



Global Security Institute

Nuclear Weapons: the Ultimate Evil

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Introduction

Nuclear Weapons represent an extreme paradox. In a vain attempt to obtain security through ultimate power we have created a strange device which as it becomes perfected diminishes our security. But it is not the bizarre twists to logic that I want to address but the moral aspects of this phenomenon and the strange and dangerous current policies that amplify its dangers.

There are approximately 30,000 nuclear weapons in the world with Russia and the US possessing over ninety percent. The US has about 11,000 nuclear weapons -- some as battlefield "tactical" nukes, some in storage, and about 7,000 mounted on fueled, hair-trigger-to-launch ICBMs. The Russians have about 19,500 nuclear weapons -- about 5,500 of them on fueled, hair-trigger-alert missiles. From the moment the early-warning systems cry danger (real or cyber-glitch), the US government allows itself less than 23 minutes before launch keys are turned in retaliation; the Russian government allows itself less than ten.

The nuclear weapons exploded in Hiroshima and Nagasaki were the equivalent of 15,000 and 12,000 tons of TNT (trinitrotoluene) respectively. Bombs in the megaton (equivalent to a million tons of TNT) and multiple megaton range are now in the arsenals, some being even in excess of 20 megatons (equivalent to 20,000,000 tons of TNT). A 5-megaton weapon would represent more explosive power than all the bombs used in World War II and a 20-megaton bomb more than all the explosives used in all wars in the history of the world.

The capacity to curtail the proliferation of these devices is undermined by the continued reliance on them by the most powerful. I will not dwell on the current crisis de jour since we can predict on going instability as long as the core contradiction is not addressed.

Over time, through accident or design, human fallibility will cause the unacceptable use of these weapons

Historically nuclear weapons have been maintained to ensure that nuclear weapons would not be used. If each nuclear-equipped party has enough to inflict unacceptable damage to the other, even after being hit with a nuclear attack, then neither would use their arsenal. Now, the US is bent on developing weapons to be used with no specific reference to preventing threats from nuclear weapons states. It is a repudiation of a taboo regarding the use of unimaginably horrific devices and an undermining of treaty commitments under the Nuclear Nonproliferation Treaty (NPT), with 188 member States, to negotiate the elimination of nuclear weapons.

The reality of such contemplated use of nuclear weapons has yet dent the public debate. Like the response to the banality of evil that made possible the holocaust's Final Solution, today's world remains numb to the banality of nuclear weapons.

Rather than working to fulfill treaty commitments for disarmament, the U.S. Nuclear Posture Review of 2002 calls for proliferation:

The need is clear for a revitalized nuclear weapons complex that will... be able ... to design, develop, manufacture, and certify new warheads in response to new national requirements; and maintain readiness to resume underground nuclear testing if required.

The U.S. National Security Strategy emphasizes that the US will take anticipatory preemptive action. Since the Nuclear Posture Review calls for incorporating nuclear weapons into conventional war fighting capabilities, we now have a doctrine that can rationalize a pre-emptive use of a nuclear weapon, not if a country has such a weapon, but if they have the means and aspiration to acquire one.

Given what we have learned regarding the moral foundations of the current war in Iraq and the inadequate reliance on uncertain intelligence, what could be more hazardous than a doctrine that permits the use of nuclear weapons based on alleged intentions of countries to develop a weapon?

It is easy to understand why the rest of the world is so afraid. North Korea's response should come as no surprise. We should all be afraid of the situation.

Mohammed ElBaradei, Director of the International Atomic Energy Agency (IAEA), stated the situation clearly:

These are double standards. On the one hand, the US says that the proliferation of nuclear weapons must be fought. On the other, it perfects its own arsenal. This is not acceptable... The US Administration demands from other states not to have any nuclear weapons, while it fills its own arsenals... If we do not give up such double standards, we will have even more nuclear powers. We are at a turning point now.

Fear and uncertainty have distorted public discussion. Various arguments are used to rationalize this intentional process: fighting terrorism in the wake of 911, eliminating despotic rulers, demonstrating commitments to stop the proliferation of weapons of mass destruction. But, actions, such as instituting a war without clear U.N. Security Council authorization in Iraq, speak louder than doctrines.

The extent of the hazard has not been grasped and political arguments have not swayed the hearts of the people nor the decision makers. Worse, the irrationality of the quest to address the problem by building more weapons of mass destruction remains inadequately challenged. What must we do?

The first step toward a solution is a sober acknowledgement of the problem and a profound commitment to change.

It is imperative that our goal of obtaining the universal elimination of nuclear weapons be founded on strong moral positions. Since fear can cloud reason, we must awaken an activism based on an equally strong motivation. That is why spirit matters.

Neither reason nor imagination is sufficient to grasp the magnitude of what we have created. The International Court of Justice, in its landmark opinion in 1996 on the Legality of the Threat or Use of Nuclear Weapons 1996 stated: "*The destructive power of nuclear weapons cannot be contained in either space or time. They have the potential to destroy all civilization and the entire eco-system of the planet.*"¹ The Court unanimously concluded that there is a legal duty to negotiate the global elimination of nuclear weapons.

Canada and the United States have essentially ignored the admonition of the ICJ thus degrading international law. But why? And why is there no outcry?

The psychologist Robert Jay Lifton has our current predicament as "a collective form of psychic numbing." Our readiness to unleash, in short order, devices that will rapidly transform cities into concentration camp-like ovens numbs our moral sensitivities. These weapons are ovens with wings. To recognize the legal and moral implications of today's policies is simply too much for most people. So, we remain largely ignorant regarding the opinions of even the most establishment figures.

For example, George Kennan, the distinguished American diplomat who originated the Cold War containment policy toward the Soviet Union, not associated with moral statements, warns us:

The readiness to use nuclear weapons against other human beings – against people we do not know, whom we have never seen, and whose guilt or innocence is not for us to establish – and, in doing so, to place in jeopardy the natural structure upon which all civilization rests, as though the safety and perceived interests of our own generation were more important than everything that has taken place or could take place in civilization: this is nothing less than a presumption, a blasphemy, an indignity – an indignity of monstrous dimensions – offered to God!

I believe that Canada can take a vital, leading role by promoting the following initiatives:

1. Balanced implementation of the NPT.
2. Reaffirmation of decisions made at 1995 and 2000 NPT Review Conferences.
3. U.S. and Russia to solidify and enlarge reductions under the Moscow Treaty.
4. Further reductions and elimination of tactical nuclear weapons.
5. U.S. and Russia to take their weapons off "alert" status.
6. Diminishing role of nuclear weapons: no new nuclear weapons; legally binding security assurances to be given by nuclear weapon states.
7. Negotiations on a fissile materials ban to be concluded; multilateral controls on uranium enrichment and plutonium reprocessing.
8. IAEA's Additional Protocol to become universal standard.
9. Subsidiary body at the Conference on Disarmament to deal with nuclear disarmament.

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10. Early entry-into-force of Comprehensive Nuclear-Test-Ban Treaty; present moratorium on testing to be maintained.
11. Deeper consideration of the legal, political and technical requirements for the elimination of nuclear weapons.

Priority Measures

Fissile Materials Cut-off Treaty

An FMCT would permanently end production of fissile materials, primarily separated plutonium and highly enriched uranium, for use in weapons. It would affect most directly the countries possessing nuclear weapons; NPT non-weapon states already are subject to a verified ban on diverting materials to weapons. Achievement of an FMCT would restrain arms racing involving India, China, and Pakistan, cap Israel's arsenal, and establish ceilings on other arsenals as well.

A verified FMCT also would help build a stable framework for reduction and elimination of warheads and fissile material stocks; help prevent acquisition of fissile materials by terrorists; meet a key NPT commitment; and institutionalize one of the basic pillars of a nuclear weapons-free world. FMCT negotiations have been stalemated in the Conference on Disarmament in Geneva for more than a decade, primarily due to U.S. refusal of linkages to negotiations or even discussions regarding weaponization of outer space, nuclear disarmament, and guarantees of non-use of nuclear weapons against non-weapon countries. To take advantage of the opening discussed below, middle power countries should explore creative ways to overcome the stalemate.

On May 18, the United States tabled a draft FMCT in the Conference on Disarmament along with a draft mandate for negotiations. While the draft treaty contains no verification requirements, the draft mandate does not preclude proposing them. It is not necessary that a mandate require that a treaty be verified, so long as this is subject to negotiation. If negotiations do begin, middle power countries should hold to their position that verification is imperative and feasible. As the International Panel on Fissile Materials has observed, a verification system could initially focus on declared enrichment and reprocessing facilities in the weapon possessing states. They could be monitored just as the same kinds of facilities are monitored through IAEA safeguards in non-weapon countries Brazil, Germany, the Netherlands, and Japan. Later stages of verification could focus on the more difficult task of confirming the absence of clandestine activities.

The U.S. draft is also deficient because it does not prevent the conversion of civilian materials to weapons use and is silent on existing stocks. Those stocks, both military and civilian but weapons-usable, are very large. These problems can be solved, as demonstrated in papers by Canada, a leading proponent of the FMCT, South Africa and other countries as well as the International Panel. Due to the enormity of the risks posed by the nuclear fuel cycle, states should also support renewable energy sources and energy conservation, and to this end should consider establishment of an international sustainable energy agency.

Verification of reduction and elimination of nuclear arsenals

President Reagan repeatedly invoked the Russian dictum, “trust but verify.” It is essential to bring the principle of verification symbolized by that dictum back to center stage. The Moscow Treaty requires Russia and the United States to deploy no more than 2200 strategic warheads by 2012, but includes no provisions for verification of reductions or dismantling of warheads or delivery systems. The two countries declared that they would make use of monitoring mechanisms under START. But START expires in 2009, and the Moscow Treaty does not provide any schedule for reductions prior to 2012. A high priority therefore is to press Russia and the United States to agree on means to verify and make irreversible the reductions. The Blix Commission recommends negotiation of a new treaty that would further cut strategic forces and also provide for verified dismantlement of warheads withdrawn under the Moscow Treaty. More broadly, all nuclear-armed states must initiate processes to apply the principles of verification, transparency, and irreversibility to reduction and elimination of their arsenals. Declarations of fissile materials contained in military stocks and warheads, as recommended by the International Panel, is one of the first steps that could be taken. Countries with nuclear weapons owe the rest of the world greater proof of compliance with the disarmament obligation. To that end, verification processes should involve international monitoring.

Reduction of the operational status of nuclear forces

The United States is now estimated to have more than 1600 warheads ready for delivery within minutes of an order to do so, and Russia more than 1000 warheads similarly ready for launch. It should be an absolute scandal that, every moment of every day, the two countries remain locked in a Cold War-style nuclear standoff. Non-governmental experts have explained that the standoff can be defused through separation of warheads from delivery systems and other measures that lengthen the time required for a nuclear launch, from days to weeks to months. The 2000 Review Conference committed to reduction of the operational status of nuclear forces, and the antinuclear movement has endorsed it under the banner of “de-alerting.” While most urgent with respect to Russia and the United States, it is also important that other weapon states, which to various degrees already maintain their forces in a de facto de-alerted condition, adopt and affirm de-alerting as an entrenched, declared policy and practice. De-alerting would help alleviate risks associated with mistakes, coups, attacks on nuclear weapons facilities, false warnings, unauthorized launches, hacking into command and control systems, and developments that cannot now be anticipated.

Comprehensive Nuclear-Test-Ban Treaty

After four decades of discussions and partial test ban agreements, negotiations on the CTBT were completed in 1996. Canada and 175 other states have ratified the treaty, but ten of the 44 states whose ratification is required for entry into force have yet to do so. Of the ten, three nuclear-armed states, the United States, China, and Israel, have signed but not ratified the treaty; India and Pakistan, both nuclear-armed, as well as North Korea, have not taken the first step of signing it. The Preparatory Commission for the CTBT Organization has made great strides in developing the International Monitoring System, which will likely be completed in 2007. The CTBT would help to check the spread of nuclear arms and to constrain refinement of advanced arsenals; protect the environment; and have a substantial organizational and technical

infrastructure. It would be an indispensable part of the architecture of a nuclear weapons-free world. Its entry into force must remain a high priority. As the Blix Commission said, "While no nuclear-weapon tests have been carried out for many years, leaving the treaty in limbo is a risk to the whole international community." Also crucial is maintenance of the moratorium on nuclear test explosions that has held since the 1998 tests by India and Pakistan and continued support for the Preparatory Commission. Strengthened assurances of non-use of nuclear weapons against non-weapon states

Particularly in France and the United States, doctrine and preparation for nuclear strikes against non-weapon states is a central development in the Second Nuclear Age. That trend gives a special urgency to the long-standing demand of non-weapon states party to the NPT for a legally binding instrument barring such use. NPT weapon states have already given such assurances in the form of declarations, and they are also legally codified in protocols to the regional nuclear weapon-free zones. There is an excellent argument that the declarations are binding, notably because they were reiterated in connection with the 1995 indefinite extension of the NPT. However, the declarations and protocols contain loopholes, and the legally binding status of the declarations should be confirmed.

