Notes

Introduction: The language of nuclear disarmament


3 Barack Obama, Address in Prague, Czech Republic, 5 April 2009.

4 Greg Mello, supra note 2.


10 Andrew Lichterman, policy analyst for the Western States Legal Foundation, letter to author, 4 February 2010.


12 See, for example, the UK’s Lifting the nuclear shadow: Creating the conditions for abolishing nuclear weapons, a Policy Information Paper by the Foreign and Commonwealth Office, February 2009 and its The Road to 2010: Addressing the


**Chapter 1: Rhetoric vs. reality: the political economy of nuclear weapons and their elimination**


4 “Remarks by the President after meeting with former Secretary of State George Shultz, former Secretary of State Henry Kissinger, former Senator and Chairman of the Armed Services Committee Sam Nunn and former Secretary of Defense William Perry to discuss key priorities in U.S. non-proliferation policy,” White House Office of the Press Secretary, Press Release, 19 May 2009.


13 They have also been identified in the new Military Doctrine of the Russian Federation, published 5 February 2010, as “external military dangers” to Russia which undermine global security. See side box, *Modernization, indefinite retention, and deterrence: not just an American fetish.*


17 “Department of Energy FY 2011 Congressional Budget Request,” National Nuclear Security Administration Office of the Administrator Weapons Activities Defense Nuclear Nonproliferation Naval Reactors, 1 February 2010, DOE/CF-0047. The DOE budget request makes clear that the Chemistry and Metallurgy Research Facility Replacement (CMRR) and Uranium Processing Facility (UPF) are high priorities: “The President’s Request includes funding to complete the design and begin construction of the CMRR nuclear facility at the Los Alamos National Laboratory. This facility conducts plutonium research and development and provides analytical capabilities in support of pit surveillance and production. Current planning would have this facility fully operational by 2022. A related project is requested to increase pit production capacity and capability at the adjoining PF-4 facility that is part of the main plutonium facility at Los Alamos to demonstrate pit reuse by 2017 and production by 2018-2020. The budget request
also includes funding to complete the design and begin construction of the UPF at the Y-12 National Security Complex to support production and surveillance of highly-enriched uranium components. This facility is also planned to achieve full operations by 2022.”


22 There are roughly 115 million households in the United States as of 2010. If we divide the 2008 total nuclear weapons budget (DOD + NNSA allocations) by this 2010 population estimate we get $453.


29 For details of these linkages, see Darwin BondGraham et al, supra note 18.

30 The Stanford side of the Preventative Defense Project serves as an academic base for nuclear weapons lab scientists and administrators to spend sabbaticals where they craft new ideology and lobby for pro-nuclear policies. For example, LANL scientists Joe Martz was recently appointed the “William J. Perry Fellow in International Security”. According to Stanford’s press release, “At LANL, Martz led projects related to nuclear weapons design and maintenance, plutonium storage and disposal, stockpile life extension and plutonium aging, nuclear operations and nuclear systems analysis. He also directed New Mexico’s team in the 2005–2007 nationwide Reliable Replacement Warhead (RRW) design competition sponsored by the federal government.” Martz’s current time at Stanford is spent justifying “capabilities based deterrence”. See Joseph Martz, “Evolution of the US Nuclear Weapons Arsenal & Current Nuclear Issues,” Public lecture, Stanford University, 14 October 2009.


33 Ashton Carter, an Assistant Secretary of Defense under Perry, is currently on leave from the Harvard Kennedy School to serve as Under Secretary of Defense for Acquisition, Technology, and Logistics in the Obama administration.


35 Ashton B. Carter and William J. Perry, “China’s Rise in American Military Strategy,” Conference Paper, Preventive Defense Project, October 2006. For Carter’s views on the US-India nuclear deal and its role in countering China’s increasing power see his November 2005 testimony before the Senate Committee on Foreign Relations. According to Carter, “[i]t is reasonable for the United States to hedge against a downturn in relations with China by improving its relations with India, and for India to do the same.” The deal is also, in Carter’s thinking, designed to
provide “Immediate diplomatic support to curb Iran’s nuclear program”; “Assistance in a Pakistan contingency”; “Military access and basing [in Indian territory]”; “Preferential treatment for U.S. industry in India’s civil nuclear expansion”; and “Preferential access for U.S. defense industry to the Indian market.” See Ashton B. Carter, “The India Deal: Looking at the Big Picture,” Testimony before the Committee on Foreign Relations, United States Senate, 2 November 2005.


40 Ambassador Eric Danon of France, Statement to the UN General Assembly First Committee on Disarmament and International Security, UN Headquarters, New York, 14 October 2009.

41 Lifting the nuclear shadow: Creating the conditions for abolishing nuclear weapons, UK Foreign and Commonwealth Office, February 2009.


