

Nuclear Dangers – Nuclear Disarmament

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Good Morning!

Thank you for the invitation to speak. Here we are, less than a week after the Royal Wedding, a few days after the killing of Osama Bin Laden, and voting day in Canada today! I am gratified that there so many of you here today to listen to me talk about the dangers posed by nuclear weapons. It is hardly a normal Monday morning topic of discussion, though it should be because it is one of the most important and ignored issues of our time. And I commend you for your interest.

My understanding is that some of you read the review in the Vancouver Sun of the Global Zero documentary, *Countdown to Zero* and also read the accompanying interview with me, below the article and for this reason invited me to speak to you. I am very happy to do this.

I don't know how many of you saw *Countdown to Zero*. It didn't get a fair run in Vancouver because Leonard Schein, of Festival Cinemas, bought the rights, and within one week of purchase screened the film because he thought it would get lost in the forthcoming International Film Festival. There was not enough time for him, or for Global Zero, to promote it effectively.

It is an excellent documentary, and was a highlight at both the Film Festivals at Sundance and Cannes. If you are interested in viewing the film I have a DVD here, and we are expecting a shipment soon so I can provide more later on.

Countdown to Zero brings attention to the dangers of nuclear weapons and to the fact that, despite the end of the Cold War, these weapons continue to pose immense danger to human beings. The numbers have come down but there are still more than 23,000 - enough to destroy everybody on earth.¹ Because the documentary was a commercial entity, the director - in order to draw in her audience - focused primarily on the very real danger of nuclear terrorism, on the smuggling of radioactive material and of terrorists continuing attempts to acquire nuclear weapons or radioactive material.

Having said that, I don't want to downplay in any way the dangers of terrorists seeking nuclear weapons. General Jack Sheehan, former Supreme Allied Commander Atlantic for NATO and Commander-in-Chief for the U.S. Atlantic Command, told me that a nuclear weapon could be loaded on the back of a truck and some TNT added and driven into a building. Also a few weeks ago I was on a panel at a conference and sitting next to Valerie Plame, the outed CIA Agent, who featured in the film. She made very clear that terrorists are seeking nuclear weapons - "even as I speak," she said, "Al Qaeda is actively working to get these weapons."

There are equally important dangers which did not receive as much attention in the film. Nuclear weapons were not eliminated at the end of the Cold War. The dangers have remained, and have, in fact, become more complex and thus accelerate the danger.

¹ US 9,400, Russia 13,000, France 300, China 240, UK 185, Israel 80, India 60, Pakistan 60, North Korea 10

Since the end of the Cold War, *the number of states* with nuclear weapons has grown from five to nine; *states capable of developing nuclear weapons* have grown in number; *nuclear technology* is proliferating and is also trafficked illegally, thus enhancing the likelihood that terrorists will acquire nuclear materials and nuclear weapons. There is also the danger *of cyber failure* and the danger of *cyber attacks*. Hackers – on a regular basis - attempt to penetrate the Pentagon and the nuclear weapons command and control systems which is very frightening because the command and control system is highly automated.

I think before I proceed any further, I should say a few words about the Nuclear Non-Proliferation Treaty because this treaty is the foundation document which controls the nuclear agenda. It is the most legally-binding and universal of all the United Nations treaties for the simple reason that all but four of the UN member states are parties to the Treaty. The United Nations has 192 member countries. 188 of these states belong to the Nuclear Non-Proliferation Treaty.

The Treaty opened for signature in July 1968 and has been extended indefinitely. And now only Pakistan, India and Israel - all states with nuclear weapons - have not signed and North Korea has withdrawn. When the Treaty opened for signature there were five states with nuclear weapons – the United States, the former Soviet Union – Russia has assumed its obligations - the United Kingdom, France and China. These states committed to eliminate their arsenals in exchange for the commitment by the 183 other states that they will neither acquire nor develop nuclear weapons. In exchange for their commitment to forgo nuclear weapons, these states are granted access to nuclear technology for peaceful uses of nuclear power.

