LIVES IN THE PEACE MOVEMENT

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INTRODUCTION[1]

Human emotions: an evolutionary paradox?

Today, human greed and folly are destroying the global environment. As if this were not enough, there is a great threat to civilization and the biosphere from an all-destroying thermonuclear war. Both of these severe existential threats are due to faults our inherited emotional nature.

From the standpoint of evolutionary theory, this is a paradox. As a species, we are well on the road to committing collective suicide, driven by the flaws in human nature. But isn't natural selection supposed to produce traits that lead to survival? Today, our emotions are not leading us towards survival, but instead driving us towards extinction. What is the reason for this paradox?

Can biological science throw any light on the problem of why our supposedly rational species seems intent on choosing war, pain and death instead of peace, happiness and life? To answer this question, we need to turn to the science of ethology - the study of inherited emotional tendencies and behavior patterns in animals and humans.

Ethology

In *The Origin of Species*, Charles Darwin devoted a chapter to the evolution of instincts, and he later published a separate book on *The Expression of the Emotions in Man and Animals*. Because of these pioneering studies, Darwin is considered to be the founder of ethology.

The study of inherited behavior patterns in animals (and humans) was continued in the 20th century by such researchers as Karl von Frisch (1886-1982), Nikolaas Tinbergen (1907-1988), and Konrad Lorenz (1903-1989), three scientists who shared a Nobel Prize in Medicine and Physiology in 1973.

The third of the 1973 prizewinners, Konrad Lorenz, is controversial, but at the same time very interesting in the context of studies of the causes of war and discussions of how war may be avoided. As a young boy, he was very fond of animals, and his tolerant parents allowed him to build up a large menagerie

[1]This book makes use of articles and book chapters that I have previously written on subjects related to the peace movement, but a great deal of new material has been added

in their house in Altenberg, Austria. Even as a child, he became an expert on waterfowl behavior, and he discovered the phenomenon of imprinting. He was given a one day old duckling, and found, to his intense joy, that it transferred its following response to his person. As Lorenz discovered, young waterfowl have a short period immediately after being hatched, when they identify as their "mother" whomever they see first. In later life, Lorenz continued his studies of imprinting, and there exists a touching photograph of him, with his white beard, standing waist-deep in a pond, surrounded by an adoring group of goslings who believe him to be their mother. Lorenz also studied bonding behavior in waterfowl.

On Aggression

It is, however, for his controversial book *On Aggression* that Konrad Lorenz is best known. In this book, Lorenz makes a distinction between intergroup aggression and intragroup aggression. Among animals, he points out, rank-determining fights are seldom fatal. Thus, for example, the fights that determine leadership within a wolf pack end when the loser makes a gesture of submission. By contrast, fights between groups of animals are often fights to the death, examples being wars between ant colonies, or of bees against intruders, or the defense of a rat pack against strange rats.

Many animals, humans included, seem willing to kill or be killed in defense of the communities to which they belong. Lorenz calls this behavioral tendency a "communal defense response". He points out that the "holy shiver" - the tingling of the spine that humans experience when performing a heroic act in defense of their communities - is related to the prehuman reflex for raising the hair on the back of an animal as it confronts an enemy - a reflex that makes the animal seem larger than it really is.

In his book *On Aggression*, Konrad Lorenz gives the following description of the emotions of a hero preparing to risk his life for the sake of the group:

"In reality, militant enthusiasm is a specialized form of communal aggression, clearly distinct from and yet functionally related to the more primitive forms of individual aggression. Every man of normally strong emotions knows, from his own experience, the subjective phenomena that go hand in hand with the response of militant enthusiasm. A shiver runs down the back and, as more exact observation shows, along the outside of both arms. One soars elated, above all the ties of everyday life, one is ready to abandon all for the call of what, in the moment of this specific emotion, seems to be a

sacred duty. All obstacles in its path become unimportant; the instinctive inhibitions against hurting or killing one's fellows lose, unfortunately, much of their power. Rational considerations, criticisms, and all reasonable arguments against the behavior dictated by militant enthusiasm are silenced by an amazing reversal of all values, making them appear not only untenable, but base and dishonorable.

