

# After Fifty Years, Do We Remember Our Humanity?

by David Krieger

**Fifty years ago**, near the midpoint of the twentieth century, a document was issued that awakened the world to the defining crisis of its time—a crisis that remains with us still. And it constituted the last public appeal of scientist and humanitarian Albert Einstein before his death; in a sense, it was his final testament to humanity. Called the *Russell-Einstein Manifesto*, the document was conceived by philosopher and activist Bertrand Russell and, after an exchange of correspondence with Einstein, was signed by both and nine other eminent scientists. Its formulation occurred against a backdrop of cold war threats and posturing, and it became a clarion call to scientists, world leaders, and the public—warning all of unprecedented dangers to humanity with the advent of thermonuclear weapons.

**Russell, Einstein, and** the other prominent signers of the Manifesto were fearful of impending disaster as world events unfolded in the early 1950s. After heated debates in the United States, work had gone

forward on thermonuclear weapons. The U.S. government had detonated its first hydrogen bomb on November 1, 1952, which was, at 10.4 megatons, over 500 times more powerful than the bombs that had devastated Hiroshima and Nagasaki. Less than a year later, on August 12, 1953, the Soviets answered with a test of their first fusion weapon. In early 1954 then Secretary of State John Foster Dulles announced a policy of massive retaliation, stating, “Local defenses must be reinforced by the further deterrent of massive retaliatory power.” On March 1, 1954, the United States detonated a seventeen-megaton hydrogen bomb at Bikini Atoll in the Pacific Ocean. This bomb was over 1,000 times more powerful than the bomb that destroyed Hiroshima.

The following month President Dwight D. Eisenhower and Dulles secretly offered two atomic bombs to the French for use in their war against the Vietnamese. In September 1954 the U.S. Joint Chiefs of Staff recommended using atomic bombs on China in the conflict over Chiang Kai-shek’s troops on the

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islands of Quemoy and Matsu. That same month the Soviet Union conducted nuclear tests at their Tot-skoeye test range, deliberately exposing some 45,000 troops to radioactive fallout in order to examine their performance in a mock battle. On March 15, 1955, Dulles announced to the press that the United States was seriously considering using atomic weapons to resolve the Quemoy-Matsu dispute. A day later President Eisenhower stated publicly, "A-bombs can be used... as you would use a bullet."

Given the tenor of the times—with nuclear weapons that exceeded the power of the Hiroshima bomb by a thousand times being developed and tested, with policies of massive retaliation, and with actual threats to use nuclear weapons—that Bertrand Russell and Albert Einstein were alarmed isn't surprising. They commenced a spirited correspondence on February 11, 1955, when Russell wrote to Einstein to say:

In common with every other thinking person, I am profoundly disquieted by the armaments race in nuclear weapons. You have on various occasions given

expression to feelings and opinions with which I am in close agreement. I think that eminent men of science ought to do something dramatic to bring home to the public and Governments the disasters that may occur. Do you think it would be possible to get, say, six men of the very highest scientific repute headed by yourself, to make a very solemn statement about the imperative necessity of avoiding war?

Russell's letter went on to express his skepticism about getting an agreement to prohibit the hydrogen bomb, stating, "Such an agreement would not be considered binding after war has broken out, and each side on the outbreak of war would set to work to manufacture as many bombs as possible."

Just five days later, on February 16, Einstein responded, writing:

I agree with every word in your letter of February 11. Something must be done in this matter, something that will make an impression on the general public as well as on political leaders. This might best be achieved by a public declaration, signed by a small number, say, twelve persons, whose scientific attainments (scientific in the widest sense) have gained them international stature and whose testimony will not be blunted in its effectiveness by their political affiliations.

Einstein offered to send Russell's letter to a few people in the United States and expressed the view that the appeal should have Russian signatures as well.

The correspondence between the two continued, mostly on the subject of who else should sign the appeal. Einstein wrote to Niels Bohr, the famous Danish physicist, seeking to enlist his support in the project. Bohr's name, however, didn't appear on the final list of signers. Einstein stated in his letter to Russell of March 4, 1955, that, "to avoid any confusion," Russell should consider himself "the dictator of the enterprise and give orders." On April 5 Russell sent Einstein a draft. Six days later Einstein replied, "I am gladly willing to sign your excellent statement." It would be Einstein's last public statement. He died a week later on April 18, 1955.

# The Russell–Einstein Manifesto

## Preamble

[by Bertrand Russell alone]

The statement which has been signed by some of the most eminent scientific authorities in different parts of the world deals with the perils of a nuclear war.