For this reason the Treaty is sometimes defined as a Faustian bargain because it is not difficult to transform either heavy or light water nuclear reactors from power generation to the production of weapons - as India, Pakistan and North Korea have demonstrated. I should say here that India, Pakistan and Israel, having not signed the treaty, were within their rights to develop nuclear weapons. Although India transformed a Canadian reactor provided only for research purposes. And the states which provided Pakistan and Israel with nuclear technology violated treaty obligations.

North Korea, after it legally acquired the technology through its membership in the NPT, transformed its reactors to bomb making capacity and withdrew from the Treaty. Iraq and Libya were also transforming the technology in order to build bombs. But Iraq's actions were halted by the first Gulf war and Libya was enticed to give up its programme. Currently, Iran and Syria are suspected of developing weapons from their legally-acquired nuclear technology. And there is the distinct possibility that other states, having obtained the technology, will be tempted to follow suit because, when you face it, nuclear weapons are all about power!

Though the five states possessing nuclear weapons at the opening of the Treaty are in no hurry to fulfill their part of the bargain and eliminate their arsenals, we are not in danger of a deliberate war between these states. ***But we are at risk because of the continued existence of nuclear weapons on hair-trigger alert and targeted for immediate launch.***

We are at risk from nuclear accidents, from accidental or mistaken launch and from the availability of nuclear materials which could be acquired by terrorists.

Relations between Russia and the US are reasonably friendly. However, since the Cold War the two countries still maintain their Cold War nuclear war plan. The United States and Russia still have thousands of nuclear weapons, on continuous high-alert status, targeted on each other. The launch protocols have not changed since the end of the Cold War.

There have been close political situations, and about a dozen serious close calls and false alarms which could have resulted in a nuclear launch. There is a warning signal, which signifies the approach of an enemy, almost every day. And the crew in charge has ***three minutes only*** to assess whether it is genuine or false. There has always been the risk of mistaken launch but the risk has increased since the end of the Cold War, for one reason because Russia's early warning capability has deteriorated. Its radar systems, leased in former Soviet countries, are outdated and in poor condition.²

Mistakes, accidents and potential accidents abound. *Countdown to Zero* has footage - not seen before by the public - of some of the nuclear accidents during the Cold War.

Among others is a 1961 structural failure on a US B-52 bomber, which caused the aircraft to breakup over North Carolina. As the plane disintegrated it dropped two hydrogen bombs, one of which broke apart on impact. Fortunately, because one of the six arming devices did not activate, a nuclear detonation was prevented. However, a portion of the weapon could not be recovered despite excavation to a depth of 50 feet. The Air Force subsequently purchased an easement requiring permission for anyone to dig there and the state of North Carolina still conducts periodic radiation testing on local ground water.

In February of this year, the Government of Spain demanded that the United States clean up a plutonium-contaminated site at Palomares, in Southern Spain, caused in 1966 by a nuclear bomber crashing during airborne re-fueling. Plutonium remains radioactive in the environment for a very long time. The radioactivity level of plutonium is determined by its half-life, which is the time it takes for half of an original quantity to decay. The half-life of plutonium-239 is about 24,000 years. Plutonium is very toxic if it enters into the body because the alpha radiation can damage living tissue, the genetic structure, the DNA. Though this is an accident from 45 years ago, its devastating and destructive consequences are timeless - forever - as are the consequences from nuclear testing in the Marshall Islands and Chernobyl from the disastrous nuclear reactor failure.

While I am on the subject of nuclear testing, the Marshall Islands and the health effects - though I am straying a little from my discussion of accidents - I watched filmed transcript of a woman from the Marshall Islands giving testimony to the International Court of Justice when they were weighing the question of the illegality of nuclear weapons. She told of women giving birth to objects that looked like bunches of grapes and of women giving birth to babies whose skin was transparent and the internal organs visible - their

² *William Perry, Congressional Testimony, July 18,2007*

hearts could be seen beating. These babies died within a few hours of their birth.