The Role of Canada

It is in Canada's direct interests to help strengthen the implementation of the NPT. The cities of Vancouver, Toronto, Ottawa and Montreal are just as much at risk of the physical and economic fallout of nuclear warfare as the cities of New York, Washington, Los Angeles and Chicago. Believing that the NPT cannot withstand another failed review conference in 2010, MPI urges Canada to play a leading role in multilateral diplomacy to save the NPT. This work begins in 2007 at the first Preparatory Committee meeting for the 2010 Review. Also important is determined and strategic intervention in the deadlocked Conference on Disarmament and in the General Assembly. MPI applauds Canada's efforts with other states to find a path to progress in those forums. MPI further appreciates Canada's vigorous support of achieving an agreement on preventing weaponization of outer space; among other things, if weapons are based in space, progress on nuclear disarmament will become more difficult.

By working with like-minded states, Canada can do a lot to bridge the gulf between the nuclear and non-nuclear states. Fourteen NATO states have strongly backed the NPT 2000 commitments: Belgium, Bulgaria, Canada, Czech Republic, Denmark, Germany, Iceland, Italy, Lithuania, Luxembourg, The Netherlands, Norway, Slovakia, and Turkey. Seven middle power states in the New Agenda Coalition (Brazil, Egypt, Ireland, Mexico, New Zealand, Sweden and South Africa) have consistently pressed the nuclear weapon states to live up to their obligations. These are countries with which Canada can work effectively. Some, like Canada, could have acquired nuclear weapons, but rightly decided not to do so.

I believe that the mystery that placed the power of destruction in the binding forces of the atom has placed the healing power of love in our hearts and further gifted us with both the courage and wisdom to use that power effectively. What we can do is make clear that as citizens we do not support a NATO policy that continues to extend nuclear threat without any limitations and without a Soviet empire to deter. What we can do is demand of our governments that they step

down the nuclear ladder by supporting the de alerting of the arsenals of Russia and the US which remain on launch on warning high alert as if the Cold War had not ended. We can demand a fissile material cut off treaty with enforceable verification. We can demand that the cuts between Russia and US be verifiable and irreversible. We can demand full ratification of the Comprehensive Test Ban Treaty. We can demand no weaponization of space since such a quest is contrary to a regime of cooperative security based on the rule of law. And, let me say, that US citizens and Canadian citizens should join in these demands.

The Moral Imperative to Action

The violence of threatening to unleash the Apocalypse represents an immorality of vast proportion and calls us to an affirmation of faith of vaster proportion. We cannot be passive in pursuing this capacity. Dr. King's words burn through the haze of today's daily news reports:

The fact that most of the time human beings put the truth about the nature and risks of nuclear war out of their minds because it is too painful and therefore not 'acceptable', does not alter the nature and risks of such war.. (i)f modern man continues to flirt unhesitatingly with war, he will transform his earthly habitat into an inferno such that even the mind of Dante could not imagine...

He then goes on to call for another course based on the universality of love which he considers not only a personal path to salvation but a necessity for human fulfillment and survival. As King said, "*When I speak of love I am not speaking of some sentimental and weak response which is little more than emotional bosh. I am speaking of that force which all the great religions have seen as the supreme unifying principle of life. Love is somehow the key that unlocks the door which leads to ultimate reality.*" Our choice is Dante's hell or a door to ultimate reality.

The Mayor of Nagasaki pleads with us to understand the human dimensions of one relatively small atomic bomb:

The explosion of the atomic bomb generated an enormous fireball, 200 meters in radius, almost as though a small sun had appeared in the sky. The next instant, a ferocious blast and wave of heat assailed the ground with a thunderous roar. The surface temperature of the fireball was about 7,000 degrees C, and the heat rays that reached the ground were over 3,000 degrees C. The explosion instantly killed or injured people within a two-kilometer radius of the hypocenter, leaving innumerable corpses charred like clumps of charcoal and scattered in the ruins near the hypocenter. In some cases, not even a trace of the person's remains could be found. A wind (over 680 miles per hour) slapped down trees and demolished most buildings. Even iron-reinforced concrete structures were so badly damaged that they seemed to have been smashed by a giant hammer. The fierce flash of heat meanwhile melted glass and left metal objects contorted like strands of taffy, and the subsequent fires burned the ruins of the city to ashes. Nagasaki became a city of death where not even the sound of insects could be heard.

After a while, countless men, woman and children began to gather for a drink of water at the banks of the nearby Urakami River, their hair and clothing scorched and their burnt skin hanging off in sheets like rags. Begging for help, they died one after another in the water or in heaps on the banks. Then radiation began to take its toll, killing people like a scourge (of) death expanding in concentric circles from the hypocenter. Four months after the atomic bombing, 74,000 people were dead and 75,000 had suffered injuries, that is, two thirds of the city population had fallen victim to this calamity that came upon Nagasaki like a preview of the Apocalypse.

Dr. King's stand remains correct: "I refuse to accept the cynical notion that nation after nation must spiral down a militaristic stairway into the hell of nuclear annihilation." With faith that we can be guided by and have confidence in our love of life, should we not commit to cause our countries to disavow unlawful, immoral policies of failing to negotiate the elimination of nuclear weapons.

Conclusion

If we do not move quickly to curtail this capacity for self destruction that science has given humanity with this obviously hazardous technology, how do we intend to constrain and control the next generation of weapons of mass destruction? It is time that this technology be subject to law and morality. Nothing less than our humanity and future is at stake.

We need to compel our political leaders to take clear morally coherent positions and commit to work for abolition.

With respect to missile defence, Canada should take the following steps:

- a) Decide against participation in the U.S. missile defence system because it is not configured in a manner consistent with Canadian disarmament and nonproliferation interests and prevention of weaponization of space.
- b) Work actively to shape the evolution of U.S. missile defence/space policy at all relevant fora, seeking both to mitigate the effects of missile defence on nuclear disarmament and to prevent the weaponization of space.
- c) Organize preliminary discussions on the contents of a treaty on the prevention of an arms race in space/prevention of space weaponization.

Although no U.S. government participation in such discussions can be expected during the current administration, many states with space capabilities might participate, and if discussions were organized to permit representation by non-governmental entities, including corporate space interests, U.S. corporations with an interest in non-weaponized space might participate. Such discussions could be used to prepare the groundwork for actual treaty negotiations at the CD or elsewhere when conditions for progress are more propitious.

- d) Promote formal and ad hoc missile proliferation control measures, and work to develop proposals for a missile flight-test moratorium and missile control regimes that combine disarmament and non-proliferation objectives.
- e) Pursue an accidental war prevention initiative. Elements of such an initiative should include a No-Launch-on-Warning agreement or pledges; physical dealerting/ accidental launch prevention measures; and global missile launch warning/false alarm prevention measures. Such an initiative could be seen as both a complement to the "protection" offered by missile defence systems and a means of reducing the "need" for such systems. It would also be an extremely important safety measure in its own right.

At a minimum, we must demand that every candidate for office describe their aspirations and plans to reduce and eliminate the possession and threat to use nuclear weapons in every other country in the world. We must ourselves speak out on this moral challenge for how can anyone take seriously the admonition that follows loving God with all our souls and hearts when the entire human neighborhood sits beneath this sword of annihilation. Should we allow the sword over our children's heads to continue? Should we allow the sword over our neighbor's heads to continue? It is not for any group of men to decide when the gift of civilization should end. Senator Roche has called this situation and "unacceptable risk." His characterization is correct.

Let us respond with action.

APPENDIX A:

Brigham Young University Article

“Nuclear Weapons, Ethics, Morality and Law”

By Jonathan G. Granoff

Nuclear Weapons, Ethics, Morals, and Law

*Jonathan Granoff**

*Bullets kill men, but atomic bombs kill cities. A tank is a defense against a bullet, but there is no defense against a weapon that can destroy civilization. . . . Our defense is law and order.*¹

I. INTRODUCTION

The nuclear weapons age began at 5:29:45 a.m. Mountain War Time, July 16, 1945, when the first atom bomb was tested in a portion of the bleak barren Alamogordo bombing range in the New Mexico desert chillingly named Jornada de Muerto (Journey of Death).² After the thunderous roar of the shock wave, a huge pillar of smoke rose 30,000 feet, creating the first icon of the nuclear age—the fearsome mushroom cloud. A blast of energy of unprecedented³ destructive magnitude bathed the surrounding mountain

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A shorter version of this paper was presented to the Nuclear Non-Proliferation Treaty Prepcom of 1999 and The Hague Appeal for Peace. It was drafted with the assistance of consultations with several Non Governmental Organizations (NGO) focusing on arms control, values, and disarmament, including NGO Committee on Disarmament, Temple of Understanding, Pax Christi International, Franciscans International, Interfaith Center of New York, State of the World Forum, Lawyers Alliance for World Security, Global Security Institute, Lawyers Committee on Nuclear Policy, and especially Myrna Penna of the World Conference of Religion and Peace.

Special thanks are extended to Senator Alan Cranston, Professor Lois Sohn, Ambassador Richard Butler, John Burroughs, Professor Michael Goldsmith, Ambassador Jonathan Dean, Senator Douglas Roche, O.C., Ambassador Thomas Graham, and Jeanne Boardman for their selfless advice.

1. THE EXPANDED QUOTABLE EINSTEIN 177 (Alice Calaprice ed., 2000).

2. See LOS ALAMOS 32 (Los Alamos Historical Society ed., 1999).

3. See *id.* at 53. Brigadier General T.F. Farrell described the moment as follows: The effects could well be called unprecedented, magnificent, beautiful, stupendous, and terrifying. No man-made phenomenon of such tremendous power had ever occurred before. The lighting effects beggared description. The whole country was lighted by a searing light with the intensity many times that of the midday sun. It was golden, purple, violet, gray and blue. It lighted every peak, crevasse and ridge of the nearby mountain range with a clarity and beauty that cannot be described but

range in a brilliant light that could be seen 150 miles away. J. Robert Oppenheimer, Director of the Los Alamos Laboratory, the organization responsible for the design of the first atomic bomb as part of the Manhattan Engineer District of the War Department, uttered a sober description from the Hindu scripture, the *Bhagavad-Gita*: “Now I am become Death, destroyer of worlds.”⁴

The new millennium begins with 32,000 nuclear bombs⁵ possessed by eight nations containing 5,000 megatons of destructive energy.⁶ This is a global arsenal more than sufficient to destroy the world.⁷

must be seen to be imagined. Seconds after the explosion came, first, the air blast pressing hard against the people, to be followed almost immediately by the strong, sustained awesome roar which warned of doomsday and made us feel we puny things were blasphemous to dare tamper with the forces heretofore reserved for the Almighty.

Id.

4. DOUGLAS ROCHE, AN UNACCEPTABLE RISK 6 (1995) (quoting JOHN NEWHOUSE, WAR AND PEACE IN THE NUCLEAR AGE 41 (1989)).

5. See REPAIRING THE REGIME, app. V (Joseph Cirincione ed., 2000); CHARLES J. MOXLEY, JR., NUCLEAR WEAPONS AND INTERNATIONAL LAW IN THE POST COLD WAR WORLD 397-98 (2000) (Nuclear weapons include fission and fusion); see also THOMAS B. COCHRAN ET AL., NUCLEAR WEAPONS DATABOOK, UNITED STATES NUCLEAR FORCES AND CAPABILITIES (1984). “Conventional weapons typically have a destructive capability measurable in the release of some number of tons of TNT.” MOXLEY, *supra*, at 397 n.2 (citing UNITED NATIONS DEPARTMENT FOR DISARMAMENT AFFAIRS, NUCLEAR WEAPONS: A COMPREHENSIVE STUDY 6 (1991)). A fission bomb, which we refer to as an “atomic” bomb, is the kind that was dropped on Hiroshima and Nagasaki and has the destructiveness of thousands of tons of TNT (kilotons). “Little Boy,” dropped on Hiroshima, was approximately 12-15 kilotons, and “Fat Man,” the plutonium fission bomb, dropped on Nagasaki, had about 22 kilotons. *Id.* at 398 n.4 (citing COCHRAN ET AL., *supra*, at 32). “Fusion (‘hydrogen’ or ‘thermonuclear’) bombs, have the destructiveness of up to some millions of tons of TNT (megatons, mt).” MOXLEY, *supra*, at 398 (citing COCHRAN ET AL., *supra*, at 26-27).

