

NUCLEAR WEAPONS:
NEW MODES OF THINKING

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“The unleashed power of the atom has changed everything save our modes of thinking and we thus drift toward unparalleled catastrophe.”

Albert Einstein

INTRODUCTION

Before 1945, nuclear weapons were not a tangible threat because they didn't exist. But, once they were created, they catapulted to the top of the list of existential threats confronting humanity. Today they share the top rung of existential danger with an even more recent global threat: climate change.

Three weeks after the first test of a nuclear weapon, the U.S. used one on the Japanese city of Hiroshima and another three days after on the city of Nagasaki. These bombings, which killed more than 200,000 people, provided an indicator of what was possible: global annihilation. Humanity's fate became inextricably intertwined with nuclear weapons.

The philosopher John Somerville coined a new term to describe the possible consequences of nuclear war. The term is "omnicide." It is homicide writ large – the death of all. This threat has been largely met by ignorance and apathy. This must change. Humanity must awaken to this threat to itself and all complex life before these weapons are used again by malice, mistake, madness, miscalculation, or manipulation (hacking).

This compilation of short articles is an attempt to awaken humanity to the ongoing threat that nuclear weapons pose to people throughout the world. No one is exempt from this threat – not you, not your children and grandchildren, not anyone anywhere. We are all in this together and, for better or worse, the future is likely to be a common one.

As Einstein warned, we are drifting "toward unparalleled catastrophe," and must change "our modes of thinking" if we are to save our civilization (such as it is) and survive as a species. If this sounds extreme, I assure you it is not. It is a cry of the heart to awaken, take seriously the threat posed by nuclear weapons, and end this threat by abolishing these most dangerous of all weapons ever created by humankind.

CONTENTS

FLIRTING WITH EXTINCTION

Flirting with Extinction

I Am Skeptical

Ten Lessons You Should Learn about Nuclear Weapons

Hacking Nuclear Weapons is a Global Threat

The Alarm Is Sounding

REASON IS NOT ENOUGH

Reason is Not Enough

Ten Worst Acts of the Nuclear Age

Weapons that Terrorize and Vaporize

Donald Trump, the Bomb, and the Human Future

The Most Dangerous Period in Human History

The Nuclear Weapons Threat to our Common Future

A Better Mousetrap?

Probability of Nuclear War

What Factors Make a Nuclear War More Likely?

Missileers

THE FIERCE URGENCY OF NUCLEAR ZERO

The Fierce Urgency of Nuclear Zero

Anniversary of World Court Advisory Opinion

Overcoming Nuclear Crises

Negotiations Are the Only Path to Peace with North Korea

Ten Lessons from Chernobyl and Fukushima

Fukushima

Pope Francis Calls for Complete Prohibition of Nuclear Weapons

Martin Luther King, Jr. and the Bomb

NUCLEAR ABOLITION: A SISYPHEAN TASK?

Nuclear Abolition: A Sisyphean Task?

International Campaign to Abolish Nuclear Weapons Receives 2017 Nobel Peace Prize

Violating the Iran Deal: Playing with Nuclear Fire

U.S., UK and France Denounce Nuclear Ban Treaty

The Reality of the Nuclear Age: U.S. must negotiate with North Korea

Assessing the Trump-Kim Singapore Summit and Hanoi Summit

Prospects for Denuclearization

Withdrawing from the INF Treaty: A Massive Mistake

Decoding Donald

What is Wrong with Trump's Attack on Syria?

The President

The Simple Act of Pushing a Button

NEW MODES OF THINKING

New Modes of Thinking

Children of War

Twelve Possible Names for World War III

In Our Hubris

Sunflowers: The Symbol of a World Free of Nuclear Weapons

The Power of Imagination

Imagination and Nuclear Weapons

A Message to Today's Young People: Put an End to the Nuclear Weapons Era

Twelve Worthy Reasons not to Waste Billions Modernizing the U.S. Nuclear Arsenal

NUCLEAR AGE PEACE FOUNDATION

What Is the Nuclear Age Peace Foundation?

Three Beliefs Guiding NAPF's Work

APPENDIX : TREATY ON PROHIBITION OF NUCLEAR WEAPONS

FLIRTING WITH EXTINCTION

FLIRTING WITH EXTINCTION

The most stunning and frightening truth about the Nuclear Age is this: Nuclear weapons are capable of destroying civilization and most complex life on the planet, yet next to nothing is being done about it. Humanity is flirting with extinction, and is experiencing the “frog’s malaise.” It is as though the human species has been placed into a pot of tepid water – metaphorically with regard to nuclear dangers, and literally with regard to climate change – and appears to be calmly treading water while the temperature rises toward the boiling point. In this piece, I focus on the metaphorical pot of heating water, heading toward a boil, representing the increasing nuclear dangers confronting all humanity.

Disconcertingly, there is virtually no political will on the part of nations in possession of nuclear arsenals to alter this dangerous situation; and, despite legal obligations to negotiate in good faith for an end to the nuclear arms race and for nuclear disarmament, there is no major effort among the nuclear-armed and umbrella countries to achieve nuclear zero. While the non-nuclear-armed countries have negotiated a Treaty on the Prohibition of Nuclear Weapons (TPNW) and are working to bring this treaty into force, those countries that possess the weapons and those sheltering under their nuclear umbrella have not supported the new treaty.

All nine nuclear-armed countries boycotted international negotiations on banning and eliminating nuclear weapons. In addition, each of these countries is in the process of modernizing its nuclear arsenal, thereby wasting valuable resources on weapons that must never be used, and doing so while basic human needs for billions of people globally go unmet and unattended. Despite this unjust and deplorable situation, most of the seven billion people on the planet are complacent about nuclear weapons. This complacency only adds fuel to the fire under the frogs.

In the Nuclear Age, humanity is challenged as never before. Our technology, and particularly our nuclear weapons, can destroy us and all that we hold dear. But before we can respond to the profound dangers, we must first awaken to these dangers. Complacency is a recipe for disaster. I find complacency to be rooted in ACID, an acronym for Apathy, Conformity, Ignorance and Denial. If we want to prevail over our technologies we must move from Apathy to Empathy; from Conformity to Critical Thinking; from Ignorance to Wisdom; and from Denial to Recognition of the danger. But how are we to do this?

The key is education – education that promotes engagement; education that forces individuals and nations to face the truth about the dangers of the Nuclear Age. We need education that leads to action that will allow humanity to get out of the metaphorical pot of heating water before it is too late.

Education can take many forms, but it must begin with solid analysis of current dangers and critiques of the lack of progress in stemming the dangers of the Nuclear Age. We need education that is rooted in the common good. We need education that provides a platform for the voices of the survivors of Hiroshima and Nagasaki. We need education that makes clear the instability and dangerous nature of nuclear deterrence. We need education that challenges the extreme hubris of

leaders who believe the global nuclear status quo can survive indefinitely in the face of human fallibility and malevolence.

We need education that can break through the bonds of nuclear insanity and move the world to action. We need the public to speak out and demand far more of their leaders if we are to leap from the pot of heating water, avert disaster and reach the safe haven of nuclear zero.

I AM SKEPTICAL

I am skeptical about the degree of optimism some people are expressing about nuclear weapons. To take just one example: Between the mid-1980s and the present, the number of nuclear weapons has been reduced from over 70,000 to approximately 14,000. This is a reduction of more than 56,000 nuclear weapons in the world. Some analysts see this as a sign that the world is out of nuclear danger. However, while the number of nuclear weapons has come way down, one nuclear war with only a tiny percentage of the nuclear weapons that still exist could end civilization and possibly the human species. Reductions in the size of nuclear arsenals is a positive sign, but does not indicate that humanity is secure from nuclear threat.

At the same time that these reductions in arsenals have taken place, nuclear weapons have proliferated to three new countries (India, Pakistan and North Korea), in addition to the six initial nuclear weapons states (US, Russia, UK, France, China and Israel). The more nuclear weapon states, the greater the nuclear danger. In addition, nuclear-armed states have withdrawn from existing arms control agreements, such as the U.S. unilaterally withdrawing from the 1972 Anti-Ballistic Missile (ABM) Treaty in 2002; Trump withdrawing from the 2015 Joint Comprehensive Plan of Action (Iran Nuclear Agreement) in 2018; and his administration's recent suspension of obligations under the 1987 Intermediate-Range Nuclear Forces (INF) Treaty. These unilateral steps on the part of the U.S. are undermining nuclear stability and leading to new qualitative nuclear arms races.

With Trump as the U.S. president, the world remains in a precarious situation, close to the ultimate brink. Even with a more truthful and rational president, we would still be close to the brink. That is the reason why I see peace as an imperative of the Nuclear Age, and why I think the only reasonable number of nuclear weapons in the world is zero. Instead of negotiating to achieve that goal, the nuclear weapon states are all planning to modernize and improve their nuclear arsenals. This is occurring in an environment in which leaders of the nuclear weapon states and their allies are giving magical and unrealistic powers and efficacy to nuclear deterrence. In part, we learned far too little from the Cuban Missile Crisis. We may not be so fortunate on the next nuclear standoff, which could occur at any time. The large reduction in nuclear arsenals that has taken place in recent decades is not sufficient to assure human survival, and we should not be celebrating our success until the world is out of danger of nuclear holocaust.

I would prefer to be more optimistic about our nuclear-armed world, but I am concerned that optimism can breed inaction and a lack of engagement on the issue. What we need now is healthy skepticism about nuclear weapons and the policies that guide their use, and strong citizen engagement in pressuring the nuclear-armed countries to participate in good faith negotiations for total nuclear disarmament, as they are obligated to do under international law.

Nuclear deterrence can fail and does not provide protection, especially to citizens of nuclear-armed countries. Rather, it paints a target on their backs. Arms reductions, which still leave all of us vulnerable, are not enough. What we need is commitment to nuclear abolition and widespread citizen engagement, leading their leaders to rid the world of nuclear weapons. Thus, I remain skeptical about nuclear security, but hopeful that humanity will awaken to the challenge.

TEN LESSONS YOU SHOULD LEARN ABOUT NUCLEAR WEAPONS

Here are ten lessons that I learned about nuclear weapons in the process of working for their abolition for the past four decades. I wish I could share these lessons with every citizen of the planet, all of whom are endangered by these weapons.

1. **The effects of nuclear weapons cannot be contained in space or time.** Radiation from a nuclear detonation is carried by the wind and cannot be stopped at national borders. Radioactive materials also have long lives. Plutonium-239, for example, has a half-life of 24,000 years and will remain deadly if inhaled for the next 240,000 years.
2. **Nuclear weapons have made possible *omnicide*, the death of all.** Omnicide is a 20th century concept created by philosopher John Somerville. It is the logical extension of suicide, homicide, genocide. Although it is a concept too final to even imagine, it must be taken seriously.
3. **The survivors of the atomic bombings of Hiroshima and Nagasaki are the ambassadors of the nuclear age,** having witnessed first-hand the horror of nuclear weapons use and not wanting their past to become anyone else's future. Many survivors, known in Japanese as *hibakusha*, have made it their life's work to speak out to educate others and to rid the world of nuclear weapons.
4. **Nuclear deterrence does not provide physical protection against nuclear weapons** – it provides only a false sense of security and the possibility of retaliation and vengeance. Reliance on nuclear deterrence opens the door to *omnicide*.
5. **Nine countries with nuclear weapons are playing Nuclear Roulette with the human future.** Nuclear weapons are like having grenades pointed at the heart of humanity, putting everything we love and treasure at risk. With Nuclear Roulette the odds are not with humanity.
6. **Einstein warned: “The unleashed power of the atom has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe.”** For ourselves, our countries and our planet, we must change our modes of thinking and end the widespread ignorance and apathy surrounding nuclear weapons. We must rid the world of nuclear weapons before they rid the world of us.
7. **Nuclear weapons are an absolute and ultimate evil.** Their only purpose is to kill indiscriminately – women, men and children, as well as other forms of complex life.
8. **There are many ways a nuclear war could begin: by malice, madness, mistake, miscalculation or manipulation (hacking).** That we have not yet had a nuclear war is more from good fortune than good planning. We have come chillingly close on numerous occasions.

9. **Nuclear weapons make us all reliant for our lives and futures on the sanity and wisdom of a small number of national leaders.** It is far too much power to put in the hands of any leader. We must speak out, join together and demand that these weapons be abolished before they abolish us.

10. **The choice between two iconic images of the 20th century will determine whether humankind survives the 21st: the image of the mushroom cloud, and the image of the earth from outer space.** The first is an image of death and destruction, while the second is an image of the fragility of our planetary home, the only place we know of in the universe where life exists. The choice should be clear, and it calls out to us to choose peace, not war; survival, not devastation; hope, not despair; and engagement, not complacency, to save our planet and the precious gift of life it harbors.

HACKING NUCLEAR WEAPONS IS A GLOBAL THREAT

There are many ways a nuclear attack could be initiated. These include the four “m’s” of malice, madness, mistake and miscalculation. Of these ways of initiating a nuclear attack, only malice could possibly be inhibited by nuclear deterrence (fear of nuclear retaliation).

For example, if a leader doesn’t believe that nuclear retaliation will occur, he or she may not be inhibited from attacking and nuclear deterrence will not be effective.

Madness, mistake and miscalculation all operate independently of nuclear deterrence. These pose great concern for the human future. An insane or suicidal leader could launch his or her nuclear arsenal *without concern for retaliation*. A mistake could also lead to the launch of a nuclear arsenal *without concern for retaliation*. Likewise, miscalculation of the intent of a nuclear-armed country could lead to a nuclear launch *without concern for retaliation*.

A new, and possibly even greater, concern is coming over the horizon. That concern, related to cyberattacks on an enemy’s nuclear systems, could be labelled as “manipulation.” It is emerging due to the growing sophistication of hackers penetrating cyber-security walls in general. It would be disastrous if hackers were able to penetrate the walls protecting nuclear arsenals.

Imagine a cyberattack on a nuclear weapons system that allowed an outside party to launch a country’s nuclear arsenal or a portion of it at another country. This could occur by an outside party, working with or independently of a state, hacking into and activating the launch codes for a country’s nuclear arsenal. Can we be sure that this could not happen to any of the nine current nuclear-armed countries? It would pose a particular danger to those nuclear-armed countries that keep their nuclear arsenals on high-alert status, ready to be fired on extremely short notice, often within minutes of a launch order.

The Royal Institute of International Affairs in the UK issued a research paper recently that noted, “As an example of what is possible, the U.S. is reported to have infiltrated parts of North Korea’s missile systems and caused test failures. Recent cases of cyber-attacks indicate that nuclear weapons systems could also be subject to interference, hacking, and sabotage through the use of malware or viruses, which could infect digital components of a system at any time. Minuteman silos, for example, are believed to be particularly vulnerable to cyber-attacks.”

Even if eight of the nine nuclear-armed countries had adequate cybersecurity, the weakest link could potentially have vulnerabilities that would allow for a cyberattack. It is also probable that new means of penetrating cybersecurity will be developed in the future. It is within the realm of imagination that terrorist groups could have skillsets that would allow them to breach the cybersecurity of one or more nuclear-armed countries, and set in motion a nuclear attack with highly threatening and dangerous consequences, including retaliation.

The gaps in nuclear deterrence theory cannot be filled by throwing money at them, or with more new missiles with larger or smaller warheads. The problem with nuclear deterrence is that it

cannot be made foolproof and effective, and the potential for breaching the cybersecurity of nuclear arsenals only adds to the vulnerabilities and dangers.