Since the end of the Cold War, it appears that the arsenals are not subjected to the requisite oversight as in the former era. In March 2006, the US mistakenly shipped four nuclear fuses used as part of the trigger mechanism on Minuteman missiles to Taiwan. This was not noticed and it was Taiwan who brought it to US attention.

And eighteen months later, in second major security gap – with huge potential consequences - a B-52 bomber was mistakenly loaded with 6 nuclear weapons – the equivalent of 60 Hiroshima bombs, that is ten times the power of the bomb dropped on Hiroshima - and then was flown across the United States. This was the first time in 40 years nuclear weapons had flown across US territory. And what is most disturbing from the weapons security point of view, was that the weapons were not missed. The error was not discovered until the plane landed. It makes you wonder who is minding the store.

Then in February 2009, in another potentially dangerous accident, a French and a British nuclear submarine, likely loaded with nuclear weapons, collided in the middle of the Atlantic Ocean.

The post-Cold War friendly relations between the United States and Russia soured in 2007 and the two countries began again “playing war-games” with each other. The Bush administration, with its bellicose stance, announced the US intention to place Missile defense interceptors in Poland, bordering on Russia. In August, Russia - assumed to be in retaliation - resumed its earlier Cold War regular flights of nuclear bombers. The United States and NATO then began to send fighter jets to intercept the Russian bombers on these flights. In the first six months of these flights there were at least 17 US fighter planes intercepting the Russian bombers “as they approached NORAD-patrolled US and Canadian West Coast and Arctic airspace.”³ There have been a total of 75 these episodes involving the US, Japan and NATO.

Also on the day that Israel bombed a Syrian nuclear reactor (September 6th of 2007), the Russians flew eight nuclear capable bombers which were shadowed by 20 NATO fighter jets, into NATO airspace. The Russian and NATO planes flew dangerously close - to within 16 to 25 feet of each other. An air force magazine reporting on this incident, lauded it as a “testament to the flying skills on both sides”⁴ However, it could have been a nuclear accident with consequences more far-reaching than Hiroshima. 2007 (Two thousand and seven) has been called The *Year of Living Dangerously!*

Global Zero founder, Bruce Blair - a former nuclear launch officer, expert in both the US and Russian command and control systems, and expert in de-alerting of nuclear weapons - says that there is a lack of civilian awareness, even at the highest levels in the United States government - including elected officials - of nuclear operations. (In 1985) Dr Blair

³ Ron Rosenbaum, *How the End Begins: The Road to Nuclear World War III*, p.10, Simon & Schuster, 2011

⁴ Rosenbaum, 11

was commissioned by US Congress to report on the US nuclear command and control system.

The Pentagon Joint Chiefs of Staff, when given copies of his Report, immediately classified it and retrieved *all* copies, not only from the Congressmen who commissioned it, but also from the Assistant Secretary of Defence for Command and Control. The United States elected politicians were thus refused access to a report which required them to approve billions of dollars, in order to fulfil the report's recommendations.⁵ Nuclear operations are in complete control of the Pentagon and kept so secret that it is thought that even the President doesn't have the full picture.

In fact, during President Kennedy's first year in the White House, he attempted find out from the Joint Chiefs of Staff, how many people would be killed in the Soviet Union from a US nuclear strike. The Joint Chiefs of Staff would not provide him with the number and so Kennedy resorted to other means to find out.

