic view of the prospects for establishing a stable nuclear deterrence regime in South Asia was slowly accepted by US policy-makers in Washington once they abandoned the goal of rolling back the South Asian nuclear weapon programmes. On the fragility of non-weaponised deterrence before the 1998 Indian and Pakistani nuclear tests, see Mario E. Carranza, 'Dangerous Optimism: Non-Weaponized Deterrence and Regional Peace in South Asia', *International Politics*, Vol.35 (June 1998), pp.107–34. On the difficulties to establish stable nuclear deterrence after 1998, see Mario E. Carranza, 'An Impossible Game: Stable Nuclear Deterrence after the Indian and Pakistani Tests', *The Nonproliferation Review* (Spring–Summer 1999), pp.11–24.
43. Excerpts from the Press Conference Announcing the Findings of the 1994 US Nuclear Posture Review on September 22, 1994. See Report of the US-Japan Study Group on Arms Control and Non-Proliferation After the Cold War, *The United States, Japan, and the Future of Nuclear Weapons* (Washington, DC: Carnegie Endowment for International Peace, 1995), p.164.
44. Quoted in Schell, 'The Folly of Arms Control', p.31.
45. Even before the 9/11 terrorist attacks, Washington wanted to strengthen ties with Pakistan and India, and so opted to be less confrontational. See Strobe Talbott, *Engaging India: Diplomacy, Democracy, and the Bomb* (Washington, DC: Brookings Institution Press, 2004). For a critique of this policy, see Mario E. Carranza, 'At the Crossroads: US Non-proliferation Policy Toward South Asia after the Indian and Pakistani Tests', *Contemporary Security Policy*, Vol.23, No.1 (April 2002), pp.102–108.
46. Peter Lavoy, 'Managing South Asia's Nuclear Rivalry: New Policy Challenges for the United States', *The Nonproliferation Review*, Vol.10, No.3 (Fall–Winter 2003), p.85. See also Robert E. Rehbein, 'Managing Proliferation in South Asia: A Case for Assistance to Unsafe Nuclear Arsenals', *The Nonproliferation Review*, Vol.9, No.1 (Spring 2002), pp.94–5; Nathan E. Busch, *No End in Sight: The Continuing Menace of Nuclear Proliferation* (Lexington, KY: University Press of Kentucky, 2004), pp.175–84, and pp.281–94; Mario E. Carranza, 'Avoiding a Nuclear Catastrophe: Arms Control after the 2002 India-Pakistan Crisis', *International Politics*, Vol.40 (2003), pp.313–39.
47. Quoted in Talbott, *Engaging India*, p.198.
48. *Ibid.*, p.199.
49. The best source is Talbott's account of the nuclear dialogues with India in his book, *Engaging India*. See also Dinshaw Mistry, 'Diplomacy, Sanctions, and the US Nonproliferation Dialogue with India and Pakistan', *Asian Survey*, Vol.39, No.5 (Sept./Oct. 1999), pp.753–71.
50. See note 18 above.
51. See Litwak, 'Nonproliferation and the Use of Force', p.88.
52. Joseph Cirincione, Jon B. Wolfsthal and Miriam Rajkumar, *Deadly Arsenals: Nuclear, Biological, and Chemical Threats*, 2nd edn (Washington, DC: Carnegie Endowment for International Peace, 2005), p.206.
53. Schell, 'The Folly of Arms Control', p.39.
54. It is beyond the scope of this article to discuss the dramatic changes in US foreign policy under the Bush II administration. Important contributions to the growing literature on this important subject are Ivo

- H. Daalder and James M. Lindsay, *America Unbound: The Bush Revolution in Foreign Policy* (Washington, DC: Brookings Institution Press, 2003); Edward Rhodes, 'The Imperial Logic of Bush's Liberal Agenda', *Survival*, Vol.45, No.1 (Spring 2003), pp.131–54; Colin Dueck, 'Ideas and Alternatives in American Grand Strategy', *Review of International Studies*, Vol.30, No.4 (Oct. 2004), pp.511–35.
55. William C. Potter, 'India and the New Look of US Nonproliferation Policy', *Nonproliferation Review*, Vol.12, No.2 (July 2005), p.343.
 56. See 'Nuclear Posture Review Leaks; Outlines Targets, Contingencies', *Arms Control Today*, Vol.32, No.3 (April 2002), p.20; Sidney Drell, 'The Shadow of the Bomb, 2006', *Policy Review*, No.136 (April/May 2006), pp.60–63.
