



Los Alamos Study Group

Nuclear Disarmament • Environmental Protection • Social and Economic Justice

THE QUEST FOR GLOBAL PEACE

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It is a peculiar experience for me to speak in Los Alamos after nearly 60 years. It is not a feeling of *déjà vu*, because in my first sojourn here there was no public to address; everything was under military regime and top secret. Nor do I have a feeling of nostalgia, because – except for the beautiful scenery – I was very unhappy working on the Manhattan Project, and I escaped from it as soon as the situation justified it.

I find this experience peculiar because of the topic of my talk “The Quest for Global Peace”. I am sure that all of us desire global peace, but while I believe that global peace demands the elimination of nuclear weapons, much of the basic philosophy of the establishment here is that global peace requires the existence of nuclear weapons. I hope that I can persuade you to my point of view.

My emphasis is on global peace, because peace is indivisible; you cannot have peace in one part of the globe while war is raging in another part; just as the tragic episodes of 11th September have reminded us that “No man is an island”, that no country can isolate itself from all the others. We live in a world of an ever-increasing interdependence of all its inhabitants and this is making us all like one family. Globalization – whether in its positive or negative aspects – has brought about a situation whereby events in any part of the globe affect us all: in economic, cultural, societal, or political issues.

It certainly affects us in military matters; in matters of war and peace. This is mainly due to a series of happenings that started here nearly 60 years ago: the making of the atom bomb, and the development of weapons of unprecedented mass destruction, the omnicidal weapons, first demonstrated to the world in Hiroshima and Nagasaki. The destruction of these cities heralded a new age, the nuclear age. The chief characteristic of the nuclear age is that for the first time in the history of civilization we have acquired the technical means to destroy our own species, and to accomplish it, deliberately or inadvertently, in a single event. *In the nuclear age the human species has become an endangered species.*

¹ Sir Joseph Rotblat gave this speech on October 13, 2001 at the Topper Theater at Los Alamos High School, an event organized by the Los Alamos Study Group. Sir Rotblat is Emeritus President of the Pugwash Conferences on Science and the 1995 co-recipient of the Nobel Peace Prize (jointly with Pugwash). Sir Rotblat, who worked for 5 years both in England and in New Mexico to build the first atomic bomb, is an important scientific figure in the history of the Manhattan Project. Yet when it became clear that Germany was not working on the bomb, he resigned from the project – the only scientist to do so before the Trinity test. He has devoted the subsequent 50 years of his life to averting the danger posed by nuclear weapons while on the way receiving some 22 awards and honors and publishing over 400 articles and books.

That such a situation should have been brought about by our own action is almost beyond comprehension for any rational person. Those of us who worked on the atom bomb during World War II did not visualize this either, in the early years. When we began the work on it in England in 1939 - three years before the Manhattan Project - we had a pretty good idea of its terrible destructive power. We knew about the blast effect and the heat wave, and even the radioactive fall-out. But in our discussions about the effects of these weapons we did not contemplate the ultimate catastrophe that their use might bring. We did not envisage this because we knew that this would require the detonation of a very large number – perhaps a hundred thousand – of these weapons. Even in our most pessimistic scenarios we did not imagine that human society would be so stupid, or so mad, as to accumulate such obscenely huge arsenals, for which we could see no purpose. But human society was that insane. Within a few decades, warheads of that magnitude were manufactured, and made ready for use by the then two super powers, the United States and the Soviet Union.

On several occasions we came very near to their actual use. I remember, in particular, one such occasion, the Cuban Missile Crisis of October 1962, when we were a hair's breadth away from disaster, when the whole future of our civilization hung on the decision of one man. Fortunately, Nikita Khrushchev was a sane man, but we may not be so lucky next time. And next time could be any minute now. With the end of the Cold War many people assumed that the nuclear threat has also ended, that the nuclear issue can be taken off the agenda. This is a misleading, even a dangerous assumption. Despite the end of the Cold War, despite the partial dismantlement of weapons by the United States and Russia, enough warheads in the arsenals are still kept on hair-trigger alert, to cause hundreds of millions of casualties, if set off deliberately, or by a false alarm, or by some other accident. Let me recall here the sombre assessment made by Robert McNamara, who was US Secretary of Defense during the Cuban Missile crisis. *“The indefinite combination of nuclear weapons and human fallibility will lead to a nuclear exchange.”*

I must also remind you that nuclear weapons are unlikely to be the last word in the military applications of science. In the long term, new sources of danger may arise; scientists may devise other means of wholesale destruction, perhaps more readily available than nuclear weapons. The human species will not be safe, as long as disputes are settled by recourse to war. Although in the first instance, we must deal with the danger arising from the existence of nuclear weapons, our ultimate objective must be the elimination of all war, international, intranational, or terrorist action. This talk is thus about two objectives: a short-term objective: the elimination of nuclear weapons; and a long-term objective: the elimination of war.