Men may enjoy the feeling of absolute righteousness even while they commit atrocities. Conceptual thought and moral responsibility are at their lowest ebb. As the Ukrainian proverb says: 'When the banner is unfurled, all reason is in the trumpet'."

"The subjective experiences just described are correlated with the following objectively demonstrable phenomena. The tone of the striated musculature is raised, the carriage is stiffened, the arms are raised from the sides and slightly rotated inward, so that the elbows point outward. The head is proudly raised, the chin stuck out, and the facial muscles mime the 'hero face' familiar from the films. On the back and along the outer surface of the arms, the hair stands on end. This is the objectively observed aspect of the shiver!"

"Anybody who has ever seen the corresponding behavior of the male chimpanzee defending his band or family with self-sacrificing courage will doubt the purely spiritual character of human enthusiasm. The chimp, too, sticks out his chin, stiffens his body, and raises his elbows; his hair stands on end, producing a terrifying magnification of his body contours as seen from the front. The inward rotation of the arms obviously has the purpose of turning the longest-haired side outward to enhance the effect. The whole combination of body attitude and hair-raising constitutes a bluff. This is also seen when a cat humps its back, and is calculated to make the animal appear bigger and more dangerous than it really is. Our shiver, which in German poetry is called a 'heiliger Schauer', a 'holy' shiver, turns out to be the vestige of a prehuman vegetative response for making a fur bristle which we no longer have. To the humble seeker for biological truth, there cannot be the slightest doubt that human militant enthusiasm evolved out of a communal defense response of our prehuman ancestor."

Lorenz goes on to say, "An impartial visitor from another planet, looking at man as he is today - in his hand the atom bomb, the product of his intelligence - in his heart the aggression drive, inherited from his anthropoid ancestors, which the same intelligence cannot control - such a visitor would not give mankind much chance of survival."

The mystery of self-sacrifice in war

In an essay entitled *The Urge to Self-Destruction* [2], Arthur Koestler says:

"Even a cursory glance at history should convince one that individual crimes, committed for selfish motives, play a quite insignificant role in the human tragedy compared with the numbers massacred in unselfish love of one's tribe, nation, dynasty, church or ideology... Wars are not fought for personal gain, but out of loyalty and devotion to king, country or cause..."

"We have seen on the screen the radiant love of the Führer on the faces of the Hitler Youth... They are transfixed with love, like monks in ecstasy on religious paintings. The sound of the nation's anthem, the sight of its proud flag, makes you feel part of a wonderfully loving community. The fanatic is prepared to lay down his life for the object of his worship, as the lover is prepared to die for his idol. He is, alas, also prepared to kill anybody who represents a supposed threat to the idol." The emotion described here by Koestler is the same as the communal defense mechanism ("militant enthusiasm") described in biological terms by Lorenz.

Generations of schoolboys have learned the Latin motto: "Dulce et decorum est pro patria mori" - it is both sweet and noble to die for one's country. Even in today's world, death in battle in defense of country and religion is still praised by nationalists. However, because of the development of weapons of mass destruction, both nationalism and narrow patriotism have become dangerous anachronisms.

In thinking of violence and war, we must be extremely careful not to confuse the behavioral patterns that lead to wife-beating or bar-room brawls with those that lead to episodes like the trench warfare of the First World War, or to the nuclear bombing of Hiroshima and Nagasaki. The first type of aggression is similar to the rank-determining fights of animals, while the second is more akin to the team-spirit exhibited by a football side. Heroic behavior in defense of one's community has been praised throughout the ages, but the tendency to such behavior has now become a threat to the survival of civilization, since tribalism makes war possible, and war with thermonuclear weapons threatens civilization with catastrophe.

