



Remember your Humanity

John Scales Avery

Associate Professor of Chemistry, University of Copenhagen;
Fellow, World Academy of Art and Science

Abstract

2015 marks the 60th anniversary of the Russell-Einstein Manifesto. This document resulted from the great concern of both scientists and the general public caused by the explosion of a 15 megaton fission-fusion-fission bomb at Bikini Atoll. Fallout from the explosion caused death and serious illness of crew members on a Japanese fishing boat 130 kilometers distant from Bikini. Even today, the Bikini tests continue to cause cancer and birth defects on the equally-distant Marshall Islands.

With the Russell-Einstein Manifesto as a background, scientists met at the village of Pugwash in Nova Scotia in 1957, with the aim of reducing the danger of a thermonuclear war. This was the first of many Pugwash Conferences. During the Cold War, they served as a forum for informal diplomacy between East and West. In 1995, Pugwash Conferences and its leader, Sir Joseph Rotblat, shared a Nobel Peace Prize for their work towards the abolition of nuclear weapons.

Recent events, such as the crisis in Ukraine, as well as the danger of accidental nuclear war, make it clear that both nuclear weapons and the institution of war must be abolished if civilization is to survive.

This year, 2015, marks the 60th anniversary of the Russell-Einstein Manifesto, which contains the following words: “There lies before us, if we choose, continual progress in happiness, knowledge and wisdom. Shall we, instead, choose death, because we cannot forget our quarrels? We appeal as human beings to human beings: Remember your humanity, and forget the rest. If you can do so, the way lies open to a new Paradise. If you cannot, there lies before you the risk of universal death.”

The background for the Russell-Einstein Manifesto is as follows: In March, 1954, the United States had tested a hydrogen bomb at the Bikini Atoll in the Pacific Ocean. It was 1,000 times more powerful than the Hiroshima bomb. The Japanese fishing boat, the Lucky Dragon, was 130 kilometers from the Bikini explosion, but the radioactive fallout from the test killed one crew member, and made all the others seriously ill.

In England, Professor Joseph Rotblat, a Polish scientist who had resigned from the Manhattan Project for moral reasons when it became clear that Germany would not develop nuclear weapons, was asked to appear on a BBC program to discuss the Bikini test. He was asked to discuss the technical aspects of H-bombs, while the Archbishop of Canterbury and the philosopher, Lord Bertrand Russell were asked to discuss the moral aspects.

Rotblat had become convinced that the Bikini bomb must have involved a third stage, in which fast neutrons from the hydrogen thermonuclear reaction produced fission in an outer casing of ordinary uranium. Such a bomb would produce enormous amounts of highly dangerous fallout, and Rotblat became extremely worried about the possibly fatal effects on all living things if large numbers of such bombs were ever used in a war. He confided his worries to Bertrand Russell, whom he had met on the BBC program.

After discussing the Bikini test and its radioactive fallout with Joseph Rotblat, Lord Russell became concerned for the future of the human gene pool. After consulting a number of leading physicists, including Albert Einstein, he wrote what came to be known as the Russell-Einstein Manifesto.¹

Russell was convinced that in order for the Manifesto to have maximum impact, Einstein's signature would be absolutely necessary; but as Russell was flying from Italy to France, the pilot announced to the passengers that Einstein had just died. Russell was crushed by the news, but when he arrived at his hotel in Paris, he found waiting for him a letter from Einstein and his signature on the document.² Signing the Manifesto had been the last act of Einstein's life. Others who signed were Max Born, Percy W. Bridgman, Leopold Infeld, Frederic Joliot-Curie, Hermann J. Muller, Linus Pauling, Cecil F. Powell, Joseph Rotblat, Hideki Yukawa and Bertrand Russell. All of them, except Infeld and Rotblat, were Nobel Laureates.³