The numbers he received are as follows: **275 million killed outright**; and another **50 million deaths in the following 6 weeks** from radiation poisoning and radioactive fallout; plus **another 275 million deaths** in countries bordering the Soviet Bloc, including China. So we have here **500 million killed** without considering an automatic counter-strike by the Soviet Union! It was learned later that this estimate from the Join Chiefs of Staff did not factor in the inevitable between 10 to a 100 millions killed in the Hiroshima-like firestorms that would follow the detonations.⁶

This is the danger to which we were – and are still – exposed: the danger of Mutually Assured Destruction (MAD – its appropriate acronym) policy and strategy of the Cold War – the strategy to deter the enemy, but also subject to mistakes and accidents. The war plan is still in place.

The United Kingdom had a similar plan. Newly-discovered 1978 British Top Secret documents reveal that top level officials in the Defence and Foreign Ministries, were arguing about the number of Russian deaths it would take to deter the Russians. And the decision was made that because 20 million Russians died in World War II nothing less than 10 million Russian deaths would deter them. It is made quite clear in the document that the British must be prepared to follow through with this.

Sir Michael Quinlan – whom I met in the late 1990s and who seemed a quiet, genial, gentlemanly Englishman - won this argument. It is hard for me to imagine him advocating genocide. And he went further and promoted the advantages of ground-bursts, which would kill 55-60% of the people, over air-explosions which would kill only some 40%.

⁵ Rosenbaum 97

⁶ Ellsberg assigned to get number Rosenbaum 76-7.

This is not war planning. This is mass murder of civilian populations. And this is what nuclear weapons are intended to do - target mass populations and kill the maximum number of people at one go. Humane considerations do not enter into the strategic planning equation of military security, thus differing little from those of terrorist non-state actors, for whom the sanctity of even their own lives has no meaning.

Though I am talking about the Cold War Era I want to continue to stress that the United States and Russia retain the policy and plan for Mutually Assured Destruction – this is the contemporary situation.

Though there is not general awareness in the public, it is true and it is known. The Mayors for Peace have a current campaign called *Cities Are Not Targets*. Last year, in May the Mayor of Hiroshima, together with several hundred Hiroshima and Nagasaki survivors presented a petition to United Nations Secretary-General, Ban Ki-Moon, signed by one million and twenty-thousand people. The petition tells the nuclear power states that Cities Are Not Targets. As of March this year, the number of signatures has reached one million, one hundred-thousand.

I will quote from the petition:

Despite the end of the Cold War, the danger of nuclear weapons remains virtually unchanged. We still have thousands of nuclear weapons deployed and ready to fire on warning. At the push of a button, nuclear-tipped missiles can be on their way to a target city. If such an event were to take place, some city, home to children and hundreds of thousands of innocent non-combatants would suffer utter devastation.

Vancouver has been a Mayors for Peace member city since 1983. In fact, Vancouver, with Honolulu, was the second city to sign on. The Mayors for Peace is composed of cities around the world that have formally expressed support for the programme of a nuclear weapons free world, announced by the 1982 Mayor of Hiroshima. As of May 1, 2011, membership in this organization stood at 4,704 cities in 150 countries and regions.

Currently over half the world's people live in urban areas. In 2006, approximately 75% of the population in developed countries live in cities. Developing countries are fast catching up with 40% of their populations residing in cities. This is most of the world's people.

And most certainly, the bomb is designed for cities. It is the weapon of the industrial and post-industrial age – the weapon for the era of urbanization, the growth of large cities. Military installations do not require the massive destructive power of a nuclear weapon. The design and purpose for nuclear weapons is to target the most densely populated areas, to kill the maximum number of civilians and to destroy their habitats in what would constitute a crime against humanity and an act of genocide. And in contravention – negation even – of the International Humanitarian laws created to protect civilians in time of war.

It is true that most of the world's people are not under the *direct* threat of nuclear weapons. However, despite the end of the Cold War - the major urban centres of the United States and Russia are still threatened – targeted and the weapons on high-alert status.