The crucial issue in nuclear policies is deterrence. Deterrence was the starting point of the whole problem. The scientists who – like myself – began research on the atom bomb almost immediately after the discovery of fission, would normally have recoiled from work on military projects. Our rationale was the fear that the bomb might be developed in Germany and enable Hitler to win the war. The only way to prevent this happening, we reasoned, was by acquiring the bomb ourselves and threatening its use in retaliation. I developed the concept of nuclear deterrence in the summer of 1939, even before the start of World War II.

Looking back, it is very doubtful whether the deterrence argument would have worked with an irrational leader like Hitler. It is quite likely that even if both sides had had the bomb, Hitler's last order from the bunker in Berlin would have been to drop it on London, in the full knowledge that this would bring terrible retribution upon Germany. This would have been in the spirit of his philosophy of *Götterdämmerung*.

As it happened, this thesis was never put to the test. Hitler was defeated by conventional weaponry, before the atom bomb was manufactured. But the end of the war in Europe did not bring the bomb programme to an end. On the contrary, its momentum increased. The politicians and the military had decided that the bomb would be used on Japan. General Leslie Groves, the head of the Manhattan Project, said in 1945, "*The target is and was always expected to be Japan.*"

The bombs on Hiroshima and Nagasaki brought World War II to an end, but this action also marked the start of the nuclear arms race, the development of the hydrogen bomb, and the accumulation of huge nuclear arsenals by both superpowers. How has this been brought about?

To a large extent it was due to the changing strategic doctrines: from massive retaliation, to counterforce, to mutually assured destruction (MAD), to flexible response, to countervailing, and finally to strategic missile defence. But to a considerable degree, it was due to the work of scientists; they masterminded the arms race and gave it its momentum. Scientists on both sides of the Iron Curtain - here in Los Alamos and in Livermore, in Chelyabinsk and Arzamas - were relentless in inventing new ways to make their own weapons more effective and those of the other side more vulnerable. Often, they would bring in new designs, not for any real need but simply because of the exhilaration experienced when inventing new gadgets. It became a kind of addiction. Let me quote here an early worker in Los Alamos, Theodore Taylor, who was a chief designer of the atom bomb: "*The most stimulating factor of all was simply the intense exhilaration that every scientist and engineer experiences when he or she has the freedom to explore completely new technical concepts and then to bring them into reality.*"

Scientists have much to answer for what they did during the Cold War period. They also have much to answer for what they are still doing today. But other groups in society too are responsible for creating the dangerous situation. President Eisenhower's warning about the military-industrial complex is no doubt highly relevant. There are groups in various countries with an interest, or motivation, for keeping nuclear weapons, or developing defences against them, and they try to find, or if need be to invent, excuses for this. During the Cold War years this was quite easy; the ideological divide between East and West provided fertile grounds for propaganda. People in the West were manipulated into believing that the Soviet government was planning the conquest of the world by military means, using its overwhelming supremacy in conventional arms. We were led to believe that the only way to prevent this happening was for the West to threaten retaliation with nuclear weapons. This was the rationale for the setting up of the North Atlantic Treaty Organization (NATO) under which the United States guaranteed the security of its European allies.

The assertion in the West – still widely accepted today – that the possession of nuclear weapons prevented a Soviet military attack, is one of the deliberately propagated myths of the Cold War. Careful studies by reputable historians from the West have found no evidence for this assertion. The Soviet government would have liked, of course, to see Communist regimes all over the world, but they tried to achieve this through propaganda and by supporting subversive groups, mainly in the poor countries.