The only meaningful response to nuclear weapons is to stigmatize, delegitimize, and ban them. This is exactly what the new Treaty on the Prohibition of Nuclear Weapons seeks to accomplish. This treaty deserves the full support of the world community. As of now, however, it is only receiving the support of the countries without nuclear arms, and is being opposed by the countries possessing nuclear arms and those sheltering under the U.S. nuclear umbrella. This must change, for the benefit of all the world's people and especially the citizens of the nuclear-armed countries who would likely be the first victims of a nuclear attack.

THE ALARM IS SOUNDING

The alarm is sounding.
The nuclear codes
are within reach
of his small hands.

This is no joke.
The nuclear codes
are available
to his dangerous mind.

This is deadly serious.
Control of the nuclear codes
demands what he lacks --
a compassionate heart.

This is deadly serious.
This is no joke.
The alarm is sounding.

REASON IS NOT ENOUGH

REASON IS NOT ENOUGH

Reason is not enough to halt the nuclear juggernaut that rumbles unsteadily toward catastrophe, toward omnicide.

The broken heart of humanity must find a way to enter the debate. The heart must find common cause with imagination. We cannot wait until the missiles are in the air with the sand falling through the hourglass. We must use our imaginations. We must listen to the sad stories of those who survived Hiroshima and Nagasaki and imagine the force of the winds, the firestorms rushing through our cities, the mushroom clouds rising, the invisible radiation spreading. If we can't imagine the death and destruction, we cannot combat it and we will never stop it.

We are trapped by our myopia and lethargy, the forces that keep us impotent in the face of the nuclear threat. I call these forces ACID: Apathy, Conformity, Ignorance and Denial. ACID is corrosive to our common future. ACID is the collection of obstacles that are preventing us from ending the nuclear weapons era and preserving the human future.

Apathy is indifference, a recipe for maintaining the status quo. Empathy is the result of imagining oneself in another's shoes, in this case the shoes of those who were victims of the atomic bombings, either at Hiroshima or Nagasaki, or victims of atmospheric nuclear testing.

Conformity is going along with the herd mentality, like lemmings over a cliff. Critical thinking is a means of breaking with the herd, of seeing the dangers in what is commonly considered acceptable. Apply critical thinking to nuclear deterrence theory and you find a theory that cannot be proven and is subject to failure. Nuclear deterrence cannot, for example, stand up to terrorists, those who have no territory or are suicidal. Nor can deterrence theory apply to leaders who are not rational, and most leaders are not fully rational in times of extreme crisis.

Ignorance is not knowing, or thinking one knows, that which is just plain wrong. It is a result of disinterest or a warped perspective. It bends toward extreme arrogance or hubris, and includes an absurd and dangerous belief in human infallibility. Wisdom is grasping our human fallibility and acting to prevent it from leading to disaster.

Denial is putting on blindfolds and failing to see a problem or threat that would otherwise be obvious. It is countered by recognition of the threat -- in the case of nuclear weapons by recognition of the threat to all humanity.

We must move from ACID to action, from education to engagement, starting with the recognition that nuclear weapons undermine security, provide no physical protection, threaten civilization and complex life, and are subject to human fallibility. They are the ultimate evil for they threaten all we love and cherish.

What can you do? Start with A-B-C. Awaken. Believe. Contribute. Awaken to the threat (be aware, attentive and active). Believe you can make a difference on this most critical of issues.

Contribute time, talent, money, ideas. Everyone has something they can contribute, and it will take many of us joining together to achieve the goal. Beyond A-B-C, stand up, speak out and join in. Be a nonviolent warrior for peace and a world free of nuclear weapons. Choose hope and keep hope alive, and persevere and never give up.

TEN WORST ACTS OF THE NUCLEAR AGE

The ten worst acts of the Nuclear Age described below have set the tone for our time. They have caused immense death and suffering; been tremendously expensive; encouraged nuclear proliferation; opened the door to nuclear terrorism, nuclear accidents and nuclear war; and are leading the world back into a second Cold War. These “ten worst acts” are important information for anyone attempting to understand the time in which we live, and how the nuclear dangers that confront U.S. have been intensified by the leadership and policy choices made by the United States and the other eight nuclear-armed countries.

1. **Bombing Hiroshima (August 6, 1945).** The first atomic bomb was dropped by the United States on the largely civilian population of Hiroshima, killing some 70,000 people instantly and 140,000 people by the end of 1945. The bombing demonstrated the willingness of the U.S. to use its new weapon of mass destruction on cities.
2. **Bombing Nagasaki (August 9, 1945).** The second atomic bomb was dropped on the largely civilian population of Nagasaki before Japanese leaders had time to assess the death and injury caused by the atomic bomb dropped on Hiroshima three days earlier. The atomic bombing of Nagasaki took another 70,000 lives by the end of 1945.
3. **Pursuing a unilateral nuclear arms race (1945 – 1949).** The first nuclear weapon test was conducted by the U.S. on July 16, 1945, just three weeks before the first use of an atomic weapon on Hiroshima. As the only nuclear-armed country in the world in the immediate aftermath of World War II, the U.S. continued to expand its nuclear arsenal and began testing nuclear weapons in 1946 in the Marshall Islands, a trust territory the U.S. was asked to administer on behalf of the United Nations. Altogether the U.S. tested 67 nuclear weapons in the Marshall Islands between 1946 and 1958, with the equivalent explosive power of 1.6 Hiroshima bombs daily for that 12 year period.
4. **Initiating Atoms for Peace (1953).** President Dwight Eisenhower put forward an Atoms for Peace proposal in a speech delivered on December 8, 1953. This proposal opened the door to the spread of nuclear reactors and nuclear materials for purposes of research and power generation. This resulted in the later proliferation of nuclear weapons to additional countries, including Israel, South Africa, India, Pakistan and North Korea.
5. **Engaging in a Cold War bilateral nuclear arms race (1949 – 1991).** The nuclear arms race became bilateral when the Soviet Union tested its first atomic weapon on August 29, 1949. This bilateral nuclear arms race between the U.S. and USSR reached its apogee in 1986 with some 70,000 nuclear weapons in the world, enough to destroy civilization many times over and possibly result in the extinction of the human species.
6. **Atmospheric Nuclear Testing (1945 – 1980).** Altogether there have been 528 atmospheric nuclear tests. The U.S., UK and USSR ceased atmospheric nuclear testing in 1963, when they signed the Partial Test Ban Treaty. France continued atmospheric nuclear testing until 1974 and China continued until 1980. Atmospheric nuclear testing

has placed large amounts of radioactive material into the atmosphere, causing cancers and leukemia in human populations.

7. **Breaching the disarmament provisions of the NPT (1968 – present).** Article VI of the Nuclear Non-Proliferation Treaty (NPT) 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....” The five nuclear weapons-states parties to the NPT (U.S., Russia, UK, France and China) remain in breach of these obligations. The other four nuclear-armed states (Israel, India, Pakistan and North Korea) are in breach of these same obligations under customary international law.
8. **Treating nuclear power as an “inalienable right” in the NPT (1968 – present).** This language of “inalienable right” contained in Article IV of the NPT encourages the development and spread of nuclear power plants and thereby makes the proliferation of nuclear weapons more likely. Nuclear power plants are also attractive targets for terrorists. As yet, there are no good plans for long-term storage of radioactive wastes created by these plants. Government subsidies for nuclear power plants also take needed funding away from the development of renewable energy sources.
9. **Failing to cut a deal with North Korea (1992 to present).** During the Clinton administration, the U.S. was close to a deal with North Korea to prevent it from developing nuclear weapons. This deal was never fully implemented and negotiations for it were abandoned under the George W. Bush administration. Consequently, North Korea withdrew from the NPT in 2003 and conducted its first nuclear weapon test in 2006.
10. **Abrogating the ABM Treaty (2002).** Under the George W. Bush administration, the U.S. unilaterally abrogated the Anti-Ballistic Missile (ABM) Treaty. This allowed the U.S., in combination with expanding NATO to the east, to place missile defense installations near the Russian border. It has also led to emplacement of U.S. missile defenses in East Asia. Missile defenses in Europe and East Asia have spurred new nuclear arms races in these regions.

Vying for a place on the Ten Worst Acts of the Nuclear Age are Trump’s withdrawal from various international agreements, including the Paris Agreement (climate change), the Joint Comprehensive Plan of Action (“Iran deal”), and the Intermediate-Range Nuclear Forces (INF) Treaty.

WEAPONS THAT TERRORIZE AND VAPORIZE

Nuclear weapons are insanely powerful. They cause extreme suffering and widespread death, and cannot distinguish between combatants and civilians. They are long-distance killing devices, cowardly in conception. They are capable of destroying cities, countries and civilization. They threaten the future of humanity and all complex forms of life. Nuclear weapons have zero redeeming qualities, and our global goal must be zero nuclear weapons.

The nine nuclear-armed countries are all engaged in modernizing their nuclear arsenals. The United States plans to spend \$1.7 trillion on modernizing its nuclear arsenal over the next three decades. It will upgrade its nuclear warheads and replace its land-based, sea-based and bomber-based nuclear delivery systems. It will make its nuclear weapons smaller, more accurate, and thereby more usable. It will modernize weapons whose primary purpose is to annihilate whole populations and whose effects cannot be contained in time or space.

The United States and other nuclear-armed countries are planning to modernize weapons that terrorize and vaporize.

In addition, there are far better ways to spend \$1.7 trillion than on preparing for global annihilation, including providing food for the hungry, shelter for the homeless, healthcare for those in need, and education for all children.

Humankind appears to have gained little wisdom from the use of nuclear weapons on Hiroshima and Nagasaki, or from the more than 2,000 nuclear tests conducted since the onset of the Nuclear Age. At the Nuclear Age Peace Foundation, we are dedicated to awakening humanity to the peril of reliance on nuclear weapons.

The United States led the way into the Nuclear Age, and we believe it should provide leadership in bringing the Nuclear Age to an end by fulfilling its legal obligations under international law to negotiate in good faith for an end to the nuclear arms race (modernization) and for total nuclear disarmament. If not the United States, who might take responsibility? If not now, when?

DONALD TRUMP, THE BOMB, AND THE HUMAN FUTURE

Donald Trump and the Bomb are nearly the same age. Which of them will prove to be more destructive remains to be seen, but in combination they are terrifying.

Trump was born on June 14, 1946, less than a year after the first and, thus far, only nuclear weapons were used in war. Given Trump's surprising election as president of the United States, his fate and that of the Bomb have become seriously and dangerously intertwined with the fate of all humanity.

On January 20, 2017, Trump was sworn in as the 45th president of the United States and given the nuclear codes and the power to launch the U.S. nuclear arsenal, which is comprised of some 7,000 nuclear weapons. A military officer will always be close to Trump, carrying the nuclear codes in a briefcase known as the "football." What does this portend for civilization and the future of humanity?

The Numerous Negatives

Trump's behavior during the presidential campaign, and since being elected and inaugurated, is often erratic, seemingly based on discernable personality traits, including narcissism, arrogance, impulsiveness, and a lack of predictability. If these traits provide a fair characterization of Trump's personality, what do they suggest for his control of the U.S. nuclear arsenal?

Trump's narcissism seems to be reflected in his need to be liked and treated positively. During the primaries, if another candidate criticized him, Trump would respond with even stronger criticism toward his attacker. On the other hand, if someone praised Trump, he would respond with praise. This could result in creating a spiral in either a positive or negative direction. A negative spiral could potentially get out of hand, which would be alarming with regard to anyone with a hand hovering near the nuclear button.

His narcissism is also reflected in his need to be right. Even though Trump is reported to not read very much and to have a limited range of experience, he is often certain that he is right and boldly asserts the correctness of his positions. At one point, for example, he argued that he knew much more than military leaders about the pursuit and defeat of ISIS. His assuredness of his own correctness seems also rooted in arrogance reflecting his fundamental insecurity. This insecurity and his belief in his own rightness, when combined with his success at making money, leads him to be self-reliant in his decision-making, which could result in his taking risks with threatening or using nuclear weapons. He said on MSNBC's *Morning Joe* program, "My primary consultant is myself." While this may make consensus easy, the breadth of perspective is dangerously narrow.

Two other personality traits could also make more likely Trump's use of nuclear weapons: his impulsiveness and his lack of predictability. Impulsiveness is not a trait one would choose for a person with the power to launch the U.S. nuclear arsenal. When it comes to deciding to use the Bomb, a personality that is calm, clear and measured would seem to inspire more confidence that caution would be employed. Also, his unpredictability does not inspire confidence that he would

refrain from deciding to respond with overwhelming force when he is in a negative spiral and out of patience with a country or terrorist organization that is challenging the U.S., which he may interpret as mounting a challenge to himself personally.

Where Does Trump Stand?

On many issues, including on the use of nuclear weapons, it is not clear where Trump stands, due to his contradictory statements. Here is what Trump said in March 2016 at a town hall event when host Chris Matthews asked him if he might use nuclear weapons:

Trump: "I'd be the last one to use the nuclear weapons, because that's sort of like the end of the ballgame."

Matthews: "So, can you take it off the table now? Can you tell the Middle East we are not using the nuclear weapon on anybody?"

Trump: "I would never say that. I would never take any of my cards off the table."

Matthews: "How about Europe? We won't use it in Europe."

Trump: "I'm not going to take it off the table for anybody."

Matthews: "You might use it in Europe?"

Trump: "No. I don't think so, but — I am not taking cards off the table. I'm not going to use nukes, but I'm not taking cards off the table."

Trump has also said that he would do away with the Iran Deal negotiated by the U.S., and five other major powers, with Iran, and he has done so. He said that he would encourage Japan and South Korea to develop their own nuclear arsenals to lower U.S. costs, and then has denied that he would encourage nuclear proliferation to allies (although he did say so). He supports the modernization of the U.S. nuclear arsenal, while complaining about budget expenditures. He presumably intends to go forward with the \$1.7 trillion nuclear modernization plan.

Conclusion

That so much power over the U.S. nuclear arsenal is placed in the hands of one person – any person – bodes ill for humanity, while completely undermining the war power granted to Congress in the U.S. constitution. That the person in question should be Donald Trump, with all his personal flaws, challenges the United States and the world as never before in human history.

THE MOST DANGEROUS PERIOD IN HUMAN HISTORY

It is terrifying to think of Donald Trump with the codes to launch the U.S. nuclear arsenal. Ironically, Trump himself may be the single best argument anyone could make for why the world should abolish nuclear weapons. The mix of Trump and nuclear weapons is a formula for making his term in office the most dangerous period in human history.

Trump tweets from the hip, like a crazy man. When he tweets or speaks, he often muddies the waters. His aides spend much of their time trying to calm the fears he raises in his compulsive tweeting.

He has tweeted, “The United States must greatly strengthen and expand its nuclear capability until such time as the world comes to its senses regarding nukes.” It is not likely that he will be the person to lead the world in coming to its senses.

He sought to clarify this tweet by telling MSNBC television host Mika Brzezinski, “Let it be an arms race...we will outmatch them at every pass and outlast them all.” The world does not need another nuclear arms race, triggered by macho threats from Trump. Imagine him in John F. Kennedy’s place during the Cuban Missile Crisis. Such a crisis under Trump could result in a civilization-ending nuclear war.