43 The Road to 2010, supra note 11.


Chapter 2: NATO nuclear sharing: an anachronistic obstacle to nuclear disarmament and regional security

1 “IAEA's ElBaradei Urges NATO to End Dependence on Nuclear Arms,” AFP, 7 July 2009.


6 Ambassador Luiz Tury Caldas de Moura of Brazil on behalf of the New Agenda Coalition, Statement to the Third Session of the Preparatory Committee for the 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, 12 May 1999.


14 Jeffrey Lewis, “Who’s Keeping the Nuclear Weapons in Europe?,” 
ArmsControlWonk.com, 2 May 2005.
16 Ruud Lubbers, Max van der Stoel, Hans van Mierlo, and Frits Korthals Altes, 
17 Karel Koster, “Belgian, Dutch Parliamentarians Confront NATO Tactical 
Nuclear Weapons,” NATO Nuclear Weapons: On the Road to Budapest, British 
18 AP/Kyodo, “Bill to ban nuclear weapons reaches Belgian Senate,” Breitbart, 15 
October 2009.
19 Belgian Senate Resolution, “Proposition for a resolution related to the policy 
of nuclear non-proliferation and disarmament,” adopted unanimously on 21 April 
2005.
20 Oliver Meier, “Steinmeier Calls for U.S. to Withdraw Nukes,” Arms Control 
21 Translation by Stine Rodmyr of Nei Til Atomvapen, Norway.
22 Francesco Calogero, Massimo D’Alema, Gianfranco Fini, Giorgio La Malfa, 
and Arturo Parisi, “Towards a nuclear weapon free world,” English translation of an 
article published in the Italian newspaper Il Corriere della Sera, 24 July 2008.
23 Jeffrey Lewis, “Official: Ankara Doesn’t Need NATO Nukes,” 
ArmsControlWonk.com, 8 December 2009.
25 Ian Davis, “Public consultation launched by NATO on its new Strategic 
Concept: window dressing or a genuine attempt to listen to concerned citizens?,” 
NATO Watch Comment, 13 August 2009.

Chapter 3: US-UK nuclear sharing: deterring disarmament

1 Linton F. Brooks, “The Future of the 1958 Mutual Defence Agreement,” in 
U.S.-UK Nuclear Cooperation After 50 Years, Jenifer Mackby and Paul Cornish 
2 Project on Nuclear Issues (PONI) interview with John Harvey, Policy Director 
National Nuclear Security Administration, Center for Strategic International 
Studies, 2008, at <http://csis.org/program/us-uk-nuclear-cooperation-after-50-
years>.
3 There are three armed Vanguard class submarines. Although they have 16 launch tubes they normally each carry around 14 Trident D5 missiles and 48 nuclear warheads. A fourth submarine is normally in refit.

4 One small difference between Red Snow and Mk-28 was that Red Snow used British high explosive. Red Snow had many components purchased off-the-shelf from the United States.

5 Unpublished research on documents in The National Archive.

6 Mackby and Cornish, supra note 1.

7 PONI interview with Richard Wagner, CSIS, 2008, supra note 2.

8 PONI interview with Siegfried Hecker, CSIS, 2008, supra note 2.

9 PONI interview with Glen Mara, CSIS, 2008, supra note 2.

10 Ibid.

11 Mackby and Cornish, supra note 1, p. 284.

12 PONI interviews with Frank Miller and John Harvey, CSIS, 2008, supra note 2.

13 US nuclear targeting data is supplied to the UK Liaison Office at USSTRATCOM in Omaha Nebraska who then pass it on to Corsham Computer Centre in Wiltshire and the Nuclear Operations and Targeting Centre in London. CJCSI 3231 obtained under the Freedom of Information Act.

14 Contracts refer to General Dynamics Advanced Information System providing Trident software to the UK Shore Facility.

15 Hansard, Commons, 3 December 2009, Col 911W, Reply by Bob Ainsworth to question from Angus Robertson. This was only disclosed after Sandia Laboratory revealed that they had sent 14 NGs to the UK in 2008.

16 Components are procured from the US because this is “cost effective”. The Future of the United Kingdom’s Nuclear Deterrent, MOD/FCO, Cm 6994, December 2006, p. 30.


18 Hansard, Commons, 18 January 2010, Col 17W, Reply by Bob Ainsworth to question from Dai Davies.

19 Aldermaston in Berkshire is the main site of the AWE. There is a second site nearby at Burghfield, where the final assembly of weapons and the manufacture of some non-nuclear components is carried out.
20 Quargel Test, 18 November 1978, 47 kiloton. The National Archives, DEFE 25-335 E37.

21 PONI interview with Frank Miller, CSIS, 2008, supra note 2.

22 The Department of Energy name for the warhead, W76, and the Department of Defence name for the re-entry vehicle, Mk4, are often used interchangeably.