All the evidence indicates that the build-up of nuclear armaments by the Soviet government was a response to that by the United States. Almost every step in the nuclear arms race, every technological advance, was initiated by the United States, with the Soviet Union struggling to keep up. The Table of Milestones in the nuclear arms race shows that, out of 14 events, the Soviet Union was the first only in one event. On the average, the Soviets were lagging behind by six years. But although America was usually ahead, it was never satisfied that its offensive weapons would provide full security, and President Reagan made an attempt to achieve extra security through the Strategic Defense Initiative, the Star Wars; just as President George W. Bush is now trying to achieve it through the Ballistic Missile Defense programme. A likely response by the Soviet Union to Reagan's plan would have been an increase in its offensive arsenals, to ensure saturation of the defences – a situation that would eventually have led to a catastrophe, were it not for the emergence of a commonsensical leader, Mikhail Gorbachev. Listening to the advice of Soviet scientists, he made a rational assessment of the situation, and called a halt to the arms race.

The end of the Cold War brought a complete change in both military and political aspects of the superpower confrontation. Militarily, the roles were reversed: the United States emerged with great superiority in conventional – as well as in nuclear - weapons, and Russia had to rely on its possession of nuclear arms to maintain its pretence of superpower status. Politically, too, there was a thorough transformation. With the collapse of the Communist ideology, the threat of an attack on the West could be entirely discounted.

Under these conditions it would seem to be in the best interests of the United States to heed the call from the great majority of nations and proceed to nuclear disarmament. But although officially the United States acknowledges its commitment to the elimination of nuclear weapons, its actual policy is a continuation of that during the Cold War, a policy that implies the indefinite retention of nuclear weapons.

The US nuclear policy, supported by the UK, France and many NATO countries, as well as by Russia, is based on the concept of *extended deterrence*. It is a *first use policy*: threatening the use of nuclear weapons in response to an attack, not only with nuclear forces but also with chemical, biological or even conventional arms.

If this is the purpose of nuclear weapons, then these weapons will be needed as long as disputes are settled by recourse to military confrontation; in other words, as long as war is a recognized social institution. Such a policy is unacceptable in a civilized society on many grounds: legal, logical, political, and ethical.

It is unacceptable on *legal grounds*. 187 countries – that is, 99% of the United Nations membership, including all five official nuclear weapon states - have signed and ratified the Non-Proliferation Treaty (NPT), by which the non-nuclear states have undertaken not to acquire nuclear weapons, and the five nuclear states have undertaken to get rid of theirs. There was some ambiguity in the formulation of the relevant Article VI of the NPT, which provided the hawks with an excuse for the retention of nuclear weapons until general and complete disarmament had been achieved. This ambiguity has now been removed. The statement issued after the NPT Review Conference in New York, in April/May 2000, a statement signed by all five nuclear-weapon states, contains the following:

...an unequivocal undertaking by the nuclear weapon states to accomplish the total elimination of their arsenals leading to nuclear disarmament to which all States Parties are committed under Article VI.

The policy of extended deterrence, by implying the continuing existence of nuclear weapons, is in direct contradiction to the legally binding Non-Proliferation Treaty. It is a *sine qua non* of a civilized society that nations fulfil their legal commitments and adhere to international treaties. Without this, there would be complete anarchy in the world.

The present policy is unacceptable on *logical grounds*. If some nations – including the most powerful militarily – say that they need nuclear weapons for their security, then such security cannot be denied to other countries which really feel insecure. Proliferation of nuclear weapons is thus the logical consequence of the policy of nuclear deterrence. The nuclear weapon states cannot deny the acquisition of nuclear weapons by other countries while retaining them for themselves. The policy of extended deterrence is in contradiction to the non-proliferation policy.

There is yet a further aspect of the logical argument which strikes at the very basis of deterrence. This is the assumption that both sides in a dispute think and behave rationally; that they are capable of a realistic assessment of the risks entailed in a contemplated action. This would not be the case with irrational leaders. I mentioned this earlier in relation to Hitler. Even a rational leader may behave irrationally in a war situation, facing defeat; or may be pushed into irrational action by mass hysteria, incited by nationalistic fervour or religious fanaticism.

The policy of extended deterrence is unacceptable on *political grounds*. It is highly discriminatory in that it allows a few nations to usurp to themselves certain rights, such as policing the world, that should be the prerogative of the United Nations. Indeed, it goes against the very purpose of the United Nations, an organization set up specifically for the maintenance of international peace and security. The policy of extended deterrence also means a permanent polarization of the world, with some nations being offered protection by some nuclear-weapon state.