6. REPAIRING THE REGIME, *supra* note 5, at app. V. Russia and the United States have over 97% of this existing arsenal. *Id.*

7. See STANSFIELD TURNER, CAGING THE NUCLEAR GENIE 9 (1997). “The power of the 32,500 warheads would roughly equal 1 million Hiroshima-type bombs, one of which destroyed almost all of the buildings within a 12-square-mile area and killed 140,000 of the city’s 350,000 people during the first five months after detonation.” *Id.*

The Royal Swedish Academy of Science in 1982 concluded that a thermonuclear war using approximately 5,000 megatons [of nuclear weapons] would destroy all major cities of 500,000 population or greater in the United States, Canada, Europe, the USSR, Japan, China, India, Pakistan, Korea, Vietnam, Australia, South Africa, and Cuba. Theoretically, in 1985, the United States and the Soviet Union had the ability to destroy the world three times over with their strategic nuclear weapons and could still do so at least once today. Carl Sagan and others warned that a war involving as few as 100 megatons could trigger a nuclear winter. This would involve, say, hitting one hundred cities with 1-megaton warheads. This would induce such a drop

The United Nations Charter was drafted without the full recognition of the dangers posed by nuclear weapons.⁸ The very first resolution⁹ adopted by the General Assembly of the United Nations called for the elimination of atomic bombs. The Treaty on the Non-Proliferation of Nuclear Weapons (hereinafter the NPT or the Treaty)¹⁰ supplements the Charter and is now, with 187 states parties, the most adhered-to treaty in the world. Designed to stop the proliferation of nuclear weapons, it contains five commitments: “acceptance of a political and moral norm against the possession of nuclear weapons; an obligation to eliminate existing stocks; international cooperation in the peaceful uses of energy; special assistance to developing countries; and measures to ensure a world free of nuclear weapons.”¹¹ The Treaty entered into force on March 5, 1970, for a twenty-five year period and was indefinitely renewed in 1995.¹² In essence, it promises a world in which nuclear weapons are eliminated

in global temperatures and reduction of light that the resulting starvation and weather extremes would conceivably reduce the population of the planet to prehistoric levels. By this measure, we had then the ability to destroy the world 148 times in 1985 and 50 times over today.

REPAIRING THE REGIME, *supra* note 5, at 13 n.2.

8. JOHN BURROUGHS, *THE (IL)LEGALITY OF THE THREAT OR USE OF NUCLEAR WEAPONS* 29 (1997). The Charter was adopted six weeks before the bombing of Hiroshima.

9. Resolution I (1) was adopted unanimously on January 24, 1946 at the First Session of the General Assembly of the United Nations. See *Model Nuclear Weapons Convention*, U.N. GAOR 52d Sess., Agenda Item 71, at 11, U.N. Doc. A/C.1/52/7 (1997).

10. See Treaty on the Non-Proliferation of Nuclear Weapons, July 1, 1968, art. VI, 21 U.S.T. 483, 729 U.N.T.S. 161. See also ROCHE, *supra* note 4, app. at 99–105.

11. DOUGLAS ROCHE, *THE ULTIMATE EVIL* 29 (1997); see also Treaty on the Non-Proliferation of Nuclear Weapons, *supra* note 10.

12. See *Decision 3 of the Final Document of the 1995 Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, U.N. Doc. NPT/CONF.1995/ 32 (1995) (available at <<http://www.un.org/Depts/dda/WMD/1995dec3.htm>>). For a summary of the commitments that were made to induce the indefinite extension of the Treaty at the Review and Extension Conference, see *Decision 2 of the Final Document of the 1995 Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, Principles and Objectives for Nuclear Non-Proliferation and Disarmament*, U.N. Doc. NPT/CONF.1995/32 (1995) (available at <<http://www.un.org/Depts/dda/WMD/1995dec2.htm>>). See also REPAIRING THE REGIME, *supra* note 5, at app. II. See ROCHE, *supra* note 4, at 21–45, for an excellent analysis of the negotiations in obtaining the indefinite extension of the NPT in 1995 and article VI of the Treaty, which states, “Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.” Treaty on the Non-Proliferation of Nuclear Weapons, *supra* note 10, art. VI.

and technological cooperation is widespread.¹³

The five declared nuclear weapon states¹⁴—United States, United Kingdom, Russia, China, and France—have solemnly obligated themselves under Article VI of the NPT to nuclear disarmament.¹⁵ At the 2000 Review Conference of the NPT, April 24 through May 20, 2000, at the United Nations in New York City, all parties to the Treaty, including the five nuclear weapon states, affirmed “[a]n unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament to which all States parties are committed under Article VI.”¹⁶

This legal duty does not contain an enforceable timeline. Many of the 182 non-nuclear weapon states parties to the NPT have been induced to legally bind themselves, under the NPT, to refrain from developing nuclear weapons by the commitment of the nuclear

13. See ROCHE, *supra* note 11, at 29.

14.

Nuclear-Weapon States: China, France, Russia, United Kingdom, United States.

Each of these five states originally declared its nuclear-weapons program and was recognized under the 1968 Nuclear Non-Proliferation Treaty (NPT) as a nuclear-weapon state because it had tested a nuclear weapon prior to January 1, 1967. Estimated total nuclear warhead stockpiles: United States, 12,070; Russia, 22,500; United Kingdom, 260; France, 450; China, 400.

When the Soviet Union collapsed in late 1991, nuclear weapons remained in the territory of many of the new independent states. Strategic nuclear weapons remained in three besides Russia: Belarus, Kazakhstan, and Ukraine. Russia was recognized as the Soviet Union’s sole nuclear-weapon-state successor. All tactical nuclear weapons were withdrawn to Russia by June 1992. Russia assumed control over all Soviet nuclear weapons, and all strategic nuclear weapons were withdrawn to Russia by November 1996 – completing an unprecedented denuclearization process . . .

Non-NPT Nuclear-Weapons States: India, Israel, Pakistan.

Both India and Pakistan conducted nuclear explosives tests in May 1998 and declared themselves nuclear-weapon states. Neither is an NPT member, and neither is recognized by the NPT or other international treaties as a nuclear-weapon state. Neither is believed to have deployed nuclear weapons as of June 1998, but India is considered to be able to assemble sixty to seventy weapons, and Pakistan about fifteen weapons, on short notice. Israel, which also is not an NPT member, has not declared its nuclear weapon capability but is believed to have an operational arsenal of over one hundred weapons.

REPAIRING THE REGIME, *supra* note 5, app. IV.

15. See ROCHE, *supra* note 4, at 21–45.

16. Douglas Roche, *An Unequivocal Landmark* (visited Nov. 16, 2000) <<http://www.ploughshares.ca/CONTENT/ABOUSH%20NUCS/RocheNPTReport-May27.html>>. For the full text of the treaty, see Treaty on the Non-Proliferation of Nuclear Weapons, *supra* note 10, and ROCHE, *supra* note 4, app. at 99–105.

weapon states to negotiate nuclear disarmament.¹⁷ The Treaty's nonproliferation requirements are recognized as serious and weighty; the nuclear disarmament commitments will not be accomplished without greater political pressure.

There is inadequate public understanding of the political,¹⁸ scientific,¹⁹ legal,²⁰ ethical,²¹ moral,²² and military²³ dimensions of nuclear

17. See Luiz F. Machado, *The View from Brazil*, in REPAIRING THE REGIME, *supra* note 5, at 275.

Non-proliferation and disarmament are different, although mutually reinforcing, concepts. Only total and complete nuclear disarmament can put an end to nuclear proliferation. This is the very logic behind the NPT's basic bargain, by which the non-nuclear weapon states agreed to forgo those weapons and the nuclear weapon states agreed to negotiate disarmament measures aimed at the ultimate elimination of nuclear weapons.

Id.

18. General George Lee Butler, former Commander-in-Chief of U.S. Strategic Air Command (1991-92) and U.S. Strategic Command (1992-94), who was responsible for all nuclear forces of the American Air Force and Navy, has reported being amazed

by how little high-level scrutiny (the U.S. nuclear war plan) had received over the years, and by how readily his military colleagues threw up their hands and rolled their eyes at the grim challenge of converting mathematical estimates of the destructiveness of nuclear arms and the resilience of Soviet structures into dry statistical formulas for nuclear war.

"It was all Alice-in-Wonderland stuff," [General] Butler says. The targeting data and other details of the war plan, which are written in an almost unfathomable million lines of computer software code, were typically reduced by military briefers to between 60 and 100 slides that could be presented in an hour or so to the handful of senior U.S. officials who were cleared to hear it: "Generally, no one at the briefing wanted to ask questions because they didn't want to embarrass themselves. It was about as unsatisfactory as could be imagined for that subject matter. The truth is that the President only had a superficial understanding" of what would happen in a nuclear war, Butler says. Congress knew even less because no lawmaker has ever had access to the war plan, and most academics could only make ill-informed guesses.

MOXLEY, *supra* note 5, at 473 n.27 (quoting R. Jeffrey Smith, *Ex-Commander of Nukes Wants to Scrap Them, A Believer No More*, SACRAMENTO BEE, Mar. 29, 1998; see also R. Jeffrey Smith, *The Dissenter*, WASH. POST MAG., Dec. 7, 1997, at W18.).

19. The scientific dimension of nuclear weapons is understandably difficult to comprehend. "The UN in its 1991 report found the '(n)uclear weapons represent a historically new form of weaponry with unparalleled destructive potential. A single large nuclear weapon could release explosive power comparable to all the energy released from the conventional weapons used in all past wars.'" MOXLEY, *supra* note 5, at 398 (quoting WORLD HEALTH ORGANIZATION, UNITED NATIONS, EFFECTS OF NUCLEAR WAR ON HEALTH AND HEALTH SERVICES 7 (2d ed. 1987)); see also DEPARTMENT FOR DISARMAMENT AFFAIRS, UNITED NATIONS, NUCLEAR WEAPONS: A COMPREHENSIVE STUDY 7 (1991).

20. See also FRANCIS A. BOYLE ET AL., IN RE: MORE THAN 50,000 NUCLEAR WEAPONS (1991). See generally BURROUGHS, *supra* note 8.

21. Referring to the overall dangers, General Butler stated,

weapon policy, including preparedness for use.²⁴

"Despite all the evidence, we have yet to fully grasp the monstrous effect of these weapons, that the consequences of their use defy reason, transcending time and space, poisoning the Earth and deforming its inhabitants." Nuclear weapons are "inherently dangerous, hugely expensive and militarily inefficient."

General Butler stated that "accepting nuclear weapons as the ultimate arbiter of conflict condemns the world to live under a dark cloud of perpetual anxiety. Worse, it codifies mankind's most murderous instincts as an acceptable resort when other options for resolving conflict fail." He added, "I have spent years studying nuclear weapons effects . . . have investigated a distressing array of accidents and incidents involving strategic weapons and forces . . . I came away from that experience deeply troubled by what I see as the burden of building and maintaining nuclear arsenals . . . the grotesquely destructive war plans, the daily operational risks, and the constant prospect of a crisis that would hold the fate of entire societies at risk."

MOXLEY, *supra* note 5, at 535 (footnotes omitted) (quoting Otto Kreisher, *Retired Generals Urge End to Nuclear Arsenal*, SAN DIEGO UNION-TRIB., Dec. 5, 1996, at A1).

22. George Kennan, the distinguished American diplomat who originated the Cold War containment policy toward the Soviet Union, stated,

The readiness to use nuclear weapons against other human beings – against people we do not know, whom we have never seen, and whose guilt or innocence is not for us to establish – and, in doing so, to place in jeopardy the natural structure upon which all civilization rests, as though the safety and perceived interests of our own generation were more important than everything that has taken place or could take place in civilization: this is nothing less than a presumption, a blasphemy, an indignity – an indignity of monstrous dimensions – offered to God!

ROCHE, *supra* note 11, at 13 (quoting GEORGE F. KENNAN, *THE NUCLEAR DELUSION* 206–07 (1982)).