Because a city is targeted in a war plan, it could also suffer the fate of an accidental or mistaken launch. We are fortunate that since Hiroshima and Nagasaki this has not occurred. Nobody is really quite sure why this has not happened by design or by accident. Some argue that deterrence works. However, there is a large element of luck because there have been some close encounters,⁷ and as well, a strong moral force which many people believe is a factor. It would be profoundly immoral, a crime against humanity. Imagine being the person in the position of choosing “global life or global death.” – who would want this on one's conscience.⁸

Ironically, it is illegal - under International Humanitarian Law -Article 56 of the 1977 Geneva Protocols – to attack a nuclear power plant with any kind of weapon. Yet it is not illegal to target a city with nuclear weapons. Nuclear weapons are not illegal. It is not illegal to manufacture, stockpile or target a city deemed of military interest. Nor is it illegal to threaten, and to use nuclear weapons if it is believed the survival of the state is at risk.⁹ This was the confusing final statement from the International Court of Justice in the 1996 Opinion on the legality of nuclear weapons. For the most part – according the Court – they are illegal but if the survival of the state is at risk, then they can be used. The nuclear weapons states now use this final sentence as the justification for the possession of a nuclear arsenal. To deliberately use a nuclear weapon would be a violation of so many of the rulings of International Humanitarian Law. However, the devastation would be so vast that it would be impossible – too late – to prosecute.

There is no ban on nuclear weapons. The two other named weapons of mass destruction – chemical and biological weapons – are banned but not nuclear weapons. There are three treaties banning nuclear weapons in specific places and interestingly, they are places where there are no humans.

Article V of the Antarctic Treaty forbids nuclear explosions or disposal of radioactive waste in the Antarctic. So the penguins are protected! Article I of the Seabed Treaty prohibits the emplacement of nuclear weapons and other weapons of mass destruction on the seabed and the ocean floor. However, there is no ban on submarines loaded with nuclear weapons.

Article IV of the Outer Space Treaty prohibits nuclear weapons on the moon and other celestial bodies. So Martians and other extra-territorial beings, if they exist, are protected.

⁷ Cuban missile crisis. US didn't realize weapons already stationed in Cuba, Colonel Petrov 1983 received warning with minutes to waken President Andropov and decided to wait – technical error to name 2

⁸ Rosenbaum, 130-131, 248

⁹ See Geoffrey Robertson, *Crimes Against Humanity*, 1999.

Actually the treaty was written in a pre-Copernican mindset because Planet Earth is not the centre of the universe surrounded by celestial bodies. Earth is a celestial body thus nuclear weapons would actually be forbidden on our planet. However, when I have broached this I have been told that law takes *the intention* into account.

Public interest and concern died away at the end of the Cold War. I was on the board of the Canadian Centre for Arms Control and Disarmament and in the mid-1990s we closed down because it was impossible to raise any funds to support the organization for reason that disarmament was no longer considered an issue worth supporting because the Cold War had ended. Many people assumed the weapons had been dismantled and destroyed. It was difficult to have the general public understand that this was not so. Peoples' focus began to move to concern for the environment when the 1992 United Nations Earth Summit in Rio de Janeiro brought to the world's attention to the deteriorating environment.

There was a brief resurgence of concern when, in 1998 India and Pakistan, tested nuclear weapons. It was spoken of as a wake-up call – nuclear weapons dangers had not gone away - and renewed energy prevailed for several years.

I was fortunate to have been appointed by the Minister of Foreign Affairs to the Canadian Delegation to the month-long 2000 Nuclear Non-Proliferation Treaty Review Conference, which is held every five years to further negotiations of the Treaty. At this Conference pressure was put on the nuclear weapons states to eliminate their arsenals and new commitments were made to disarm. And there was much excitement at the outcome. We thought that finally we were on the road to the elimination of nuclear weapons.

However, with the election of George Bush - whose policy for pre-emptive attacks using nuclear weapons, and who was seeking new uses for these weapons including battlefield and “bunker busting bombs” - horrified and dispirited all in the disarmament community. Then the Al Qaeda attacks on the World Trade Centre and the Pentagon drew the attention to the dangers of terrorism and public interest and concern again died away.