It makes it clear that neither side can hope for victory in such a war, and that there is a very real danger of the extermination of the human race by dust and rain from radioactive clouds.

It suggests that neither the public nor the governments of the world are adequately aware of the danger.

It points out that an agreed prohibition of nuclear weapons, while it might be useful in lessening tension, would not afford a solution, since such weapons would certainly be manufactured and used in a great war in spite of previous agreements to the contrary.

The only hope for mankind is the avoidance of war. To call for a way of thinking which shall make such avoidance possible is the purpose of this statement.

The first move came as a collaboration between Einstein and myself. Einstein's signature was given in the last weeks of his life.

Since his death I have approached men of scientific competence both in the East and in the West, for political disagreements should not influence men of science in estimating what is probable, but some of those approached have not yet replied.

I am bringing the warning pronounced by the signatories to the notice of all the powerful governments of the world in the earnest hope that they may agree to allow their citizens to survive.

## Statement

In the tragic situation which confronts humanity, we feel that scientists should assemble in conference to appraise the perils that have arisen as a result of the development of weapons of mass destruction, and to discuss a resolution in the spirit of the appended draft.

We are speaking on this occasion, not as members of this or that nation, continent, or creed, but as human beings, members of the species Man, whose continued existence is in doubt. The world is full of conflicts; and, overshadowing all minor conflicts, the titanic struggle between Communism and anti-Communism.

Almost everybody who is politically conscious has strong feelings about one or more of these issues; but we want you, if you can, to set aside such feelings and consider yourselves only as members of a biological species which has had a remarkable history, and whose disappearance none of us can desire.

We shall try to say no single word which should appeal to one group rather than to another. All, equally, are in peril, and, if the peril is understood, there is hope that they may collectively avert it.

We have to learn to think in a new way. We have to learn to ask ourselves, not what steps can be taken to give military victory to whatever group we prefer, for there no longer are such steps; the question we have to ask ourselves is: what steps can be taken to prevent a military contest of which the issue must be disastrous to all parties?

The general public, and even many men in positions of authority, have not realized what would be involved in a war with nuclear bombs. The general public still thinks in terms of the obliteration of cities. It is understood that the new bombs are more powerful than the old, and that, while one A-bomb could obliterate Hiroshima, one H-bomb could obliterate the largest cities, such as London, New York, and Moscow.

No doubt in an H-bomb war great cities would be obliterated. But this is one of the minor disasters that would have to be faced. If everybody in London, New York, and Moscow were exterminated, the world might, in the course of a few centuries, recover from the blow. But we now know, especially since the Bikini test, that nuclear bombs can gradually spread destruction over a very much wider area than had been supposed.

It is stated on very good authority that a bomb can now be manufactured which will be 2,500 times as powerful as that which destroyed Hiroshima. Such a bomb, if exploded near the ground or under water, sends radio-active particles into the upper air. They sink gradually and reach the surface of the earth in the form of a deadly dust or rain. It was this dust which infected the Japanese fishermen and their catch of fish. No one knows how widely such lethal radio-active particles might be diffused, but the best authorities are unanimous in saying that a war with H-bombs might possibly put an end to the human race. It is feared that if many H-bombs are used there will be universal death, sudden only for a minority, but for the majority a slow torture of disease and disintegration.

Many warnings have been uttered by eminent men of science and by authorities in military strategy. None of them will say that the worst results are certain. What they do say is that these results are possible, and no one can be sure that they will not be realized. We have not yet found that the views of experts on this question depend in any degree upon their politics or prejudices. They depend only, so far as our researches have revealed, upon the extent of the particular expert's knowledge. We have found that the men who know most are the most gloomy.

Here, then, is the problem which we present to you, stark and dreadful and inescapable: Shall we put an end to the human race; or shall mankind renounce war? People will not face this alternative because it is so difficult to abolish war.

The abolition of war will demand distasteful limitations of national sovereignty. But what perhaps impedes understanding of the situa-

tion more than anything else is that the term "mankind" feels vague and abstract. People scarcely realize in imagination that the danger is to themselves and their children and their grandchildren, and not only to a dimly apprehended humanity. They can scarcely bring themselves to grasp that they, individually, and those whom they love are in imminent danger of perishing agonizingly. And so they hope that perhaps war may be allowed to continue provided modern weapons are prohibited.

This hope is illusory. Whatever agreements not to use H-bombs had been reached in time of peace, they would no longer be considered binding in time of war, and both sides would set to work to manufacture H-bombs as soon as war broke out, for, if one side manufactured the bombs and the other did not, the side that manufactured them would inevitably be victorious.