Trump is erratic, impulsive, narcissistic, thin-skinned, and generally ignorant on nuclear and foreign policy issues. He needs restraints on his personality pathologies, if the world is to survive his presidency.

THE NUCLEAR WEAPONS THREAT TO OUR COMMON FUTURE

Nuclear weapons are an existential threat to humans and other forms of complex life. The possibility of nuclear annihilation should concern us enough to take action to abolish these weapons. The failure of large numbers of people to take such action raises vitally important questions. Have we humans given up on our own future? Are we willing to act on our own behalf and that of future generations?

Nine countries possess nuclear weapons, and the predominant orientation toward them is that they provide protection to their citizens. They do not. Nuclear weapons provide no physical protection. While they may provide psychological “protection,” this is akin to erecting a Maginot Line in the mind – one that can be easily overcome under real world conditions, just as the French Maginot Line was circumvented in World War II, leading to the military defeat and occupation of France by German forces.

Following a recent test of a nuclear-capable Minuteman III missile from Vandenberg Air Force Base in California, Colonel Craig Ramsey, the flight test squadron commander, commented that “efforts like these make nuclear deterrence effective.” Perhaps they do so in Colonel Ramsey’s mind, but no one knows what effects such tests have on the minds of potential nuclear adversaries. We can say with certainty that such tests would not deter terrorists in possession of nuclear weapons, since the terrorists would have no territory to be retaliated against. It should be noted as well that U.S. leaders are generally highly critical of similar missile tests by other nations, and do not view these tests as providing an effective deterrent force for them.

We know from the damage that was caused by the atomic bombings of Hiroshima and Nagasaki that these weapons kill indiscriminately and cause unnecessary suffering, both crimes under international humanitarian law. Any threat or use of these weapons would be immoral as well as illegal. Nuclear weapons are also extremely costly and draw scientific and financial resources away from meeting human needs. As long-distance killing devices, they are also cowardly in the extreme.

Are those of us living in the most powerful nuclear weapon state sleepwalking toward Armageddon? Are we lemmings heading toward a cliff? Are we unable to awaken from a nuclear nightmare? We must wake up and demand the good faith negotiations for nuclear zero promised in the Nuclear Non-Proliferation Treaty.

The Doomsday Clock of the *Bulletin of the Atomic Scientists* has moved ahead and now stands at 2 minutes to midnight. We have been warned many times and in many ways. Yet, we remain stuck at the brink of nuclear catastrophe. The people need to step back from the brink and insist that their leaders follow them in moving away.

U.S. nuclear policy puts the future of humanity in the hands of a single leader with the codes to initiate a nuclear war. Should that leader be unstable, unbalanced, erratic or insane, he or she could initiate a nuclear war that would leave the world in shambles, destroying everyone and everything that each of us loves and holds dear.

The stakes are very high and the challenge is one we ignore at our peril. I encourage you to join us at the Nuclear Age Peace Foundation in working to achieve a world free of nuclear weapons, a world we can be proud to pass on intact to our children, grandchildren and all children.

A BETTER MOUSETRAP?

Albert Einstein noted, “Mankind invented the atomic bomb, but no mouse would ever construct a mousetrap.”

We humans have created the equivalent of a mousetrap for ourselves. And we’ve constructed tens of thousands of them over the seven decades of the Nuclear Age.

In the mid-1980s, the world reached a high of 70,000 nuclear weapons, with more than 95 percent of them in the arsenals of the United States and Soviet Union. Since then, the number has fallen to under 14,000. While this downward trend is positive, the world’s nuclear countries possess enough nuclear weapons to destroy the human species many times over.

Until now, nuclear weapons have been used only twice in warfare—at Hiroshima and Nagasaki in August 1945. But the United States and Russia have come far too close to using them on many other occasions, including during the tense days of the 1962 Cuban Missile Crisis.

Nuclear weapons pose an extraordinary risk, one that could result in rapid human extinction. Their use could be triggered by malice or mistake. Either way, the consequences would be catastrophic.

Nuclear weapons and human fallibility are an extremely dangerous and volatile mix. These weapons test our morality, our intelligence, and our capacity for species survival.

Nuclear deterrence is not a shield against nuclear weapons. It is a psychological theory about human behavior. If the leaders of nuclear weapon states truly believed in nuclear deterrence, they would not need to build missile defenses for protection against a nuclear attack. And missile defense systems are far from reliable, often failing in test situations. Sometimes, the tests are cancelled because of bad weather or cloud cover. But there is no international treaty requiring nuclear attacks to be conducted only on sunny days.

There is no physical protection against nuclear weapons. The only strategy to assure against nuclear war is to negotiate the abolition of nuclear weapons—with inspection and verification procedures to make sure existing arsenals are eliminated and never rebuilt.

Donald Trump has tweeted about wanting the United States to “greatly strengthen and expand its nuclear capability”; he’s also told the world that, when it comes to nuclear weapons, he wants the United States to be at “the top of the pack.” In making such statements, he is demonstrating his lack of knowledge about nuclear dangers and, in fact, risking the instigation of a new nuclear arms race.

Rather than understanding, as President Reagan and other nuclear-armed leaders discovered, that “[n]uclear war cannot be won, and must never be fought,” Trump seems intent on building a bigger and better trap for destroying the human species. His bravado is dangerous. Nuclear weapons are equal opportunity destroyers. Although humans invented the atomic bomb, they are not condemned

to being caught in its trap. To avoid the trap, people must demand far more of political leaders, including Trump, insisting that they commence good-faith negotiations now for nuclear zero.

PROBABILITY OF NUCLEAR WAR

Most people go about their lives giving minimal thought to the consequences or probability of nuclear war. The consequences are generally understood to be catastrophic and, as a result, the probability of nuclear war is thought to be extremely low. But is this actually the case? Should people feel safe from nuclear war on the basis of a perceived low probability of occurrence?

Since the consequences of nuclear war could be as high as human extinction, the probability of such an outcome would preferably be zero, but this is clearly not the case. Nuclear weapons have been used twice in the past 75 years, at a time when only one country possessed these weapons. Today, nine countries possess nuclear weapons, and there are nearly 14,000 of them in the world.

Nuclear deterrence, based upon the threat of nuclear retaliation, is the justification for possession of these weapons. It is, however, a poor justification, being unethical, illegal, and subject to catastrophic failure. During the nuclear era, nuclear deterrence has come close to failing on many occasions, demonstrating weaknesses in the hypothesis that threat of retaliation will protect indefinitely against nuclear war.

I asked several individuals working for nuclear disarmament, all Associates of the Nuclear Age Peace Foundation, about their views on the probability of nuclear war.

Martin Hellman, professor emeritus of electrical engineering at Stanford, had this to say: “Even if nuclear deterrence could be expected to work for 500 years before it failed and destroyed civilization – a time period that sounds highly optimistic to most people – that would be like playing Russian roulette with the life of a child born today. That’s ‘nuclear time horizon’ is more like 100 years, that child would have worse than even odds of living out his or her natural life. Not knowing the level of risk is a gaping hole in our national security strategy. So why does society behave as if nuclear deterrence were essentially risk free?”

I next asked John Scales Avery, associate professor of quantum chemistry at the University of Copenhagen, for his view of the probability of nuclear war by end of the 21st century. He responded:

“There are 83 remaining years in this century. One can calculate the probability that we will reach the end of the century without a nuclear war under various assumptions of yearly risk. Here is a table:

Yearly risk	Chance of survival
1%	43.4%
2%	18.7%
3%	7.9%
4%	3.4%
5%	1.4%

“One has to conclude that in the long run, the survival of human civilization and much of the biosphere requires the complete elimination of nuclear weapons.”

Finally, I asked Steven Starr, a scientist at the University of Missouri, who responded in this way:

“I’m not sure if I can provide any sort of numerical value or calculation to estimate the risk of nuclear war in a given time period. However, I certainly would say that unless humans manage to eliminate nuclear arsenals, and probably the institution of war itself, then I think it is very likely that nuclear weapons will be used well before the end of the century.

“There are just too many weapons in too many places/countries . . . something close to 15,000 nuclear weapons, right? . . . and there are too many conflicts and injustices and power-hungry people who have access to and control over these weapons. There are just too many possibilities for miscalculation, failures of technology, and simply irrational behavior, to imagine that we can continue to indefinitely avoid the use of nuclear weapons in conflict.

“Thus I am very happy to see that a treaty to ban nuclear weapons is now being negotiated at the UN. This proves to me that there are a great many people and nations that are fully aware of the nuclear danger and are taking action to stop it.”

Conclusions

The odds of averting a nuclear catastrophe are not comforting.

We are playing Nuclear Roulette with the futures of our children and grandchildren.

The only way to assure that the probability of nuclear war goes to zero is to eliminate all nuclear weapons.

One way to support the goal of nuclear zero is to support the Nuclear Ban Treaty negotiated in 2017 at the United Nations.

WHAT FACTORS MAKE A NUCLEAR WAR MORE LIKELY?

We know that the risk of nuclear war is not zero. Humans are not capable of creating foolproof systems. Nuclear weapons systems are particularly problematic since the possession of nuclear weapons carries an implicit threat of use under certain circumstances. In accord with nuclear deterrence theory, a country threatens to respond with nuclear weapons, believing that it will prevent the use of nuclear weapons against it.

Nuclear weapons are currently under the control of nine countries. Each has a complex system of control with many possibilities for error, accident or intentional use.

Error could be the result of human or technological factors, or some combination of human and technological interaction. During the more than seven decades of the Nuclear Age, there have been many accidents and close calls that could have resulted in nuclear disaster.

Human factors include miscommunications, misinterpretations and psychological issues. Some leaders believe that threatening behavior makes nuclear deterrence more effective, but it could also result in a preventive first-strike launch by the side being threatened. Psychological pathologies among those in control of nuclear weapons could also play a role. Hubris, or extreme arrogance, is another factor of concern.

Technological factors include computer errors that wrongfully show a country is under nuclear attack. Such false warnings have occurred on numerous occasions but, fortunately, human interactions (often against policy and/or orders) have so far kept a false warning from resulting in a mistaken “retaliatory” attack. In times of severe tensions, a technological error could compound the risks, and human actors might decide to initiate a first strike.

There are many other factors that affect the risk of nuclear war. These include:

- The number of countries possessing nuclear weapons. The more countries with nuclear weapons, the more complexity and the greater the risk.
- The number of weapons in each country’s nuclear arsenal. The more weapons in a nuclear arsenal, the greater the risk.
- The alert status of a country’s nuclear weapons. The higher the alert status, the shorter the decision time to launch and the greater the risk.
- The tension level between nuclear-armed countries. The higher the tension level, the higher the likelihood of false assumptions and precipitous action.
- Policies of First Use of nuclear weapons. This is a default policy, if a country does not pledge a No First Use policy, as have China and India. First Use policies may make an opponent more likely to initiate a first strike and thus make a nuclear attack more likely.

- Policies of Launch-on-Warning. Such policies cut into decision time for leaders to decide whether or not to launch a “retaliatory” strike to what may be a false warning.
- Vulnerability of land-based missiles. Due to the “use them or lose them” nature of land-based missiles, their deployment makes nuclear war more likely.

In addition to identifiable risks of nuclear war, there are also unknown risks – those that cannot be identified in advance. Unknown risks include little understood possibilities for cyber-attacks on nuclear weapons systems, attacks that could potentially either activate or deactivate nuclear-armed missile launches.

Given the catastrophic consequences of nuclear war, including destruction of civilization or even human extinction, giving careful public attention to the factors making nuclear war more or less likely is imperative. The great problem is that there are too many possibilities for failure in such a complex system of interactions. This leads to the conclusion that the risks are simply too great, and all nations should move rapidly to negotiate the elimination of all nuclear arms. While doing so, nations would be well served to adopt and declare policies of No First Use and No Launch-on-Warning, and to eliminate vulnerable land-based missiles from their arsenals.

MISSILEERS

They are bright young women and men
ready to bring the world to an end.

They believe they are saving the world, not
seeing they are instruments of a system gone mad.

They sit in their bunkers, always alert,
holding the keys to the future in their hands.

The future is dark from their bunkers, deep
in the earth. They grow bored.

Nothing happens. Day after day, they remain
alert to nothing.

They are ready to follow orders, ready to do
their part to bring the world to an end.

They are instruments of a system gone mad.

THE FIERCE URGENCY OF NUCLEAR ZERO

THE FIERCE URGENCY OF NUCLEAR ZERO

The Nuclear Age began with the utter destruction of the Japanese cities of Hiroshima and Nagasaki. Survivors of these bombings have borne witness to the death, devastation, pain and suffering that resulted from the use of nuclear weapons. They have given ample testimony to the horrors they experienced. Their most powerful and persistent insight is: “We must abolish nuclear weapons before they abolish us.” The “we” in that statement is “humanity” and the “us” is “all of us.”

The weapons used at Hiroshima and Nagasaki were small compared to the thermonuclear weapons subsequently developed, including those in today’s nuclear arsenals.

The use of only one or two percent of the more than 14,000 nuclear weapons in modern nuclear arsenals would likely destroy civilization and could destroy much of life on Earth. Rather than engaging in serious nuclear disarmament efforts, however, all nine nuclear-armed countries are in the process of modernizing and upgrading their nuclear arsenals.

It is clear, but not widely considered, that today’s nuclear arsenals threaten all we love and treasure, make humans an endangered species, and undermine our stewardship of the planet.

A quarter century after the end of the Cold War, some 1,800 nuclear weapons in the arsenals of the United States and Russia remain on hair-trigger alert, ready to be fired within moments of an order to do so. This is literally a disaster waiting to happen.

Nuclear trouble spots are intensifying across the globe, but particularly in relations between former Cold War adversaries, U.S. and Russia, leading some analysts to describe the situation as a new Cold War.

Expanding NATO membership to Russia’s borders, in spite of promises not to do so, has been among the major factors causing deterioration in U.S.-Russian relations.

The U.S. has deployed missile defense installations on military bases of NATO members close to the Russian border. The Russians view missile defenses as dangerous dual-purpose technology (with offensive as well as defensive capabilities), and these installations are heightening tensions between Russia and the West.

Similar tensions are developing in East Asia as a result of the deployment of U.S. missile defense installations in that region, viewed by China as undermining its minimum deterrent force and helping to drive the modernization of the Chinese nuclear arsenal. Tensions also remain high in South Asia and the Middle East.

Against this backdrop of danger and uncertainty, the nuclear disarmament obligations of the nuclear Non-Proliferation Treaty (NPT) are not being fulfilled by the nuclear weapon states that are parties to the treaty, thus breaching the treaty and violating the bargain of the treaty. In a bold action, the tiny Pacific Island state, the Republic of the Marshall Islands, brought lawsuits in 2014 against the nine nuclear-armed countries for breaching their obligations under the NPT

and/or customary international law to negotiate in good faith for an end to the nuclear arms race and for nuclear disarmament.

Among the nine nuclear-armed countries and those countries under the “nuclear umbrella” of the United States (the 28 NATO countries and Australia, Japan, Republic of Korea and Taiwan), there appears to be little *political will* for nuclear disarmament, and the citizenry in these countries seems to be largely complacent.

The Doomsday Clock of the *Bulletin of the Atomic Scientists* stands at two minutes to midnight, close to doomsday. And yet, humanity is experiencing the “frog’s malaise.” It is as though the human species has been placed into a pot of tepid water and is content to calmly stay there treading water while the temperature rises to the fatal boiling point.