 57. See Andrew Butfoy, 'Perpetuating US Nuclear "First-Use" into the Indefinite Future: Reckless Inertia or Pillar of World Order?', *Contemporary Security Policy*, Vol.23, No.2 (Aug. 2002), pp.149–68; Sharad Joshi, 'Unilateralism and Multilateralism: Analyzing American Nuclear Nonproliferation Policy', *World Affairs*, Vol.167, No.4 (Spring 2005), p.152.
 58. See Claire Applegarth and Rhianna Tyson, *Major Proposals to Strengthen the Nuclear Nonproliferation Treaty: A Resource Guide* (Washington, DC: Arms Control Association and Women's International League for Peace and Freedom, 2005), p.23.
 59. The Bush administration's decision to sell India nuclear technology reflects both the optimist view that selective proliferation is good and a strong belief in the 'inevitability' of an Indian nuclear arsenal.
 60. See Kenneth Waltz, 'For Better: Nuclear Weapons Preserve an Imperfect Peace', in Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York: W.W. Norton, 2003), p.109.
 61. The historical record shows that Indo-Pakistani nuclear relations are crisis-prone. See Kanti Bajpai, P.R. Chari, Pervaiz I. Cheema, Stephen P. Cohen and Sumit Ganguly, *Brasstacks and Beyond: Perception and Management of Crisis in South Asia* (New Delhi: Manohar, 1995); Stephen P. Cohen, *India: Emerging Power* (Washington, DC: Brookings Institution Press, 2001), pp.145–53; Busch, *No End in Sight*, pp.175–84.
 62. Graham Allison, 'Tick, Tick, Tick: Pakistan is a nuclear Time Bomb – Perhaps the Greatest Threat to American Security Today. Here's How to Defuse It', *The Atlantic Monthly* (Oct. 2004), p.58.
 63. See Lewis A. Dunn, 'Balancing Nuclear Security and Nonproliferation in South Asia', in Lee Feinstein, James C. Clad, Lewis A. Dunn and David Albright, *A New Equation: U.S. Policy toward India and Pakistan after September 11*, Non-Proliferation Project, Working Paper No.27 (Washington, DC: Carnegie Endowment for International Peace, 2002), p.25.
 64. Squassoni, 'U.S. Nuclear Cooperation with India', p.7.
 65. Quoted in Steven R. Weisman, 'U.S. to Broaden India's Access to Nuclear Power Technology: New Delhi, in Turn, Is to Allow Inspections but Keep Its Arms', *New York Times*, 19 July 2005, p.A4.
 66. For more information on the Tarapur dispute, see Rodney W. Jones, 'Dealing with the Problem Countries', in Joseph F. Pilat (ed.), *The Nonproliferation Predicament* (New Brunswick, NJ: Transaction Books, 1985), p.85.
 67. On 2 March 2006, during President Bush's visit to India, the two countries announced a 'historic' nuclear pact that would allow the US to resume nuclear cooperation with India. Under the accord, the US accepts an Indian plan to separate its civilian and military nuclear facilities, allowing India to keep eight nuclear power reactors and a prototype fast-breeder reactor as 'military facilities' not subject to IAEA inspections. See Elisabeth Bumiller and Somini Sengupta, 'Bush and India Reach Pact that Allows Nuclear Sales: New Delhi to Keep Military Work Separate – Opposition Expected in Congress', *New York Times*, 3 March 2006, pp.A1, A10. To be implemented, the accord requires India-specific exemptions to the 1978 US Nuclear Non-Proliferation Act that must be approved by Congress. In addition, the other 44 members of the Nuclear Suppliers Group (NSG) must agree to exempt India from the export restrictions imposed after India's nuclear test in 1974.
 68. Squassoni, 'U.S. Nuclear Cooperation with India', p.4.
 69. See David Sanger, 'Reshaping Nuclear Rules: Bush Seeks to Close Loopholes in Treaty Letting Iran and Others Enrich Uranium', *New York Times*, 15 March 2005, p.A1.
 70. '[Acting Assistant Secretary for International Security and Nonproliferation] Rademaker also reiterated U.S. opposition to negotiating verification measures for an FMCT. He said it would be up to states to monitor each other's compliance, and if a serious problem arose, the UN Security Council could be requested to look into the matter'. Wade Boese, 'U.S. Unveils Draft Fissile Material Treaty', *Arms Control Today*, Vol.36, No.5 (June 2006), p.38.