Warfare involves not only a high degree of aggression, but also an extremely high degree of altruism. Soldiers kill, but they also sacrifice their own lives. Thus patriotism and duty are as essential to war as the willing-

[2] in *The Place of Value in a World of Facts*, A. Tiselius and S. Nielsson editors, Wiley, New York, (1970)

ness to kill. As Arthur Koestler points out, "Wars are not fought for personal gain, but out of loyalty and devotion to king, country or cause..."

Tribalism involves passionate attachment to one's own group, self-sacrifice for the sake of the group, willingness both to die and to kill if necessary to defend the group from its enemies, and belief that in case of a conflict, one's own group is always in the right.

Population genetics

If we examine altruism and aggression in humans, we notice that members of our species exhibit great altruism towards their own children. Kindness towards close relatives is also characteristic of human behavior, and the closer the biological relationship is between two humans, the greater is the altruism they tend to show towards each other. This profile of altruism is easy to explain on the basis of Darwinian natural selection since two closely related individuals share many genes and, if they cooperate, the genes will be more effectively propagated.

To explain from an evolutionary point of view the communal defense mechanism discussed by Lorenz - the willingness of humans to kill and be killed in defense of their communities - we have only to imagine that our ancestors lived in small tribes and that marriage was likely to take place within a tribe rather than across tribal boundaries. Under these circumstances, each tribe would tend to consist of genetically similar individuals. The tribe itself, rather than the individual, would be the unit on which the evolutionary forces of natural selection would act. The idea of group selection in evolution was proposed in the 1930's by J.B.S. Haldane and R.A. Fisher, and more recently it has been discussed by W.D. Hamilton and E.O. Wilson.

According to the group selection model, a tribe whose members showed altruism towards each other would be more likely to survive than a tribe whose members cooperated less effectively. Since several tribes might be in competition for the same territory, intertribal aggression might, under some circumstances, increase the chances for survival of one's own tribe. Thus, on the basis of the group selection model, one would expect humans to be kind and cooperative towards members of their own group, but at the same time to sometimes exhibit aggression towards members of other groups, especially in conflicts over territory. One would also expect intergroup conflicts to be most severe in cases where the boundaries between groups are sharpest - where marriage is forbidden across the boundaries.

Military-industrial complexes

Today the world spends more than 1.8 trillion US dollars per year on armaments. This enormous river of money, almost too large to be imagined, drives and perpetuates the institution of war. Money from immensely rich corporate oligarchs buys the votes of politicians and the propaganda of the mainstream media. Numbed by the propaganda, citizens allow the politicians to vote for obscenely bloated military budgets, which further enrich the corporate oligarchs, and the circular flow continues. The fact that inherited human nature contains an element of tribalism makes it easy for the propaganda of the powerholders to label other nations or ethnic groups as "enemies". Without enemies, industrial-military complexes would wither.

Hope for the future

Luckily, tribalism can be overwritten by ethics. Indeed, ethical education became a part of human cultural evolution in order to overwrite tribalism, when the agricultural revolution changed humans from tribal hunter-gatherers to farmers living in larger and more heterogeneous settled communities.

The social and political groups of the modern world are larger still, and are often multiracial and multiethnic. There are a number of large countries that are remarkable for their diversity, for example India, China, Brazil, and the United States. Nevertheless it has been possible to establish social cohesion and group identity within each of these enormous nations.

One gains hope for the future by observing how it has been possible to produce both internal peace and social cohesion over very large areas of the globe - areas that contain extremely diverse populations. The difference between making large, ethnically diverse countries function as coherent sociopolitical units and making the entire world function as a unit is not very great.

It is not an impossible goal to think of enlarging the already-large groups of the modern world to include all of humanity. On our small but beautiful earth, made small by technology, made beautiful by nature, there is room for one group only: the all-inclusive family of humankind.