As Noam Chomsky analyzes the situation, “Nuclear weapons pose a constant danger of instant destruction, but at least we know in principle how to alleviate the threat, even to eliminate it, an obligation undertaken (and disregarded) by the nuclear powers that have signed the Non-Proliferation Treaty.”

Humanity stands at the edge of a nuclear precipice. Our choices are to do nothing or to back away from the precipice and change course. We can remain complacent, and thus unengaged, in the face of the threat, or we can become engaged and demand the elimination of nuclear weapons before they are used again by mistake, miscalculation or malice. There is no meaningful middle ground.

How is humanity to shoulder the moral burden for species survival that is our collective responsibility in the Nuclear Age?

We must change the discourse on nuclear dangers and the actions that follow from it. We must awaken, create and build a movement that is powerful enough to achieve the political will to end the nuclear era.

The movement must have one simple demand that resonates across the globe – a world free of nuclear weapons. This must be conveyed to political leaders as an urgent and essential goal for assuring the future of humanity. Once the goal is widely accepted, steps along the way must be agreed upon. Meaningful steps would include:

- Reinstating the Anti-Ballistic Missile Treaty and the removal of U.S. missile defense installations from near the Russian border.
- Convening negotiations for a Nuclear Ban Treaty to prohibit and eliminate nuclear weapons on Earth and in outer space.
- De-alerting nuclear arsenals; declaring policies of No First Use and No Launch-on-Warning; removing all U.S. nuclear weapons from foreign soil; ratifying the Comprehensive Test Ban Treaty; and negotiating a treaty banning weapons in space.

- Zeroing out funding for “modernizing” nuclear arsenals and directing these funds instead to meeting human needs and protecting the environment.

The Nuclear Age is a time of great challenge. We must raise the level of our moral and political engagement to assure that globally we are able to control the power of our destructive technologies. Youth must lead the way in creating a new human epoch that is characterized by the seven C's: compassion, commitment, courage, conscience, creativity, cooperation and celebration.

ANNIVERSARY OF WORLD COURT ADVISORY OPINION

The International Court of Justice (“Court,” or “ICJ”), the world’s highest court, issued its Advisory Opinion on the legality of the threat or use of nuclear weapons on July 8, 1996.

The Court found in a split vote (7 to 7), with the casting vote of the Court’s president Mohammed Bedjaoui deciding the matter, that the threat or use of nuclear weapons would generally be illegal under international law. The Court could not determine whether it would be legal or illegal to threaten or use nuclear weapons “in an extreme circumstance of self-defense, in which the very survival of a State would be at stake.”

Three of the judges voting to oppose general illegality, however, were concerned with the word “generally” and wanted the Court to go further and remove any ambiguity about the illegality of threat or use of nuclear weapons. Judge C.G. Weeramantry, for example, argued in a brilliant dissenting opinion “that the use or threat of use of nuclear weapons is illegal in any circumstances whatsoever.” Thus, in actuality, ten of the fourteen judges supported either general illegality or total illegality of the threat or use of nuclear weapons.

The Court also found unanimously that any threat or use of nuclear weapons must be compatible with the United Nations Charter and must also be compatible with the international law of armed conflict and particularly with “the principles and rules of international humanitarian law.” This means that the threat or use of nuclear weapons must be capable of distinguishing between combatants and civilians and must not cause unnecessary suffering. It is virtually impossible to imagine any use of nuclear weapons that could meet such limiting criteria.

Finally, the Court concluded, “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.” Unfortunately, despite this obligation, such negotiations have not taken place in the past twenty years.

The tiny Pacific Island country, the Republic of the Marshall Islands, has cited the Court’s conclusion regarding this legal obligation in bringing contentious lawsuits against the nine nuclear-armed countries at the International Court of Justice and separately against the United States in U.S. federal court. In the ICJ, only the cases against the UK, India and Pakistan went forward, since the other six nuclear-armed countries do not accept the compulsory jurisdiction of the Court and have not opted to accept the Court’s jurisdiction in this matter.

The cases brought by the Republic of the Marshall Islands in the ICJ are currently awaiting the Court’s ruling on preliminary objections filed by the three respondent countries. The case against the U.S. was dismissed in U.S. federal district court on jurisdictional grounds, and lost on appeal in the Ninth Circuit Court of Appeals.

Nuclear weapons are devices of mass annihilation. The ICJ found these weapons to be generally illegal and to require good faith negotiations leading to total nuclear disarmament. All nine nuclear-armed countries are in breach of this obligation to the detriment of the people of the

world, including the citizens of their own countries. The Republic of the Marshall Islands has had the courage to bring this matter back to the ICJ as contentious cases.

On the illegality of nuclear weapons, the then Court President, Mohammed Bedjaoui, stated: “Nuclear weapons, the ultimate evil, destabilize humanitarian law, which is the law of the lesser evil. The existence of nuclear weapons is therefore a challenge to the very existence of humanitarian law, not to mention their long-term effects of damage to the human environment, in respect to which the right to life can be exercised.”

As we approach the 25th anniversary of the ICJ Advisory Opinion on threat or use of nuclear weapons, the people must wake up, stand up and speak out. Nuclear weapons are illegal as well as immoral and costly. They are not even weapons, but instruments of mass annihilation. They serve no useful purpose and endanger all countries, all people, and all future generations. It is past time to end the nuclear era.

OVERCOMING NUCLEAR CRISES*

Alarming, tensions between the United States and North Korea have again reached crisis proportions. The United States wants North Korea to curtail any further development of its nuclear weapons program, as well as to stop testing its missiles. North Korea evidently seeks to bolster its security by acquiring a sufficiently robust deterrent capability to discourage an attack by the United States. The unpredictable leaders of both countries are pursuing extremely provocative and destabilizing patterns of behavior. Where such dangerous interactions lead no one can now foresee. The risk of this tense situation spiraling out of control should not be minimized.

It is urgent that all governments concerned make a sober reassessment in a timely manner. The following questions need to be addressed: What can be done to defuse this escalating crisis? What should be done to prevent further crises in the future? What could be learned from recurrent crises involving nuclear weapons states?

It is discouraging that the White House continues to rely mainly on threat diplomacy. It has not worked in responding to North Korea's nuclear ambitions for the past few decades, and it is crucial to try a different approach. Currently, there are mixed signals that such a shift may be underway. President Trump has turned to China, imploring that it use its leverage to induce Kim Jong-un to back down, and inviting Kim for crisis-resolving talks. Also relevant and hopeful is the election of Moon Jae-in as the president of South Korea, and his insistent calls for improved relations with the North.

In the end, no reasonable person would opt for another war on the Korean Peninsula. The only rational alternative is diplomacy. But what kind of diplomacy? American reliance on threat and punitive diplomacy has never succeeded in the past and is almost certain to fail now. We assuredly need diplomacy, but of a different character.

It is time to abandon *coercive diplomacy* and develop an approach that can be described as *restorative diplomacy*. Coercive diplomacy relies on a zero/sum calculus consisting of military threats, sanctions, and a variety of punitive measures. Restorative diplomacy adopts a win/win approach that seeks to find mutual benefits for both sides, restructuring the relationship so as to provide security for the weaker side and stability for the stronger side. The challenge to the political imagination is to find the formula for translating this abstract goal into viable policy options.

The basic shift is a mental recognition that in the context of the Korean Peninsula any military encounter, whether nuclear or non-nuclear, is a recipe for catastrophe. It is not a win or lose situation. It is lose/lose in terms of human suffering, devastation, and likely political outcome. If nuclear weapons are used by either or both sides, millions of casualties could occur in an unprecedented disaster.

A solution to the present Korean crisis would involve an immediate return to the negotiating table with positive inducements made by the U.S. in exchange for North Korea halting its development of nuclear weapons and missile testing. Such incentives could include, first and

foremost, bilateral and regional security guarantees to the North Korean government, ensuring that the country would not be attacked and that its sovereignty would be respected. This could be coupled with confidence-building measures. Accordingly, the U.S. and South Korea have halted their joint annual military exercises in the vicinity of North Korea, as well as foregoing provocative weapons deployments. Additionally, the U.S. and possibly Japan could offer North Korea additional benefits: food, medicine, and clean energy technology. China could play a positive role by hosting the negotiations, including possibly inviting the new leader of South Korea to participate.

Beyond resolving the current crisis is the deeper challenge to prevent recurrent crises that pit nuclear weapons states against one another. There is no way to achieve this result so long as some countries retain, develop, and deploy nuclear weapons, and other countries are prohibited from acquiring such weaponry even if their security is under threat. Iraq and Libya arguably suffered the consequences of *not* having nuclear weapons to deter attacks against them.

The only way out of this trap is to recognize that the nuclear nonproliferation regime has failed. The treaty provisions calling for nuclear as well as general and complete disarmament negotiations have been neglected for nearly a half century. Outside the terms of the nuclear Non-Proliferation Treaty, the United States has acted as an enforcer of a nuclear nonproliferation regime. Such a role motivated the U.S. attack on Iraq in 2003 with its disastrous impacts on the country and the entire Middle East. It also underlies the current crisis pitting Washington's demands against Pyongyang's provocations. Hard power approaches to such dangerous developments have a dismal record, and pose unacceptable risks of regional and global havoc.

To prohibit and eliminate nuclear weapons epitomizes prudence in the Nuclear Age. It is the only way to prevent a crisis between nuclear-armed opponents turning into a nuclear catastrophe. Such behavior would constitute an act of sanity for humanity and its future given the extreme dangers of nuclear weapons, the periodic crises that erupt among nuclear-armed countries, and the growing odds of nuclear weapons being used at some point. Yet for smaller, weaker nuclear weapons states to go along with this approach, the United Nations Charter and international law must be respected to the point that regime-changing geopolitical interventions by dominant states are convincingly rejected as a reasonable policy option.

Any use of nuclear weapons would be catastrophic. Depending upon the extent of the nuclear exchange, cities, countries, civilization, and even all complex life, including the human species, would be at risk. Experts anticipate that a nuclear war between India and Pakistan in which 100 Hiroshima-size nuclear weapons were used against cities would likely cause a nuclear famine taking two billion lives globally. An all-out nuclear war could be an extinction event for complex life, including humanity.

Nine countries currently possess nuclear weapons (United States, Russia, United Kingdom, France, China, Israel, India, Pakistan and North Korea). Nine leaders could initiate nuclear war by mistake, miscalculation or malice. The future rests precariously in the hands of this small number of individuals. Such an unprecedented concentration of power and authority undermines democracy, as well as being extremely reckless and irresponsible.

It is essential to maintain our focus on the challenges posed by the development of North Korean nuclear capabilities. At the same time, while struggling to defuse this crisis endangering the Korean Peninsula, we should not lose sight of its connection with the questionable wider structure of reliance on nuclear weapons. Until this structure of nuclearism is itself overcome, crises will almost certainly continue to occur in the future. It is foolhardy to suppose that nuclear catastrophes can be indefinitely averted without addressing these deeper challenges that have existed ever since the original atomic attack on Hiroshima.

*with Richard Falk

NEGOTIATIONS ARE THE ONLY PATH TO PEACE WITH NORTH KOREA

North Korea withdrew from the nuclear Non-Proliferation Treaty in 2003 and conducted its first nuclear weapon test in 2006. It has conducted five further tests since then. It is thought to be planning another nuclear weapon test in the near future, to which Donald Trump has tweeted, “It won’t happen!”

North Korea has also tested missiles with a longer range and is thought to be working on an intercontinental ballistic missile capable of reaching Hawaii and the west coast of the United States. It is thought that North Korea has produced the fissile materials for at least eight nuclear warheads, but is unable at this point to mount them on a ballistic missile capable of reaching the United States. While at present it lacks the technological capacity to directly threaten the U.S., North Korea will likely achieve this capability at some point. Its current nuclear and substantial conventional arsenal threatens South Korea, Japan, and U.S. troops stationed in those countries.

How should the Trump administration react to these threats? There are two possibilities. The first would involve military action by the U.S. against North Korea. The second would involve diplomacy and negotiations.

An important step in analyzing the danger of North Korea’s nuclear arsenal is to consider its purpose. Given the size of its arsenal, North Korea could certainly not expect to win a nuclear war against the far more powerful U.S. military forces. What it could reasonably expect its small nuclear arsenal to provide is a deterrent against a preemptive conventional or nuclear attack by the U.S. Having observed the U.S. take down the Iraqi and Libyan regimes after persuading them both to give up their nuclear programs, North Korean leaders have reason for concern. Each of these cases led to the overthrow of the regime and the death of its leader.

What else do we know about North Korea? It has a strong military of some one million troops. It has been ruled by a dynasty since the end of World War II. Its current leader, Kim Jong-un, is in his thirties and is the grandson of the founder of the North Korean regime. Donald Trump has described the young leader as a “smart cookie.” We also know that North Korea is a very poor country with a very bad human rights record.

It can be reasonably concluded that North Korea does not intend aggressive war with its military and nuclear program, but it does threaten to use these forces to protect its regime and leadership from an attack by the U.S. or another country.

For the U.S. to initiate a preemptive military attack against North Korea would be wildly dangerous and could result in a war throughout Northeast Asia, with massive death and destruction not only in North Korea, but also in South Korea and Japan, including U.S. troops in the region. What roles China and Russia would play is unknown.

Given the massive disadvantages of initiating a preemptive war, including the illegality and immorality of doing so, the U.S. should dial down its threatening rhetoric (“all options are on the table”) and behaviors (sending U.S. warships to the vicinity), and instead seek negotiations with the North Korean leadership on mutual security needs. In addition, as a poor country, there is

much that North Korea needs for its people. Food and energy would be high on the list of bargaining chips the U.S. could offer, as well as negotiating an end to the Korean War rather than continuing with the truce set in place in 1953.

The U.S. should actively seek China's help in getting North Korea to the negotiating table and in participating in the negotiations. Following the path of peace and diplomacy would demonstrate an important step toward maturity for the national leaders of North Korea and the United States.

TEN LESSONS FROM CHERNOBYL AND FUKUSHIMA

George Santayana famously said, “Those who cannot remember the past are condemned to repeat it.” The same may be said of those who fail to understand the past or to learn from it. If we failed to learn the lessons from the nuclear power plant accident at Chernobyl more than three decades ago or to understand its meaning for our future, perhaps the more recent accident at Fukushima will serve to underline those lessons. Here are ten lessons drawn from the Chernobyl and Fukushima disasters.