 71. Spurgeon M. Keeny, Jr., 'The First 100 Days', *Arms Control Today*, Vol.31, No.4 (May 2001), p.2.

72. This policy targets not only states harbouring terrorists, but also states with developed or nascent WMD programmes. I am indebted to an anonymous reviewer for bringing this point to my attention.
73. Preemption and a 'preventive war' strategy are not new strategic concepts. Trachtenberg convincingly argues that prior US administrations seriously considered both strategies during the Cold War, and that in 1994, 'the William Clinton administration seriously considered taking preemptive action against North Korean nuclear facilities'. See Marc Trachtenberg, 'The Bush Strategy in Historical Perspective', in James Wirtz and Jeffrey Larsen (eds), *Nuclear Transformation: The New US Nuclear Doctrine* (New York: Palgrave Macmillan, 2005), pp.9–21. I am indebted to an anonymous reviewer for bringing this point to my attention. It must be noted that unlike the Bush administration, the Clinton administration strongly supported a treaty-based nuclear non-proliferation regime. Clinton obtained an important diplomatic victory with the indefinite extension of the NPT in 1995. As promised at the NPT extension conference, he signed the Comprehensive Test Ban Treaty (CTBT) in 1996, and the US representative at the 2000 NPT Review Conference accepted the principle of irreversibility as one of the 13 Practical Steps to meet the US nuclear disarmament commitments under Article VI of the NPT.
74. See Jeffrey W. Knopf, 'Nuclear Tradeoffs: Conflicts between US National Security Strategy and Global Non-Proliferation Efforts', in James J. Wirtz and Jeffrey A. Larsen (eds), *Nuclear Transformation: The New US Nuclear Doctrine* (New York: Palgrave Macmillan, 2005), p.176.
75. 'A leaked version of the Bush administration's classified nuclear posture review lists seven countries [Iran, Iraq, Libya, North Korea, Syria, China, and Russia] against which the United States should be prepared to use nuclear weapons and outlines a broad range of circumstances under which it could do so. The document also calls for a large-scale revitalization of the nations's nuclear weapons infrastructure and discusses the development of new or modified nuclear weapons'. Philipp C. Bleek, 'Nuclear Posture Review Leaks; Outlines Targets, Contingencies', *Arms Control Today*, Vol.32, No.3 (April 2002), p.20. For a critique of this policy, that goes back to the Clinton administration, see Scott D. Sagan, 'The Commitment Trap: Why the United States Should Not Use Nuclear Threats to Deter Biological and Chemical Weapons Attacks', *International Security*, Vol.24, No.4 (Spring 2000), pp.85–115.
76. The nuclear strike contingencies mentioned are: (a) Iraqi attack on Israel or its neighbouring countries; (b) North Korean attack on South Korea; and (c) a conflict with China over the Taiwan issue. See Bleek, 'Nuclear Posture Review Leaks', p.21.
77. See Seymour M. Hersh, 'Last Stand: The Military's Problem with the President's Iran Policy', *The New Yorker*, 10–17 July 2006, p.45.
78. Letter accompanying 'National Security Strategy of the United States' (2002), p.ii.
79. See Jofi Joseph, 'The Proliferation Security Initiative: Can Interdiction Stop Proliferation?', *Arms Control Today*, Vol.34, No.5 (June 2004), p.8. As Prosser and Scoville note: 'Fundamental legal, operational, and budgetary questions remain unanswered regarding the PSI, damaging its prospects for international support and effectiveness. PSI states remain secretive about the methods being employed and the number of actual interdictions being carried out'. Andrew Prosser and Herbert Scoville, Jr., 'The Proliferation Security Initiative in Perspective', 16 June 2004. US officials claim that some 60 governments have endorsed the initiative's principles, but it has only 14 'core participants' and it has been perceived as inherently discriminatory, subjecting some states, viewed as proliferation threats, to a thorough scrutiny of their trade and commerce while according to John Bolton, Undersecretary of State for Arms Control in the first George W Bush administration, the PSI will not target states such as Israel, India and Pakistan, which possess WMD 'legitimately.' If it becomes a formal international regime with a formal structure, while addressing all the legal issues involved, the PSI could help to fill an existing gap in current international efforts to stop proliferation. However, as presently designed, PSI membership does not generate automatic commitments on the part of nations and looks more like a 'militarized set of policing tasks'. See Johnson, 'Is the NPT Up to the Challenge of Proliferation?', p.17.