23 Hansard, Commons, 28 March 2007, Col 1542W, Reply by Des Browne to question from Nick Harvey. Replies to earlier questions had been evasive. The admission only came after a story had been published in the Guardian newspaper based on information released in error by AWE.


26 Vacancy for Deputy Team Leader for Weapons Integration on careers.awe.co.uk in 2006.

27 Hansard, Commons, 8 December 2009, Col 214W, Reply by Quentin Davies to question from Angus Robertson. The expenditure of an average of £1 billion per year over the next three years on AWE was in a written statement by Quentin Davies—see Hansard, Commons, 9 September 2009, Col 136W.

28 Audio recording of PONI interview with John Harvey; The Defence Minister denied that the scope of the MDA had not been extended in 2004—Hansard, Commons, 2 March 2009, Col 1370W, Reply to question from Nick Harvey.

29 PONI interview with Frank Miller, CSIS, 2008, supra note 2.


31 Hansard, Commons, 19 November 2007, Col 482W, Reply by Des Browne to question from Nick Harvey.

32 Hansard, Commons, 2 March 2009, Col 1370W & 23 March 2009, Col 18W, Replies by John Hutton to questions from Nick Harvey.

33 PONI interview with Glen Mara, CSIS, 2008, supra note 2.

34 NNSA budget for FY2011, Weapons Activities/Engineering/Enhanced Surety.


36 “You have to have something to trade to get the Americans interested.” Kate

37 Don Cook was appointed Deputy Administrator for Defence Programs, NNSA in December 2009.

38 Mackby and Cornish, supra note 1, p. 155.

39 Mackby and Cornish, supra note 1, p. 183.

40 PONI interview with Stanley Orman, ex AWE, CSIS, 2008, supra note 2. When asked about this, Defence Minister John Hutton confirmed that joint UK/US hydrodynamic experiments have been carried out. See Hansard, Commons, 27 February 2009, Col 1151W, Reply to question from Nick Harvey.

41 “The two facilities ... have similar missions in their respective countries.” Report of information exchange visit by AWE to Y12. See BWXTymes (Y12 newsletter), February 2006.

42 There are contracts to modernize the Fire Control System to Mk98 Mod5(US)/Mod6(UK) in 2010 and then to Mod7(US)/Mod8(UK). US and UK navigation systems will be upgraded in the middle of this decade. The Mk6 Guidance system is currently being modernized as part of the Trident D5 Life Extension Project, which the UK has bought into. Contracts published on www.fbodaily.com.

43 US Navy Budget for FY2011.

44 Evidence to the Seapower Subcommittee of the House Armed Services Committee, 20 January 2010.

45 The Future of the United Kingdom’s Nuclear Deterrent, MOD/FCO, Cm 6994, December 2006.

46 Evidence by Loren Thompson, Lexington Institute, to the Seapower Subcommittee of the House Armed Services Committee, 20 January 2010.

47 The Liberal Democrats now have a policy of opposition to a like-for-like replacement for Trident. Both the Labour and Conservative parties support the replacement of Trident but many MPs in both parties are calling for consideration of a cheaper option.

48 The Scottish National Party is opposed to nuclear weapons as are many elected representatives in other political parties along with Scotland’s churches and trade unions.


50 PONI interview with Tim Hare, CSIS, 2008, supra note 2.
Ibid.


PONI interview with Stanley Orman, ex AWE scientist, CSIS, 2008, supra note 2.

PONI interview with John Harvey, CSIS, 2008, supra note 2.

PONI interview with Frank Miller, CSIS, 2008, supra note 2.


“Mutual Defence Agreement and the Nuclear Non Proliferation Treaty,” supra note 58.

Chapter 4: Nuclear energy and the fuel chain: shackling progress toward a nuclear weapon free world


Chapter 5: The US-India nuclear deal: violating norms, terminating futures


9 The meltdown in the US financial markets should raise the question of whether a global development path driven by private finance capital is sustainable even for the general run of capitalists. As Willem Buiter, former chief economist of the European Bank for Reconstruction and Development, put it,

The argument that financial intermediation cannot be entrusted to the private sector can now be extended to include the new, transactions-oriented, capital-markets-based forms of financial capitalism. The risk of a sudden vanishing of both market liquidity for systemically important classes of financial assets and funding liquidity for systemically important firms may well be too
serious to allow private enterprises to play. No doubt the socialisation of most financial intermediation would be costly as regards dynamism and innovation, but if the risk of instability is too great and the cost of instability too high, then that may be a cost worth paying.” Willem Buiter, “The end of American capitalism (as we knew it),” openDemocracy, 20 September 2008.