I hope that the stories of some lives that have been devoted to the peace movement will give us inspiration, as we join hands across the globe and work together to save the future for our children and grandchildren.

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Chapter 1

AGAINST THE INSTITUTION OF WAR

As we start the 21st century and the new millennium, our scientific and technological civilization seems to be entering a period of crisis. Today, for the first time in history, science has given to humans the possibility of a life of comfort, free from hunger and cold, and free from the constant threat of infectious disease. At the same time, science has given us the power to destroy civilization through thermonuclear war, as well as the power to make our planet uninhabitable through catastrophic climate change and overpopulation. The question of what path we choose is a matter of life or death to ourselves and our children.

Science and technology have shown themselves to be double-edged, capable of doing great good or of producing great harm, depending on the way in which we use the enormous power over nature, which science has given to us. For this reason, ethical thought is needed now more than ever before. The wisdom of the world's religions, the traditional wisdom of humankind, can help us as we try to insure that our overwhelming material progress will be beneficial.

The crisis of civilization, which we face today, has been produced by the rapidity with which science and technology have developed. Our institutions and ideas adjust too slowly to the change. The great challenge which history has given to our generation is the task of building new international political structures, which will be in harmony with modern technology. At the same time, we must develop a new global ethic, which will replace our narrow loyalties by loyalty to humanity as a whole.

In the long run, because of the enormously destructive weapons, which have been produced through the misuse of science, the survival of civilization can only be insured if we are able to abolish the institution of war.

While in earlier epochs it may have been possible to confine the effects of war mainly to combatants, in our own century the victims of war have increasingly been civilians, and especially children. For example, according to Quincy Wright's statistics, the First and Second World Wars together cost the lives of 26 million soldiers, but the toll in civilian lives was much larger: 64 million. Since the Second World War, despite the best efforts

of the U. N., there have been over 150 armed conflicts; and, if civil wars are included, there are on any given day an average of 12 wars somewhere in the world. In the conflicts in Indo-China, the proportion of civilian victims was between 80% and 90%, while in the Lebanese civil war some sources state that the proportion of civilian casualties was as high as 97%.

Civilian casualties often occur through malnutrition and through diseases, which would be preventable in normal circumstances. Because of the social disruption caused by war, normal supplies of food, safe water and medicine are interrupted, so that populations become vulnerable to famine and epidemics. In the event of a catastrophic nuclear war, starvation and disease would add greatly to the loss of life caused by the direct effects of nuclear weapons.

The indirect effects of war are also enormous. Globally, preparations for war interfere seriously with the use of tax money for constructive and peaceful purposes. Today, despite the end of the Cold War, the world spends roughly 1.8 trillion (i.e. 1.8 million million) US dollars each year on armaments. This enormous flood of money, which is almost too large to imagine, could have been used instead for urgently needed public health measures.

The World Health Organization lacks funds to carry through an anti-malarial program on as large a scale as would be desirable, but the entire program could be financed for less than the world spends on armaments in a single day. Five hours of world arms spending is equivalent to the total cost of the 20-year WHO campaign, which resulted in the eradication of smallpox. For every 100,000 people in the world, there are 556 soldiers, but only 85 doctors. Every soldier costs an average of 20,000 US dollars per year, while the average spent per year on education is only 380 US dollars per school-aged child. With a diversion of funds consumed by three weeks of military spending, the world could create a sanitary water supply for all its people, thus eliminating the cause of almost half of all human illness.

A new and drug-resistant form of tuberculosis has recently become widespread, and is increasing rapidly in the former Soviet Union. In order to combat this new form of tuberculosis, and in order to prevent its spread to Western Europe, WHO needs 450 million US dollars, an amount equivalent to 4 hours of world arms spending. By using this money to combat tuberculosis in the former Soviet Union, WHO would be making a far greater contribution to global peace and stability than is made by spending the money on armaments.