1. **Nuclear power is a highly complex, expensive and dangerous way to boil water.** Nuclear power does nothing more than provide a high-tech and extremely dangerous way to boil water to create steam to turn turbines.
2. **Accidents happen and the worst-case scenario often turns out to be worse than imagined or planned for.** Although the nuclear industry continues to assure the public that nuclear power plants are safe, the plants continue to have accidents, some of which exceed worst-case projections.
3. **The nuclear industry and its experts cannot plan for every contingency or prevent every disaster.** Although it was known that Fukushima is subject to earthquakes and tsunamis, the nuclear industry and its experts did not plan for the combination of a 9.0 earthquake and the larger-than-expected tsunami that followed.
4. **Governments do not effectively regulate the nuclear industry to assure the safety of the public.** Government regulators of nuclear industry often come from the nuclear industry and tend to be too close to the industry to regulate it effectively.
5. **Hubris, complacency and high-level radiation are a deadly mix.** Hubris on the part of the nuclear industry and its government regulators, along with complacency on the part of the public, have led to the creation of vast amounts of high-level radiation that must be guarded from release to the environment for tens of thousands of years, far longer than civilization has existed.
6. **Nuclear power plants can catastrophically fail, causing vast human and environmental damage.** The corporations that run the power plants, however, are protected from catastrophic economic failure by government limits on liability, which shift the economic burden to the public. If the corporations that own nuclear power plants had to bear the burden of potential financial losses in the event of a catastrophic accident, they would not build the plants because they know the risks are unacceptable. It is government liability limits, such as the Price-Anderson Act in the U.S., that make nuclear power plants possible, leaving the taxpayers responsible for the overwhelming monetary costs of nuclear industry failures. No other private industry is given such liability protection.

7. **Radiation releases from nuclear accidents cannot be contained in space and will not stop at national borders.** The wind will carry long-lived radioactive materials around the world and affect the people and environment of many countries and regions. The radiation will also affect the oceans of the world, which are the common heritage of humankind.
8. **Radiation releases from nuclear accidents cannot be contained in time and will adversely affect countless future generations.** The radioactive materials from nuclear power plant accidents, as well as from radioactive wastes, are a legacy we are bequeathing to future generations of humans and other forms of life on the planet.
9. **Nuclear energy, as well as nuclear weapons, and human beings cannot co-exist without the risk of future catastrophes.** The survivors of the atomic bombings of Hiroshima and Nagasaki have long known that nuclear weapons and human beings cannot co-exist. The Fukushima accident, like that at Chernobyl before it, makes clear that human beings and nuclear power plants also cannot co-exist without courting future disasters.
10. **The accidents at Fukushima and Chernobyl are a wake-up call to phase out nuclear energy and replace it with energy conservation and more human- and environmentally-friendly forms of renewable energy.** For decades it has been clear that various forms of renewable energy are needed to replace both nuclear and fossil fuel energy sources. Now it is clearer than ever. The choice is not between nuclear and fossil fuels. The solution is to disavow both of these forms of energy and to move as rapidly as possible to a global energy plan based upon various forms of renewable energy: solar cells, wind, geothermal, ocean thermal, currents, tides, etc.

The nuclear power plant accident at Chernobyl was repeated, albeit with a different set of circumstances, at Fukushima. Have our societies yet learned any lessons from Chernobyl and Fukushima that will prevent the people of the future from experiencing such devastation? As poet Maya Angelou points out, “History, despite its wrenching pain, cannot be unlived, but if faced with courage doesn’t need to be lived again.” We need the courage to phase out nuclear power globally and replace it with energy conservation and renewable energy sources. In doing so, we will not only be acting responsibly with regard to nuclear power, but will also reduce the risks of nuclear weapons proliferation and strengthen the global foundations for the abolition of these weapons.

FUKUSHIMA

After the meltdowns at Fukushima Daiichi
nothing was normal.

The people's laughter was put in a corner
and nobody thought much about it.

The people were exiled from their homes and farms
to become strangers in their own land.

The dreaded nightmare of radioactive wild boars
running free in the snow continues without end.

In Fukushima, the people suffered and suffer still.

POPE FRANCIS CALLS FOR COMPLETE PROHIBITION OF NUCLEAR WEAPONS

When Pope Francis came to the United States he brought with him not only his spirituality, but also his courage, compassion and commitment to creating a more decent world. He urged the people of the U.S. and their representatives to live by the Golden Rule and to respect nature that sustains us all. Despite a full schedule, he found time to share a meal with the homeless, dialogue with prisoners, and bless those in need. He commented that the children are the most important among us. He taught us with his smiles, his warmth, his words and his deeds.

The Pope did so much during his six-day visit that many Americans may have missed his remarks at the United Nations on September 25th on the “urgent need to work for a world free of nuclear weapons, in full application of the Non-Proliferation Treaty, in letter and spirit, with the goal of a complete prohibition of these weapons.” The Pope asks us not only to desire such a world, but admonishes us “to work” for it. In order to achieve this world, one must work to replace apathy with empathy, conformity with critical thinking, ignorance with wisdom, and denial with recognition of the threat these weapons pose to humankind and the human future.

Pope Francis calls upon us to recognize that there is an “urgent need” for such work. It is not work for a distant day, or work that can be put off to another time. The matter is urgent, the need is great. He also calls for the “full application of the Non-Proliferation Treaty, in letter and spirit.” The Non-Proliferation Treaty (NPT), which entered into force in 1970, requires the parties in Article VI of the treaty “to pursue negotiations in good faith on effective measures relating to the cessation of the nuclear arms race at an early date and to nuclear disarmament....”

The five nuclear-armed countries that are parties to the NPT (US, Russia, UK, France and China) are not at present following either the letter or spirit of the treaty. Rather than ending the nuclear arms race, they are engaged in costly and dangerous “modernizing” of their nuclear arsenals, while ignoring their obligations to negotiate in good faith for nuclear disarmament. The four nuclear-armed countries that are not parties to the treaty (Israel, India, Pakistan and North Korea) are bound by customary international law to these provisions of the NPT, and are also ignoring their obligations under international law.

Pope Francis is clear that the goal to be achieved is the “complete prohibition” of nuclear weapons. Partial measures are not enough. As the spiritual leader that he is, he must be keenly aware that all of Creation, including humankind, is placed at risk by the more than 14,000 nuclear weapons still on our planet. The Pope effectively dismisses nuclear deterrence as a justification for nuclear weapons. He states, “An ethics and a law based on the threat of mutual destruction – and possibly the destruction of all mankind – are self-contradictory and an affront to the entire framework of the United Nations, which would end up as ‘nations united by fear and distrust.’”

As someone who has worked for the abolition of nuclear weapons for more than three decades, I am greatly encouraged by the Pope’s resounding call for “complete prohibition.” He did not mince his words. He was clear and direct and spoke of the urgency that is necessary to

accomplish the task. Many others throughout the world seeking a world free of nuclear weapons must also be elated by Pope Francis's call for nuclear weapons abolition.

Pope Francis is a wise and decent man. His words of support for a "complete prohibition" of nuclear weapons should give heart to all who seek a world free of nuclear weapons, a goal that those of us now alive owe to our children and grandchildren and all generations that will follow us on the planet.

MARTIN LUTHER KING, JR. AND THE BOMB

Martin Luther King, Jr. was one of the world's great peace leaders. Like Gandhi before him, he was a firm advocate of nonviolence. In 1955, at the age of 26, he became the leader of the Montgomery bus boycott and two years later he was elected the leader of the Southern Christian Leadership Conference. Within a decade he would receive the Nobel Peace Prize, at the age of 35. It came two years after he witnessed the terrifying prospects of nuclear war during the 1962 Cuban Missile Crisis.

King's Nobel Lecture, delivered in December 1964, is worth reviewing. He compared mankind's technological advancement with our spiritual progress and found us failing to keep pace spiritually. He said, "There is a sort of poverty of the spirit which stands in glaring contrast to our scientific and technological abundance. The richer we have become materially, the poorer we have become morally and spiritually. We have learned to fly the air like birds and swim the sea like fish, but we have not learned the simple act of living together as brothers."

The yawning gap between mankind's technological advancement and spiritual poverty led King to draw this conclusion: "If we are to survive today, our moral and spiritual 'lag' must be eliminated. Enlarged material powers spell enlarged peril if there is not proportionate growth of the soul. When the 'without' of man's nature subjugates the 'within,' dark storm clouds begin to form in the world." He found that mankind's spiritual "lag" expressed itself in three interrelated problems: racial injustice, poverty and war.

When King elaborated on war, he spoke of "the ever-present threat of annihilation," clearly referring to the dangers of nuclear weapons. Recognizing the dangers of denial, or "rejection" of the truth about the nuclear predicament, he went on, "A world war – God forbid! – will leave only smoldering ashes as a mute testimony of a human race whose folly led inexorably to ultimate death. So if modern man continues to flirt unhesitatingly with war, he will transform his earthly habitat into an inferno such as even the mind of Dante could not imagine."

King came to the following realization: "Somehow we must transform the dynamics of the world power struggle from the negative nuclear arms race which no one can win to a positive contest to harness man's creative genius for the purpose of making peace and prosperity a reality for all of the nations of the world. In short, we must shift the arms race into a 'peace race.' If we have the will and determination to mount such a peace offensive, we will unlock hitherto tightly sealed doors and transform our imminent cosmic elegy into a psalm of creative fulfillment."

One year to the day prior to his assassination, on April 4, 1968, King gave a speech at the Riverside Church in New York City that was highly critical of the war in Vietnam. Many of his close advisors urged him not to speak out and to instead keep his focus on the civil rights movement, but he felt the time had come when silence is betrayal and chose to state his position. He put the Vietnam War squarely within his moral vision and spoke against it to the great displeasure of Lyndon Johnson and many other American political leaders. In addition to speaking his mind on the war, he also said that nuclear weapons would never defeat communism and called for reordering our priorities to pursue peace rather than war. He argued, "A nation

that continues year after year to spend more money on military defense than on programs of social uplift is approaching spiritual death.”

Were he still with us, there can be little doubt that King would be highly critical of America’s continuing wars since Vietnam, and its current plan to spend \$1.7 trillion on modernizing its nuclear arsenal. Since his death, the gap between our technological prowess and our spiritual/moral values has continued to widen. We would do well to listen to King’s insights and follow his vision if we are to have any chance of pulling out of the descending spiral leading to the nation’s “spiritual death.”

NUCLEAR ABOLITION: A SISYPHEAN TASK?

NUCLEAR ABOLITION: A SISYPHEAN TASK?

Nuclear weapons threaten everyone and everything we love and cherish. Why do we accept and tolerate these intolerable weapons? Every thinking person on the planet should stand against these omnicidal weapons and work for their elimination.

Nine leaders in nine countries have their fingers on a nuclear button. These leaders place the future of civilization and most complex life at risk by their misplaced faith in and reliance upon the reliability of nuclear deterrence. They believe that with enough nuclear weapons of the right size, and by threatening to use them, they will be secure from nuclear and non-nuclear attacks. This is not the case. Nuclear deterrence has never guaranteed a nation's security and has come close to failing on many occasions. It could fail on any given day, and yet we place the very future of our species on the untested hypothesis that nuclear deterrence will not fail catastrophically.

In the 2018 U.S. Nuclear Posture Review (NPR), the Trump administration takes full ownership of U.S. nuclear policy. The NPR calls for spending vast resources (\$1.7 trillion) over the next three decades to modernize the entire U.S. nuclear arsenal. It also calls for creating smaller and more usable nuclear weapons, and threatening use of these weapons in a wide variety of circumstances, including as a response to a strong conventional attack or a cyber-attack. The U.S. has also been deploying missile defenses near the Russian border, triggering a dangerous defensive-offensive cycle; in essence, a new nuclear arms race.

Other nuclear-armed countries are also in the process of “modernizing” their nuclear deterrence posture, contributing to new nuclear arms races while putting nuclear disarmament on the proverbial shelf. The world continues to grow ever more dangerous, and yet these nuclear dangers are often met by leaders and the public alike with widespread ignorance and apathy.

In January, the people of Hawaii were given a serious scare when a technician with the Hawaii Emergency Management Agency sent a false warning that a ballistic missile attack was inbound to the state. The emergency message, which was not corrected for 38 minutes, called on residents of Hawaii to seek immediate shelter, and warned, “This is not a drill.” Many Hawaii residents took this warning seriously and called loved ones to say what they thought was a final goodbye.

In late January, the scientists at the Bulletin of the Atomic Scientists moved their Doomsday Clock to two minutes to midnight. This is the closest the clock has been to its metaphorical midnight indicator of global catastrophe since 1953, at the height of the Cold War.

At the Nuclear Age Peace Foundation, we believe that the nuclear dangers of our time must be met with the engagement and resistance of people everywhere, demanding an end to the Nuclear Age by means of negotiating the abolition of nuclear weapons. Actions based on such negotiations pose some risks, but not the risks of destroying civilization and ending the human species. The negotiations must be phased, verifiable, irreversible and transparent. This approach to negotiations will allow for building confidence at each stage.

Abolishing nuclear weapons is one of the greatest challenges of our time, but it is not impossible. It demands “political will” by leaders of the nuclear-armed countries, which currently is sorely lacking. To achieve this political will, the people must awaken and demand it of their leaders. No matter how difficult and seemingly Sisyphean the task, we must never give up. At NAPF, we will continue to accept the challenge, and to educate, advocate and organize to meet it. We will never give up until we realize the goal of a Nuclear Zero world.

INTERNATIONAL CAMPAIGN TO ABOLISH NUCLEAR WEAPONS RECEIVES 2017 NOBEL PEACE PRIZE

The 2017 Nobel Peace Prize is special. It does not go to a politician or political leader. In fact, it does not single out any individual to receive the prize. Rather, it goes to a campaign, the International Campaign to Ban Nuclear Weapons (ICAN), composed of more than 500 civil society organizations in 100 countries. It goes to a broad base of civil society working to ban and eliminate nuclear weapons. In this sense, the award goes to the people (We, the People) who have stepped up to join the non-nuclear-armed countries to end the threat to all humanity posed by the nearly 14,000 nuclear weapons still remaining on the planet.

In announcing the award to ICAN, the Norwegian Nobel Committee stated, “The organization is receiving the award for its work to draw attention to the catastrophic humanitarian consequences of any use of nuclear weapons and for its ground-breaking efforts to achieve a treaty-based prohibition of such weapons.”

ICAN was founded in 2007. It worked with many of the world’s countries in organizing three conferences on the humanitarian consequences of nuclear war. These took place in Oslo, Norway (2013), Nayarit, Mexico (2014), and Vienna, Austria (2014). At the Vienna conference, Austria offered an Austrian pledge to the countries in attendance. When it was opened for signatures to other countries, it became known as the “Humanitarian Pledge.” It now has 108 signatures of countries, including Austria, which have joined in making the pledge.

After laying out the threats and dangers of nuclear weapons in the Humanitarian Pledge, the pledge concluded: “We pledge to cooperate with all relevant stakeholders, States, international organizations, the International Red Cross and Red Crescent Movements, parliamentarians and civil society, in efforts to stigmatize, prohibit and eliminate nuclear weapons in light of their unacceptable humanitarian consequences and associate risks.”

In 2016, the First Committee of the United Nations General Assembly agreed to an ICAN-supported resolution to negotiate a treaty outlawing nuclear weapons. These negotiations took place in March and June/July 2017 at the United Nations. On July 7, 2017, 122 countries adopted the Treaty on the Prohibition of Nuclear Weapons. This treaty banning nuclear weapons was opened for signatures on September 20, 2017. So far, 70 countries have signed the treaty and 23 countries have ratified it. The treaty will enter into force 90 days after the 50th country deposits its ratification of the treaty with the United Nations.

ICAN has accomplished a great deal in moving the world forward toward banning and eliminating nuclear weapons. It has helped states articulate the dreadful humanitarian consequences of nuclear weapons use. In doing so, it has worked with survivors of the Hiroshima and Nagasaki bombings and also with countries that suffered from nuclear testing, such as the Marshall Islands.