80. See Peter D. Feaver, 'Neoptimists and the Enduring Problem of Nuclear Proliferation', *Security Studies*, Vol.6, No.4 (Summer 1997), p.94.
81. Neo-pessimists claim that the superpower balance during the Cold War was more precarious than optimists admitted and that emerging nuclear weapon states will have even more problems managing their nuclear arsenals than did the superpowers. See Feaver, 'Neoptimists and the Enduring Problem of Nuclear Proliferation', p.95.
82. According to Feaver, neo-optimists make the following claims: 1) 'New nuclear states will develop only small arsenals'; 2) 'Small arsenals are safe and responsive arsenals'; 3) 'Small arsenals are not as vulnerable as neopessimists claim'; 4) 'Far from being a source of danger, domestic instability in

- minor proliferators increases assertive control'; 5) 'Opacity fosters healthy nuclear command and control'. See Feaver, 'Neooptimists and the Enduring Problem of Nuclear Proliferation', Table 1, p.98.
83. To a certain extent, the George W. Bush administration's non-proliferation policy toward North Korea resembles the Clinton administration's 'dollar non-proliferation diplomacy'; although the Bush administration is still reluctant to provide North Korea with a LWR that uses low-enriched uranium as fuel, in exchange for a complete dismantling of North Korea's nuclear weapons programmes and its readmission to the NPT. See Joseph Kahn and David E. Sanger, 'U.S.-Korean Deal on Arms Leaves Key Points Open: Americans Reluctant but Finally Signed Nuclear Pact, Officials Say', *New York Times*, 20 Sept. 2005, pp.A1, A6. On the Clinton administration's 'dollar non-proliferation diplomacy', see Mitchell Reiss, *Bridled Ambition: Why Countries Constrain Their Nuclear Capabilities* (Washington, DC: Woodrow Wilson Center Press, 1995), pp. 326–31.
 84. Gideon Rose, 'Get Real', *New York Times*, 18 Aug. 2005, p.A23. See also Louis Klarevas, 'W Version 2.0: Foreign Policy in the Second Bush Term', *The Fletcher Forum of World Affairs*, Vol.29, No.2 (Summer 2005), pp.165–73.
 85. 'Some [neo-optimists] now argue that a nuclear Iran or North Korea could also be absorbed [in addition to India and Pakistan] into the international system without serious consequence'. Cirincione et al., *Deadly Arsenals*, p.18.
 86. See Huntley, 'Rebels without a Cause', p.725.
 87. See David Sanger, 'North Korea Says It Now Possesses Nuclear Arsenal', *New York Times*, 25 April 2003, p.A1. According to Wade Huntley, time is running out to prevent North Korea from becoming a full-fledged nuclear-weapon state. He makes a persuasive case for 'the relative certainty that North Korea has diverted enough plutonium for a few nuclear weapons'. See Wade Huntley, 'Ostrich Engagement: The Bush Administration and the North Korea Nuclear Crisis', *Nonproliferation Review*, Vol.11, No.2 (Summer 2004), pp.81, 97 and 103.
 88. Quoted in David Sanger, 'What Can and Can't Be Done About North Korea and Iran', *New York Times*, 26 Sept. 2004, p.W3.
 89. See William C. Potter, *Nuclear Power and Non-Proliferation: An Interdisciplinary Perspective* (Cambridge, MA: Oelgeschlager, Gunn and Hain, 1982), p.5.
 90. Leonard Spector, with Jacqueline Smith, *Nuclear Ambitions: The Spread of Nuclear Weapons, 1989–1990* (Boulder, CO: Westview Press, 1990), p.418.
 91. Iran has not yet ratified the Additional Protocol. Until 1991, the IAEA monitored only those facilities declared by non nuclear-weapon state parties to the NPT. On the voluntary model Additional Protocol to the IAEA Safeguards Agreement, see Cirincione et al., *Deadly Arsenals*, pp.30–32.
 92. On the A.Q. Khan nuclear smuggling network, see David Albright and Corey Hinderstein, 'Unraveling the A. Q. Khan and Future Proliferation Networks', *The Washington Quarterly*, Vol.28, No.2 (Spring 2005), pp.111–28.