Today's world is one in which roughly ten million children die each year from diseases related to poverty. Besides this enormous waste of young lives through malnutrition and preventable disease, there is a huge waste of opportunities through inadequate education. The rate of illiteracy in the 25 least developed countries is 80%, and the total number of illiterates in the world is estimated to be 800 million. Meanwhile every 60 seconds the world spends roughly 2 million U. S. dollars on armaments.

It is plain that if the almost unbelievable sums now wasted on armaments were used constructively, most of the pressing problems now facing humanity could be solved, but today the world spends more than 20 times as much per year on weapons as it does on development.

Because the world spends two thousand billion dollars each year on armaments, it follows that very many people make their living from war. This is the reason why it is correct to speak of war as a social institution, and also the reason why war persists, although everyone realizes that it is the cause of much of the suffering that inflicts humanity. We know that war is madness, but it persists. We know that it threatens the future survival of our species, but it persists, entrenched in the attitudes of historians, newspaper editors and television producers, entrenched in the methods by which politicians finance their campaigns, and entrenched in the financial power of arms manufacturers, entrenched also in the ponderous and costly hardware of war, the fleets of warships, bombers, tanks, nuclear missiles and so on.

Science cannot claim to be guiltless: In Eisenhower's farewell address, he warned of the increasing power of the industrial-military complex, a threat to democratic society. If he were making the same speech today, he might speak of the industrial-military-scientific complex. Since Hiroshima, we have known that new knowledge is not always good. There is a grave danger that nuclear weapons will soon proliferate to such an extent that they will be available to terrorists and even to the Mafia. Chemical and biological weapons also constitute a grave threat. The eradication of smallpox in 1979 was a triumph of medical science combined with international cooperation. How sad it is to think that military laboratories cultivate smallpox and that the disease may soon be reintroduced as a biological weapon!

The institution of war seems to be linked to a fault in human nature, to our tendency to exhibit altruism towards members of our own group but aggression towards other groups if we perceive them to be threatening our own community. This tendency, which might be called "tribalism", was perhaps built into human nature by evolution during the long prehistory of our species, when we lived as hunter-gatherers in small genetically homogeneous tribes, competing for territory on the grasslands of Africa. However, in an era of nerve gas and nuclear weapons, the anachronistic behavior pattern of tribal altruism and intertribal aggression now threatens our survival.

Fortunately, our behavior is only partly determined by inherited human nature. It is also, and perhaps to a larger extent, determined by education and environment; and in spite of all the difficulties just mentioned, war has been eliminated locally in several large regions of the world. Taking these regions as models, we can attempt to use the same methods to abolish war globally. For example, war between the Scandinavian nations would be unthinkable today, although the region once was famous for its violence. Scandinavia is especially interesting as a model for what we would like to achieve globally, because it is a region in which it has been possible not only to eradicate war, but also poverty; and at the same time, death from infectious disease has become a rarity in this region.

If we consider the problem of simultaneously eliminating poverty, war and frequent death from infectious disease, we are lead inevitably to the problem of population stabilization. At the time when poverty, disease and war characterized Scandinavia, the average fertility in the region was at least 6 children per woman-life. Equilibrium was maintained at this high rate of fertility, because some of the children died from disease without leaving progeny, and because others died in war. Today, poverty and war are gone from the Nordic

countries, and the rate of premature death from infectious disease is very low. The simultaneous elimination of poverty, disease and war would have been impossible in Scandinavia if the rate of fertility had not fallen to the replacement level. There would then have been no alternative except for the population to grow, which it could not have continued to do over many centuries without environmental degradation, bringing with it the recurrence of poverty, disease and war.