23. See MOXLEY, *supra* note 5, at 575–84.

24. The following helps illustrate the steps necessary to prepare a country to use nuclear weapons.

Train military personnel to use nuclear weapons; conduct regular exercises reinforcing the training; put the weapons and controls in the hands of the military personnel; provide them with contingency plans as to the circumstances in which they are to use the weapons; instill them with a sense of mission as to the lawful and significant purposes of such weapons in upholding the national defense and honor; make them part of an elite corps; have them stand at the ready for decades at a time waiting for the call; instill firm military discipline; make the weapons a publicly advertised centerpiece of the nation's military strategy; locate the weapons so as to leave them vulnerable to preemptive attack; villainize the enemy as godless and evil or as a rogue and terrorist nation; convey to military personnel that the weapons will be a major target of enemy attack and that it may be necessary to use them quickly before they can be destroyed; warn the enemy that, in the event of attack, the weapons may or will be used; inculcate in military personnel the notion of intra-war deterrence whereby nuclear weapons may need to be used following an enemy attack to deter further escalating attacks, give the military insufficient alternate conventional capacity to defeat the enemy attack; cut numerous nuclear weapons bearing units and control centers off from each other and from contact with higher authorities; create a situation of hopelessness where the whole society is about to be destroyed, at least unless these weapons can be gotten off fast to destroy and restrain the enemy; give the President and other upper level command authorities only an imperfect under-

Such difficulty may arise because the weapons' effects actually outstrip our imagination.²⁵ The proportion of the fireball in relation to the size of the nuclear device is very difficult to imagine. Their destructive capacity makes them awesome to contemplate,²⁶ and the policies that generated the arsenals are not always amenable to common sense²⁷ or our normal uses of language.²⁸

standing of the options and repercussions and accord them only 5 to 10 minutes, or even a matter of seconds, to decide, against the background of SIOP [Single Integrated Operating Plan] based computer and other plans, decades in the making and ostensibly reflecting a broad historical consensus as to approach – do any number of these things, and the stage is set for the actual use of the nuclear weapons.

Id. at 535–36.

25. The horror of a nuclear weapon's actual affects are illustrated in the following: The fireball created by a nuclear explosion will be much hotter than the surface of the sun for fractions of a second and will radiate light and heat, as do all objects of very high temperature. Because the fireball is so hot and close to the earth, it will deliver enormous amounts of heat and light to the terrain surrounding the detonation point, and it will be hundreds or thousands of times brighter than the sun at noon. If the fireball is created by the detonation of a 1-MT [megaton] nuclear weapon, for example, within roughly eight- to nine-tenths of a second each section of its surface will be radiating about three times as much heat and light as a comparable area of the sun itself. The intense flash of light and heat from the explosion of a 550-KT weapon can carbonize exposed skin and cause clothing to ignite. At a range of three miles, for instance, surfaces would fulminate and recoil as they emanate flames, and even particles of sand would explode like pieces of popcorn from the rapid heating of the fireball. At three and a half miles, where the blast pressure would be about 5psi, the fireball could ignite clothing on people, curtains and upholstery in homes and offices, and rubber tires on cars. At four miles, it could blister aluminum surfaces, and at six to seven miles it could still set fire to dry leaves and grass. This flash of incredibly intense, nuclear-driven sunlight could simultaneously set an uncountable number of fires over an area of close to 100 square miles.

TURNER, *supra* note 7, app. A at 127–28.

26. REPAIRING THE REGIME, *supra* note 5, at 13 n.2.

27. Admiral Stansfield Turner, former Director of the United States Central Intelligence Agency, describes his astonishment at a 1971 briefing in which it was argued that the United States needed to go from 27,000 nuclear warheads to 32,000:

Common sense tells us that 27,000 nuclear warheads, let alone the peak of 32,500, far exceeded any conceivable need the United States could possibly have had. How unrealistic were such numbers? It would take 55 billion aircraft bombs, each bomb containing 500 pounds of TNT, to unleash as much energy as 32,500 nuclear warheads. To put this in perspective, each state in the union could be carpeted with 1 billion bombs with 5 billion to spare – something quite beyond imagination.

TURNER, *supra* note 7, at 9.

28. Noted expert Kosta Tsipis, (Retired) Director of the Program in Science and Technology for International Security of the Massachusetts Institute of Technology, in a "Foreword" to this extraordinarily comprehensive work, says,

The very term "nuclear weapons" turns out to be an oxymoron. A weapon is a device, a tool used in combat, the commonest method for resolving conflict. More or

In 1995, the prestigious Canberra Commission,²⁹ convened by the government of Australia, stated,

The destructiveness of nuclear weapons is immense. Any use would be catastrophic. . . . There is no doubt that, if the peoples of the world were more fully aware of the inherent danger of nuclear weapons and the consequences of their use, they would reject them, and not permit their continued possession or acquisition on their behalf by their governments, even for an alleged need for self-defence.³⁰

This Article attempts to address the issue in broad categories and in manners not often utilized in an effort to stimulate new thinking.³¹

Part II emphasizes the ethical norm of the Golden Rule. Part III

better weapons possession by one of the combatants allows him to create an asymmetrical final state: a winner and a loser. The conflict is resolved, for a while anyway, by the winner imposing his will on the loser. But combat with nuclear weapons cannot lead to an asymmetrical outcome: both combatants are equally destroyed. The final state is symmetrical; there is no winner and loser. So nuclear weapons cannot resolve conflict. Therefore, they are not weapons.

Kosta Tsipsis, *Foreward* to MOXLEY, *supra* note 5, at xix.

29. See The Canberra Commission website at <<http://www.dfat.gov.au/cc/cchome.html>>. Roche comments on the formation of the Canberra Commission:

In 1995, the (then) Labour government of Australia established the Canberra Commission, a group of seventeen distinguished world figures, to develop ideas and proposals for a concrete and realistic program to achieve a world totally free of nuclear weapons. Among the Commissioners: General Butler, former Commander-in-Chief of the U.S. Strategic Air Command (1991–1992) and the U.S. Strategic Command (1992–94) who was responsible for all the nuclear forces of the American Air Force and Navy; Field Marshall Lord Carver, former Chief of the British Defence Staff (1973–76); Robert McNamara, former American Secretary of Defense under Presidents Kennedy and Johnson; and Joseph Rotblat, President of the Pugwash Conferences on Science and World Affairs, who won the 1995 Nobel Peace Prize for his work on nuclear disarmament. The Canberra Commission's report stated that, "Nuclear weapons pose an intolerable threat to all humanity and its habitat," and urged the nuclear states to immediately and "unequivocally" commit themselves to eliminating nuclear weapons, as "Such a commitment would propel the process in the most direct and imaginative way." While getting to zero is the goal, the Commission pointed to a number of practical steps that should be taken immediately, such as taking nuclear forces off alert and removing warheads from delivery vehicles.

ROCHE, *supra* note 11, at 53–55.

30. CANBERRA COMMISSION ON THE ELIMINATION OF NUCLEAR WEAPONS, REPORT OF THE CANBERRA COMMISSION ON THE ELIMINATION OF NUCLEAR WEAPONS 7 (1996).

31. As Albert Einstein said, "The unleashing of power of the atom bomb has changed everything except our mode of thinking, and thus we head toward unparalleled catastrophes." THE EXPANDED QUOTABLE EINSTEIN, *supra* note 1, at 184.

reminds us that nuclear weapons threaten our most precious, civilized values expressed through law. Part IV succinctly states the holding of the International Court of Justice on the issue.³² Part V criticizes the incoherence of deterrence theory based on International Court of Justice opinions. The Conclusion is a plea to move towards moral coherence. Security policies are most effective when they are coherent with legal and moral foundations.

II. ETHICAL AND MORAL FRAMEWORK FOR ADDRESSING THE ISSUE

The convergence of the development of global legal regimes with the nascent pursuit of global ethics³³ may be where we can find the future thinking Albert Einstein said was necessary to address our current predicament.³⁴

In his concurrence with the historic opinion of the International Court of Justice (hereinafter the ICJ or the Court) issued July 8, 1996, addressing the legal status of the threat or use of nuclear weapons,³⁵ Judge Ranjeva stated, "On the great issues of mankind the requirements of positive law and of ethics make common cause, and nuclear weapons, because of their destructive effects, are one such issue."³⁶

Human society has ethical and moral norms based on wisdom, conscience, and practicality. Many norms are universal and have withstood the test of human experience over long periods of time. One such principle is that of reciprocity. It is often called the Golden Rule: "Treat others as you wish to be treated." It is an ethical and moral foundation for all the world's major religions.³⁷

32. See *Legality of the Threat or Use of Nuclear Weapons*, 1996 I.C.J. 226 (Advisory Opinion of July 8). The full text of the opinion is available at the website of International Association of Lawyers Against Nuclear Arms, <<http://www.ialana.org>> and at <<http://www.icj-cij.org>> (The site contains verbatim oral testimonies as well as written submissions). The historic importance of the opinion cannot be overemphasized for it is the first judicial analysis of the issue by this international tribunal even though the first General Assembly Resolution, unanimously adopted January 24, 1946, at the London session, called for elimination of atomic weapons.

33. See ROCHE, *supra* note 4, at 118 n.8 (citing GLOBAL ETHIC (Hans Kung & Karl-Josef Kuschel eds., 1993)).

34. "Past thinking and methods did not prevent world wars. Future thinking must." THE EXPANDED QUOTABLE EINSTEIN, *supra* note 1, at 177.

35. See *generally* Threat or Use of Nuclear Weapons, 1996 I.C.J. 226.

36. *Id.* at 296 (separate opinion of Judge Ranjeva).

37. Buddhism: "Hurt not others in ways that you yourself would find hurtful." UDANA-VARGA, 5:18; Christianity: "All things whatsoever you would that men should do to you, do

Judge Weeramantry said,

[E]quality of all those who are subject to a legal system is central to its integrity and legitimacy. So it is with the body of principles constituting the corpus of international law. Least of all can there be one law for the powerful and another law for the rest. No domestic system would accept such a principle, nor can any international system which is premised on a concept of equality.³⁸

The solution: "States should treat others as they wish to be treated in return."³⁹

Continued reliance on the role of nuclear weapons remains central to the security postures of at least two declared nuclear weapon states for the foreseeable future.⁴⁰ This posture generates instability. The Canberra Commission stated,

you even so to them." Matthew 7:12; Confucianism: "Do not unto others what you would not have them do unto you." Analects 15:23; Hinduism: "This is the sum of duty: do not unto others that which would cause you pain if done to you." Mahabharata 5:1517; Islam: "No one of you is a believer until he desires for his brother that which he desires for himself." Hadith; Jainism: "In happiness and suffering, in joy and grief, we should regard all creatures as we regard our own self." Lord Mahavir 24th Tirthankara; Judaism: "What is hateful to you, do not do to your fellow man. That is the law; all the rest is commentary." Talmud, Shabbat 31a; Zoroastrianism: "That nature only is good when it shall not do unto another whatsoever is not good for its own self." Dadistan-I-Dinik, 94:5. SOURCEBOOK OF THE WORLD'S RELIGIONS 172-73 (Joel Beversluis ed., 2000). See also JEFFREY WATTLES, *THE GOLDEN RULE* (1996) for an analysis of the Golden Rule from philosophic, religious, psychological, cultural, and ethical perspectives.

38. Threat or Use by a State of Nuclear Weapons in Armed Conflict, 1996 I.C.J. 526 (separate opinion of Judge Weeramantry).

39. ROCHE, *supra* note 4, at 90.

40. See MOXLEY, *supra* note 5, at 491 (citing William Cohen, *1998 Annual Report to the President and Congress, Chapter 5: Strategic Nuclear Forces* (visited Nov. 20, 2000) <<http://www.dtic.mil/execsec/adr98/chap5.html#top>>). "For the foreseeable future, the United States must retain a robust triad of sufficient nuclear forces." William Cohen, *2000 Annual Report to the President and Congress, Chapter 1: The Defense Strategy* (visited Nov. 20, 2000) <<http://www.dtic.mil/execsec/adr2000/chapt1.html>>. See also U.S. JOINT CHIEFS OF STAFF, DEPARTMENT OF DEFENSE, JOINT PUB. 3-12: DOCTRINE FOR JOINT OPERATIONS v (1995) [hereinafter DOCTRINE FOR JOINT NUCLEAR OPERATIONS]. "Credible and capable nuclear forces are essential for national security." *Id.*; see also National Security Concept of the Russian Federation (Information Dep't of the Russian Federation Embassy in India ed., Dec. 17, 1997) (endorsed by the Russian Federation President's Decree No. 1300) (on file with author). "The main task of the Armed Forces of the Russian Federation is to insure nuclear deterrence, which is to prevent both a nuclear and conventional large scale or regional war, and also to meet its allied commitments." *Id.* at 1. France, the United Kingdom, and China with much smaller arsenals have made it clear that they will not fundamentally abandon deterrence and contemplate cutting their arsenals until Russia and the United States come down to very low numbers. See ROCHE, *supra* note 4, at 9-10.