Chapter 6: Nuclear futures for the Middle East: impact on the goal of a weapons of mass destruction-free zone

1 Shimon Yiftah, The Nuclear Age in the Middle East [in Hebrew], Tel Aviv: Am Oved Publishers, 1976.

2 Ibid., p. 8.

3 For the purposes of this article, the Middle East is considered as including Iran, Israel, and the members of the League of Arab States, i.e. Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine (representatives of the Palestine Liberation Organization were recognized in 1976), Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen (Comoros, Somalia and Sudan are not generally considered to be within the Middle East for the purposes of NWFZ discussions).

4 UN General Assembly resolution 3263 (XXIX), 9 December 1974.


7 See, for example, UN Security Council resolution 687 (1991), 3 April 1991.


9 This is the most recent statement of Israel’s position: “Israel remains committed to a vision of the Middle East developing into a zone free of Chemical, Biological and Nuclear weapons as well as ballistic missiles. Yet we are also realistic enough to know that in the current realities of the Middle East, this noble vision is not going to materialize any time soon.” Mr. Meir Itzchaki, Representative of Israel to the Conference on Disarmament, “The Establishment of a NWFZ in the Middle East: Explanation of Vote”, New York, 9 October 2007.


11 Ibid.


13 Ibid.


15 The United States’ seemingly conflicted position on Arab states’ acquisition of civil nuclear technology also deserves mention, though further analysis is beyond the scope of this article.


19 This view is reflected in NPT documents and the annual General Assembly resolution “The risk of nuclear proliferation in the Middle East” (sponsored by a number of Arab States), as well as annual requests for inclusion of an item on “Israeli Nuclear Capabilities and Threat” in the IAEA’s General Conference agenda. See, for example, UN General Assembly resolution 62/56, 5 December 2007, A/RES/62/56, 15 January 2008; GC(51)/1/Add.1, 16 July 2007, and responses (documents GC(51)/25, 14 September 2007; GC(51)/32, 20 September 2007.

20 The Arab Peace Initiative is a proposal endorsed by the Arab League, which offers peace and normalization of relations with Israel through a process of negotiation that addresses core outstanding issues such as Palestinian refugees’ right of return and the status of Jerusalem. Israel has not accepted the offer to negotiate regional peace through this initiative because of disagreement over these core issues, although they are points of negotiation, not preconditions.

21 Strategic depth refers to the availability of territorial space to wage offensive and defensive operations.


23 The terms “hard security” and “soft security” are used to distinguish between military security and underlying human needs that lead to insecurity, such as development, education and health. The terminology is problematic because the separation of these concepts, with the resulting separation of expertise and tendency to prioritize hard over soft security, undermines efforts and capacities to address root causes of all instability and conflict. The concept of “human security” seeks to address this link between defence and human needs.


27 Minister Plenipotentiary Amr Aboul, Deputy Permanent Representative of

28 Dr Itshak Lederman, Senior Director for CTBT Affairs and Special Projects, Statement at the Conference on Facilitating the Entry into Force of the Comprehensive Nuclear Test Ban Treaty, Vienna, 18 September 2007.

29 This proposal and the analysis that follows draw on Eitan Barak, “Regional No First Use Treaty: First Step in the Right Direction?” presented at a Greenpeace seminar, Tel Aviv, Israel, 15 February 2007, and on a forthcoming paper by Eitan Barak and Merav Datan.


Chapter 7: Iran’s challenge to the nuclear order


3 The street demonstrations of June and July 2009 have been displaced by subtler forms of protest, including “virtual” gatherings on the Internet. See Max Burns, “The Iranian opposition’s second life,” Foreign Policy in Focus, 27 August 2009.

4 In this context, the Iranian government is not doing itself any favours by insisting upon reverting to implementing a pre-2003 safeguards procedure that required it to disclose new nuclear facilities only 180 days before it introduced nuclear material for the first time. See Implementation of the NPT safeguards


8 It is with Iran that the problem of nuclear reification achieves its clearest expression. For Iran, the nuclear fuel programme has acquired attributes far beyond its economic or social value. It is like an expensive colony that produces little, but bestows status, shows the flag, and bespeaks of Iran’s considerable technical capabilities. The negative attraction garnered by the nuclear programme has justified the growth and centralization of power among state and semi-state actors in Iran’s complex government, particularly in the defense establishment. As many governments have learned throughout modern history (starting with 1792 France or 1918 Russia), nothing sustains the survival of a revolutionary government like the threat of external interventionism, particularly from an historic adversary such as the United States.


11 For example, see Carl Conetta, “An undisciplined defense: understanding the the $2 trillion surge in US defense spending,” Briefing Report #20, Project on Defense Alternatives, Commonwealth Institute, 18 January 2010. The article
addresses the economic costs of the post-9/11 military budgets, including increased reliance on expensive weapons systems and contract labour.