On July 9, 1955, with Rotblat in the chair, Russell read the Manifesto to a packed press conference. The document contains the words: "Here, then, is the problem that we present to you, stark and dreadful and inescapable: Shall we put an end to the human race, or shall mankind renounce war?... There lies before us, if we choose, continual progress in happiness, knowledge and wisdom. Shall we, instead, choose death because we cannot forget our quarrels?" Lord Russell devoted much of the remainder of his life to working for the abolition of nuclear weapons.⁴

In 1957, with the Russell-Einstein Manifesto as a background, a group of scientists from both sides of the Cold War met in the small village of Pugwash, Nova Scotia. The meeting was held at the summer residence of the Canadian-American financier and philanthropist Cyrus Eaton, who had given money for the conference. The aim of the assembled scientists was to reduce the danger of a catastrophic nuclear war.

From this small beginning, a series of conferences developed, in which scientists, especially physicists, attempted to work for peace, and tried to address urgent problems related to science. These conferences were called Pugwash Conferences on Science and World Affairs, taking their name from the small village in Nova Scotia where the first meeting was held. From the start, the main aim of the meetings was to reduce the danger that civilization would be destroyed in a thermonuclear war.

It can be seen from what has been said that the Pugwash Conferences began during one of the tensest periods of the Cold War, when communication between the Communist and Anti-communist blocks was difficult. During this period, the meetings served the important purpose of providing a forum for informal diplomacy. The participants met, not as representatives of their countries, but as individuals, and the discussions were confidential.

This method of operation proved to be effective, and the initial negotiations for a number of important arms control treaties were aided by Pugwash Conferences. These include the Strategic Arms Reduction Treaty (START), the treaties prohibiting chemical and biological weapons, the Nuclear Non-Proliferation Treaty (NPT), and the Comprehensive Nuclear-Test-Ban Treaty (CTBT). Former Soviet President Gorbachev has said that discussions with Pugwash scientists helped him to conclude that the policy of nuclear confrontation was too dangerous to be continued.

“War itself must be eliminated in order to free civilization from the danger of nuclear destruction.”

Over the years, the number of participants attending the annual Pugwash Conference has grown, and the scope of the problems treated has broadened. Besides scientists, the participants now include diplomats, politicians, economists, social scientists and military experts. Normally, the number attending the yearly conference is about 150.

Besides plenary sessions, the conferences have smaller working groups dealing with specific problems. There is always a working group aimed at reducing nuclear dangers, and also groups on controlling or eliminating chemical and biological weapons. In addition, there may now be groups on subjects such as climate change, poverty, United Nations reform, and so on.

Invitations to the conferences are issued by the Secretary General to participants nominated by the national groups. The host nation usually pays for the local expenses, but participants finance their own travel. Besides the large annual meeting, the Pugwash organization also arranges about ten specialized workshops per year, with 30-40 participants each. Although attendance at the conferences and workshops is by invitation, everyone is very welcome to join one of the national Pugwash groups.*

In 1995, the Nobel Peace Prize was awarded jointly to Prof. Joseph Rotblat and to Pugwash Conferences on Science and World Affairs as an organization, “...for their efforts to diminish the part played by nuclear arms in international politics and in the longer run to eliminate such arms.” The award was made 50 years after the tragic destruction of Hiroshima and Nagasaki.

In his acceptance speech, Sir Joseph Rotblat (as he soon became) emphasized the same point that has been made by the Russell-Einstein Manifesto, that war itself must be eliminated in order to free civilization from the danger of nuclear destruction. The reason for this is that knowledge of how to make nuclear weapons can never be forgotten. Even if they were eliminated, these weapons could be rebuilt during a major war. Thus the final abolition of nuclear weapons is linked to a change of heart in world politics and to the abolition of war.

“The quest for a war-free world”, Sir Joseph concluded, “has a basic purpose: survival. But if, in the process, we can learn to achieve it by love rather than by fear, by kindness rather than compulsion; if in the process we can learn to combine the essential with the enjoyable, the expedient with the benevolent, the practical with the beautiful, this will be an extra incentive to embark on this great task. Above all, remember your humanity.”