Nuclear weapons are held by a handful of states which insist that these weapons provide unique security benefits, and yet reserve uniquely to themselves the right to own them. This situation is highly discriminatory and thus unstable; it cannot be sustained. The possession of nuclear weapons by any state is a constant stimulus to other states to acquire them.⁴¹

It is inconsistent with moral wisdom and practical common sense for a few states to violate the ancient and universally valid principle of reciprocity. Such moral myopia has a corrosive effect on the law, which gains its respect largely through moral coherence. Global security cannot be obtained while rejecting wisdom universally recognized for thousands of years.

III. LAW AND VALUES

Law is the articulation of values. Values must be based on moral foundations to have credibility. The recognition of the intrinsic sacredness of life and the duty of states and individuals to protect life is a fundamental characteristic of all human civilized values. Such civilized values are expressed in humanitarian law and customs that have an ancient lineage reaching back thousands of years.

They were worked out in many civilizations—Chinese, Indian, Greek, Roman, Japanese, Islamic, modern European, among others. . . . Humanitarian law is in continuous development. . . . [and] grows as the sufferings of war keep escalating. With the nuclear weapon, those sufferings reach a limit situation, beyond which all else is academic.⁴²

41. See CANBERRA COMMISSION, *supra* note 30, at 7. See also Neil Joeck, *Nuclear Relations in South Asia, in* REPAIRING THE REGIME, *supra* note 5, at 132–33, for a description of the tragic change of status of Pakistan and India in 1998.

A group of sixty-one former generals and admirals from seventeen countries, including United States and Russia, declared in December, 1996 . . . [the following:]

We, military professionals, who have devoted our lives to the national security of our countries and our peoples, are convinced that the continuing existence of nuclear weapons in the armories of nuclear powers, and the ever present threat of acquisition of these weapons by others, constitute a peril to global peace and security and to the safety and survival of the people we are dedicated to protect.

ROCHE, *supra* note 11, at 55.

42. Threat or Use of Nuclear Weapons, 1996 I.C.J. at 443–44 (separate opinion of Judge Weeramantry).

In his 1995 testimony before the Court, then Foreign Minister of Australia Gareth Evans said,

The fact remains that the existence of nuclear weapons as a class of weapons threatens the whole of civilization. This is not the case with respect to any class or classes of conventional weapons. It cannot be consistent with humanity to permit the existence of a weapon which threatens the very survival of humanity. The threat of global annihilation engendered by the existence of such weapons, and the fear that this has engendered amongst the entire post-war generation, is itself an evil, as much as nuclear war itself. If not always at the forefront of our everyday thinking, the shadow of the mushroom cloud remains in all our minds. It has pervaded our thoughts about the future, about our children, about human nature. And it has pervaded the thoughts of our children themselves, who are deeply anxious about their future in a world where nuclear weapons remain.⁴³

We must never forget the awesome destructive power of these devices. "Nuclear weapons have the potential to destroy the entire eco system of the planet. Those already in the world's arsenals have the potential of destroying life on the planet several times over."⁴⁴

Not only are they destructive in magnitude but in horror as well.⁴⁵ It is questionable whether there is a full recognition of the

43. Gareth Evans of Australia, Verbatim Record, 30 Oct. 1995, 42, *available at* <http://www.icj-cij.org/icjwww/icses/iunan/iunan_cr/iUNAN_iCR9522_19951030.PDF>.

44. Threat or Use of Nuclear Weapons, 1996 I.C.J. at 454 (separate opinion of Judge Weeramantry); *see also* BURROUGHS, *supra* note 8, at 90-91; ROCHE, *supra* note 11, at 3-13.

45. Threat or Use of Nuclear Weapons, 1996 I.C.J. at 454 (separate opinion of Judge Weeramantry). Judge Weeramantry lists the destructive horror caused by nuclear weapons:

Nuclear weapons

1. cause death and destruction;
2. induce cancers, leukemia, keloids and related afflictions;
3. cause gastrointestinal, cardiovascular and related afflictions;
4. continue for decades after their use to induce the health related problems mentioned above;
5. damage the environmental rights of future generations;
6. cause congenital deformities, mental retardation and genetic damage;
7. carry the potential to cause a nuclear winter;
8. contaminate and destroy the food chain;
9. imperil the ecosystem;
10. produce lethal levels of heat and blast;
11. produce radiation and radioactive fallout;
12. produce a disruptive electromagnetic pulse;
13. produce social disintegration;

consequences of the horror.⁴⁶ Judge Weeramantry emphasized that

the unprecedented magnitude of its destructive power is only one of the unique features of the bomb. It is unique in its uncontainability in both space and time. It is unique as a source of peril to the human future. It is unique as a source of continuing danger to human health, even long after its use. Its infringement of humanitarian law goes beyond its being a weapon of mass

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- 14. imperil all civilization;
 - 15. threaten human survival;
 - 16. wreak cultural devastation;
 - 17. span a time range of thousands of years;
 - 18. threaten all life on the planet;
 - 19. irreversibly damage the rights of future generations;
 - 20. exterminate civilian populations;
 - 21. damage neighbouring states;
 - 22. produce psychological stress and fear syndromes as no other weapons do.

Id. at 471–72 (separate opinion of Judge Weeramantry).

46. Takashi Hiraoka, Mayor of Hiroshima, told the Court:

The atomic bombs dropped on Hiroshima and Nagasaki shattered all war precedent. The mind-numbing damage these nuclear weapons wrought shook the foundations of human existence. . . .

The dropping of the nuclear weapons is a problem that must be addressed globally. History is written by the victors. Thus, the heinous massacre that was Hiroshima has been handed down to us as a perfectly justified act of war.

As a result, for over 50 years we have never directly confronted the full implications of this horrifying act for the future of the human race. Hence, we are still forced to live under the enormous threat of nuclear weapons

Beneath the atomic bomb's monstrous mushroom cloud, human skin was burned raw. Crying for water, human beings died in desperate agony. With thoughts of these victims as the starting point, it is incumbent upon us to think about the nuclear age and the relationship between human beings and nuclear weapons

The unique characteristic of the atomic bombing was that the enormous destruction was instantaneous and universal. Old, young, male, female, soldier, civilian – the killing was utterly indiscriminate. The entire city was exposed to the compound and devastating effects of thermal rays, shock wave blast, and radiation

Above all, we must focus on the fact that the human misery caused by the atomic bomb is different from that caused by conventional weapons. [H]uman bodies were burned by the thermal rays and high-temperature fires, broken and lacerated by the blast, and insidiously attacked by radiation. These forms of damage compounded and amplified each other, and the name given to the combination was "A-bomb disease"

[T]he bomb reduced Hiroshima to an inhuman state utterly beyond human ability to express or imagine. I feel frustrated at not being able to express this completely in my testimony about the tragedy of the atomic bombing

It is clear that the use of nuclear weapons, which cause indiscriminate mass murder that leaves survivors to suffer for decades, is a violation of international law.

BURROUGHS, *supra* note 8, at 90–91.

destruction, to reasons which penetrate far deeper into the core of humanitarian law.⁴⁷

Like a deer stunned by oncoming headlights and unable to move, we have not adequately grasped the moral incoherence of placing the survival of states "above all other considerations, in particular above the survival of mankind itself."⁴⁸

Our collective failure to use laws guided by ethical values relegates us to live in a

kind of suspended sentence. For half a century now these terrifying weapons of mass destruction have formed part of the *human condition*. Nuclear weapons have entered into all calculations, all scenarios, all plans. Since Hiroshima, on the morning of 6 August 1945, fear has gradually become man's first nature. His life on earth has taken on the aspect of what the Koran calls "a long nocturnal journey," like a nightmare whose end he cannot yet foresee.⁴⁹

Attempting to obtain ultimate security through the ultimate weapon, we have failed, for

the proliferation of nuclear firepower has still not been brought under control, despite the existence of the Non-Proliferation Treaty. Fear and folly may still link hands at any moment to perform a final dance of death. Humanity is all the more vulnerable today for being capable of mass producing nuclear missiles.⁵⁰

We are challenged as never before; technology continues to slip away from moral guidance; and law chases after common sense. The power of law must match the power of our weapons.⁵¹ The

47. Threat or Use of Nuclear Weapons, 1996 I.C.J. at 453 (separate opinion of Judge Weeramantry).

48. *Id.* at 273 (separate opinion of Judge Bedjaoui).

49. *Id.* at 268 (separate opinion of Judge Bedjaoui).

50. *Id.* at 269 (separate opinion of Judge Bedjaoui).

51. Judge Weeramantry stated,

Before 1945 "the highest explosive effect of bombs was produced by TNT devices of about 20 tons." The nuclear weapons exploded in Hiroshima and Nagasaki were more or less of the explosive power of 15 and 12 kilotons respectively, i.e., 15,000 and 12,000 tons of TNT (trinitrotoluene) respectively. Many of the weapons existing today and in process of being tested represent several multiples of the explosive power of these bombs. Bombs in the megaton (equivalent to a million tons of TNT) and multiple megaton range are in the world's nuclear arsenals, some being even in excess of 20 megatons (equivalent to 20 million tons of TNT). A one-megaton bomb, representing the explosive power of a million tons of TNT, would be around

International Court of Justice in July of 1996 attempted to do just that.

IV. THE INTERNATIONAL COURT OF JUSTICE

Article 92 of the United Nations Charter establishes the International Court of Justice as the principle judicial organ in the United Nations system, mandated to settle legal disputes submitted to it by states in accordance with international law and to give advisory opinions on legal issues at the request of the United Nations General Assembly, the Security Council, or U.N. specialized agencies. Convening at the Peace Palace in The Hague, the Court is composed of 15 judges elected by the U.N. to nine-year terms of office.⁵²

In 1992, the International Physicians for the Prevention of Nuclear War at the Assembly of the World Health Organization (WHO), a U.N. specialized agency, promoted a resolution to ask the ICJ the following question: "In view of the health and environmental effects, would the use of nuclear weapons by a State in war or

70 times the explosive power of the bombs used on Japan, and a 20-megaton bomb well over a thousand times that explosive power.

Since the mind is numbed by such abstract figures and cannot comprehend them, they have been graphically concretised in various ways. One of them is to picture the quantity of TNT represented by a single one-megaton bomb, in terms of its transport by rail. It has been estimated that this would require a train two hundred miles long. When one is carrying death and destruction to an enemy in war through the use of a single one-megaton bomb, it assists the comprehension of this phenomenon to think in terms of a 200-mile train loaded with TNT being driven into enemy territory, to be exploded there. It cannot be said that international law would consider this legal. Nor does it make any difference if the train is not 200 miles long, but 100 miles, 50 miles, 10 miles, or only 1 mile. Nor, again, could it matter if the train is 1000 miles long, as would be the case with a 5-megaton bomb, or 4000 miles long, as would be the case with a 20-megaton bomb.

Such is the power of the weapon upon which the Court is deliberating—power which dwarfs all historical precedents, even if they are considered cumulatively. A 5-megaton weapon would represent more explosive power than all of the bombs used in World War II and a twenty-megaton bomb "more than all of the explosives used in all of the wars in the history of mankind."

Id. at 452–53 (separate opinion of Judge Weeramantry) (footnotes omitted).