12 As Iran’s negotiations with the West collapsed in 2009, India emerged as a significant participant in the diplomatic tug-of-war over Iran’s nuclear future. It appears that a portion of India’s elites are angling to exploit Iran’s discomfiture to “go legit” by signing the NPT and becoming the sixth declared nuclear weapon state on a par with France and China.

India is, of course, a première example of the weaknesses inherent to the NPT, since it never signed the Treaty and became the first post-Treaty nation to openly acquire nuclear weapons through an indigenous programme. The US explicitly legitimized India’s nuclear arsenal by completing the “123 Agreement” whereby India would agree to restricted monitoring of its civilian programme in exchange for trade concessions and technology transfers. The Bush II administration rationalized that the 123 Agreement recognized the de facto status of India as part of the established nuclear order and the close affinity between the industrial captains in the two nations.

As a historic leader of the NAM with not only nuclear technology but an overt nuclear weapon programme of its own, India had been sympathetic to Iran’s arguments that the intrusive examinations following the 2002 disclosure were an affront to national sovereignty. India remains a reluctant observer to UN Security Council sanctions against Iran over the latter’s nuclear programme, given India’s own resistance to outside monitoring and India’s expanded trade relations with the Islamic Republic. India’s official position is that it will not sign the NPT which it contends is a “discriminatory” treaty that allows some countries to retain nuclear weapons while others cannot. (See “India will not adhere to discriminatory treaty,” Indian Express, 25 September 2009; “India will not sign NPT in its present form,” The Hindu, 6 April 2009.) Unless the NPT is amended to recognize India’s status, which would exempt it from IAEA monitoring of civilian programmes under Article III, there is no possibility of India’s consideration of the treaty.

India’s example thus displays the corrosive dual nature of nuclear weapons, both domestically and internationally. As long as nuclear weapons are universally considered by friends and foes as a measure of national virility, elites in developing nations will find it increasingly difficult to resist the siren song of weaponization. Nuclear weapons programmes are further anti-democratic and elitist; they require secretiveness and a highly sophisticated and centralized national security apparatus. They also share attributes with other grand-scale technology projects by funneling wealth and status to a select cadre within the economy. These same factors doubtless hold Iran’s elites bound to its own nuclear programme even in the face of international sanctions.

Iran’s elites may have India’s path to status well in mind. The two nations bear striking resemblances as highly educated, cosmopolitan regional states with
a history of non-aligned leadership. But unlike India, the US is determined to bar Iran's admittance to the nuclear club at virtually any price, due to a half century of military, diplomatic, and cultural conflict benefiting the upper sectors of both states, much as the historic cold war reinforced the stranglehold of military-industrial elites in the US and USSR.

For a far more comprehensive and insightful analysis, see Andrew Lichterman and MV Ramana, “The US-India nuclear deal: violating norms, terminating futures,” chapter 5 in this book.

13 Shannon N. Kile, Vitaly Fedchenko and Hans M. Kristensen, “World nuclear forces,” SIPRI Yearbook 2009, Stockholm: Stockholm International Peace Research Institute, 2009, pp. 375–377. As noted in the report, Israel is one of the most difficult to assess given its official policy, unlike India or Pakistan, of neither confirming nor denying that it is a nuclear weapons state.


16 Kile et al, supra note 34. Moreover, unlike the Soviet/North Korean design Iranian missiles, Israel's Jericho series missiles are solid-fueled, capable of “launch on warning”.

17 Norris and Kristensen, supra note 14.

18 Norris and Kristensen, supra note 15.

19 Given this environment, Iran's leaders face a complex and challenging array of perceived threats beyond the existential “maybe” of a one or two possible weapons. This is the reason that every proposal from Iran addressing negotiation includes regional arms issues.

20 See, e.g. “Notice of the continuation of the national emergency with respect to Iran”, US White House, 9 November 2006.

21 Iran's unique security posture stems from its post-revolutionary status as “neither East nor West,” untethered to any particular superpower, yet in a critical resource-dominant part of the world. Iran presently faces asymmetrical Western-fuelled arms build-ups to the west (Israel) and south (Saudi Arabia and the UAE). To this situation must be added US occupation forces in next-door Iraq and NATO forces in Afghanistan. Bahrain, Qatar, and Oman have or continue to provide basing or ports-of-call for American ships and planes. Given the
extensive militarization of this immediate region, Iran's understandable concerns for its security cannot be simply wished away, especially since memories of US intervention toward the end of the Iran-Iraq war have not faded. See Nader Entessar, "Iran's Security Challenges," in Abbas Maleki and Kaveh Afrasiabi, Reading in Iran Foreign Policy After September 11, BookSurge Publishing, 2008.

22 "Iran: 20% uranium enrichment not against NPT, Press TV, 8 February 2010.