ICAN also spearheaded the drafting and adoption of the Treaty on the Prohibition of Nuclear Weapons, and is currently working on getting countries to sign and ratify the treaty so that it can enter into force.

ICAN stands in stark contrast with those national leaders and their allies who possess nuclear weapons and claim to rely upon them for their national security. But ICAN is on the right side of history; and those with nuclear weapons who threaten the future of civilization, including their own populations, are not.

ICAN well deserves the Nobel Peace prize. It is effective. It is youthful. It is hopeful. May the Nobel Peace Prize propel it to even greater accomplishments. And may it awaken people everywhere to the threat posed by nuclear weapons, and the need to ban and eliminate them.

VIOLATING THE IRAN DEAL: PLAYING WITH NUCLEAR FIRE

President Trump has demonstrated yet again that he lacks the understanding, intelligence and temperament to be president of the United States. By violating the Iran nuclear deal in 2018, he has undermined the security of the U.S., our allies and the world. There are many good reasons why the U.S. should have remained in the agreement, but Trump exploded those when he took the U.S. out of the agreement.

First, the U.S. withdrawal makes it more likely that Iran will return to pursuing a nuclear weapons program. Given Trump's threats, this will increase the possibility of a war with Iran, which would be costly in blood and treasure.

Second, it is detrimental to U.S. relations with allies UK, France and Germany, all of which tried to dissuade the U.S. from withdrawing. Further, it will be detrimental to U.S. relations with Russia and China, which are also parties to the agreement. Under Trump, the U.S. is isolating itself and diminishing its leadership role in world affairs.

Third, it demonstrates that U.S. commitments are not to be relied upon. This will make it harder for other nations to trust the U.S. to keep its word. This is a problem for the prospects for peace on the Korean Peninsula.

What lies behind Trump's decision to leave the Iran deal? Again, there are different possibilities. One possibility is his seeming desire to reverse whatever Barack Obama achieved. In Trump logic, Obama's legacy is to be reversed, regardless of the costs of doing so. Another possibility is that Trump is playing to his base, those who support U.S. arrogance in international relations

U.S., UK AND FRANCE DENOUNCE NUCLEAR BAN TREATY

The U.S., UK and France have never shown enthusiasm for banning and eliminating nuclear weapons. It is not surprising, therefore, that they did not participate in the United Nations negotiations leading to the recent adoption of the nuclear ban treaty, or that they joined together in expressing their outright defiance of the newly-adopted treaty.

In a joint press statement, issued on July 7, 2017, the day the treaty was adopted, the U.S., UK and France stated, “We do not intend to sign, ratify or ever become party to it.” *Seriously?* Rather than supporting the countries that came together and hammered out the treaty, the three countries argued: “This initiative clearly disregards the realities of the international security environment.” Rather than taking a leadership role in the negotiations, they protested the talks and the resulting treaty banning nuclear weapons. They chose hubris over wisdom, might over right.

They based their opposition on their belief that the treaty is “incompatible with the policy of nuclear deterrence, which has been essential to keeping the peace in Europe and North Asia for over 70 years.” Others would take issue with their conclusion, arguing that, in addition to overlooking the Korean War and other smaller wars, the peace in Europe and North Asia has been kept not *because* of nuclear deterrence but *in spite of it*.

The occasions on which nuclear deterrence has come close to failure, including during the Cuban missile crisis, are well known. The absolute belief of the U.S., UK and France in nuclear deterrence seems more theological than practical.

The three countries argue that, “This treaty offers no solution to the grave threat posed by North Korea’s nuclear program, nor does it address other security challenges that make nuclear deterrence necessary.” But for the countries that adopted the nuclear ban treaty, North Korea is only one of nine countries that are undermining international security by basing their national security on nuclear weapons. For countries so committed to nuclear weapons and nuclear deterrence, is it not surprising and hypocritical that they view North Korea’s nuclear arsenal not in the light of deterrence, but rather, as an aggressive force?

The three countries reiterate their commitment to the Non-Proliferation Treaty (NPT), but do not mention their own obligation under that treaty to pursue negotiations in good faith for an end to the nuclear arms race at an early date and to nuclear disarmament. The negotiations for the new nuclear ban treaty are based on fulfilling those obligations. The three countries chose not to participate in these negotiations, in defiance of their NPT obligations, making their joint statement appear self-serving and based upon magical thinking.

If the U.S., UK and France were truly interested in promoting “international peace, stability and security” as they claim, they would be seeking all available avenues to eliminate nuclear weapons from the world, rather than planning to modernize and enhance their own nuclear arsenals over the coming decades.

These three nuclear-armed countries, as well as the other six nuclear-armed countries, continue to rely upon the false idol of nuclear weapons, justified by nuclear deterrence. In doing so, they continue to run the risk of destroying civilization, or worse. The 122 nations that adopted the Nuclear Ban Treaty, on the other hand, acted on behalf of every citizen of the world who values the future of humanity and our planet, and should be commended for what they have accomplished.

The new treaty will open for signatures in September 2017, and will enter into force when 50 countries have acceded to it. It provides an alternative vision for the human future, one in which nuclear weapons are seen for the threat they pose to all humanity, one in which nuclear possessors will be stigmatized for the threats they pose to all life. Despite the resistance of the U.S., UK and France, the Nuclear Ban Treaty marks the beginning of the end of the Nuclear Age.

THE REALITY OF THE NUCLEAR AGE: U.S. MUST NEGOTIATE WITH NORTH KOREA

Anyone with a modicum of sense does not want to see the U.S. teeter at the brink of war with North Korea and certainly not inadvertently stumble over that brink, or intentionally jump. The first Korean War in the 1950s was costly in terms of lives and treasure. A second Korean War, with the possibility of nuclear weapons use, would be far more costly to both sides, and could lead to global nuclear conflagration.

Neither North Korea nor South Korea want a new war, but U.S. leadership in Washington is threatening war, with remarks such as “talking is not the answer”; North Korean threats “will be met with fire and fury like the world has never seen”; “military solutions are now in place, locked and loaded”; and “all options are on the table.” Such posturing has only elicited more nuclear and missile tests from North Korea.

It is clear, though, that threats of attack are not a responsible way of going forward. This may be difficult for Trump to grasp, since he has built his business and political reputation on threats and bullying behavior. Like all bullies, he backs down when confronted. But confrontation with a bully is still risky, particularly this bully, who is also thin-skinned, erratic, impulsive and has the full power of the U.S. military at his disposal.

The U.S. does not need another war, not with North Korea or any country. We need, instead, to extract ourselves from the ongoing wars in Iraq, Afghanistan and Syria. Nor should we have turned our backs on the well-negotiated agreement with Iran to halt their nuclear weapons program. In fact, this agreement should serve as a model for the type of agreement needed with North Korea.

What needs to be done?

The U.S. should agree to negotiate with North Korea and do so without preconditions. It has been suggested by North Korea, as well as by China and Russia, that North Korea would freeze its nuclear and missile programs in exchange for the U.S. and South Korea ceasing to conduct war games at North Korea’s border. The U.S. has foolishly, arrogantly and repeatedly ignored or rejected this proposal to get to the negotiating table. It seems that the U.S. would prefer to continue its war gaming on the Korean peninsula than to negotiate with the North Koreans to find a solution to control their nuclear arsenal.

It would appear that North Korea wants to assure that its regime is not vulnerable to a U.S. attack and occupation, such as occurred in Iraq and Libya. In each of these countries the leaders were captured and killed.

Rather than seeking to tighten the economic sanctions on North Korea, which primarily hurt their people, the U.S. should try a different approach, one offering positive rewards for freezing the North Korean nuclear and missile programs and allowing inspections. Such positive rewards could include food, health care, energy, and infrastructure development. North Korea has responded positively to such offers of help in the past, and would be likely to do so again. Kim

Jong-un is not, as the former U.S. ambassador to the United Nations, Nikki Haley, has said, “begging for war.”

In addition, there has never been a formal end to the Korean War, and it is past time to reach a peace agreement and formally bring the war to an end. This would be a major step forward and one greatly desired by North Korea.

The Trump administration needs to engage with its allies, South Korea and Japan, in these negotiations. It should also bring other interested parties in Northeast Asia into the negotiations. This would include China and Russia. All of these countries appear to be ready to talk. The U.S. just needs to put aside its arrogance and begin the task of negotiating rather than continuing the unworkable approach of trying to force its will on North Korea or any other country by means of threats or bullying. That is the reality of the Nuclear Age.

ASSESSING THE TRUMP-KIM SINGAPORE SUMMIT AND HANOI SUMMIT

The Singapore Summit was a dramatic turn-around from the adolescent name calling that Trump and Kim had engaged in only months before. Trump had labelled Kim as “Little Rocket Man,” and Kim had labelled Trump as “Dotard.” Having gotten through this, the summit was on for June 12, 2018 then it was abruptly cancelled by Trump after Mike Pence had referred to the “Libya model” for North Korean nuclear disarmament, and a North Korean official had called Pence a “political dummy.” North Korean officials were understandably sensitive to the Libya model reference. They view Gadhafi’s demise as a direct result of his giving up Libya’s nuclear program. Then, in the midst of the chaos, something happened behind the scenes and suddenly the summit was back on for June 12, as originally planned.

It was a summit of smiles and handshakes. Little Rocket Man and Dotard seemed very happy in each other’s company. They smiled incessantly, shook hands many times and, at one point, Trump gave a thumbs up.

The most obvious result of the summit was the change in tone in the relationship of the two men. Whereas the tone had once been nasty and threatening, it was now warm and friendly. The two men appeared to genuinely like each other and be comfortable in each other’s company. For both, the new warmth of their relationship seemed likely to play well with important domestic constituencies. Although the summit elicited a lot of skepticism from U.S. pundits, the optics were those of a breakthrough in a relationship once considered dangerous and a possible trigger to a nuclear conflict. Both men viewed the summit as a major achievement.

They each committed to a rather vague Summit Statement, which said in part: “President Trump committed to provide security guarantees to the DPRK (North Korea) and Chairman Kim Jong-un reaffirmed his firm and unwavering commitment to complete denuclearization of the Korean Peninsula.” Trump added as an unexpected sweetener that he would put a halt to the joint US-South Korean war games, which the North Koreans had long complained were highly provocative.

Each was being promised what he most desired: security for Kim and his regime, and complete denuclearization of North Korea for Trump. They were also gaining in stature in their home countries. Prior to the summit, Trump was asked by a reporter if he thought he deserved the Nobel Peace Prize, to which he coyly responded, “Everyone thinks so, but I would never say it.”

There was much, however, that didn’t emerge from the Singapore summit, and it can be summarized in a single word: “details.” In the next summit between Trump and Kim that took place in Hanoi on February 27-28, 2019, each man looked for sweeping change, without getting into details, and the talks went nowhere. Trump’s goal was denuclearization and Kim’s goal was sanctions relief. When each leader deemed the other side unwilling to budge, this summit ended early with no agreement on anything. Trump’s declaration of “falling in love with Kim” after the first summit was not repeated after the second.

The ultimate value of the two summits will be found in the details that are agreed to and acted upon going forward. Will these details build or destroy trust? Will Kim truly believe that he can trust Trump (or a future American president) to give security to the Kim regime? Will Trump (or a future American president) truly believe that Kim is following up on denuclearizing? The answers to these questions will depend upon details that have yet to be agreed upon, including those related to inspections and verification.

While the summit has relieved tensions between the two nuclear-armed countries, nuclear dangers have not gone away on the Korean Peninsula or in the rest of the world. These dangers will remain so long as any country, including the US, continues to rely upon nuclear weapons for its national security. Such reliance encourages nuclear proliferation and will likely lead to the use of these weapons over time – by malice, madness or mistake.

We can take some time to breathe a sigh of relief that nuclear dangers have lessened on the Korean Peninsula, but then we must return to seeking the complete abolition of nuclear weapons. An important pathway to this end is support for the Treaty on the Prohibition of Nuclear Weapons, adopted by the United Nations in 2017 and now open for state signatures and deposit of ratifications.

PROSPECTS FOR DENUCLEARIZATION

After the Singapore Summit between Kim Jong-un and Donald Trump, Trump was very upbeat about the denuclearization of North Korea. On June 12, 2018, Trump said in a CNN interview, “He’s denuding the whole place and he’s going to start very quickly. I think he’s going to start now.” Seriously?

For this to happen, Kim would have to be either a fool or a saint. And, of course, he is neither. Rather, he is a third generation dictator who fears the overthrow of his regime, likely by the US. Kim knows that his best guarantee against that happening is his possession of nuclear weapons.

Kim certainly knows the history of Saddam Hussein and Muammar Gadhafi. Both gave up their respective country’s nuclear programs. After doing so, each was overthrown and killed. Hussein was put on trial by the U.S. puppet regime in Iraq and was sentenced to death by hanging. The sentence was carried out on December 30, 2006. When Libyan rebels, with help from the US, France and the UK, attacked the Gadhafi regime, Gadhafi attempted to hide and escape, but he was captured, tortured and killed in 2011.

Given this history, why would Kim make himself vulnerable to overthrow when he doesn’t need to do so? The answer is that he won’t, which also means that he won’t completely denuclearize. Since this is the logic of Kim’s position, we might ask: why has Trump been so effusive about Kim’s prospects of denuclearizing? Obvious explanations are that Trump is a novice at conducting international negotiations and that he thinks exceptionally highly of himself as an effective negotiator.

For Trump to believe that Kim would bend to Trump’s will and denuclearize, Trump would have to be either a fool or an extreme narcissist. Unfortunately, he appears to be both and seems intent on proving this over and over again. Another example is his pulling out of and violating the Iran agreement negotiated with Iran by the US, UK, France, Russia, China and Germany. Fortunately, none of the other parties to the agreement has joined the U.S. in pulling out.

Denuclearization is a good thing, and I am all for it. The US, as the strongest military power in the world and the only nation to have actually used nuclear weapons in war, should be leading the way. Nuclear weapons do not protect the Trump regime, as they do the Kim regime. Nor, for that matter, do they protect the US. Which would be safer for the US: a world with nine nuclear-armed states, as we currently have, or a world with zero nuclear-armed states?

The logic here is that if Trump is serious about a denuclearized North Korea, he had best play a leadership role in convening negotiations among the nine nuclear-armed states to achieve a denuclearized planet. In such negotiations, it will be necessary to deal with the concerns and fears of the leaders of each of the nuclear-armed countries, including those of Kim Jong-un. The world we live in is far from perfect, but we would all be better off if the overriding nuclear threat to humanity was lifted from our collective shoulders.

It will require a process of good faith negotiations to get to zero nuclear weapons. That, in turn, will require political will, which has been largely lacking, even though it was agreed to by all the

parties to the Non-Proliferation Treaty (NPT). Article VI of this treaty obligates its parties to pursue negotiations in good faith for an end to the nuclear arms race at an early date and for complete nuclear disarmament. Fifty years after the NPT was opened for signatures in 1968, this obligation remains not only unfulfilled but untried. For the nuclear-armed parties to the NPT to take this obligation seriously would be a major turn-around in their behavior.

Another treaty, the Treaty on the Prohibition of Nuclear Weapons, was adopted by 122 countries in July 2017 and is now opened for signatures and the deposit of ratifications. The treaty prohibits, among other things, the possession, use and threat of use of nuclear weapons. Again, the nuclear-armed countries have been largely hostile to this treaty. None of them have signed it or indicated support for it, and the US, UK and France have said they would never sign, ratify or become parties to it.