Although an agreement to renounce nuclear weapons as part of a general reduction of armaments would not afford an ultimate solution, it would serve certain important purposes. First, any agreement between East and West is to the good in so far as it tends to diminish tension. Second, the abolition of thermo-nuclear weapons, if each side believed that the other had carried it out sincerely, would lessen the fear of a sudden attack in the style of Pearl Harbour, which at present keeps both sides in a state of nervous apprehension. We should, therefore, welcome such an agreement though only as a first step.

Most of us are not neutral in feeling, but, as human beings, we have to remember that, if the issues between East and West are to be decided in any manner that can give any possible satisfaction to anybody, whether Communist or anti-Communist, whether Asian or European or American, whether White or Black, then these issues must not be decided by war. We should wish this to be understood, both in the East and in the West.

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.

## Resolution

We invite this Congress, and through it the scientists of the world and the general public, to subscribe to the following resolution:

“In view of the fact that in any future world war nuclear weapons will certainly be employed, and that such weapons threaten the continued existence of mankind, we urge the governments of the world to realize, and to acknowledge publicly, that their purpose cannot be furthered by a world war, and we

urge them, consequently, to find peaceful means for the settlement of all matters of dispute between them.”

*Max Born*

*Percy W. Bridgman*

*Albert Einstein*

*Leopold Infeld*

*Frederic Joliot-Curie*

*Herman J. Muller*

*Linus Pauling*

*Cecil F. Powell*

*Joseph Rotblat*

*Bertrand Russell*

*Hideki Yukawa*

**The *Russell-Einstein Manifesto*** was issued by Russell at a press conference in London, England, on July 9, 1955, and sent to the leaders of those nations then possessing or in the process of acquiring nuclear capability. The document addressed in powerful language the dangers confronting humanity, beginning with a call for scientists to “assemble in conference to appraise the perils that have arisen as a result of the development of weapons of mass destruction” and to develop a resolution after the manner of the draft appended thereto.

The wording was clear that this call for an earnest pursuit of peace wasn’t meant to serve the interests of any country or group but of humanity as a whole. The manifesto was equally clear in enunciating the problem and naming the alternative, asking: “Shall we put an end to the human race; or shall mankind renounce war?” Russell, Einstein, and the nine cosigners believed that this was the question facing humanity, a dire choice made necessary by the development of the weapons of unprecedented destructiveness that had been unleashed on Hiroshima and Nagasaki, and that had become far more powerful in the decade after their use. The message was straightforward and sobering. In a rational world the choice wouldn’t be difficult, but in a world of geopolitical power struggles the choice was anything but easy.

Following the release of the *Russell-Einstein Manifesto*, Joseph Rotblat, today the document’s last living signer, took the lead in forming the Pugwash

Conferences on Science and World Affairs, launched two years later. Rotblat had been the only scientist to leave the secret Manhattan Project on the basis of conscience; this was after concluding in late 1944 that the Germans wouldn’t succeed in developing an atomic weapon. The conferences were named after the location of the first, held in Pugwash, Nova Scotia, under the sponsorship of Canadian industrialist and philanthropist Cyrus Eaton, with twenty-two eminent scientists from around the world in attendance. The mission was, and is, to bring “scientific insight and reason to bear on threats to human security arising from science and technology in general, and above all from the catastrophic threat posed to humanity by nuclear and other weapons of mass destruction.” These conferences, in the spirit of the manifesto, brought together scientists from East and West to seek a way to move beyond the cold war divide. Their efforts of substituting dialogue for enmity contributed to a better understanding between cold war rival states. As a result of this effort Joseph Rotblat and the Pugwash Conferences received the Nobel Peace Prize in 1995. In his Nobel address he concluded by echoing the manifesto’s closing paragraph: “Remember your humanity.”

**Fifty years after** the release of the *Russell-Einstein Manifesto* the message remains as important as ever. Even with the conclusion of the cold war

# The Humanists of the *Manifesto*

Part of the significance of the *Russell-Einstein Manifesto* is to be found in the people who put their names to it and those who fostered the Pugwash Conferences on Science and World Affairs that followed. A review of these individuals is revealing.

**Max Born** collaborated with his student Werner Heisenberg to develop the mathematical formulation describing Heisenberg's first laws of a new quantum theory and showed that the solution of the Schrödinger equation has a statistical meaning of physical significance. He received the Nobel Prize in Physics in 1954.

**Percy W. Bridgman** received the 1946 Nobel Prize in Physics for his work on the physics of high pressures. He also developed the Bridgman seal and wrote on the philosophy of modern science.