25 These sanctions may have less ultimate impact that widely believed. Iran’s need to import gasoline is based upon a lack of historic refining capacity, which the Islamic Republic is addressing to the point where imports are expected to drop below 15%, and by 2012, Iran will become a net exporter. See Gal Luft, “The new Iran sanctions: worse than the old ones,” Foreign Policy, 11 August 2009. See also Hossein Askari and Trita Parsi, “Throwing Ahmadinajad a lifeline,” New York Times, 15 August 2009, in which they note that since Iran subsidizes both domestic and foreign produced gasoline to end consumers, the forced cutback of foreign-produced gasoline may actually free up government revenue for use elsewhere.

26 Article IV of the NPT recognizes the “inalienable right” of states parties to pursue peaceful atomic energy and to participate in technology exchange for such purposes. Article IV provides in pertinent part:

1. Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with articles I and II of this Treaty.

2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials, and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also cooperate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.


27 NPT Article III provides additional provisions to implement compliance with the non-proliferation promises extracted from the non-nuclear weapons states
(non-NWS) under NPT Article II. It commits non-nuclear weapons states parties to a framework of inspection and transparency for their nuclear energy and fuel cycle research programmes. Such inspections are conducted by the IAEA. The nuclear weapon states parties further agree under the NPT to institute safeguards and controls to prevent the diversion of technology or materials into a nuclear weapons programme and to conclude agreements with the IAEA for this purpose. The text of Article III reads:

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfillment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this article shall be applied to all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this article.

3. The safeguards required by this article shall be implemented in a manner designed to comply with article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international cooperation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this article and the principle of safeguarding set forth in the Preamble of the Treaty.

4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

29  For example, see the 2006 National Security Strategy of the United States, which states unequivocally that:
   The Iranian regime’s true intentions are clearly revealed by the regime’s refusal to negotiate in good faith; its refusal to come into compliance with its international obligations by providing the IAEA access to nuclear sites and resolving troubling questions; and the aggressive statements of its President calling for Israel to “be wiped off the face of the earth”. The National Security Strategy of the United States of America, March 2006.


32  Ibid.

33  Ibid.


39  Ibid.

44 In February 2008, the US Department of Defense revised its strategic war plan to incorporate the potential use of nuclear weapons against states other than Russia or China that might adopt weapons of mass destruction. The new Operations Plan (OPLAN) 8010-08 incorporates “global strike” doctrines involving options for precision nuclear or conventional weapons. SIPRI Yearbook 2009, Stockholm: Stockholm International Peace Research Institute, 2009, p. 350.
45 Before President Obama announced in September 2009 that he was abandoning an Eastern European missile defence, a group of US and Russian technical experts advised that a “missile shield” in Eastern Europe would not have been be a technologically viable defense against an attack by more than one or two missiles. See Iran’s Nuclear and Missile Potential: A Joint Threat Assessment by U.S. and Russian Technical Experts, EastWest Institute, May 2009, p. 16.
46 The US defence contractor Raytheon announced in August 2009 that it was developing a land-based version of the SM-3 (Standard Missile) for possible use in Israel as a “near-term” solution for Iranian ballistic missiles. The SM-3 is currently deployed in anti-missile batteries on US Aegis cruisers. A spokesperson estimated that such a contract would be worth at least a billion US dollars. See “Raytheon missile system pitch for Israel,” United Press International, 19 August 2009.

The military capabilities of Iran provide copious opportunities for discussion among Western experts. A recent report by the think-tank Center for Strategic and International Studies concluded that Iran had no capability to launch an airstrike capable of reaching Israel (except, perhaps, if the option of returning to base is eliminated). Regarding ballistic missiles, the Shahab-3 of North Korean lineage is understood to presently be capable of delivering a conventional warhead to Israel, but not Eastern Europe, where the Bush-era missile shield was to be located. See Anthony H. Cordesman and Abdullah Toukan, “GCC-Iran, Operational Analysis of Air, SAM, and TBM Forces,” Center for Strategic and International Studies, 19 August 2009. The report notes that many of the military “assets” of Iran date from the Shah’s expensive weapons buying spree during the Carter years. In an earlier report, Toukan and Cordesman (the latter frequently testifies before Congressional panels) found that a possible Israeli strike on Iran’s nuclear facilities would be complex, uncertain of success, and would, inter alia, likely drive Iran into acquiring nuclear weapons. Abdullah Toukan and Anthony H. Cordesman, “Study on a Possible Israeli Strike on Iran’s Nuclear Development Facilities,” Center for Strategic and International Studies, 14 March 2009.
Chapter 8: Missiles and other threats: the illogic of missile “defence” and space weapons


2 General Kevin P. Chilton, Statement before the Strategic Forces Subcommittee, House Armed Services Committee, on United States Strategic Command, 27 February 2008.