On January 4th, 2007 – the year I referred to earlier as “*The year of living dangerously*” - a surprising letter appeared in the *Wall Street Journal*, signed by former US Secretaries of State, Henry Kissinger and George Schultz; former Chair of the US Armed Services Committee, Sam Nunn; and former US Secretary of Defense, Bill Perry – *all former Cold Warriors of the first order*. They were calling for the elimination of nuclear weapons because they believed that – and I quote – “*the world is now on the precipice of a new and dangerous nuclear era*”. They were alarmed because “*the likelihood that non-state terrorists will get their hands on nuclear weapons [was] increasing*.” They believed that the Mutually Assured Deterrence (MAD) policy of the Cold War was *obsolete* in a world of many nuclear weapons states, and that it would no longer keep America safe.

Two weeks later, The Bulletin of the Atomic Scientists moved the hands of the Doomsday Clock two minutes closer to midnight. They cited North Korea's first nuclear test; Iran's nuclear ambitions; the continued presence of 25,000 American and Russian

nuclear weapons; and inadequate security for nuclear material around the world. This world-renowned group of scientists declared: ‘We stand at the brink of a second nuclear age’. Meanwhile, a growing number of defense experts agreed that there was a 50 percent chance of a nuclear terrorist strike on the United States by 2010. Fortunately – and perhaps because of increased vigilance – this did not occur.

At the same time, Bruce Blair - who I referred to earlier -was developing Global Zero and wrote to me to ask me to join him in this so I came in as a Founding Partner and the Principal Sponsor.

Global Zero has an Action Plan for the elimination of nuclear weapons by 2030. There are many of us in the nuclear disarmament field who have realized that nuclear weapons will not be eliminated unless the *nuclear weapons states make the decision themselves*. No nudging, pushing, demanding by the other 183 states will have any effect. To possess nuclear weapons gives world power status and a state which owns a nuclear weapon – just one - becomes answerable to none. India publicly acknowledged this when it tested its first weapon. There was much jubilation: It had joined the nuclear weapons club! It was now a world power!

Global Zero’s Action Plan is to focus on the nuclear weapons states; to work at the highest levels, and through national public pressure, to bring the US and Russia together to reduce their arsenals to a level at which the other nuclear weapons states will agree - first, to freeze their arsenals; then, as the US and Russia continue their reductions, to join with them in reducing their arsenals to zero. And by 2030 the plan – the hope – is that nuclear weapons will be eliminated.

Diane told you a little about how Global Zero intends to bring this off – recruiting high-level global figures, the documentary and also a public campaign. Global Zero is actively training young people as leaders and Global Zero chapters have been, and are being, established in Universities in the United States and other countries – including Canada, Pakistan and in Europe. They use all the contemporary on-line methods of communication, and have a state-of-the art website with an interactive map providing the history of the nuclear era, and information on weapon numbers etc. I believe that Global Zero has the best chance of any organization to influence the nuclear weapons states to eliminate and ban nuclear weapons.

In 2009, President Obama made his historic Prague speech on his goal of eliminating nuclear weapons so the disarmament movement is active again with unprecedented support from the highest level. Having said this it is not going to be easy. The United States Strategic Air Command, the Pentagon’s nuclear high command – and specifically General Chilton, the Supreme Commander, is currently undermining President Obama, his Commander-in-Chief’s, goal of zero; and is promoting and developing deterrence strategy and policy, suitable for the new environment of multiple nuclear weapon state enemies, terrorists, and as well, new battlefields, space and cyber space.

I have always felt that nuclear disarmament is a woman’s issue. Though there are many good and dedicated men working for nuclear disarmament, I can’t imagine women coming up with a plan which had as its counter – its risk factor - the annihilation of the

human race. I feel that men are inclined to view security as state security while women think more in terms of human security.