 93. On the November 2003 IAEA 30-page confidential report, see David Sanger and William Broad, 'Surprise Word on Nuclear Gains by North Korea and Iran', *New York Times*, 12 Nov. 2003, p.A3. On the August 2005 report of a group of US government experts and other international scientists, see Dafna Linzer, 'No Proof Found of Iran Arms Program', *Washington Post*, 23 Aug. 2005, <<http://www.washingtonpost.com/wp-dyn/content/article/2005/08/22/AR2005082201447.html>> .
 94. See Michael Slackman, 'Iran Says It Will Ignore UN Deadline on Uranium Program', *New York Times*, 7 Aug. 2006. Despite the UN Security Council Resolution, as of this writing (15 Nov. 2006) Iran has not yielded to US demands that it suspend uranium enrichment as a condition for starting negotiations over its nuclear programme. However, Iran's top nuclear negotiator has declared that 'Iran would be willing to consider a two-month moratorium on its uranium enrichment program'. See Helene Cooper, 'Rice Indicates Slight Shift in Stance on Iran Sanctions', *New York Times*, 12 Sept. 2006, p.A12. See also George Jahn, 'Tough Talk about Tehran's Nuke Work Goes Nowhere', *San Antonio Express News*, 13 Sept. 2006, p.13A.
 95. There have been reports of US Air Force contingency planning for the use of tactical nuclear weapons against Iran's main uranium enrichment plant at Natanz. See Seymour M. Hersh, 'The Iran Plans: Would President Bush go to war to stop Tehran from Getting the Bomb?', *The New Yorker*, 17 April 2006, p.32.
 96. See Gary Millhollin, 'Don't Underestimate the Mullahs', *New York Times*, 23 Aug. 2005; Kenneth R. Timmerman, *Countdown to Crisis: The Coming Nuclear Showdown with Iran* (New York: Crown Forum, 2005).
 97. I am indebted to an anonymous reviewer for bringing this point to my attention.
 98. There is a wide-ranging literature on North Korea's nuclear weapon ambitions and US non-proliferation policy toward North Korea. The best account of the intricacies and vicissitudes of the

- Bush administration's North Korea policy appears in Huntley, 'Ostrich Engagement'. See also Michael O'Hanlon and Mike Mochizuki, *Crisis on the Korean Peninsula: How to Deal with a Nuclear North Korea* (New York: McGraw-Hill, 2003); James Cotton, 'The Proliferation Security Initiative and North Korea: Legality and Limitations of a Coalition Strategy', *Security Dialogue* Vol.36, No.2 (June 2005), pp.193–211; Jung-Hoon Lee and Chung-In Moon, 'The North Korean Nuclear Crisis Revisited: The Case for a Negotiated Settlement', *Security Dialogue*, Vol.34, No.2 (June 2003), pp.135–51.
99. See Cirincione et al., *Deadly Arsenals*, p.281.
 100. As Huntley notes, 'this complaint was justified: Robert Gallucci, the former State Department official who negotiated the Agreed Framework, has acknowledged that the Clinton administration implemented only the minimum literal provisions due to the hostility of congressional Republicans who achieved majorities in the 1994 elections. See Ben Barber, "Clinton Hardened Position on North Korea to Appease Conservatives", *Washington Times*, 27 Jan. 1999, p.11.' Huntley, 'Ostrich Engagement', pp.112–13.
 101. Cirincione et al., *Deadly Arsenals*, pp.281–2.
 102. *Ibid.*, p.282.
 103. See David Sanger, 'Two Nuclear Weapons Challenges, Two Different Strategies', *New York Times*, 21 June 2003; Glenn Kessler, 'N. Korea Nuclear Estimate to Rise', *Washington Post*, 28 April 2004, p.A1.
 104. According to Cirincione and Wolfsthal: 'Very little is known for certain about Pyongyang's nuclear capabilities. While it is prudent to plan for worst-case scenarios, it is irresponsible to assume that the worst case is the most likely case. . . The United States cannot be certain that North Korea has nuclear weapons or even that it can produce nuclear weapons. US policies should be based on facts, not assumptions'. Joseph Cirincione and Jon B. Wolfsthal, 'No Good Choices: The Implications of a Nuclear North Korea', *The Brown Journal of World Affairs*, Vol.12, No.1 (Summer/Fall 2005), pp.269–70.