52. For advisory statutes of the Court, see U.N. CHARTER, art. 96 and I.C.J. STATUTE, art. 65. For the U.S. position on granting advisory jurisdiction to the ICJ, see M. POMERANCE, *THE UNITED STATES AND THE WORLD COURT AS A 'SUPREME COURT OF NATIONS': DREAMS, ILLUSIONS AND DISILLUSION* 175–91 (1996). See also BURROUGHS, *supra* note 8, at 11. Because Judge Andres Aguilar Mawdsley of Venezuela died shortly before the hearings on nuclear weapons, the Court's President Judge Mohammed Bedjaoui of Algeria was authorized to cast a tie-breaking vote.

other armed conflict be a breach of its obligations under international law including the WHO Constitution?"⁵³ This question was adopted by the WHO in 1993 and submitted to the ICJ.⁵⁴

Simultaneously, a coalition of civic organizations known as the World Court Project, led by the International Association of Lawyers Against Nuclear Arms (IALANA),⁵⁵ lobbied for the U.N. General Assembly to adopt a resolution posing the broader question: "Is the threat or use of nuclear weapons in any circumstance permitted under international law?"⁵⁶ In 1993, the Resolution was placed before the U.N. General Assembly. The United States, Britain, and France made diplomatic forays to the capitals of many nonaligned countries threatening trade reductions if the Resolution was not opposed. The Resolution was withdrawn.⁵⁷

However, in 1994, the Resolution was reintroduced and, on 15 December 1994, adopted.⁵⁸ The former Director of the U.N. Disarmament Office, William Epstein, described that vote as "the most exciting night in the UN in 30 years,' . . . yet, there was almost no coverage of the drama in the Western media."⁵⁹

Robert Green, in the *Naked Nuclear Emperor*, described the subsequent process:

The Court received 28 written submissions from governments. In addition, it held Oral Proceedings from 30 October – 15 November 1995, at which 22 governments made statements, of which 16 argued for illegality. The US, UK, France and Russia (China took no part) were supported only by Germany and Italy in arguing for

53. See ROCHE, *supra* note 11, at 42.

54. See W.H.A. Res. 46.40, U.N. W.H.O., 46th Sess. (1993) (available in BURROUGHS, *supra* note 8, app. C at 157–58); see also World Health Organization, *Request for an Advisory Opinion Transmitted to the Court under the World Health Organization Resolution of May 14, 1993, Legality of the Use by a State of Nuclear Weapons in Armed Conflict* (visited Nov. 25, 2000) <<http://www.icj-ij.org/icjwww/icasces/ianw/ianwframe.htm>>. For information regarding the Court's rejection of the request on jurisdictional grounds, see *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, 1996 I.C.J. 68 (Advisory Opinion of July 8).

55. See International Association of Lawyers' Against Nuclear Arms website at <<http://www.ialana.org>>.

56. ROCHE, *supra* note 11, at 43.

57. See *id.*

58. *Request for an Advisory Opinion from the ICJ on the Legality of the Threat or Use of Nuclear Weapons*, G.A. Res. 49/75K, U.N. GAOR (1997) (available in BURROUGHS, *supra* note 8, app. D at 159–60); see also *Threat or Use of Nuclear Weapons*, 1996 I.C.J. at 226.

59. ROCHE, *supra* note 11, at 44.

the Court to use its discretion not to answer the question. In all, 45 states and the World Health Organisation gave evidence, over twice the participation in a case in the Court's history. In addition, nearly 4 million individual Declarations of Public Conscience were presented to the Court in support of the case – the first time it had accepted “citizens’ evidence.”

After seven months’ deliberation, the Court gave its decision on 8 July 1996. It accepted the UN General Assembly’s question, and gave a 34-page main Advisory Opinion, plus over 200 pages of separate statements and dissenting opinions by each of the 14 judges.⁶⁰

The nuclear weapon states, in essence, argued that deterrence stabilizes the international system.⁶¹ The United Kingdom, for example, asked the Court not to remove the “veil of constructive silence” over the debate of the legality of nuclear weapons. The United States argued that modern delivery systems are capable of precise strikes, and, therefore, the legality of a nuclear weapon should be addressed in specific instances and not in the abstract.⁶²

The Court held in relevant part that “the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law” and that states are obligated to bring to a conclusion negotiations on nuclear disarmament in all its aspects.⁶³

60. ROBERT GREEN, *THE NAKED NUCLEAR EMPEROR: DEBUNKING NUCLEAR DETERRENCE* 63 (2000). Portions of the text are available at the website <<http://www.disarmsecure/publications/books.org>>.

61. See BURROUGHS, *supra* note 8, app. A at 84–156, for an excellent analysis of the states’ arguments to the Court.

62. ROCHE, *supra* note 11, at 46–47.

63. Threat or Use of Nuclear Weapons, 1996 I.C.J. at 266–67. The Response (Dispositif) to the General Assembly of the United Nations question reads:

THE COURT:

(1) By thirteen votes to one, *Decides* to comply with the request for an advisory opinion;

IN FAVOUR: *President* Bedjaoui; *Vice-President* Schwebel; *Judges* Guillaume, Shahabuddeen, Weeramantry, Ranjeva, Herczegh, Shi, Fleischhauer, Koroma, Vereshchetin, Ferrari Bravo, Higgins; AGAINST: *Judge* Oda.

(2) Replies in the following manner to the question put by the General Assembly:

A. Unanimously, There is in neither customary nor conventional international law any specific authorization of the threat or use of nuclear weapons;

B. By eleven votes to three, There is in neither customary nor conventional

The decision failed to resolve several questions, such as: Did the Court open the way for permissible uses of a nuclear weapon by saying that it is "generally" illegal and that it could not say that there would never be an attack on a country that threatened its very existence to which nuclear weapons would be necessarily an illegal response? Did the Court acknowledge that there were conceivably hypothetically legally compliant uses?

It quoted the United Kingdom's statement that "'in some cases, such as the use of a low yield nuclear weapon against warships on the High Seas or troops in sparsely populated areas, it is possible to envisage a nuclear attack which caused comparatively few civilian casualties.'"⁶⁴ However, the Court further pointed out that no state

international law any comprehensive and universal prohibition of the threat or use of nuclear weapons as such;

IN FAVOUR: *President* Bedjaoui; *Vice-President* Schwebel; *Judges* Oda, Guillaume, Ranjeva, Herczegh, Shi, Fleischhauer, Vereshchetin, Ferrari Bravo, Higgins; AGAINST: *Judges* Shahabuddeen, Weeramantry, Koroma.

C. Unanimously, A threat or use of force by means of nuclear weapons that is contrary to Article 2, paragraph 4, of the United Nations Charter and that fails to meet all the requirements of Article 51, is unlawful;

D. Unanimously, A threat or use of nuclear weapons should also be compatible with the requirements of the international law applicable in armed conflict particularly those of the principles and rules of international humanitarian law, as well as with specific obligations under treaties and other undertakings which expressly deal with nuclear weapons;

E. By seven votes to seven, by the President's casting vote,

It follows from the above-mentioned requirements that the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law; However, in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defense, in which the very survival of a State would be at stake;

IN FAVOUR: *President* Bedjaoui; *Judges* Ranjeva, Herczegh, Shi, Fleischhauer, Vereshchetin, Ferrari Bravo; AGAINST: *Vice-President* Schwebel; *Judges* Oda, Guillaume, Shahabuddeen, Weeramantry, Koroma, Higgins.

F. Unanimously, There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.

Id. For full opinion and commentary, see NUCLEAR WEAPONS ARE ILLEGAL, *supra* note 32. For an analysis with excellent bibliography on the opinion, see BURROUGHS, *supra* note 8. The opinion is available at cost from the UN (document A/51/218, 15 Oct. 1996), UN Publications, 2 UN Plaza, DC2-853, NY, NY 10017, 212-963-8302.

64. Threat or Use of Nuclear Weapons, 1996 I.C.J. at 261 (citation omitted).

demonstrated when even such a limited use would be justifiable or “feasible.”⁶⁵

The Court ruled unanimously that nuclear weapons must, in any and all instances, obey humanitarian laws of war.⁶⁶ Can our most basic moral judgments, founded on “dictates of public conscience” and “elementary considerations of humanity,” which remain “fundamental” and “intransgressible,” be squared with these devices?⁶⁷ It seems scarcely reasonable with respect to these humanitarian legal requirements that they can.⁶⁸

The Court stated unequivocally that the rules of armed conflict, including humanitarian law,⁶⁹ prohibit the use of any weapon that is likely to cause unnecessary suffering to combatants;⁷⁰ that is incapable of distinguishing between civilian and military targets;⁷¹ that violates principles protecting neutral states (such as through fall-out or nuclear winter);⁷² that is not a proportional response to an attack;⁷³

65. *See id.* at 262.

66. *See id.* at 266.

67. *See id.* at 257.

68. *See id.* at 262–63.

69. The United States appears to have an ambiguous position regarding humanitarian law. The United States Air Force manual on International Law quotes the Chairman of the Joint Chiefs of Staff: “The Armed Forces of the United States have benefited from, and highly value, the humanitarianism encompassed by the laws of war. Many are alive today only because of the mutual restraint imposed by these rules, notwithstanding the fact that the rules have been applied imperfectly.” MOXLEY, *supra* note 5, at 769 n.175 (quoting THE UNITED STATES DEPARTMENT OF THE AIR FORCE, INTERNATIONAL LAW – THE CONDUCT OF ARMED CONFLICT AND AIR OPERATIONS 1-8 to 1-9 (1976) (citations omitted)). Notwithstanding such praise of humanitarian law, presently

[t]he U.S. position is that it is entitled to target civilians in circumstances when reprisals are appropriate. U.S. Air Force Colonel Charles J. Dunlap, Jr., the Staff Judge Advocate, U.S. Strategic Command, Offutt Air Force Base, Nebraska, in a 1997 article, stated:

Legal advisors should likewise be aware that while the U.S. does not target populations per se, it reserves the right to do so under the limited circumstances of belligerent reprisal. The U.S. (along with other declared nuclear powers) insists that Protocol I to the Geneva Conventions does not apply to nuclear weapons. Hence, prohibitions contained in Protocol I forbidding reprisals against civilians are not, in the U.S. view, applicable to nuclear operations.

MOXLEY, *supra* note 5, at 448 n.4 (quoting Charles J. Dunlap, Jr., *Taming Shiva: Applying International Law to Nuclear Operations*, 42 A.F.L. Rev. 157, 163 (1997) (citations omitted)).

70. *See* Threat or Use of Nuclear Weapons, 1996 I.C.J. at 257, 262–63.

71. *See id.*

72. *See id.* at 257.

73. *See id.*

or that does permanent damage to the environment.⁷⁴

Under no circumstance may states make civilians the object of attack, nor can they use weapons that are incapable of distinguishing between civilian and military targets. These limitations continue to hold regardless of whether the survival of a state, acting in self-defense, is at stake.

For this reason, the President Judge stated in forceful terms that the Court's inability to go beyond its statement "can in no way be interpreted to mean that it is leaving the door ajar to the recognition of the legality of the threat or use of nuclear weapons."⁷⁵ He emphasized his point by stating that nuclear weapons are "*the ultimate evil and destabilize humanitarian law which is the law of the lesser evil. The very existence of nuclear weapons is therefore a major challenge to the very existence of humanitarian law.*"⁷⁶

The Court held that no formal testimony was presented that nuclear weapons can meet the humanitarian law requirements for their use.⁷⁷

The President Judge said, "*Atomic warfare and humanitarian law therefore appear to be mutually exclusive, the existence of one automatically implying the non-existence of the other.*"⁷⁸ The Court said,

[M]ethods and means of warfare, which would preclude any distinction between civilian and military targets, or which would result in unnecessary suffering to combatants, are prohibited. In view of the unique characteristics of nuclear weapons . . . the use of such weapons in fact seems scarcely reconcilable with respect for such requirements.⁷⁹

Discordance between the incompatibility of these devices with the requirements of humanitarian law, the assertion that there could be possible instances in which their use could be legal, and the reliance on the doctrine of deterrence compelled the Court to seek a resolution: "the long-promised complete nuclear disarmament ap-

74. *See id.* at 242-44.

75. *Id.* at 270 (separate opinion of Judge Bedjaoui).

76. *Id.* at 272 (separate opinion of Judge Bedjaoui).

77. *See id.* at 261-63.

78. *Id.* at 273 (separate declaration of Judge Bedjaoui).

79. *Id.* at 262.

pears to be the most appropriate means of achieving that result.”⁸⁰ The requirements of moral coherence and ethical conduct and the need for “international law, and with it the stability of the international order which it is intended to govern,”⁸¹ drive the imperative of nuclear disarmament.

V. THE ON-GOING PROBLEM OF DETERRENCE

Legal and moral questions engendered by the threat of massive destruction and injury to the innocent, the environment, and future generations continue to loom before us. We are not faced with nuclear policies founded on a strategy of dropping depth charges in mid-ocean or bombs in the desert. Nuclear weapons policy⁸² is based on deterrence,⁸³ with its reliance on the horrific destruction of vast numbers of innocent people and the destruction of the environment, rendering the world hostile to generations yet to be blessed with life.⁸⁴

Nuclear deterrence theory is based on raising the cost of an adversary's actions to unacceptably high levels through utilizing the threat of nuclear attack to deter an unwanted action.⁸⁵ The value of nuclear weapons is their ability to influence conduct without being

80. *Id.* at 263.