Our common future on the planet rests on generating the support and political will to fulfill the promise of these two treaties. Putting the global nuclear dilemma into perspective, it should be clear that denuclearization of North Korea is only one piece of the puzzle, one that is unlikely to be achieved in isolation. A far greater piece lays in the failure of the U.S. to show any substantial leadership toward attaining a nuclear zero world. Failure to achieve the goal of global denuclearization could mean the end of civilization and most life on our planet. And where is the logic in that?

WITHDRAWING FROM THE INF TREATY: A MASSIVE MISTAKE

It was a mistake of significant proportions for the U.S. to unilaterally withdraw from the Intermediate-range Nuclear Forces (INF) Treaty in early 2019. It ends an important arms limitation treaty, one that eliminated a whole category of nuclear-armed missiles with a range from 500 km to 5,500 km.

The treaty has eliminated, 846 U.S. nuclear missiles and 1,846 Soviet nuclear missiles, for a combined total of 2,692 nuclear missiles. President Reagan and Soviet leader Mikhail Gorbachev signed the treaty in 1987. It was an agreement that followed their realization, “A nuclear war cannot be won, and must never be fought.”

Fast forward to President Trump and his national security advisor, John Bolton, announcing their decision to jettison the treaty that ended the Cold War; took Europe out of the cross-hairs of nuclear war; and allowed for major reductions in nuclear arms.

After the signing of the INF Treaty, the two countries moved steadily downward from a high of 70,000 nuclear weapons in the world to less than 14,000 today. While this is still far too many, it was at least movement in the right direction.

The withdrawal of the U.S. from the INF Treaty has reversed the progress made by the treaty over the past 30 years. It could restart the Cold War between Russia and the U.S.; reinstate a nuclear arms race; further endanger Europe; and make nuclear war more likely.

Why would Trump do this? He claims that Russia has cheated on the agreement, but that is far from clear, and U.S. withdrawal from the treaty leaves Russia and the U.S. free to develop and deploy intermediate-range nuclear missiles without any constraints. Surely, that is a far worse option for the U.S. and the world. Instead of withdrawal, the U.S. and Russia should have resumed negotiations to resolve any concerns on either side.

This is the latest important international agreement that Trump has unwisely disavowed. Other agreements that he has pulled out of include the Paris accords on climate change and the Iran nuclear deal (Joint Comprehensive Plan of Action).

A recent *Los Angeles Times* editorial concluded: “On too many occasions this administration has acted impulsively on the world stage and scrambled to contain the damage later. Trashing the INF Treaty would be another such blunder. The president should pull back from the precipice.”

However, since Trump operates in his own egocentric universe, it is doubtful that he even recognizes that his actions are moving the world closer to the nuclear precipice. With his deeply irrational and erratic leadership style, he is demonstrating yet again why nuclear weapons remain an urgent and ultimate danger to us all. He inadvertently continues to make the case for delegitimizing and banning these instruments of mass annihilation.

DECODING DONALD

The future of the world and of humanity is at the mercy of a lunatic. His name is Donald Trump, and he alone has access to the U.S. nuclear codes. Before he does something rash and irreversible with those codes, it is imperative to decode Donald, taking the necessary steps to remove this power from him.

Trump tweeted on December 16, 2016: “The United States must greatly strengthen and expand its nuclear capability until such time as the world comes to its senses regarding nukes.”

What good would a greatly strengthened and expanded nuclear capability do for the U.S.? We can already end civilization and most life on the planet with the use of our nuclear arsenal. The U.S. has nearly 7,000 nuclear weapons, with more than 1,500 of them deployed and ready for use. By comparison, North Korea and its leader, Kim Jong-un, the subject of much of Trump’s venom, have only 10 to 15 nuclear weapons. But those have Trump worried enough to go to the United Nations and threaten to totally destroy North Korea should that country threaten the U.S.

How many more nuclear weapons does Trump think are needed to keep Kim Jong-un at bay? The truth is that the U.S. already has more than enough nuclear weapons to deter North Korea, assuming they need to be deterred at all. What North Korea actually appears to want is a small nuclear arsenal capable of deterring the U.S. from invading its country, overthrowing its regime, and killing its leaders. Since North Korean leaders believe they face an existential threat from the U.S., a greatly expanded U.S. nuclear arsenal won’t change the current equation.

Nor will more and strengthened nuclear weapons change the equation between the U.S. and Russia, China, or any other nuclear-armed country. It will just start a new nuclear arms race, which will benefit only the arms merchants while making the world far more dangerous. Trump doesn’t seem to understand this. His ignorance about foreign and nuclear policy is appalling and frightening.

Further, the world won’t come to its senses about nuclear weapons on its own and without leadership. In July 2017, 122 non-nuclear weapons countries adopted a new Treaty on the Prohibition of Nuclear Weapons. It was a great step forward. But, unfortunately, none of the nine nuclear-armed countries participated, and the U.S., UK and France issued a joint statement saying they would never sign, ratify or ever become parties to the treaty. Such is Trump’s leadership, moving the world toward doomsday. These countries, led by the U.S., appear to love their nuclear weapons and treat them as a security blanket, despite the fact that these weapons provide no security to their possessors. In fact, nuclear weapons paint a bull’s eye target on the citizens of countries possessing nuclear weapons.

Trump is exactly the type of person who should not be anywhere near the nuclear codes. He is not calm, thoughtful, deliberate, cautious, or well-informed. Rather, he is erratic, thin-skinned, narcissistic and self-absorbed. He takes slights personally and likes to punch back hard. He could be insulted and backed into a corner, and decide that nuclear weapons are the solution to

what he takes to be taunting behavior. He could be awakened at 3:00 a.m., and make a hasty decision to launch the U.S. nuclear arsenal instead of a tweet.

The world's best hope is that the military men surrounding Trump would recognize any order from Trump to launch nuclear weapons as an illegal order and refuse to carry it out. In addition, it should be recognized by Congress that Trump is mentally unstable and unfit for office, and that they must take the necessary steps to remove him from the presidency before it is too late. Impeachment would be the best way to decode Donald.

WHAT IS WRONG WITH TRUMP'S ATTACK ON SYRIA?

Trump may have acted with insufficient evidence as to whether the chemical weapons attack was actually the responsibility of Assad and the Syrian government. Would Syrian president Assad be foolish enough to launch a chemical attack against civilians, when a military response from the U.S. would be possible, even likely? Peter Ford, a former UK ambassador to Syria, speaking on BBC Radio, said, "It doesn't make sense that Assad would do it. Let's not leave our brains outside the door when we examine evidence. It would be totally self-defeating as shown by the results...Assad is not mad."

Critics of the U.S. military response have suggested as a possible scenario for the chemical release in Idlib province that the Syrian government attack may have been a conventional bombing that exploded stored weapons in the possession of the Syrian rebels, which may have included chemical weapons.

Trump did not seek and obtain Congressional authorization for his act of war in attacking a Syrian Air Force base. Thus, the attack was illegal under U.S. law. It is not the president's prerogative to initiate attacks against sovereign nations without Congressional authorization. By acting without such Congressional authorization, Trump has placed himself and the presidency above the rule of law.

Trump did not seek and obtain authorization for his attack against Syria from the United Nations Security Council, as is required under international law. By failing to do so, the U.S. has put itself outside the boundaries of the UN Charter, which is also a part of U.S. law, as well as other international law to which the U.S. is bound.

Trump has further undermined U.S. relations with Russia, and has harmed the chances of the U.S. and Russia working cooperatively in resolving the Syrian conflict. Increased tensions between the U.S. and Russia in Syria make conflict between these two nuclear powers more likely.

Trump has demonstrated to the world that in matters of war, as with tweeting, he is impulsive, shoots from the hip and is not constrained by U.S. or international law. These characteristics are not generally accepted by other world leaders as being preferred qualities in a U.S. president.

Trump's impulsivity in ordering the attack sets a dangerous standard for someone in charge of the U.S. nuclear arsenal. It demonstrates the extreme dangers of allowing a single individual to exercise control over a country's nuclear arsenal.

Despite the illegality and inherent dangers of his military response, Trump seems to have gotten a favorable response from the U.S. media. Nearly all U.S. mainstream media seem to have accepted the assumption that Assad was foolish enough to have launched a chemical attack, and have not questioned Assad's responsibility for the chemical attack. It appears that neither the U.S. government nor media have conducted a thorough investigation of responsibility for the chemical attack, which should have been done prior to a military response.

Referring to what changed with Trump's ordering the missile strikes against Syria the evening before, a fawning Fareed Zakaria stated, "I think Donald Trump became president of the United States. I think this was actually a big moment..." Given Trump's narcissism, this is the kind of positive response from pundits that is likely to keep him returning to impulsive and illegal uses of military force. Too many Americans tend to like their presidents to be fast on the draw and follow the pattern of Ready, Fire, Aim.

THE PRESIDENT

Not the first American president
to govern by lies and misdirection,
he is cunningly adept at it.

Brazenly focused on himself,
he feeds his ego and stuffs his pockets
with emoluments.

He makes the world safe for bigots,
opening wide the spigots
of prejudice.

Creating violent waves
that crash against the poor, he strips
lady liberty of her honor.

He shouts “fake news”
and stands to gain at the public trough
like no previous president.

Each day brings new disgrace,
yet somehow he has managed
to hold on.

Like all tyrants, he will fall.
Question is: when he does, will we
still have a country and a world?

THE SIMPLE ACT OF PUSHING A BUTTON

“Since the appearance of visible life on Earth, 380 million years had to elapse in order for a butterfly to learn how to fly, 180 million years to create a rose with no other commitment than to be beautiful, and four geological eras in order for us human beings to be able to sing better than birds, and to be able to die from love. It is not honorable for the human talent, in the golden age of science, to have conceived the way for such an ancient and colossal process to return to the nothingness from which it came through the simple act of pushing a button.”

I recently came across this quotation by the great Colombian novelist Gabriel Garcia Marquez, the author of *One Hundred Years of Solitude* and recipient of the 1982 Nobel Prize for Literature. The quotation is from a 1986 speech by Garcia Marquez entitled “The Cataclysm of Damocles.” In the short quotation, he captures what needs to be said about nuclear weapons succinctly, poetically and beautifully. With a few deft literary brushstrokes, he shows that the journey of life, from nothingness to now, could be ended with no more than “the simple act of pushing a button.”

The button is a metaphor for setting in motion a nuclear war, which could happen by miscalculation, mistake or malice. Of course, it matters whose finger is on the button, but it matters even more that *anyone’s* finger is on the button. There are not good fingers and bad fingers resting on the button. No one is stable enough, rational enough, sane enough, or wise enough to trust with deciding to push the nuclear button. It is madness to leave the door open to the possibility of a return to “nothingness.”

On one side of the ledger is everything natural and extraordinary about life with its long evolution bringing us to the present and poised to carry its processes forward into the future. On the other side of the ledger is “the button,” capable of bringing most life on the planet to a screeching halt. Also on this side of the ledger are those people who remain ignorant or apathetic to the nuclear dangers confronting humanity.

We all need to recognize what is at stake and choose a side. Put simply, do you stand with life and the processes of nature that have brought such beauty and diversity to our world, or do you stand with the destructive products of science that have brought us to the precipice of annihilation? We must each make a choice.

I fear too many of us are not awakened to the seriousness and risks of the unfolding situation. We are taken in by the techno-talk that amplifies the messages of national security linked to the button. Nuclear deterrence is no more than a hypothesis about human psychology and behavior. It does not protect people from a nuclear attack. It is unproven and unprovable. Nuclear deterrence may or may not work, but we know that it cannot provide physical protection against a nuclear attack. Those who believe in it, do so at their own peril and at our common peril.

The possibility of a return to “nothingness” is too great a risk to take. We must put down the

nuclear-armed gun. We must dismantle the button and the potential annihilation it represents. We must listen to our hearts and end the nuclear insanity by ending the nuclear weapons era. If we fail to act with engaged hearts, we will continue to stand at the precipice of annihilation – the precipice of a world without butterflies or beautiful roses, without birds or humans. The golden age of science will come to an end as a triumph of cataclysmic devastation, which will be humanity's most enduring failure.

Reading, discussing and understanding the meaning of Gabriel Garcia Marquez's short quotation should be required of every schoolchild, every citizen, and every leader of every country.

NEW MODES OF THINKING

NEW MODES OF THINKING

“The unleashed power of the atom has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe.” ~Albert Einstein

This is a prescient warning to humanity from the greatest scientist of the 20th century, the individual who conceived of the enormous power that could be released from the atom.

What did Einstein mean?

It may seem like a simple statement, but it is an extraordinarily formidable challenge.

Nuclear weapons require us to awaken to the possibility of human extinction.

They require us to put away our old ways of thinking, rooted in selfishness, greed, injustice, nationalism and violence.

They require us to see everyone as a member of the human family, and to treat them accordingly.

They require us to value life and to refuse to kill.

They require us to consign war to the dustbin of history.

They require us to seek justice and human rights for all.

They require us to recognize we share one rare and precious planet, the only one we know of in the universe that supports life.

They require us to place humanity above country or tribe.

They require us to stretch for higher moral purpose and values to deal effectively with our technological prowess, not only as it applies to nuclear technologies, but also to artificial intelligence, climate chaos and other forms of environmental degradation.

They require us to politically engage on behalf of humanity and our children’s future.

They require us, as difficult as it may be, to put the nuclear genie back in the bottle and to keep it there.

CHILDREN OF WAR

In war, children die,
float away on clouds of grief.
By far, the greatest lie of all
is the well-worn but absurd belief
that war is noble, not a crime.

In war, children writhe in pain,
while their parents wail.
Before we spread war's red stain,
let us consider how we fail
the young, again and yet again.

TWELVE POSSIBLE NAMES FOR WORLD WAR III

The Great Fire War

The Long Afternoon War

The End of Civilization War

The Unwanted War

The Failure of Deterrence War

The Ice Age Trigger War

The No Heroes War

The Mutant Creation War

The Dark Skies War

The Unending Fall-Out War

The Green Glow of Defeat War

The War of No Winners

IN OUR HUBRIS

We have, through our cleverness,
created nuclear weapons and found a way
to live with them.

We risk everything that matters, everything
of beauty and meaning, everything we love.

Science has given us the power of annihilation,
the capacity to destroy ourselves.

With nuclear arms, the gun is loaded and pointed
at the collective head of humanity.

We avert our eyes and pretend not to see.
Have we given up on our common future?

How shall we react? How shall we resist?
How shall we awaken before it is too late?

SUNFLOWERS: THE SYMBOL OF A WORLD FREE OF NUCLEAR WEAPONS

Sunflowers are a simple miracle. They grow from a seed. They rise from the earth. They are natural. They are bright and beautiful. They bring a smile to one's face. They produce seeds that are nutritious, and from these seeds oil is produced. Native Americans once used parts of the sunflower plant to treat rattlesnake bites, and sunflower meal to make bread. Sunflowers were even used near Chernobyl to extract radionuclides cesium 137 and strontium 90 from contaminated ponds following the catastrophic nuclear reactor accident there.

Now sunflowers carry new meaning. They have become the symbol of a world free of nuclear weapons. This came about after an extraordinary celebration of Ukraine achieving the status of a nuclear free state. On June 1, 1996, Ukraine transferred to Russia for dismantlement the last of the 1,900 nuclear warheads it had inherited from the former Soviet Union. Celebrating the occasion a few days later, the Defense Ministers of Ukraine, Russia, and the United States met at a former nuclear missile base in the Ukraine that once housed 80 SS-19 missiles aimed at the United States.