* The international organization's website is at www.pugwash.org.

I vividly remember the ceremony in Oslo when the 1995 Nobel Peace Prize was awarded jointly to Sir Joseph and to Pugwash Conferences. About 100 people from the Pugwash organization were invited, and I was included because I was the chairman of the Danish National Pugwash Group. After the ceremony and before the dinner, local peace groups had organized a torchlight parade. It was already dark, because we were so far to the north, and snow was falling. About 3,000 people carrying torches marched through the city and assembled under Sir Joseph's hotel window, cheering and shouting "Rotblat! Rotblat! Rotblat!" Finally he appeared at the hotel window, waved to the crowd and tried to say a few words. This would have been the moment for a memorable speech, but the acoustics were so terrible that we could not hear a word he said. I later tried (without success) to persuade the BBC to make a program about nuclear weapons and about Sir Joseph's life, ending with the falling snow and the torch-lit scene.

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The dangers are very great today

Although the Cold War has ended, the danger of a nuclear catastrophe is greater today than ever before. There are 16,300 nuclear weapons in the world today, of which 15,300 are in the hands of Russia and the United States. Several thousands of these weapons are on hair-trigger alert, meaning that whoever is in charge of them has only a few minutes to decide whether the signal indicating an attack is real, or an error. The most important single step in reducing the danger of a disaster would be to take all weapons off hair-trigger alert.

Bruce G. Blair, Brookings Institute, has remarked that "It is obvious that the rushed nature of the process, from warning to decision to action, risks causing a catastrophic mistake... This system is an accident waiting to happen." Fred Ikle of the Rand Corporation has written, "But nobody can predict that the fatal accident or unauthorized act will never happen. Given the huge and far-flung missile forces, ready to be launched from land and sea on both sides, the scope for disaster by accident is immense... In a matter of seconds, through technical accident or human failure, mutual deterrence might thus collapse."

Although their number has been cut in half from its Cold War maximum, the total explosive power of today's weapons is equivalent to roughly half a million Hiroshima bombs. To multiply the tragedy of Hiroshima and Nagasaki by a factor of half a million changes the danger qualitatively. What is threatened today is the complete breakdown of human society.

There is no defense against nuclear terrorism. We must remember the remark of former U.N. Secretary General Kofi Annan after the 9/11/2001 attacks on the World Trade Center. He said, "This time it was not a nuclear explosion". The meaning of his remark is clear: If the world does not take strong steps to eliminate fissionable materials and nuclear weapons, it will only be a matter of time before they will be used in terrorist attacks on major cities. Neither terrorists nor organized criminals can be deterred by the threat of nuclear retaliation, since they have no territory against which such retaliation could be directed. They blend invisibly into the general population. Nor can a "missile defense system" prevent terrorists from using nuclear weapons, since the weapons can be brought into a port in any one of the

hundreds of thousands of containers that enter on ships each year, a number far too large to be checked exhaustively.

As the number of nuclear weapon states grows larger, there is an increasing chance that a revolution will occur in one of them, putting nuclear weapons into the hands of terrorist groups or organized criminals. Today, for example, Pakistan's less-than-stable government might be overthrown, and Pakistan's nuclear weapons might end in the hands of terrorists. The weapons might then be used to destroy one of the world's large coastal cities, having been brought into the port by one of numerous container ships that dock every day. Such an event might trigger a large-scale nuclear conflagration.