81. *Id.*

82. See MOXLEY, *supra* note 5, at 469. U.S. nuclear contingency planning is set forth in the Single Integrated Operating Plan (SIOP). It is a highly secret blueprint for the use of nuclear weapons in conflict, stored on three floors of mainframe computers at U.S. Strategic Air Command. SIOP currently contemplates a wide variety of actions. Experts speculate that the current plan includes options from one demonstration attack with one weapon to more than 600 missile strikes of nearly 3,000 warheads in less than one half an hour. *Id.* at 470. See also Robert S. Norris & William M. Arkin, *U.S. Strategic Nuclear Forces, End of 1998*, 55 BULL. OF ATOMIC SCIENTISTS 78 (1999). Decisions regarding use of nuclear weapons are done under the explicit decision of the President integrated with U.S. Strategic Command, by combatant commanders as to the specific selection of targets pursuant to the Joint Nuclear Operations Manual. See DOCTRINE FOR JOINT NUCLEAR OPERATIONS, *supra* note 40.

The Manual boldly asserts that for deterrence against large-scale aggression against the U.S. and its allies to be effective there must be real-force capacities and “national determination to use those forces.” As Charles Moxley so well puts it, “‘nuclear war-fighting’ theory is alive and well in U.S. military planning.” MOXLEY, *supra* note 5, at 479.

83. See MOXLEY, *supra* note 5, at 479. For an excellent analysis of nuclear deterrence theory, see also GREEN, *supra* note 60, at 14–19. See also ROBERT JERVIS, *THE ILLOGIC OF AMERICAN NUCLEAR STRATEGY* (1984).

84. See TURNER, *supra* note 7, at 127–34; see also BURROUGHS, *supra* note 8, at 90–91.

85. See GREEN, *supra* note 60, at 14–19.

exploded.⁸⁶ Senator Douglas Roche, former Canadian Ambassador for Disarmament, contextualized our historic predicament in *The Ultimate Evil*:

The doctrine of nuclear deterrence became the basic military strategy of both Washington and Moscow during the Cold War. Under nuclear deterrence, both sides profess to have enough firepower to launch a successful retaliatory strike after taking the first nuclear blow of the opponent. The aggressor's destruction is thus assured, the elemental fact that keeps the aggressor from striking in the first place. In the event of a nuclear exchange, the strategy of nuclear deterrence leads to mutual assured destruction: thus the famous acronym MAD.⁸⁷

The ultimate evil becomes an ultimate irony: value based on non-use. Yet, nuclear deterrence remains "central to U.S. nuclear posture."⁸⁸

Deterrence proponents claim that nuclear weapons are not so much instruments for the waging of war but political instruments "intended to prevent war by depriving it of any possible rationale."⁸⁹ The United States has boldly argued that because deterrence is believed to be essential to its international security the threat or use of nuclear weapons must *therefore* be legal. The United States representative stated,

86. Potential enemies face a menu of nuclear responses to threats. This menu is designed to deter aggression and includes: deterrence, extended deterrence, mutual-assured destruction, first strike or first use, second strike capability, preemptive strike, counter-force strike, counter-value strike, counter-varying strategy. For a clear explanation of each nuanced policy, see MOXLEY, *supra* note 5, at 447–51.

87. ROCHE, *supra* note 11, at 9; *see also* MOXLEY, *supra* note 5, at 447–48 n.4; Brigid Schulte, *A Timeline of the Nuclear Age*, SEATTLE TIMES, Aug. 9, 1995.

In February 1964, Secretary of Defense Robert McNamara reflected the American policy of MAD: "A full-scale nuclear exchange between the United States and the USSR would kill 100 million Americans during the first hour. It would kill an even greater number of Russians, but I doubt that any sane person would call this 'victory.'"

Id.

88. *See* MOXLEY, *supra* note 5, at 477. However, Former Secretary of Defense Perry has stated that the U.S. now pursues Mutual Assured Safety (MAS), based on leading and reducing nuclear arsenals and hedging against political changes in Russia by on-going preparedness to reconstitute nuclear forces. The substantive changes from Mutual Assured Destruction (MAD), with respect to Russia, however, remain largely inchoate. *See id.*; *see also* WILLIAM PERRY, 1996 ANNUAL REPORT TO THE PRESIDENT AND THE CONGRESS 213–15 (1996).

89. BURROUGHS, *supra* note 8, at 133 (quoting Marc Perrinde Brichambaut, France, Verbatim record (trans.) Nov. 1, 1995, 33).

If these weapons could not lawfully be used in individual or collective self-defense *under any circumstances*, there would be no credible threat of such use in response to aggression and deterrent policies would be futile and meaningless. In this sense, it is impossible to separate the policy of deterrence from the legality of the use of the means of deterrence. Accordingly, any affirmation of a general prohibition on the use of nuclear weapons would be directly contrary to one of the fundamental premises of the national security policy of each of these many States.⁹⁰

Nuclear deterrence doctrine is based on threatening massive destruction; such destruction would most certainly violate numerous principles of humanitarian law.⁹¹ The Court emphasized the foregoing by stating, “[I]f the use of force itself in a given case is illegal—for whatever reason—the threat to use such force will likewise be illegal.”⁹² “If an envisaged use of weapons would not meet the requirements of humanitarian law, a threat to engage in such use would also be contrary to that law.”⁹³

Even in the instance of retaliation, the moral absurdity challenges us. As Mexico’s Ambassador Sergio Gonzalez Galvez told the Court, “Torture is not a permissible response to torture. Nor is mass rape acceptable retaliation to mass rape. Just as unacceptable is retaliatory deterrence—‘You burnt my city, I will burn yours.’”⁹⁴

Professor Eric David, on behalf of the Solomon Islands, stated,

If the dispatch of a nuclear weapon causes a million deaths, retaliation with another nuclear weapon which will also cause a million deaths will perhaps protect the sovereignty of the state suffering the

90. Michael Matheson, US, Verbatim record, Nov. 15, 1995, 62–63, (emphasis added) available at <http://www.icj-cij.org/icjwww/icses/iunan/iunan_cr/iUNAN_iCR9534_19951115.PDF>.

91.

The nuclear weapon is, in many ways, the negation of the humanitarian consideration underlying the law applicable in armed conflict and of the principle of neutrality. The nuclear weapon cannot distinguish between civilian and military targets. It causes immeasurable suffering. The radiation released by it is unable to respect the territorial integrity of a neutral state.

MOXLEY, *supra* note 5, at 181 (quoting Threat or Use of Nuclear Weapons, 1996 I.C.J. at 306 (separate opinion of Judge Fleischauer)).

92. Threat or Use of Nuclear Weapons, 1996 I.C.J. at 246.

93. *Id.* at 257.

94. Gonzalez Galvez, Mexico, Verbatim record, Nov. 3, 1995, 51 available at <http://www.icj-cij.org/icjwww/icses/iunan/iunan_cr/iUNAN_iCR9525_19951103.PDF>.

first strike, and will perhaps satisfy the victim's desire for revenge, but it will not satisfy humanitarian law, which will have been breached not once but twice; and two wrongs do not make a right.⁹⁵

Judge Weeramantry rigorously analyzed deterrence theory. On intention, he stated,

Deterrence needs to carry the conviction to other parties that there is a real intention to use those weapons in the event of an attack by that other party. A game of bluff does not convey that intention, for it is difficult to persuade another of one's intention unless one really has that intention. Deterrence thus consists in a real intention to use such weapons. If deterrence is to operate, it leaves the world of make-believe and enters the field of seriously intended military threats.⁹⁶

On deterrence and mere possession, he stated,

Deterrence is more than the mere accumulation of weapons in a storehouse. It means the possession of weapons in a state of readiness for actual use. This means the linkage of weapons ready for immediate take off, with a command and control system geared for immediate action. It means that weapons are attached to delivery vehicles. It means that personnel are ready night and day to render them operational at a moment's notice. There is clearly a vast difference between weapons stocked in a warehouse and weapons so readied for immediate action. Mere possession and deterrence are thus concepts which are clearly distinguishable from each other.⁹⁷

For deterrence to work, one must have the resolve to cause the resulting damage and devastation.

Is deterrence limited to depth charges in the ocean or strikes in the desert? Are we willing to permit global security to rely on a bluff? If it is not a lie but a resolve to be willing to destroy so much, are we not reducing humanitarian law to being a mere servant of raw power? Is not the very definition of lawlessness when might claims to make right?

95. BURROUGHS, *supra* note 8, at 108 (quoting Eric David, Solomon Islands, Verbatim record, (trans.), Nov. 14, 1995, 45).

96. Threat or Use of Nuclear Weapons, 1996 I.C.J. at 540 (separate opinion of Judge Weeramantry).

97. *Id.*

While deterrence continues to place all life on the planet in a precarious position of high risk, one must wonder whether it provides any possible security against accidental or unauthorized launches, computer error, irrational rogue actions, terrorist attack, criminal syndicate utilization of weapons, and other irrational and unpredictable,⁹⁸ but likely, scenarios.

Did the Court undermine the continued legitimacy of deterrence? The Court stated clearly that “if the use of force itself in a given case is illegal—for whatever reason—the threat to use such force will likewise be illegal.”⁹⁹

The moral position of the nuclear weapon states is essentially that the threat to commit an illegal act—massive destruction of innocent people—is legal because it is so horrible to contemplate that it ensures the peace. Thus the argument is that the threat of committing that which is patently illegal is made legal by its own intrinsic illogic.

The reliance on the value of the doctrine of nuclear deterrence impedes progress in moving towards the elimination of nuclear weapons.¹⁰⁰ An unambiguous political commitment by the nuclear weapon states to eliminate nuclear weapons, evidenced by unambiguous immediate pledges never to use them first as well as placing the weapons in a de-alerted posture pending their ultimate elimination, will promptly evidence the good faith efforts by the nuclear weapon states to reduce our collective risks. These steps increase our collective security but are hardly enough to meet the clear decision of the Court and the dictates of reason. Only good faith multilateral negotiations leading to elimination of these devices will bring law, morals, ethics, and reason into coherence. Only then will we be able to tell our children that ultimate violence will not bring ultimate security. Ultimate security results from a culture of peace based on law, reason, and values.

VI. CONCLUSION

We are heartened by the level of cooperation articulated in the integrated human security agendas that emerged from the world summits of the 1990's, which addressed our common environmental

98. Chuck Hansen has compiled an “Oops List” of nuclear accidents, which is available on the Bulletin of Atomic Scientists’ website at <<http://www.bullatomsci.org>>.

99. Threat or Use of Nuclear Weapons, 1996 I.C.J. at 246.

100. MOXLEY, *supra* note 5, at 447–51.

and human security concerns.¹⁰¹ The World Summit for Children in New York in 1990;¹⁰² The World Conference on Environment and Development (Earth Summit) in Rio in 1992;¹⁰³ The World Conference on Human Rights in Vienna in 1993;¹⁰⁴ The International

101. For an excellent description of the World Summits set forth in the year-end briefing paper, see UN BRIEFING PAPERS, *THE WORLD CONFERENCES: FOR DEVELOPING PRIORITIES FOR THE 21ST CENTURY* (Dep't of Public Info., United Nations ed., 1997) [hereinafter UN BRIEFING PAPERS]. See also ROCHE, *supra* note 4, at 68–71. See generally *World Summit for Children*, U.N. Doc. A/45/625 (1990).

102.

The World Summit for Children in New York in 1990 issued a convention on the Rights of the Child and set goals for reducing deaths, malnutrition, disease and disability among the children of the developing world. Already 89 countries have reached the end decade target of over 90% immunization coverage, and the achievement of the goal of the eradication of polio . . . is in sight.

Jonathan Granoff, *Awakening Global Family Values, in INDIA, NUCLEAR WEAPONS & GLOBAL SECURITY* 19 (1998); see also UN BRIEFING PAPERS, *supra* note 101.

There has been a dramatic improvement in the management of diarrhea saving the lives of at least a million children annually. The program for iodine deficiency control has led to over 1.5 billion more people consuming iodized salt in 1995 than in 1990, and, as a result, 12 million infants are protected from mental retardation each year. The population without access to safe drinking water has fallen by about one third, helping over a billion people. See *id.*

103.

The World Conference on Environment and Development (Earth Summit) in Rio in 1992 produced a Biodiversity Convention, a Global Warming Convention, a Statement on Forest Principles, a Declaration on Environment and Development, and Agenda 21. The last is a blueprint for the sustainable development of the planet into the 21st century.