**Albert Einstein** in 1905 published revolutionary scientific papers on Brownian motion, the photoelectric effect, and special relativity. He introduced the theory of general relativity in 1915 and provided an equation that replaced Isaac Newton's law of gravity. In 1921 he received the Nobel Prize in Physics. As a social activist he called for an end to World War I in 1915, joined the advisory board of the First Humanist Society of New York in 1941, and became chair of the Emergency Committee of Atomic Scientists in 1946, an organization created to warn the public of the dangers of nuclear weapons development.

**Leopold Infeld** worked with Einstein at Princeton University, co-formulating the equation describing star movements.

**Frederic Joliot-Curie** collaborated with his wife Irene in researching the structure of the atom. Their findings led to the discovery of the neutron. Both were awarded the Nobel Prize in Chemistry in 1935. He later worked in France on chain reactions and the requirements of a nuclear reactor, smuggling his research out of the country during the 1940 Nazi invasion. He

then became part of the French Resistance. In 1951, for his work as president of the World Council of Peace, he was awarded the Stalin Peace Prize. Russell was pleased to have him sign because Joliot-Curie was "not only an eminent scientist but a noted communist" whose support could bridge East and West.

**Herman J. Muller** was an American geneticist who received the 1946 Nobel Prize in Physiology or Medicine for developing a technique using x-rays to induce mutations. After serving as president of the American Humanist Association from 1956 to 1958 he received the 1963 Humanist of the Year Award.

**Linus Pauling** joined Einstein in the Emergency Committee of Atomic Scientists in 1946, pioneered the application of quantum mechanics to chemistry, and received the Nobel Prize in Chemistry in 1954 for his work describing the nature of chemical bonds. He accepted the Humanist of the Year Award from the American Humanist Association in 1961. For his campaign against above-ground nuclear testing, he received the Nobel Prize for Peace in 1962.

**Cecil F. Powell**, a British physicist, received the Nobel Prize in Physics in 1950 for developing the photographic method of studying nuclear processes and for the discovery of the pion, a subatomic particle first proposed in 1935 by Hideki Yukawa.

**Joseph Rotblat**, a British physicist, was involved during World War II with the Manhattan Project to build the first atomic bomb. Following his examination of the fallout from the 1954 U.S. Bikini Atoll test, he became an authority on the biological effects of radiation. During the cold war he advocated establishing links between scientists East and West. He also suggested that a code of moral conduct be established for all scientists, the equivalent of medicine's Hippocratic Oath. Though the youngest of the manifesto's signers, Rotblat led the press conference at which the document was presented to the public. He later shared the Nobel Prize for Peace in 1995 with the Pugwash Conferences, of which he is president emeritus.

there remain some 30,000 nuclear weapons in the world. Russia and the United States continue to maintain more than 4,000 on hair-trigger alert, ready to be fired in minutes. While the total number has declined, nuclear weapons persist without reason or rationality, maintaining their threat to humanity and to all forms of life on the planet.

Former Secretary of Defense Robert S. McNamara writes in "Apocalypse Soon" in the May/June 2005 issue of *Foreign Policy* magazine,

It is time—well past time, in my view—for the United States to cease its cold war-style reliance on nuclear weapons as a foreign policy tool. At the risk of appearing simplistic and provocative, I would characterize current U.S. nuclear weapons policy as immoral, illegal, militarily unnecessary, and dreadfully dangerous. The risk of an accidental or inadvertent nuclear launch is unacceptably high. Far from reducing these risks, the Bush administration has signaled that it is com-

mitted to keeping the U.S. nuclear arsenal as a mainstay of its military power—a commitment that is simultaneously eroding the international norms that have limited the spread of nuclear weapons and fissile materials for fifty years.

While lecturing other nations that they shouldn't pursue nuclear weapons and attempting to block programs that might facilitate such acquisition, the administration of George W. Bush has made it plain to the world that it values nuclear weapons for its own security. In its 2001 *Nuclear Posture Review*, the administration indicated that it was developing contingency plans for the use of nuclear weapons against seven countries, five of which were non-nuclear weapons states.

Five years ago the parties to the nuclear Non-Proliferation Treaty agreed to thirteen Practical Steps for Nuclear Disarmament. Since that time the United States has disavowed nearly all of them by either words or action, effectively demonstrating

**Bertrand Russell**—one of the greatest contributors to modern mathematical logic, one of the founders of analytic philosophy, and the most well-known agnostic of the twentieth century—received the Nobel Prize in Literature in 1950 for his "varied and significant writings" that champion "humanitarian ideals and freedom of thought." Advocating "Relative Pacifism" he publicly opposed World War I but supported World War II. When asked by the *Humanist* in 1951 if he called himself a Humanist, Russell wrote sardonically, "I should not have any inclination to call myself a Humanist, as I think, on the whole, that the non-human part of the cosmos is much more interesting and satisfactory than the human part. But if anybody feels inclined to call me a Humanist, I shall not bring an action for libel."