 105. See Huntley, 'Ostrich Engagement,' pp.97, 104 and *passim*.
 106. The US claims that it has only agreed to discuss the provision of LWRs to North Korea 'at an appropriate time', once it is absolutely convinced that North Korea has dismantled *all* its nuclear weapon-related facilities. See Joseph Kahn and David E. Sanger, 'US-Korean Deal on Arms Leaves Key Points Open: Timing Still Unresolved', *New York Times*, 20 Sept. 2005, pp.A1, A6. However, the day after the joint declaration was signed, North Korea's Foreign Ministry said that the US 'should not even dream of the issue of (North Korea's) dismantlement of its nuclear deterrent before providing LWRs'. See Jae-Soon Chang, 'North Korea Quickly Backs Off Nuke Accord', *San Antonio Express News*, 20 Sept. 2005, pp.1A, 5A. As of this writing (15 Nov. 2006), North Korea has agreed to rejoin the Six Party Talks, 'in hopes of holding negotiations with Washington on US financial sanctions. The US said it has agreed to negotiate with the North only within a working group to be set up within the framework of the six-party talks and that it has made no commitments with regard to lifting sanctions.' Keizo Nabeshima, 'What are Kim's Objectives?', *The Japan Times*, 14 Nov. 2006, <<http://search.japantimes.co.jp/print/eo20061114kn.html>>. On the other hand, 'North Korea agreed only to return to the talks—nothing else. There has been no progress in persuading Pyongyang to abandon its nuclear arms'. *Ibid.* As Huntley notes, 'each passing day brings North Korea closer to a full nuclear [weapon] capability'. See Huntley, 'Ostrich Engagement', p.103.
 107. Rebecca Johnson, 'Day 26: Spineless NPT Conference Papers Over Cracks and Ends with a Whimper: The NPT Review Conference 2005: Acronym Special Coverage', p.1, <<http://www.acronym.org.uk/npt/05rep12.htm>>.
 108. Thomas Graham, Jr. and Douglas B. Shaw, 'Nearing a Fork in the Road: Proliferation or Nuclear Reversal?', *The Nonproliferation Review*, Vol.6, No.1 (Fall 1998), p.70.
 109. See e.g., John Simpson, 'The Birth of a New Era?: The 1995 NPT Conference and the Politics of Nuclear Disarmament', *Security Dialogue*, Vol.26, No.3 (Sept. 1995), pp.252–5.
 110. The Bush administration has proclaimed Libya's decision in December 2003 to give up its incipient nuclear weapons programme in return for reacceptance into the 'international community' as proof of how offering carrots against the background of coercive diplomacy and the latent threat of the use of force (as in the characterisation of Iran and North Korea as part of an 'axis of evil') is an effective nuclear non-proliferation strategy after 9/11. On the requirements for a successful use of coercive diplomacy as a non-proliferation strategy, see Bruce W. Jentleson and Christopher A. Whytock, 'Who "Won" Libya?: The Force-Diplomacy Debate and Its Implications for Theory and Policy', *International Security*, Vol.30, No.3 (Winter 2005–06), pp.47–86.
 111. See George Perkovich, 'Strengthening Non-Proliferation Rules and Norms: The Three-State Problem', *Disarmament Forum*, Vol.4 (2004), pp.21–32; Thomas Graham Jr. and Avner Cohen, 'An NPT for Non-Members', *Bulletin of Atomic Scientists*, Vol.60, No.3 (May–June 2004), pp.40–44.

112. Perkovich, 'Strengthening Non-Proliferation Rules and Norms,' p. 21.
113. See Cohen and Graham Jr., 'An NPT for Non-Members', *Bulletin of the Atomic Scientists Online*, <www.thebulletin.org/print.php?art_ofn=mj04cohen>, p.4.
114. See Dafna Linzer, 'U.S. Shifts Stance on Nuclear Treaty', *Washington Post*, 31 July 2004, p.A01. Global negotiations to achieve a Fissile Material Cutoff Treaty are stalled at the Geneva-based UN Committee on Disarmament. In 1999, the Republican-controlled US Senate refused to ratify the CTBT, signed by US President Clinton in 1996. The Bush administration has announced that it will not resubmit the treaty to the US Senate for ratification.
115. Perkovich, 'Strengthening Non-Proliferation Rules and Norms', p.21.
116. Gallucci goes even further, arguing that the proposed US-India nuclear cooperation deal would *destroy* the international norm against nuclear proliferation embodied in the NPT. See 'The Proposed US-India Nuclear Deal: Testimony of Robert L. Gallucci, Dean of the Edmund A. Walsh School of Foreign Service, Georgetown University, Before the Senate Foreign Relations Committee', 26 April 2006, p.2, <www.armscontrol.org/projects/India/20060426_SFRC_Gallucci.asp? > .