Today, the world is facing a grave danger from the reckless behavior of the government of the United States, which recently arranged a coup that overthrew the elected government of Ukraine. Although Victoria Nuland's December 13, 2013 speech talks much about democracy, the people who carried out the coup in Kiev can hardly be said to be democracy's best representatives.⁵ Many belong to the Svoboda Party, which had its roots in the Social-National Party of Ukraine (SNPU). The name was an intentional reference to the Nazi Party in Germany.⁶

It seems to be the intention of the US to establish NATO bases in Ukraine, no doubt armed with nuclear weapons. In trying to imagine how the Russians feel about this, we might think of the US reaction when a fleet of ships sailed to Cuba in 1962, bringing Soviet nuclear weapons. In the confrontation that followed, the world was brought very close indeed to an all-destroying nuclear war. Does not Russia feel similarly threatened by the thought of hostile nuclear weapons on its very doorstep? Can we not learn from the past, and avoid the extremely high risks associated with the similar confrontation in Ukraine today?

Since we have recently marked the 100th anniversary of the outbreak of the First World War, it is appropriate to view the crisis in Ukraine against the background of that catastrophic event, which still casts a dark shadow over the future of human civilization. We must learn the bitter lessons which World War I has to teach us, in order to avoid a repetition of the disaster.

We can remember that the First World War started as a small operation by the Austrian government to punish the Serbian nationalists; but it escalated uncontrollably into a global disaster. Today, there are many parallel situations, where uncontrollable escalation might produce a world-destroying conflagration.

In general, aggressive interventions, in Iran, Syria, Ukraine, the Korean Peninsula and elsewhere, all present dangers for uncontrollable escalation into large and disastrous conflicts, which might potentially threaten the survival of human civilization.

Another lesson from the history of World War I comes from the fact that none of the people who started it had the slightest idea of what it would be like. Science and technology had changed the character of war. The politicians and military figures of the time ought to have known this, but they didn't. They ought to have known it from the million casualties produced by the use of the breach-loading rifle in the American Civil War. They ought to have known it from the deadly effectiveness of the Maxim machine gun against the native populations of Africa, but the effects of the machine gun in a European war caught them by surprise.

Few politicians or military figures today do not have any imaginative understanding of what a war with thermonuclear weapons would be like. Recent studies have shown that in a nuclear war, the smoke from firestorms in burning cities would rise to the stratosphere where it would remain for a decade, spreading throughout the world, blocking sunlight, blocking the hydrological cycle and destroying the ozone layer. The effect on global agriculture would be devastating, and the billions of people who are chronically undernourished today would be at risk. Furthermore, the tragedies of Chernobyl and Fukushima remind us that a nuclear war would make large areas of the world permanently uninhabitable because of radioactive contamination. A full-scale thermonuclear war would be the ultimate ecological catastrophe. It would destroy human civilization and much of the biosphere.

One can gain a small idea of the terrible ecological consequences of a nuclear war by thinking of the radioactive contamination that has made large areas near Chernobyl and Fukushima uninhabitable, or the testing of hydrogen bombs in the Pacific, which continues to cause leukemia and birth defects in the Marshall Islands more than half a century later.

As we discussed above, the United States tested a hydrogen bomb at Bikini in 1954. Fallout from the bomb contaminated the island of Rongelap, one of the Marshall Islands 120 kilometers from Bikini. The islanders experienced radiation illness, and many died from cancer. Even today, half a century later, both people and animals on Rongelap and other nearby islands suffer from birth defects. The most common defects have been “jelly fish babies”, born with no bones and with transparent skin. Their brains and beating hearts can be seen. The babies usually live a day or two before they stop breathing.

A girl from Rongelap describes the situation in the following words: “I cannot have children. I have had miscarriages on seven occasions... Our culture and religion teach us that reproductive abnormalities are a sign that women have been unfaithful. For this reason, many of my friends keep quiet about the strange births that they have had. In privacy they give birth, not to children as we like to think of them, but to things we could only describe as ‘octopuses’, ‘apples’, ‘turtles’ and other things in our experience. We do not have Marshallese words for these kinds of babies, because they were never born before the radiation came.”