For more than a century women have been an active force in working for peace and disarmament. The original Mother's Day Proclamation - written in 1870 by politically active Julia Ward Howe - was "an impassioned call for peace and disarmament" - a reaction to the carnage of the Civil War.

Women have played an important and effective role in the global nuclear disarmament movement since the bombings of Hiroshima and Nagasaki. They have participated as individuals, in groups, and many within women-specific organizations in active opposition to nuclear weapons.

There were many initiatives beginning in the 1950s – the formation of the European Movement of Women Against Nuclear Armament; the Women's International League for Peace and Freedom's US/Soviet Women's Seminars; a 1961 US Women's 1-Day Strike to protest against the US-Soviet nuclear arms build-up; the 19 year-long¹⁰ Women's Peace Camp at Greenham Common, challenging the presence of 96 US Cruise Missiles based there. In the 1980s global women's peace camps, modelled on Greenham Common spread across Europe, the United States, Canada and Australia.

Early mobilizations in the 1950s were the responses to atmospheric nuclear testing. And women drew on their experience as mothers as both justification and motivation behind their activism. For example, in the United States in the 1950s, women discovered that the breast milk they were feeding their babies was contaminated with traces of Radio-active Strontium 90.

A successful civil movement of predominantly young mothers -and one very important for nuclear disarmament - was the 1958 St. Louis Baby-Teeth Survey. The testing of baby teeth of children, born between 1945 and 1965, showed levels of Radio-active Strontium 90 that had risen a 100-fold; and rose and fell in correlation with atomic bomb tests. The resulting campaign, to ban testing, acted as a spur to President Kennedy to negotiate a treaty to ban nuclear tests in the atmosphere, in space, and in the water.

In 2001 a set of 85,000 of these teeth was discovered in storage at Washington University. The teeth were given to the [Radiation and Public Health Project](#) which then tracked the individuals who had participated in the tooth-collection project. The results are quite disturbing. They showed that *those children who later died of cancer before the age of 50* had levels of [strontium 90](#) in their stored baby teeth that was *twice the level* of those who were still alive at age 50.

After the Cold War, the large women's organizations - along with the disarmament movement - diminished in size and some have disappeared - though protests have continued - many of them quite radical - but effective - in bringing attention to the continuing existence and the danger of nuclear weapons *which – and I repeat - an*

¹⁰ September 1981-2000

amazing number of people had assumed were eliminated at the end of the Cold War.

In one such incident as recently as 2002, in order to draw attention to the presence of nuclear weapons and their dangers, three Dominican nuns entered a Colorado nuclear weapons facility housing 49 weapons. They painted a cross in their own blood on the silo, and - symbolically transforming swords into ploughshares - hammered on the silo and prayed until they were arrested.

One of Global Zero's current undertakings is to encourage women to return to this issue of enormous concern, to become Global Zero Leaders - and to be in the forefront of nuclear disarmament as they were in the past. ***Though they would never expect their women members to engage in such radical activities.***

With the current dangers we are facing it is more important than ever to revive the flagging civil movements and to raise the awareness of the dangers to which every person is subject. In the recent past there have been two government Commissions, the Swedish Government initiated Weapons of Mass Destruction Commission and the Australia/Japan Commission on Nuclear Non-Proliferation and Disarmament. There are also multiple advocacy organizations furthering the elimination of nuclear weapons, in various ways, such as Parliamentarians for non-Proliferation and Nuclear Disarmament - an excellent one because members of this group are the current legislators in Parliaments and Congresses worldwide.

There are organizations running campaigns: the Global Zero campaign for the elimination of nuclear weapons by 2030 and others such as the Mayors for Peace to which I referred. There is also the ICAN campaign of the International Physicians for the Prevention of Nuclear War. There is a growing movement, in which most of the current organizations are collaborating for a Nuclear Weapons Convention – a Treaty prohibiting nuclear weapons.