In Scandinavia today, democratic government, a high level of education, economic prosperity, public health, high social status for women, legal, economic and educational equality for women, a low birth rate, and friendly cooperation between the nations of the region are mutually linked in loops of cause and effect. By contrast, we can find other regions of the world where low status of women, high birth rates, rapidly increasing population, urban slums, low educational levels, high unemployment levels, poverty, ethnic conflicts and the resurgence of infectious disease are equally linked, but in a vicious circle. The three age-old causes of human suffering, poverty, infectious disease and war are bound together by complex causal relationships involving also the issues of population stabilization and woman's rights. The example of Scandinavia shows us that it is possible to cure all these diseases of society; but to do so we must address all of the problems simultaneously.

Abolition of the institution of war will require the construction of structures of international government and law to replace our present anarchy at the global level. Today's technology has shrunken the distances, which once separated nations; and our present system of absolutely sovereign nation-states has become both obsolete and dangerous.

Professor Elie Kedourie of the University of London has given the following definition of nationalism: "- a doctrine invented in Europe at the beginning of the 19th century. It pretends to supply a criterion for the determination of the unit of population proper to enjoy a government exclusively its own, for the legitimate exercise of power in the state, and for the right organization of a society of states. Briefly, the doctrine holds that humanity is naturally divided into nations, that nations are known by certain characteristics which can be ascertained, and that the only legitimate type of government is national self-government."

A basic problem with this doctrine is that throughout most of the world, successive waves of migration, conquest and intermarriage have left such a complicated ethnic mosaic that attempts to base political divisions on ethnic homogeneity often meet with trouble. In Eastern Europe, for example, German-speaking and Slavic-speaking peoples are mixed together so closely that the Pan-German and Pan-Slavic movements inevitably clashed over the question of who should control the regions where the two populations lived side by side. This clash was one of the main causes of the First World War.

Similarly, when India achieved independence from England, a great problem arose in the regions where Hindus and Moslems lived side by side; and even Gandhi was unable to prevent terrible violence from taking place between the two communities. This problem is still present, and it has been made extremely dangerous by the acquisition of nuclear weapons by India and Pakistan.

More recently, nationalist movements in Asia and Africa have derived their force and

popularity from a reaction against the years of European political and economic domination. Thus, at first sight, they seem to deserve our sympathy and support. However, in building states, the new nationalists have often used hate for outsiders as mortar. For example, Israel is held together by hostility towards its Arab neighbors, while the Pan-Arab movement is held together by hostility towards Israel; and in this inflamed political climate of mutual fear and hatred, even clandestine nuclear weapons appear to either side to be justified.

A basic problem rooted in nationalist mythology exists in the concept of sanctions, which treat nations as if they were individuals. We punish nations as a whole by sanctions, even when only the leaders are guilty, even though the burdens of the sanctions often fall most heavily on the weakest and least guilty of the citizens, and even though sanctions often have the effect of uniting the citizens of a country behind the guilty leaders.

It is becoming increasingly clear that the concept of the absolutely sovereign nation-state is an anachronism in a world of thermonuclear weapons, instantaneous communication and economic interdependence. Probably our best hope for the future lies in developing the United Nations into a World Federation. The strengthened United Nations should have a legislature with the power to make laws which are binding on individuals, and the ability to arrest and try individual political leaders for violations of these laws. The World Federation should also have the military and legal powers necessary to guarantee the human rights of ethnic minorities within nations.

A strengthened UN would need a reliable source of income to make the organization less dependent on wealthy countries, which tend to give support only to those interventions of which they approve. A promising solution to this problem is the so-called "Tobin tax", named after the Nobel-laureate economist James Tobin of Yale University. Tobin proposed that international currency exchanges should be taxed at a rate between 0.1 and 0.25%. He believed that even this extremely low rate of taxation would have the effect of damping speculative transactions, thus stabilizing the rates of exchange between currencies. When asked what should be done with the proceeds of the tax, Tobin said, almost as an afterthought, "Let the United Nations have it". The volume of money involved in international currency transactions is so enormous that even the tiny tax proposed by Tobin would provide the World Federation with between 100 billion and 300 billion dollars annually. By strengthening the activities of various UN agencies, such as WHO, UNESCO and FAO, the additional income would add to the prestige of the United Nations and thus make the organization more effective when it is called upon to resolve international political conflicts.