But above all, the nuclear deterrent is not acceptable on *ethical grounds*. The whole concept of nuclear deterrence is based on the belief that the threat of retaliation is real, that nuclear weapons *would* be used against an act of aggression. George W. Bush and Vladimir Putin must show convincingly that they have the kind of

personality that would enable them to push the button and unleash an instrument of wholesale destruction, harming not only the aggressor but - mainly - innocent people. By acquiescing in this policy, not only our leaders, but each of us, figuratively, keeps our finger on the button; each of us is taking part in a gamble in which the survival of human civilization is at stake. We rest the security of the world on a balance of terror. In the long run this is bound to erode the ethical basis of civilization.

We all crave a world of peace, a world of equity. We all want to nurture in the young generation the “culture of peace”. But how can we talk about a culture of peace if that peace is predicated on the existence of weapons of mass destruction? How can we persuade the young generation to cast aside the culture of violence, when they know that it is on the threat of violence that we rely for security?

I do not believe that the people of the world accept this policy, or any policy that implies the continued existence of nuclear weapons. Numerous public opinion polls have shown general abhorrence of nuclear weapons and a strong desire to get rid of them. Even the governments of the nuclear-weapon states realize this; they feel compelled to issue statements asserting their unequivocal commitment to the elimination of nuclear weapons. But what they are preaching is just the opposite of what they are practising. The nuclear weapon states – or at least four of them – are persisting in the policy of extended nuclear deterrence.

This hypocrisy must be challenged. We have to keep hammering home the fundamental thesis that compliance with international commitments is an essential element of a civilized state. We have to keep on reminding governments that world peace cannot be achieved without respect for international law. We have to maintain the pressure on the nuclear-weapon states to honour their obligation under the Non-Proliferation Treaty to eliminate all nuclear weapons.

As I said earlier, the elimination of nuclear weapons is an urgent, short-term objective. But while this would remove an immediate danger, the creation of a nuclear-weapon-free world would not be sufficient to secure the future of humankind. Nuclear weapons cannot be disinvented. We cannot erase from our memories the knowledge of how to make them. Should there in the future occur a conflict between the great powers of the day, it would not take them long to rebuild nuclear arsenals and we would be back to the Cold War situation. For world security in the long-term we will need to take a further big step: the elimination of war itself.

By the mid-1950's, the magnitude of the danger that arose from the invention of nuclear weapons became fully appreciated, and scientists tried to warn the public about it. The Russell-Einstein Manifesto, proclaimed in 1955, faced the issue squarely in posing the question: *“Shall we put an end to the human race, or shall mankind renounce war?”*

Bertrand Russell, Albert Einstein and the nine other signatories of the Manifesto saw no other alternatives. Although the nuclear arms race was just beginning to take off in earnest, they correctly foresaw its future course, and were alarmed by the threat to the very existence of the human race if the weapons in the huge arsenals were ever to be detonated. While calling on scientists to assemble in a conference to discuss the means to avert the danger of a nuclear war, which was then

imminent, they also called the attention of the general public to the new situation, and to the duty of every citizen to ensure the continuation of the human species. Since the threat to humanity comes from war, it is war that must be eliminated.

We must learn to resolve our disputes by means other than by military confrontation. A war-free world has become a dire necessity, and its achievement our long-term objective.

To most people, the concept of a war-free world is a fanciful idea, a far-fetched, unrealizable vision. Even those who have come to accept the concept of a world without nuclear weapons still reject the notion of a world without national armaments as being unworkable.

Such attitudes are not surprising considering that, from the beginning, civilized society has been governed by the Roman dictum: *Si vis pacem para bellum* – if you want peace prepare for war. We have paid heed to this motto despite the fact that throughout history preparation for war brought not peace, but war. With the onset of the omnicidal weapons, the motto seems to have changed to *Si vis pacem para armis* – if you want peace stay armed to the teeth. Accordingly, both sides accumulated huge nuclear arsenals in order to keep the peace.

The diabolical concept that in order to have peace we must prepare for war has been ingrained in us since the start of civilization. So much so that we have begun to believe that waging war is part of our natural make up. We are told that we are biologically programmed for aggression, that war is in our genes.