117. Quoted in Tom Zamora Collina, 'Permanent NPT Wins Widespread Support with a Little Help from South Africa', Institute for Science and International Security, Washington, DC, 30 May 1995, p.2.
118. Rebecca Johnson, 'Is the NPT Up to the Challenge of Proliferation?', *Disarmament Forum*, No.4 (2004), p.17.
119. Statement by the United States during the General Debate of the 2004 PrepCom, <www.reachingcriticalwill.org/legal/npt/prepcom04/usa27.pdf>. 'Some US officials have even suggested that its 2000 NPT Review Conference commitments on specific disarmament measures are no longer relevant, a dangerous invitation to other states to ignore important political commitments made at previous review conferences'. Daryl G. Kimball, 'Introduction: Meeting the Challenges to the NPT', in Applegarth and Tyson, *Major Proposals to Strengthen the Nuclear Nonproliferation Treaty*, p.2.
120. Johnson, 'Is the NPT Up to the Challenge of Proliferation?', p.15.
121. The third practical step agreed upon at the 2000 NPT Review Conference calls for 'the immediate commencement of negotiations in the Conference on Disarmament on a nondiscriminatory, multilateral, and effectively verifiable fissile material cutoff treaty. The negotiations should aim to be concluded within five years'. Claire Applegarth, 'The 2000 NPT Review Conference and the 13 Practical Steps: A Summary', *Arms Control Today*, Vol.35, No.1 (Jan./Feb. 2005), p.8.
122. Security Council Resolution 1540 adopted unanimously on 28 April 2004, calls on all states to establish domestic controls to prevent proliferation, and to adopt national laws to that effect. It also provides international authorisation 'to prevent illicit trafficking in nuclear, chemical, or biological weapons, their means of delivery, and related materials', and makes the seizure of those illegal materials transfers subject to Chapter VII of the UN Charter. See United Nations, Security Council, S/RES/1540 (2004).
123. In February 2003 Iran acknowledged that it had failed to declare all of its nuclear activities to the IAEA, and in November 2004 this agency reported that it was still not 'in a position to conclude that there are no undeclared nuclear materials or activities in Iran'. Iran claims that all its nuclear programmes, including those previously hidden from the IAEA are intended for peaceful purposes. In 2003 Iran signed the IAEA's Additional Protocol that allows the agency to carry out highly intrusive inspections, anytime, anywhere. See Cirincione et al., *Deadly Arsenals*, p.299. However, as the diplomatic confrontation with the US and the EU over its uranium enrichment programme continued, in March 2006 Iran ended its acceptance of enhanced IAEA inspections and restarted small-scale uranium enrichment experiments after the IAEA Board of Governors decided to refer Iran's nuclear activities to the UN Security Council. See Daryl G. Kimball, 'Solving the Iranian Nuclear Puzzle', *Arms Control Today*, Vol.36, No.2 (March 2006), p.3.
124. 'As far back as the early 1960s, policy-makers recognised the greatest threat to US security was not that Third World despots might acquire the bomb, but that advanced industrial countries might do so. Few people recall that President John F. Kennedy's of-quoted warning that "fifteen or twenty or twenty-five nations may have nuclear weapons" in the next decade was directed at Japan, Italy, Germany, Sweden, and other European nations that were developing weapons programs'. Joseph Cirincione, 'The Asian Nuclear Reaction Chain', *Foreign Policy*, No.118 (Spring 2000), p.122. See also Scott Sagan, 'The Causes of Nuclear Proliferation', *Current History*, Vol.96, No.609 (April 1997), p.151.
125. Article X of the NPT allows a state to withdraw 'if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests'.

126. See Applegarth and Tyson, *Major Proposals to Strengthen the Nuclear Nonproliferation Treaty*, pp.30–31.
127. See Wade Boese, 'Bush Outlines Proposals to Stem Proliferation', *Arms Control Today Online*, <www.armscontrol.org/act/2004_03Bush.asp?print> .
128. Mohamed ElBaradei, 'Nuclear Non-Proliferation: Global Security in a Rapidly Changing World', Keynote Address, Carnegie International Non-Proliferation Conference, Washington, DC, 27 June 2004, p.6. One related possibility that is receiving international attention is the Global Nuclear Energy Partnership, (<www.gnep.energy.gov>) which would provide nuclear fuel to states with nuclear power, provided they do not enrich on their own. I am indebted to an anonymous reviewer for bringing this initiative to my attention. See also 'Reactor Dreams: The Global Nuclear Energy Partnership', *The Economist*, 25 Feb. 2006, pp.38–39.