The Republic of the Marshall Islands is suing the nine countries with nuclear weapons at the International Court of Justice at The Hague, arguing they have violated their legal obligation to disarm. The Guardian reports that “In the unprecedented legal action, comprising nine separate cases brought before the ICJ on Thursday, the Republic of the Marshall Islands accuses the nuclear weapons states of a ‘flagrant denial of human justice’. It argues it is justified in taking the action because of the harm it suffered as a result of the nuclear arms race.”

“The Pacific chain of islands, including Bikini Atoll and Enewetak, was the site of 67 nuclear tests from 1946 to 1958, including the ‘Bravo shot’, a 15-megaton device equivalent to a thousand Hiroshima blasts, detonated in 1954. The Marshallese islanders say they have been suffering serious health and environmental effects ever since.”

“The island republic is suing the five ‘established’ nuclear weapons states recognized in the 1968 Nuclear Non-Proliferation Treaty (NPT), the US, Russia (which inherited the Soviet arsenal), China, France and the UK, as well as the three countries outside the NPT who have declared nuclear arsenals -India, Pakistan and North Korea, and the one undeclared

nuclear weapons state, Israel". The Republic of the Marshall Islands is not seeking monetary compensation, but instead it seeks to make the nuclear weapon states comply with their legal obligations under Article VI of the Nuclear Non-Proliferation Treaty and the 1996 ruling of the International Court of Justice.

On July 21, 2014, the United States filed a motion to dismiss the Nuclear Zero lawsuit that was filed by the Republic of the Marshall Islands (RMI) on April 24, 2014 in U.S. Federal Court. The U.S., in its move to dismiss the RMI lawsuit, does not argue that the U.S. is in compliance with its NPT disarmament obligations. Instead, it argues in a variety of ways that its non-compliance with these obligations is, essentially, justifiable, and not subject to the court's jurisdiction.⁷

"The peoples of the world have shown how deeply they long to be free from the menace of nuclear weapons."

The Nuclear Age Peace Foundation (NAPF) is a consultant to the Marshall Islands on the legal and moral issues involved in bringing this case. David Krieger, President of NAPF, upon hearing of the motion to dismiss the case by the U.S. responded, "The U.S. government is sending a terrible message to the world, that is, that U.S. courts are an improper venue for resolving disputes with other countries on U.S. treaty obligations. The U.S. is, in effect, saying that whatever breaches it commits are all right if it says so. That is bad for the law, bad for relations among nations, bad for nuclear non-proliferation and disarmament, and not only bad, but extremely dangerous for U.S. citizens and all humanity."

The RMI will appeal the U.S. attempt to reject its suit in the U.S. Federal Court, and it will continue to sue the 9 nuclear nations in the International Court of Justice. Whether or not the suits succeed in making the nuclear nations comply with international law, attention will be called to the fact that the 9 countries are outlaws. In vote after vote in the United Nations General Assembly, the peoples of the world have shown how deeply they long to be free from the menace of nuclear weapons. Ultimately, the tiny group of power-hungry politicians must yield to the will of the citizens whom they are at present holding as hostages.

It is a life-or-death question. We can see this most clearly when we look far ahead. Suppose that each year there is a certain finite chance of a nuclear catastrophe, let us say 2 percent. Then in a century the chance of survival will be 13.5 percent, and in two centuries, 1.8 percent, in three centuries, 0.25 percent, in 4 centuries, there would only be a 0.034 percent chance of survival and so on. Over many centuries, the chance of survival would shrink almost to zero. Thus by looking at the long-term future, we can clearly see that if nuclear weapons are not entirely eliminated, civilization will not survive.

Civil society must make its will felt. A thermonuclear war today would be not only genocidal but also omnicidal. It would kill people of all ages, babies, children, young people, mothers, fathers and grandparents, without any regard whatever for guilt or innocence. Such a war would be the ultimate ecological catastrophe, destroying not only human civilization but also much of the biosphere. Each of us has a duty to work with dedication to prevent it.

Author Contact Information

Email: avery.john.s@gmail.com

Notes

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