As a scientist, I reject this thesis. I see no evidence that aggressiveness is genetically built into our behaviour. In the distant past, under the harsh conditions in which primitive Man lived, he often had to kill for survival, in competition for food or for a mate. Later on, when communities were formed, groups of people were killing other groups of people for the same reason, and war became part of our culture. But now this is no longer necessary. Thanks largely to the advances in science and technology, there is no need for people to kill one another for survival. If properly managed and distributed, there could be enough food and other life necessities for everybody, even with the huge increase in world population. The problem is that the resources are not distributed evenly, with the result that many people are still starving, many children are still dying from malnutrition. We have still much to do before the basic cause of war is removed, not just virtually, but in reality.

Nevertheless, we *are* moving towards a war-free world, even if we do not do it consciously. We are learning the lessons of history. In the two World Wars of the 20th century, France and Germany were mortal enemies. Young people of these countries - and many others - were slaughtered by the millions. But now a war between France and Germany seems inconceivable. The same applies to the other members of the European Union. There are still many disputes between them over a variety of issues, but these are being settled by negotiations, by mutual give-and-take agreements. The members of the European Union have learned to solve their problems by means other than military confrontation.

The same is beginning to take place in other continents. Military regimes are on the decline: more and more countries are becoming democracies. Despite the recent terrible bloodshed – the tribal genocide in Rwanda; the cleansing of Kosovo – the number of international and internal wars is decreasing. This is a fact. We are gradually comprehending the futility of war, the utter waste in killing one another.

All the same, for the concept of a war-free world to become universally accepted, a process of education will be required. We have to eradicate the culture in which we were brought up, the culture that war is an inherent element of human society. We have to change the mind-set that seeks security for one's nation in terms which spell insecurity to other nations.

We must replace the old Roman dictum by one essential for survival in the Third Millennium: *Si vis pacem para pacem* – if you want peace prepare for peace. This will require efforts in two directions: a new approach to security, in terms of global security; and developing and nurturing of a new loyalty, loyalty to humanity.

In the first instance we have to reduce the major risks to humanity by the elimination of weapons of mass destruction. As mentioned earlier, nearly all nations have already agreed to ban these weapons. It is important to make the ban on the possession and use of chemical and biological weapons universal, by a resolution of the UN Security Council that any use of these weapons would be a crime against humanity, punishable under international laws. The necessary instruments for enforcement of these laws will have to be elaborated and implemented.

Of great urgency is an agreement on a similar ban in relation to nuclear weapons, in the first instance – and as a step towards their complete elimination – the signing of a treaty of no-first-use of these weapons.

All nuclear weapon states, official and *de facto*, should sign a treaty by which they undertake not to be the first to use nuclear weapons. The great importance of such a treaty is that it would bring to an end the pernicious effects of extended deterrence and remove any alleged military utility of nuclear weapons. The only 'purpose' of nuclear weapons, while these remain in the arsenals, would be to deter nuclear attack, not to solve disputes between nations.

A treaty banning the deployment of long-range ballistic missiles will be essential to limit the use of conventional weapons.

We need a universal Convention to ban the harbouring of terrorist groups by any country.

The main problem will arise in banning conventional wars between nations, and the use of military arms by governments in settling internal disputes. This would require a drastic limitation of the sovereignty of nations and a modification of the charter of the United Nations, which is based on the sovereignty of the nation-state.

Surrender of some sovereign rights is going on all the time, in the ever-increasing interdependence of the modern world. Each international treaty we sign,

every agreement on tariffs or other economic measure, is a surrender of sovereignty in the general interests of the world community. To this equation we must now add the protection of humankind. This requires the development in ourselves of a feeling of belonging to the world community.

As members of the human community, each of us has developed loyalties to the groups amidst which we live. In the course of history we have been gradually extending our loyalty to ever larger groups, from our family, to our neighbourhood, to our village, to our city, to our nation. I present these loyalties in the form of concentric circles, with the individual at the centre. The largest solid circle presents our loyalty to our nation. This is where it ends now. The time has come to extend this loyalty to the largest group. We have to develop and nurture a new loyalty, loyalty to humanity.

What I have been saying about loyalty to humankind applies to everybody, to every citizen. But scientists have a special responsibility.

The decision on whether to continue with an old, or start a new, programme of nuclear development, rests, of course, with governments, but it is scientists who are the first to be called upon to implement it. There would be no progress in nuclear arms if scientists as a body refused to do any work on weapons of mass destruction. This raises the general question of the moral responsibility of scientists: should scientists be concerned about the social impact of their work and the ethical issues that arise from it? Should they accept responsibility for the harmful consequences of scientific research?