129. ElBaradei, 'Nuclear Non-Proliferation', p.6.
130. On the requirements for designing and installing effective Fissile Material Protection, Control, and Accounting (MPC&A) Systems see Busch, *No End in Sight*, pp.19–24.
131. See Rebecca Johnson, 'Integrated Disarmament: A Prerequisite for Sustainable Nonproliferation', *Disarmament Diplomacy*, No.82 (Spring 2006), p.4, <www.acronym.org.uk/dd/dd82/82rej.htm> .
132. Only the UK has given a hint that it takes its disarmament commitments seriously by studying the verification problems involved in implementing a nuclear weapons convention. See United Kingdom, *Verification of Nuclear Disarmament: First Interim Report on Studies into the Verification of Nuclear Warheads and Their Components*, Working Paper submitted by the United Kingdom of Great Britain and Northern Ireland to the Preparatory Committee for the 2005 Review Conference on the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, 23 April 2003, <www.awe.co.uk/Images/n0333117_tcm6-1769.pdf> .
133. Lawrence Scheinman, 'Does the NPT Matter?' in Joseph F. Pilat and Robert E. Pendley (eds), *Beyond 1995: The Future of the NPT Regime* (New York: Plenum Press, 1990), p.61.
134. 'Nuclear Nonproliferation Treaty Meeting Sputters', *Arms Control Today*, Vol.35, No.6 (July–Aug. 2005), p.23.
135. See e.g., Cohen and Graham Jr., 'An NPT for Non-Members', p.4.
136. See George Perkovich, Joseph Cirincione, Rose Gottemoeller, Jon B. Wolfsthal and Jessica Mathews, *Universal Compliance: A Strategy for Nuclear Security*, Washington, DC, Carnegie Endowment for International Peace, Feb. 2005.
137. See Japan's second PrepCom working paper, quoted in Applegarth and Tyson, *Major Proposals to Strengthen the Nuclear Nonproliferation Treaty*, p.39.
138. Rebecca Johnson, 'Indefinite Extension of the Non-Proliferation Treaty: Risks and Reckonings, Part IV, Assessment', *Acronym Report*, No.7 (Sept. 1995), p.14.
139. See Phillip Bleek, 'Nuclear Posture Review Leaks: Outlines, Targets, Contingencies', *Arms Control Today*, Vol.32, No.3 (April 2002), p.20. An example is the B61-11, a bunker-buster tactical nuclear weapon that might be used against underground nuclear sites in Iran. See Hersh, 'The Iran Plans', p.32. For fiscal year 2006, the US Congress decided not to fund new bunker-buster nuclear weapons. See Sidney Drell, 'The Shadow of the Bomb, 2006', *Policy Review*, No.136, (April/May 2006), p.62.
140. Knopf, 'Recasting the Proliferation Optimism-Pessimism Debate', pp.54–5.
141. See Scott Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton, NJ: Princeton University Press, 1993).
142. See Frank Blackaby, 'Disarmament: The Next Steps for the CD', *Disarmament Diplomacy*, No.1 (Jan. 1996), pp.5–10.
143. As Mistry notes, 'New Delhi initially supported the CTBT, but changed its stance when the nuclear states did not strongly commit to disarmament at the 1995 NPT Extension Conference'. See Dinshaw Mistry, 'The Unrealized Promise of International Institutions: The Test Ban Treaty and India's Nuclear Breakout', *Security Studies*, Vol.12, No.4 (Summer 2003), pp.117–19.
144. Sean Howard, 'A Receding Disarmament Horizon? Lessons from an Era of Retreat and Defeat', *Disarmament Diplomacy*, No.73 (Oct.—Nov. 2003), p.6.
145. I disagree with Lavoy's claim that the NPT is just an improved version of Atoms for Peace. See Peter Lavoy, 'The Enduring Effects of Atoms for Peace', *Arms Control Today*, Vol.33, No.10 (Dec. 2003), p.29.
146. Schell, 'The Folly of Arms Control', p.23.
147. See Jonathan Schell, *The Fate of the Earth* (New York: Avon Books, 1982), p.201.
148. Rhianna Tyson, 'Contextualizing Past, Present and Future Challenges to the NPT Regime', *Disarmament Forum*, No.4 (2004), p.62.