5 See, for example, Jonathan S. Landy, “U.S.-Russia treaty stalls over Obama missile defense plan,” KansasCity.com, 1 March 2010.

6 Andrew Lichterman, Zia Mian, M.V. Ramana, and Jürgen Scheffran, Beyond Missile Defence, Briefing Paper 8, International Network of Engineers and Scientists Against Proliferation and Western States Legal Foundation, 2002.


12 Ambassador Marius Grinius, Statement to the UNGA First Committee on Disarmament and International Security, UN Headquarters, New York, 19 October 2009.
Chapter 9: Dismantling discourses: nuclear weapons and human security


8 Weapons of Terror does note in its final section, on p. 183, “The perspective of a world free of WMD must be supplemented by the perspective of a world in which the arsenals of conventional weapons have been reduced drastically.”


11 Joseph Biden, supra note 6.


14 *Weapons of Terror*, supra note 7, p. 22.


25 Ariel David, “Economy has left 1 billion hungry, UN says; Aid, agricultural investment down,” *Boston Globe*, 15 October 2009.

Chapter 10: The relevance of gender for eliminating weapons of mass destruction

1 This paper is based on a presentation made by Carol Cohn and Felicity Hill to the WMD Commission in Stockholm, June 2005.

2 The ratio of women to men is extremely imbalanced in security and disarmament negotiations, which is increasingly considered relevant. In the ten years between 1992 and 2002, 33 women headed delegations to the review meetings of the NPT, compared to 660 men in that role. During the same period at the General Assembly First Committee on Security and Disarmament, women headed only 7% of country delegations. Out of 88 ambassadors in the Security Council between 1992 and 2005, only 4 have been women.
3 Women’s organizations have protested nuclear weapons since the bombing of Hiroshima and Nagasaki and have campaigned for cessation of nuclear testing. When women activists collected baby teeth and had them tested for levels of strontium 90, it had a strong impact on public debate on nuclear issues in the USA. Women anti-nuclear activists have successfully closed nuclear weapons bases, such as the Greenham Common Women’s Peace Camp in the United Kingdom, and engaged in concerted efforts that forced governments to change policies or create nuclear-weapon-free zones at the municipal level throughout the world. They have also monitored and lobbied international meetings on disarmament, such as the General Assembly’s three Special Sessions on Disarmament, the Chemical Weapons Convention, the Comprehensive Nuclear-Test-Ban Treaty, and the First Committee of the General Assembly on Disarmament and International Security. The World Conferences on Women in 1975, 1980, 1985, and 1995 all mentioned disarmament and macro security issues because of strong advocacy on the part of women’s organizations making linkages between gender issues and weapons issues, with the Beijing Declaration recognizing “the leading role that women have played in the peace movement, work[ing] actively towards general and complete disarmament under strict and effective international control, and support[ing] negotiations on the conclusion, without delay, of a universal and multilaterally and effectively verifiable comprehensive nuclear-test-ban treaty which contributes to nuclear disarmament and the prevention of the proliferation of nuclear weapons in all its aspects.”

4 Scientists and researchers have found that women are more at risk of developing fatal cancer than men when exposed to the same ionising radiation exposure. Women’s reproductive health is especially susceptible to the effects of radiation released from nuclear testing, as a National Cancer Institute study has documented, radioactive isotopes from nuclear testing have been found in every single county of the US. Pacific Island women who lived “downwind” from nuclear testing had high rates of still births and some babies born without bones or with other severe deformities such as transparent skin or displaced organs.

5 Though this rugged masculine image was convincing for many voters, its obvious construction for PR purposes laid it open to being lampooned, as illustrated by a cartoonist who portrayed Bush on that occasion as suffering from “premature ejaculation”.

6 For a more in-depth and multi-faceted development of the argument that ideas about gender have the effect of limiting and distorting the very discourses—both professional and political—that have been developed to think about WMD see Carol Cohn, “Slick’ems, glick’ems, Christmas Trees, and Cookie Cutters: Nuclear Language and How We Learned to Pat the Bomb,” Bulletin of the Atomic Scientists, June 1987, Volume 43; “Sex and Death in the Rational World of Defence Intellectuals,” Signs, vol.12, No. 4, 1989, pp. 687-718; “Wars, Wimps and Women,”
in Miriam Cooke and Angela Woollacott, (eds.), _Gendering War Talk_, New Jersey: Princeton University Press, 1993 (from which this example is drawn).

7 This example comes from a meeting of civilian defence intellectuals, at which Carol Cohn was present as a participant observer.

8 “Bomb ‘em back to the Stone Age” is a phrase from Air Force Chief of Staff General Curtis LeMay, whose idea of how the US should employ its nuclear weapons in the height of the Cold War did not exactly conform to the subtleties and complexities of the nuclear strategists of his time. The phrase is now commonly used, along with “make the rubble bounce,” by a wide range of commentators on warfare, as a Google search will quickly reveal.