**Hideki Yukawa** was a Japanese theoretical physicist who published in 1935 his theory of mesons, explaining the interaction between protons and neutrons. This became a major

influence on elementary particle research. He received the Nobel Prize in Physics in 1949 after Powell's 1947 discovery of Yukawa's predicted pion.

A few days after the release of the *Russell-Einstein Manifesto*, industrialist and Canadian Humanist **Cyrus Eaton** wrote Russell with an offer to finance the congress of scientists that the manifesto called for. He suggested the event be held in Pugwash, Nova Scotia, Eaton's birthplace. But because Prime Minister **Jawaharlal Nehru** of India (also an outspoken Humanist) had already offered his country as host, Eaton's offer wasn't immediately pursued. Russell then worked with the British signers Rotblat and Powell to develop a preliminary congress agenda and list of attendees. When political and funding problems arose, however, the idea of meeting in New Delhi had to be scrapped and Eaton's proposal was accepted, with Rotblat organizing the first Pugwash conference.

—Fred Edwords

that it isn't serious about nuclear disarmament but rather is intent on a policy of retaining nuclear weapons for the indefinite future. Despite obligations to do otherwise, the United States has failed to ratify the Comprehensive Test Ban Treaty, opposed a verifiable Fissile Material Cut-off Treaty, scrapped the Anti-Ballistic Missile (ABM) Treaty, and substituted the fully reversible Strategic Offensive Reductions Treaty (SORT) for the Strategic Arms Reduction Treaties (START). In addition, the Bush administration has been conducting research on new nuclear weapons such as "bunker busters" and low-yield nuclear weapons. It has also sought to reduce the time needed to resume nuclear testing.

At the opening of the 2005 Non-Proliferation Treaty Review Conference, the parties to the treaty were deadlocked on even reaching agreement on an *agenda* for the meeting. The United States has tried to set aside agreements on nuclear disarmament made at the 1995 and 2000 NPT review conferences, while nearly all other countries want to build upon these agreements and see tangible steps taken to realize them.

In the opening week of the 2005 conference, the Nuclear Age Peace Foundation distributed a briefing booklet to delegates entitled, *Back to Basics: Reviving Nuclear Disarmament in the Non-Proliferation Regime*, and organized a panel of experts on this topic. The foundation called for eight commitments to revive nuclear disarmament:

- Commitment to total nuclear disarmament and to good faith negotiations to achieve nuclear disarmament, consistent with Article VI of the Non-Proliferation Treaty.
- A timeframe for achieving significant markers on the road to complete nuclear disarmament in order to provide assurance of the political will by the nuclear weapons states to fulfill their obligations in a timely way.
- Policies of no first use of nuclear weapons against other nuclear weapons states and policies of no use against non-nuclear weapons states.
- The verifiability of all steps in the process of eliminating nuclear weapons, including reductions in nuclear armaments and stores of fissile materials.

- Stand down nuclear forces by taking nuclear weapons off high-alert status and increasing the time needed to fire a nuclear weapon from minutes to at least hours, and preferably days.
- No development of any new nuclear weapons and a halt to improvement of existing weapons.
- A global, verifiable ban on the production of fissile materials and the disposal of fissile materials from dismantled nuclear weapons under international safeguards.
- Accounting and transparency with regard to nuclear arsenals and regular reporting on progress made in fulfilling commitments to achieve the elimination of nuclear arsenals.

The foundation views these commitments as the minimum necessary to keep the NPT from disintegrating. A continuation of the two-tiered world of nuclear "haves" and "have-nots" isn't viable. Without nuclear disarmament there will be nuclear proliferation. And proliferation, in turn, will make nuclear disarmament more difficult. Mohamed ElBaradei, director general of the International Atomic Energy Agency, estimates that without progress on nuclear disarmament we can expect twenty to thirty countries in the next ten to twenty years capable of moving within months to convert their civilian nuclear capacity into a weapons program. This is the path we are currently on, and a sea change in the policies of the nuclear weapons states is needed if we are to avert future nuclear catastrophes.

In the light of all this, the Russell-Einstein Manifesto remains as relevant in the twenty-first century as it was in the twentieth. Its message has lost none of its power or urgency. Unfortunately, the world's leaders have yet to heed its warning. As the signers of the manifesto clearly understood, the people of the world have a right to be free of nuclear weapons and war. But until they join together in asserting this right, they will remain in grave jeopardy of nuclear devastation. 🗣️

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