Granoff, *supra* note 102, at 19; see also UN BRIEFING PAPERS, *supra* note 101. The imperative of a rule of law governing sustainable development and a business environment will obviously take an enormous shift in the attitude of our leaders. The interdependence of the world's economic system bodes well that cooperative efforts could bear fruit rapidly when the political will is harnessed. In the same way as a village must cooperate to protect its commons, we will need far higher levels of international cooperation to address the problems of ozone depletion, global warming, and water pollution that continue to grow in seriousness. Nevertheless, Agenda 21 remains the only globally accepted comprehensive outline to respond to our planetary crisis. See *id.* An interpretive guide to Agenda 21, *The Global Partnership for Environment and Development* is available from the UN (UN Sales No. E.93.I.9.).

104.

The World Conference on Human Rights in Vienna in 1993 adopted a Declaration and Programme of Action, including the establishment of the office of UN High Commissioner for Human Rights, designed to strengthen human rights around the world. The Vienna Declaration set forth the universality, indivisibility, and interdependence of civil, cultural, economic, political and social rights as the birthright of all human beings and the first responsibility of governments.

Granoff, *supra* note 102, at 19. It clarified the essential relationship between development, democracy, and the promotion of human rights. Despite sensitivity regarding respect for national sovereignty principles, it was agreed that within the framework of the purposes and principles of the charter of the U.N. the promotion and protection of human rights is a legitimate

Conference on Population and Development in Cairo in 1994;¹⁰⁵ The World Summit for Social Development in Copenhagen in 1994;¹⁰⁶ The Conference on Climate Change in Berlin in 1995;¹⁰⁷ The Fourth World Conference on Women in Beijing in September 1995;¹⁰⁸ and The City Summit (Habitat II) in June 1996.¹⁰⁹ How-

international community concern. "The emergence of an international criminal court can be indirectly attributed to the institutional momentum generated by this conference." *Id.*; see also UN BRIEFING PAPERS, *supra* note 101; The Vienna Declaration and Programme of Action, U.N. Doc. A/CONF.157/24 (1993).

105. "The International Conference on Population and Development in Cairo in 1994 shifted the previous emphasis on demography and population control to sustainable development and recognition of the need for universal reproductive health care and reproductive rights. Its declaration emphasized the empowerment of women, appreciation for pluralistic values and religious beliefs, reaffirmation of the central role of the family, and the needs of adolescents." Granoff, *supra* note 102, at 19; see also *Declaration of International Conference on Population and Development*, U.N. Doc. A/CONF. 171/13(1995).

106.

The World Summit for Social Development in Copenhagen in 1994 brought together 117 heads of state to issue a political Declaration and Programme of Action to alleviate and reduce poverty (including the eradication of absolute poverty), expand productive employment, and enhance social integration. In many ways, the social summit is the centerpiece of the global conferences of the 1990's. The Summit Declaration set forth 10 commitments each followed by specific recommendations for action at national and international levels.

Granoff, *supra* note 102, at 19. They include, in part: the eradication of poverty in the world, with policies addressing the root causes of poverty giving special attention to the needs of women and children and other vulnerable and disadvantaged; the promotion of full employment and social integration by fostering social stability and justice based on nondiscrimination, tolerance, and the protection of human rights; the achievement of equality and equity between women and men; the promotion of universal and equitable access to quality education and health care; the acceleration of the economic, social, and human resource development of Africa and the least-developed countries through the promotion of democratic institutions and addressing problems such as external debt, economic reform, food security, and commodity diversification. See UN BRIEFING PAPERS, *supra* note 101.

107. "The Conference on Climate Change in Berlin in 1995 started a process to limit and reduce emission of greenhouse gases within specified time frames, such as 2005, 2010, and 2020." Granoff, *supra* note 102, at 19; see also UN BRIEFING PAPERS, *supra* note 101; Dep't of Public Info., United Nations, *Press Release HR/888* (Apr. 12, 1995) (on file with author).

108. "The Fourth World Conference on Women in Beijing in September 1995 produced a comprehensive plan, the 'Beijing Declaration and Platform for Action,' for the international community to promote the status of women to the ultimate benefit of society as a whole." Granoff, *supra* note 102, at 20. Twelve critical areas of concern are dealt with in depth: poverty, education, health, violence against women, armed conflict, economic structures, power sharing and decision-making, mechanisms to promote the advancement of women, human rights, the media, the environment, and the girl child. It redefined women's rights as human rights, asserting women's rights to "have control over and decide freely and responsibly on matters related to their sexuality, including sexual and reproductive health, free of coercion, discrimination, and violence [T]he United States launched a six year, \$1.6 billion initia-

ever, it must be pointed out that to fulfill the commitments made at these summits a new level of cooperation is required. It is appropriate, therefore, that the United Nations has declared the first ten years of the twenty-first century as dedicated to the creation of a Culture of Peace and Non-Violence for the Children of the World.¹¹⁰

tive to fight domestic violence and even established a White House Council on Women to plan for the effective implementation in the United States of the platform for action" with full participation of NGOs. *Id.* It was the largest conference ever convened by the U.N., with 5,000 delegates from 189 States and the European Union. In addition, an independent NGO Forum m attracted 30,000 participants. *See id.*; *see also* UN BRIEFING PAPERS, *supra* note 101.

109.

The City Summit (Habitat II) in Istanbul in June 1996 produced a Declaration on Sustainable Human Settlements and brought together many of the themes of the previous world summits. Recognising that inadequate living conditions are a primary cause of social conflict, an agreement was reached on specific commitments such as adequate shelter for all, financing human settlements, international cooperation and review of progress in the future.

Granoff, *supra* note 102, at 20. Reports were received from over 500 mayors and key municipal leaders constituting the World Assembly of Cities and Local Authorities. It also convened NGO groups in forums that included the World Business Forum, the Foundations Forum, the Academies of Sciences and Engineering Forum, the Professionals and Researchers Forum, the Parliamentarians Forum, the Labor Union's Forum, the Forum on Human Solidarity, and even the Wisdom Keepers Forum.

By the year 2010 over half the world's population will be living in cities, with at least 20 mega cities. We are ill prepared to deal with the social repercussions of such a dramatic global transformation but the conference Secretary General, Wally N'dow put it simply, 'The resources exist to put a roof over the head and bring safe water and sanitation for less than \$100 per person to every man, woman and child on the planet.' This is the new reality of security.

Id.; *see also* UN BRIEFING PAPERS, *supra* note 101.

110.

The International Decade for a Culture of Peace and Non-Violence for the Children of the World can help set the course for the United Nations in the twenty-first century towards a just and peaceful global community. In particular, the Programme of Action on a Culture of Peace for the Decade adopted by the General Assembly in resolution 53/243 B of 13 September 1999 calls for a global movement for a culture of peace and defines eight areas of action for the International Year for the Culture of Peace and for the International Decade. These eight areas ([UN General] Assembly resolution 53/243 B. paras. 9-16) span the full range of actions needed for the transition to a culture of peace and non-violence:

- (a) A culture of peace through education;
- (b) Sustainable economic and social development;
- (c) Respect for all human rights;
- (d) Equality between women and men;
- (e) Democratic participation;
- (f) Understanding, tolerance and solidarity;
- (g) Participatory communication and the free flow of information and knowledge;
- (h) International peace and security.

That Culture of Peace will require a pattern in which trust, respect, and transparency will breed disarmament and reverse the pattern of fear and threat that continues to justify irrational levels of armaments. According to the Brookings Institution, the U.S. alone has spent \$5.8 trillion on nuclear arms since 1940 and continues to spend over \$90 million per day on nuclear weapons.¹¹¹ General Dwight D. Eisenhower said,

Every gun that is made, every warship launched, every rocket fired signifies, in the final sense, a theft from those who hunger and are not fed, those who are cold and are not clothed. This world in arms is not spending money alone. It is spending the sweat of its laborers, the genius of its scientists, the hopes of its children.¹¹²

The moral experience of shame has been placed in us along with the moral sensibility of revulsion. What right do we have to organize ourselves such that we might give human beings the Sophie's choice to end all life on the planet in order to save a *human* creation, the state. As General Omar Bradley stated,

We live in an age of nuclear giants and ethical infants, in a world that has achieved brilliance without wisdom, power without conscience. We have solved the mystery of the atom and forgotten the lessons of the Sermon on the Mount. We know more about war than we know about peace, more about dying than we know about living.¹¹³

It is time that we took bold moves to redress the moral incoherence of the twentieth century. Now is the time in which "statesmen" and citizens¹¹⁴ must delve deep into themselves and, seeking a state

International Decade for a Culture of Peace and Non-Violence for the Children of the World, U.N. GAOR, 55th Sess., Agenda Item 33, at 2, U.N. Doc. A/55/377 (2000); see also UNESCO website at <<http://www.unesco.org/cpp/uk>>.

111. See MOXLEY, *supra* note 5, at 548 n.44 (citing Stephen I. Schwartz, *Introduction to ATOMIC AUDIT 4* (Stephen I. Schwartz ed., 1998)).

112. Dwight D. Eisenhower, *Chance for Peace*, Speech Before the American Society of Newspaper Editors 3 (Apr. 16, 1953) (transcript available at <<http://www.eisenhower.utexas.edu/chance.htm>>).

113. GREEN, *supra* note 60, at 54 (quoting Lee Butler, Address to the Canadian Network Against Nuclear Weapons (Mar. 11, 1999)).

114. Ambassador Richard Butler concludes his passionate book, *The Greatest Threat: Iraq, Weapons of Mass Destruction, and the Crisis of Global Security*, after setting forth suggestions to reduce risks posed by weapons of mass destruction, as follows:

To conclude this book, I recall its opening epigraph, that is, the quote from Edmond Burke: "The only thing necessary for the triumph of evil is for good men to

of grace, grasp this moment of hazard and opportunity with our full humanity.¹¹⁵ Ultimate hazard and horror is our future if we let it slip away; opportunity to lead the world in fulfilling nothing less than an ultimate moral imperative—nuclear disarmament—is ours if we meet the challenge. This is a long journey that must take us from fear and incoherence into reason, law, and moral coherence. Law alone will not lead us away from the brink of disaster, but without it the tools of statecraft and even wisdom are not adequate.

do nothing.” Now consider these questions: What would Burke conclude about the challenge to all humanity posed by weapons of mass destruction? Would it meet the test of the triumph of evil if we did nothing?

Absolutely.

RICHARD BUTLER, *THE GREATEST THREAT: IRAQ, WEAPONS OF MASS DESTRUCTION, AND THE CRISIS OF GLOBAL SECURITY* 242 (2000). There have been significant declarations recently by military leaders and leaders of civil society, including present and former heads of state, and religious leaders that call for the elimination of nuclear weapons. *See generally* Global Security Institute, Present Undertakings (visited Nov. 21, 2000) <<http://www.gs institute.org/projects/projects.html>>. There are thousands of citizens organizations, Non Governmental Organizations (NGOs), worldwide, working to reduce or eliminate the threats posed by nuclear weapons. Listed below are the web locations of several, some of which contain extensive links to many others:

- 1) <<http://www.igc.org/disarm/ngolinks.html>>;
- 2) Lawyers Alliance for World Security: <<http://www.lawscns.org>>;
- 3) International Association of Lawyers Against Nuclear Arms: <<http://www.ia-lana.org>>;
- 4) Middle Power Initiative: <<http://www.middlepowers.org>>;
- 5) International Physicians for the Prevention of Nuclear War*: <<http://www.ippnw.org>>;
- 6) Global Security Institute: <<http://www.gs institute.org>>;
- 7) Center for Defense Information: <<http://www.cdi.org>>;
- 8) International Peace Bureau*: <<http://www.ipb.org>>;
- 9) NGO Committee on Disarmament: <<http://www.igc.org/disarm>>;
- 10) Acronym Institute: <<http://www.acronym.org>>;
- 11) Nuclear Age Peace Foundation: <<http://www.napf.org>>;
- 12) The Henry L. Stimson Center: <<http://www.stimson.org>>;
- 13) Carnegie Endowment for International Peace: <<http://www.ceip.org>>;
- 14) Union of Concerned Scientists: <<http://www.ucsusa.org>>; and
- 15) Pugwash Conference on Science and World Affairs*: <<http://www.pugwash.org>>.

*Recipients of Nobel Peace Prizes

115. “There lies before us, if we choose, continued progress in happiness, knowledge, and wisdom. Shall we, instead, choose death, because we cannot forget our quarrels? We appeal, as human beings, to human beings: Remember your humanity and forget the rest.” THE EXPANDED QUOTABLE EINSTEIN, *supra* note 1, at 184.