The three Defense Ministers planted sunflowers and scattered sunflower seeds. Ukrainian President Leonid Kuchma said, "With the completion of our task, Ukraine has demonstrated its support of a nuclear weapons free world." He called on other nations to follow in Ukraine's path and "to do everything to wipe nuclear weapons from the face of the Earth as soon as possible." U.S. Secretary of Defense William Perry said, "Sunflowers instead of missiles in the soil would ensure peace for future generations."

This dramatic sunflower ceremony at Pervomaisk military base showed the world the possibility of a nation giving up nuclear weapons as a means of achieving security. It is an important example, featuring the sunflower as a symbol of hope. The comparison between sunflowers and nuclear missiles is stark—sunflowers representing life, growth, beauty and nature, and nuclear armed missiles representing death and destruction on a massive, unspeakable scale. Sunflowers represent light instead of darkness, transparency instead of secrecy, security instead of threat, and joy instead of fear.

The Defense Ministers were not the first to use sunflowers. In the 1980s a group of brave and committed resisters known as "The Missouri Peace Planters" entered onto nuclear silos in Missouri and planted sunflowers as a symbol of nuclear disarmament. On August 15, 1988, 14 peace activists simultaneously entered 10 of Missouri's 150 nuclear missile silos, and planted sunflowers. They issued a statement that said, "We reclaim this land for ourselves, the beasts of the land upon which we depend, and our children. We interpose our bodies, if just for a moment, between these weapons and their intended victims."

Which shall we choose for our Earth? Shall we choose life or shall we choose death? Shall we choose sunflowers, or shall we choose nuclear armed missiles? All but a small number of nations would choose life. But the handful of nations that choose to base their security on these weapons of omnicide threaten us all with massive uncontrollable slaughter.

In the aftermath of the Cold War, many people believe that the nuclear threat has ended, but this is not the case. In fact, there are still more than 14,000 nuclear weapons in the arsenals of the nine nuclear-armed countries. These countries have given their solemn promise in the Non-Proliferation Treaty,

which entered into force in 1970, to negotiate in good faith to achieve nuclear disarmament, but they have not acted in good faith. It is likely that until the people of the world demand the total elimination of nuclear weapons, the nuclear weapons states will find ways to retain their special status as nuclear “haves.” Only one power on Earth is greater than the power of nuclear weapons, and that is the power of the People once engaged.

THE POWER OF IMAGINATION

Albert Einstein, the great 20th century scientist and humanitarian, wrote, “Imagination is more Important than knowledge. For knowledge is limited to all we now know and understand, while imagination embraces the entire world, and all there ever will be to know and understand.” Let us exercise our imaginations.

Imagine the horror and devastation of Hiroshima, and multiply it by every city and country on earth.

Imagine that a nuclear war could end human life on our planet, and that the capacity to initiate a nuclear war rests in the hands of only a few individuals in each nuclear-armed state.

Imagine that nuclear weapons threaten the future of humanity and all life.

Imagine that we are not helpless in the face of this threat, and that we can rise to the challenge of ending the nuclear weapons era.

Imagine that together we can make a difference and that you are needed to create a nuclear weapon-free world.

Imagine a world without the threat of nuclear devastation, a world that you helped to create.

There is an Indian proverb which states, “All of the flowers of all the tomorrows are in the seeds of today.” We must nurture, with all our human capacities, the seeds of peace and human dignity which have been so poorly tended for so long.

The time has come for renewed energy and leadership to end the nuclear weapons threat to humanity, to restore and maintain peace, to live up to the highest standards of human rights, and to pursue a non-killing world. Change is coming, if we will use our imaginations, raise our voices, stand firm and persist in demanding it.

IMAGINATION AND NUCLEAR WEAPONS

Einstein believed that knowledge is limited, but imagination is infinite.

Imagine the soul-crushing reality of a nuclear war, with billions of humans dead; in essence, a global Hiroshima, with soot from the destruction of cities blocking warming sunlight. There would be darkness everywhere, temperatures falling into a new ice age, with crop failures and mass starvation.

With nuclear weapons poised on hair-trigger alert and justified by the ever-shaky hypothesis that nuclear deterrence will be effective indefinitely, this should not be difficult to imagine.

In this sense, our imaginations can be great engines for change.

In our current world, bristling with nuclear weapons and continuous nuclear threat, we stand at the brink of the nuclear precipice. Short of beginning a process of abolishing nuclear arms, the best case scenario from the precipice is to continue to have the great good fortune to avoid crossing the line into nuclear war while we blindly continue to pour obscene amounts of money into modernizing nuclear arsenals, failing to meet the basic human needs of a large portion of the world's population.

The only way out of this dilemma is for the leaders of the world to come to their senses and agree that nuclear weapons must be abolished in order to assure that these weapons will never again be used. Given the state of the world we live in, this is more difficult to imagine.

What steps would need to be taken to realize the goal of nuclear abolition?

First, we would need a treaty to ban nuclear weapons. Such a treaty was agreed to in 1996 by a majority of countries in the United Nations, the Treaty on the Prohibition of Nuclear Weapons (TPNW). The treaty is now in the process of being ratified and will enter into force when ratified by 50 countries. Unfortunately and predictably, none of the nine nuclear-armed countries have supported the TPNW, and many have been overtly hostile to the treaty.

Second, negotiations would need to commence on nuclear disarmament by the nations of the world, including all nine of the nuclear-armed countries. The nuclear Non-Proliferation Treaty (NPT) already obliges its parties to undertake such negotiations in good faith. Specifically, it calls for negotiations to end the nuclear arms race at an early date and to achieve complete nuclear disarmament. The nuclear-armed states parties to the NPT have failed to fulfill these obligations since 1970 when the treaty entered into force.

Third, the negotiations would need to be expanded to encompass issues of general and complete disarmament, in order not to allow nuclear abolition to lead to conventional arms races and wars. Again, the states parties to the NPT are obligated to undertake such negotiations in good faith, but have not even begun to fulfill this obligation.

If we can use our imaginations to foresee the horrors of nuclear war, we should be able to take the necessary steps to assure that such a tragedy doesn't occur. Those steps have been set forth in the two treaties mentioned above.

What remains missing is the political will to implement the treaties. Without this political will, our imaginations notwithstanding, we will stay stuck in this place of potential nuclear catastrophe, where nuclear war can ensue due to malice, madness, miscalculation, mistake or manipulation (hacking). Imagination is necessary, but not sufficient, to overcome lack of political will. Even treaties are not sufficient unless there is the political will to assure their provisions are implemented. To do this, imagination must be linked to action to demand a change in political will.

The time is short, the task is great, and terrible consequences are foreseeable if we continue to be stuck at the nuclear precipice.

To do nothing is simply unimaginable.

**A MESSAGE TO TODAY'S YOUNG PEOPLE:
PUT AN END TO THE NUCLEAR WEAPONS ERA**

1. Nuclear weapons were created to kill indiscriminately. That means women, men, children – everyone. Even during war, under the rules of international law, that kind of mass killing is illegal. It is also immoral.
2. The nuclear weapons that destroyed Hiroshima and Nagasaki at the end of World War II were small by comparison with today's far more powerful nuclear weapons.
3. There are currently about 14,000 nuclear weapons in the world. The use of just a tiny fraction of these is more than enough to kill most, if not all, humans on the planet. Nuclear weapons make human beings an endangered species.
4. The U.S. and Russia have more than 90 percent of the world's nuclear weapons. The other seven countries that have them are: the UK, France, China, Israel, India, Pakistan, and North Korea.
5. Atmospheric scientists say that a “small” nuclear war, in which each side used 50 Hiroshima-size nuclear weapons on the other side's cities, would result in putting enough soot into the stratosphere to limit sunlight from reaching the earth, shorten growing seasons and cause crop failures. That would lead to some two billion people dying globally from starvation related to diminished food production.
6. A “major” nuclear war, using only some 300 nuclear weapons, would be even worse. It could send the world spiraling into a cold, dark ice age that would destroy civilization and lead to the death of most complex life on the planet.
7. A nuclear war could be started by malice, madness, mistake, miscalculation, or manipulation (hacking). Nuclear deterrence – the threat of nuclear retaliation – can't protect against malice with any degree of certainty, and it cannot protect at all against madness, mistake, or manipulation.
8. Nuclear weapons put us all in jeopardy. There hasn't been a nuclear attack since the end of World War II, but there have been many close calls. The world may not be so fortunate going forward.
9. Each generation has a responsibility to pass the world on intact to the next generation. It's time for your generation to step up and deal with the nuclear dangers that continue to threaten all humanity.
10. As young people, you have a unique ability to influence today's political and military leaders throughout the world to put an end to the nuclear era. For your own future, and that of all humanity, will you accept the challenge and join in advocating for a Nuclear Zero world?

TWELVE WORTHY REASONS NOT TO WASTE BILLIONS MODERNIZING THE U.S. NUCLEAR ARSENAL

1. It is not sane, sensible or rational.
2. It will not make the U.S. or the world safer or more secure.
3. It is provocative activity that will trigger existing nuclear-armed countries to modernize their nuclear arsenals and result in new nuclear arms races.
4. It demonstrates U.S. commitment to nuclear weapons rather than to nuclear weapons abolition.
5. It will make nuclear weapons appear more reliable and accurate and therefore more usable.
6. It is not necessary for purposes of nuclear deterrence.
7. It sends a strong message to non-nuclear-armed countries that nuclear weapons have perceived military value, and thus creates an inducement to nuclear proliferation.
8. It breaches the U.S. obligation in the nuclear Non-Proliferation Treaty to negotiate in good faith on effective measures to end the nuclear arms race at an early date.
9. It breaches the U.S. obligation in the nuclear Non-Proliferation Treaty to negotiate in good faith on effective measures for nuclear disarmament.
10. It is an immoral waste of resources that are desperately needed for meeting basic human needs for food, water, shelter, education and environmental protection.
11. Despite the \$1.7 trillion price tag already proposed for U.S. nuclear weapons modernization over the next three decades, as with most “defense” plans, original budgets are generally vastly underestimated.
12. Benefits of U.S. nuclear weapons modernization will go overwhelmingly to enrich “defense” contracting corporations and their executives.

NUCLEAR AGE PEACE FOUNDATION

WHAT IS THE NUCLEAR AGE PEACE FOUNDATION?

A voice of conscience in the Nuclear Age. The Foundation views peace as an imperative of the Nuclear Age, believing that any war fought today has the potential to become a nuclear war of mass annihilation.

An advocate for peace, international law and a world without nuclear weapons. The Foundation not only educates but is a nonpartisan advocate of achieving peace, strengthening international law, and ending the nuclear weapons threat to humanity.

A force for challenging reliance on nuclear weapons. The Foundation challenges the rationale of countries that justify reliance upon nuclear weapons for deterrence (see our DVD “The Myth of Nuclear Deterrence” and our “Santa Barbara Declaration: Reject Nuclear Deterrence, an Urgent Call to Action”).

An advocate of renewable energy sources and of eliminating nuclear power.

Shifting to renewable energy sources is necessary to dramatically reduce polluting the planet and to halt climate change. Nuclear power must be eliminated due to its proven potential for the proliferation of nuclear weapons, its attractiveness to terrorists seeking to obtain and disburse radioactive materials, and for other reasons, including its potential for accidents and the lack of a solution to long-term radioactive waste storage.

A source of inspiration to the next generation that a better world is possible. The Foundation empowers young people through contests, internships and peace leadership trainings, seeking to raise their level of awareness and engagement on issues of peace, nuclear disarmament and global security.

A pioneer in Peace Leadership and Peace Literacy training. The Foundation is pioneering peace leadership and peace literacy trainings and workshops for people throughout the country. The program is led by Paul K. Chappell, a West Point graduate and author of six books on ending war and waging peace.

A catalyst for engaging the arts in peace. The Foundation encourages peace in the arts through its annual Barbara Mandigo Kelly Peace Poetry Awards and its annual Swackhamer Disarmament Video Contest.

A forum for examining national and global priorities. The Foundation organizes forums and lectures, including its annual Frank K. Kelly Lecture on Humanity’s Future, on key issues confronting humanity.

A storehouse of memory and source of analysis concerning key nuclear issues. The Foundation has created NuclearFiles.org as an on-going source of key information about the Nuclear Age. It also maintains extensive archives of articles on its WagingPeace.org website.

An organization that seeks to move nations to act for humanity. The Foundation participates in major international meetings, such as the Non-Proliferation Treaty Review Conferences, and

seeks to influence national positions to achieve safer and saner policies, including support for a Nuclear Weapons Convention for the phased, verifiable, irreversible and transparent elimination of nuclear weapons. The Foundation consulted with the Republic of the Marshall Islands in their courageous Nuclear Zero lawsuits against the nine nuclear-armed countries in the International Court of Justice and, separately, against the U.S. in U.S. Federal Court.

A community of committed global citizens. The Foundation is composed of individuals from all walks of life and all parts of the globe who seek to end the nuclear weapons threat to humanity and to build a more just and peaceful world.

THREE BELIEFS GUIDING NAPF'S WORK

Three beliefs have guided, motivated and propelled the Nuclear Age Peace Foundation (NAPF) from its creation in 1982 to the present.

First, peace is an imperative of the Nuclear Age. In an era when any war could become a nuclear war, peace is not only desirable, it is essential. In this regard, we have developed a program to teach Peace Literacy in schools, churches and social service organizations. The initiator and director of this program, Paul K. Chappell, gives lectures and workshops on Peace Literacy throughout the U.S. and abroad. More information on the Peace Literacy Movement can be found at www.peaceliteracy.org.

Second, nuclear weapons must be abolished before they abolish us. The only way to be secure from a nuclear war, by accident or design, is to abolish these monstrous weapons. In this regard, the Foundation has initiated and provided leadership for many international coalitions and projects, including Abolition 2000, the Middle Powers Initiative, and the International Network of Engineers and Scientists for Global Responsibility. NAPF has been a partner organization in the Nobel Peace Prize-winning coalition International Campaign to Abolish Nuclear Weapons (ICAN). The Foundation has also been a major critic of reliance on nuclear deterrence for security. More information on the Foundation's efforts for abolition can be found at www.wagingpeace.org.

Third, change will come about by extraordinary ordinary people leading their leaders to choose peace and a world free of nuclear weapons. It seems clear that the political leaders of the nuclear-armed countries are not likely to fulfill their obligations under the nuclear Non-Proliferation Treaty to negotiate in good faith for an end to the nuclear arms race and for total nuclear disarmament. None of the nuclear-armed states have indicated support for the Treaty on the Prohibition of Nuclear Weapons, which was adopted by the United Nations in 2017. It will require ordinary citizens to demand that their leaders take action to rid the world of nuclear weapons. To learn more about what you can do to help change the world, visit www.wagingpeace.org, and sign up to be an NAPF member and receive our Sunflower e-newsletter and periodic Action Alerts.

The Foundation's work is aimed at changing the world, person by person, community by community, and nation by nation. Our work is a matter of the heart, of doing the right thing for the children of the world and all generations to follow.

APPENDIX I

APPENDIX

Treaty on the Prohibition of Nuclear Weapons