Recently I invited the International Association of Lawyers Against Nuclear Arms to co-convene a Vancouver conference on the illegality of nuclear weapons. We produced and disseminated worldwide the ***Vancouver Declaration – Law's Imperative for the Urgent Achievement of a Nuclear-Weapon-Free World*** and this gaining much traction.

My most important project is Global Zero because I believe it is the one that has the best chance of achieving my goal - which is to have these weapons eliminated within my lifetime.

My own experience as an educator, advocate, activist and funder for nuclear disarmament and the prohibition of nuclear weapons, began because of my concerns as a mother.

Those of you who were here in the late 1970s and early 1980s will remember that we, in Vancouver, were living in a climate of nuclear fear. The United States, despite large local civil society protests, established a nuclear weapons base at Comox. As well, there was a US nuclear submarine base on the Olympic Peninsula - 80 miles as the crow flies – from Vancouver.

The Vancouver Province newspaper published a map of the city of Vancouver as a target with circles defining the devastating effects. I was a University student at the time, marching in the streets protesting this situation.

I was horrified because my young daughter was having nightmares about nuclear war. I established The Simons Foundation when I was in Graduate School, in 1985 because of my concern for my daughter. I wondered if fear of nuclear weapons had become part of the psyche of young people in North America and began to research on the subject. I found two psychological studies - one of kindergarten age children and one of college students. In their discussions with the psychologists none of these young people mentioned nuclear war as a conscious concern but in reporting their dreams, nuclear war featured in all of these young peoples' dreams.

The first grant I made from the Foundation was to endow a doctoral fellowship for women in physics, imagining – naively and chauvinistically, perhaps – that a woman researching in physics would be a Madame Curie – seeking medical applications - rather than an Edward Teller – whose lifelong focus was in advancing thermonuclear weapons and the hydrogen bomb.

For 26 years I have continued to work as an educator, advocate, activist and a funder for the elimination of nuclear weapons.

The problem with nuclear weapons is that all of us - *men, women and children* - are collateral damage in a nuclear incident whether from a nuclear war, an accident, an accidental or malicious launch of a nuclear weapon, or from those ticking time bombs like Chernobyl and now Fukushima, whose radiation effects are currently terrifying so many people around the world.

Despite all the dangers, all the activity on the part of individuals and non-governmental organizations to further the elimination of nuclear weapons and to ban them, the general public has little awareness of what is – to use a current and over-used term – *a very real and present danger*.

The fact that the “whole Cold War apparatus remains, for the most part, intact”¹¹ with nuclear weapons on hair-trigger alert, targeting cities; the fact that terrorists are actively engaged in acquiring nuclear weapons and radioactive material does not seem to cause much fear. The fact that Pakistan is an extremely unstable state, struggling with Islamic terrorists, always on the edge of war with India, and possessing 60 nuclear weapons does not resonate in the public realm.

And yet the response to the Fukushima disaster has demonstrated that fear of radioactivity is so deep it could be called a primal fear. In Paris people purchased Geiger counters. In Russia and China people swallowed massive doses of salt imagining it would protect them from radiation poisoning. In the US, Canada and other countries, potassium iodide has sold out in many places. In the US Geiger counters and gas masks, from army surplus stores, sold out. People are purchasing underground bunkers and rooms in

¹¹ Rosenbaum citing B. Blair's alarm, 100

underground bunkers.

Radioactivity causes cancer. Radioactivity kills. Radioactivity causes changes in our DNA - It causes genetic damage. Therefore, not only are our own lives at risk, the lives of future generations are also in jeopardy. Radioactivity creates deathly contamination of the soil, the atmosphere and our food sources. Radioactivity is the link between nuclear power plants and nuclear weapons. However, radioactivity from a nuclear power plant is miniscule relative to a nuclear bomb explosion.

On this note, I thank you very much for providing me with the opportunity to talk about this subject.

Thank you very much.

Jennifer Allen Simons, C.M., Ph.D., LL.D
May 2nd, 2011