9 “We will find those who did it, we will smoke ‘em out of their holes, we will get them running, and we will bring them to justice,” was President George W. Bush’s response to the bombing of the World Trade Centers in New York on 11 September 2001, at <http://www.npr.org/news/specials/tradecenter/tradecenter.html>


11 This section of the paper is taken from Carol Cohn and Sara Ruddick, op. cit.


Chapter 11: Reaching nuclear disarmament


3 Ibid, p. 53.

4 Mohammed Bedjaoui, Keynote Address, _Conference on Good Faith, International Law, and Elimination of Nuclear Weapons: The Once and Future_
Contributions of the International Court of Justice, Geneva, 1 May 2008, p. 18, at <http://www.lcnp.org/disarmament/2008May01eventBedjaoui.pdf>. He was President of the ICJ when it gave its 1996 advisory opinion on nuclear weapons.

5 Article 26 (emphasis supplied).


8 As stated by the International Court of Justice: “One of the basic principles governing the creation and performance of legal obligations, whatever their source, is the principle of good faith. Trust and confidence are inherent in international co-operation, in particular in an age when this co-operation in many fields is becoming increasingly essential.” Nuclear Tests (Australia v. France), I.C.J. Reports 1974, p. 268, at ¶ 46 (emphasis supplied).

9 See supra note 3 and accompanying text.


12 “Joint Understanding for the START Follow-On Treaty,” The White House, Office of the Press Secretary, 8 July 2009.

13 Viktor L. Vasiliev, Statement to the UNGA First Committee, New York, 15 October 2009.

14 Zia Mian, Conclusion, NGO Presentation to the Third Session to the Third Session of the Preparatory Committee for the 2010 nuclear Non-Proliferation Treaty Review Conference, 5 May 2009.

15 For information on the nuclear programmes of the five NPT-recognized nuclear weapon states, see “Rhetoric vs. Reality: Elite Disarmament Proposals and Real Disarmament Prospects,” Information Briefing, Western States Legal


18 Joe Biden, “The President’s Nuclear Vision,” Wall Street Journal, 29 January 2010. The main justification for the increased budget put forward by the four horsemen and Biden—that funding for nuclear weapons has decreased over the past five years—ignores the fact that while the US nuclear weapons budget has been reduced by about $1 billion over the past five years, this followed an increase over a decade (1995–2005) of about $3 billion. See Dr. Robert Civiak, “Fiscal Year 2005 Budget Request For Nuclear Weapons Activities,” Tri-Valley CAREs, 2005, at <http://www.trivalleycares.org/FY2005_Nuclear_Weapons_Budget_Request.pdf>.

19 Department of Energy FY2011 Congressional Budget Request, National Nuclear Security Administration, Office of the Administrator, Volume 1, February 2010.


Chapter 12: A nuclear weapons convention: framework for a nuclear weapon free world


6 “Follow-Up to the International Court of Justice Advisory Opinion on the


8 Ibid.


Chapter 13: Towards a fissile material (cut-off) treaty

1 Natural uranium contains about 0.7% of the isotope uranium-235, and has to be enriched to more than 20% U-235 (defined as HEU) to be suitable to make a nuclear weapon. The Hiroshima bomb used HEU that had an average enrichment of 80% U-235, but the HEU in modern nuclear weapons is typically enriched to over 90% U-235, thus reducing the amount of material required.

2 For information on global and national HEU and plutonium stocks and production, see the annual Global Fissile Material Report by the International Panel on Fissile Materials at <http://www.fissilematerials.org>.


4 Israel’s Prime Minister Benjamin Netanyahu told President Bill Clinton: “We will never sign the treaty, and do not delude yourselves—no pressure will help. We will not sign the treaty because we will not commit suicide.” Cited in Avner Cohen and Marvin Miller, “Israel,” Banning the Production of Fissile Materials for Nuclear Weapons: Country Perspectives on the Challenges to a Fissile Material (Cutoff) Treaty, International Panel on Fissile Materials, September 2008, pp.27–33.


Chapter 14: Learn, adapt, succeed: potential lessons from the Ottawa and Oslo processes for other disarmament and arms control challenges

Participants came from diverse backgrounds and areas of work including armed violence, the arms trade, cluster munitions, conflict prevention, human security, humanitarian action, landmines, and small arms. Many participants had been involved in the Oslo process—as well as other disarmament-related multilateral work—and a few had also participated in the Ottawa process. This article provides a very brief synopsis of the Glion symposium’s discussions. The full summary of the symposium, as well as information concerning Disarmament Insight and UNIDIR’s Disarmament as Humanitarian Action project is available at <http://www.disarmamentinsight.blogspot.com>. 