Alas a large proportion of the scientific community refuses to take any responsibility. These scientists claim that there should be no limitation on research which pushes forward the frontiers of knowledge and deepens our understanding of the world around us and its inhabitants. The only obligation on scientists, they claim, is to make the results of their work known to the public. What the public does with them is their business.

This *laissez faire* attitude is a remnant of the old days, when science had hardly any impact on the life of the community, when pure science and its applications were well separated in time and in space. In those days it would take decades before a practical application was found for a scientific discovery, and even then different people, working in different institutions, would take it up.

All this has changed radically. Nowadays, the distinction between pure and applied research is barely discernible in many areas of science. Practical applications follow hard on the heels of scientific discoveries, and may be pursued by the same people.

The tremendous advances in pure science, particularly in physics during the first half of the 20th century, and in biology during the second half, have completely changed the relation between science and society. Science has become a dominant element, affecting us in every walk of life. It has brought enormous improvements to the quality of life, but has also created grave perils. Scientists can no longer claim that their work is unrelated to the welfare of the individual or to state politics.

As I said at the start of my talk, we live in a world community of ever greater interdependence, an interdependence due largely to technical advancements arising from scientific research. An interdependent community offers great benefits to its members, but by the same token it imposes responsibilities on them. Every citizen has to be accountable for their deeds. We all owe an obligation to society.

The responsibility weighs particularly heavily on scientists precisely because of the dominant role played by science in modern society. Scientists very often see the adverse effects of their work earlier than other members of the community, and it is incumbent on them to take steps to prevent, or to minimize, such adverse effects.

It is also in scientists' self-interest to accept this responsibility and thereby avoid the consequences to science of having a bad public image. The public holds scientists responsible for the dangers arising from scientific advance. For example, human cloning is distasteful and viewed by the public as immoral, and science as a whole is castigated for the few scientists who want to pursue it.

The general public, through elected governments, has the means to control science, either by withholding the purse, or by restrictive regulations. Obviously, it is far better that any control is exercised by the scientists themselves.

It is vitally important that science regains the respect of the community for its integrity; that it recaptures public trust in its pronouncements. Scientists must reveal a human face; they must show that it is possible to combine creativity with compassion; venture into the unknown yet care for fellow creatures; allow the imagination to roam while remaining accountable for their deeds.

In summing up, let me remind you that essentially I am talking about the preservation of human life on this planet. Just now there is great interest in the origin of life. Is there civilized life, or even any sort of life, in other parts of the Universe? Have living organisms been brought to Earth on the back of a comet? Not long ago, tremendous excitement was created by the discovery of evidence of life on Mars; it was hailed as a great event of the 20th century. I see in the reaction to that alleged discovery a manifestation of the immense reverence we all have for life; the awe for the majesty of life in its infinity of forms.

The material from Mars was supposed to contain the most primitive form of life, perhaps even lower than bacteria. How much more reverence should we have for the higher forms of life that have evolved on the Earth over billions of years; for the infinite number of species, from plants to animals, leading to the evolution of the human species. In the course of many thousands of years, the human species has established a great civilization, has developed a rich and multifarious culture, has accumulated enormous treasures in arts and literature, and has created the magnificent edifice of science. It is indeed the supreme irony that the very intellectual achievements of mankind have provided the tools of self-destruction, in a social system ready to contemplate such destruction.

Surely, we must not allow this to happen. As human beings it is our paramount duty to preserve human life, to ensure the continuity of the human race.

A nuclear holocaust does not appear imminent. Having come close to it on several occasions during the Cold War, we are now somewhat more cautious. But war is still a recognized social institution, and every war carries with it the potential of escalation with fatal consequences to our species. In a world armed with weapons of mass destruction, the use of which might bring the whole of civilization to an end, we cannot afford a polarized community, with its inherent threat of a military confrontation. A global equitable community, under a system of world government, is a necessary concomitant of the scientific era.

Let me conclude my talk by quoting myself, the last paragraph of my Nobel lecture:

“The quest for a war-free world has a basic purpose: survival. But if in the process we learn how to achieve it by love rather than by fear, by kindness rather than by compulsion; if in the process we 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.”