A federation is, by definition, a limited union of states, where the federal government has the power to make laws which are binding on individuals, but where the laws are confined to interstate matters, and where all powers not expressly delegated to the federal government are reserved for the several states. In other words, in a federation, each of the member states runs its own internal affairs according to its own laws and customs; but in certain agreed-on matters, where the interests of the states overlap, authority is specifically delegated to the federal government.

For example, if the nations of the world considered the control of narcotics to be a

matter of mutual concern; if they agreed to set up a commission with the power to make laws preventing the growing, refinement and distribution of harmful drugs, and with the power to arrest individuals for violating those laws, then we would have a world federation in the area of narcotics control.

If, in addition, the world community considered terrorism to be a matter of mutual concern; if an international commission were also set up with the power to make global anti-terrorist laws, and to arrest individuals violating those laws, then we would have a world federation with somewhat broader powers. If the community of nations decided to give the federal authority the additional power to make laws defining the rights and obligations of multinational corporations, and the power to arrest individuals violating those laws, then we would have a world federation with still broader powers; but these powers would still be carefully defined and limited.

In 1998, in Rome, representatives of 120 countries signed a statute establishing a Permanent International Court, with jurisdiction over war crimes and genocide. Four years were to pass before the necessary ratifications were gathered, but by Thursday, April 11, 2002, 66 nations had ratified the Rome agreement, 6 more than the 60 needed to make the court permanent. The jurisdiction of the Permanent International Court is at present limited to a very narrow class crimes. The global community will have a chance to see how the court works in practice, and in the future, the community may decide to broaden its jurisdiction.

In setting up a federation, the member states can decide which powers they wish to delegate to it; and all powers not expressly delegated are retained by the individual states. We are faced with the problem of constructing a new world order which will preserve the advantages of local self-government while granting certain carefully-chosen powers to larger regional or global authorities. Which things should be decided locally, or regionally, and which globally?

In the future, overpopulation and famine are likely to become increasingly difficult and painful problems in several parts of the world. Since various cultures take widely different attitudes towards birth control and family size, the problem of population stabilization seems to be one which should be solved locally. At the same time, aid for local family planning programs, as well as famine relief, might appropriately come from global agencies, such as WHO and FAO. With respect to large-scale migration, it would be unfair for a country which has successfully stabilized its own population, and which has eliminated poverty within its own borders, to be forced to accept a flood of migrants from regions of high fertility. Therefore the extent of immigration should be among the issues to be decided locally.

Security, and controls on the manufacture and export of armaments will require an effective authority at the global level. It should also be the responsibility of the international community to intervene to prevent gross violations of human rights. Since the end of the Cold War, the United Nations has more and more frequently been called upon to send armed forces to troubled parts of the world. In many instances, these calls for U. N. intervention have been prompted by clear and atrocious violations of human rights, for example by “ethnic cleansing” in Bosnia and by genocide in Rwanda. In the examples

just named, the response of the United Nations would have been much more effective, and many lives would have been saved, if the action which was finally taken had come sooner. Long and complex diplomatic negotiations were required to muster the necessary political and physical forces needed for intervention, by which time the original problems had become much more severe. For this reason, it has been suggested that the U. N. Secretary General, the Security Council and the General Assembly ought to have at their disposal a permanent, highly trained and highly mobile emergency force, composed of volunteers from all nations. Such an international police force would be able to act rapidly to prevent gross violations of human rights or other severe breaches of international law.

In evaluating the concept of an international police force directly responsible to the United Nations, it is helpful to examine the way in which police act to enforce laws and to prevent violence and crime at local and national levels. Within a community which is characterized by good government, police are not highly armed, nor are they very numerous. Law and order are not maintained primarily by the threat of force, but by the opinion of the vast majority of the citizens that the system of laws is both just and necessary. Traffic stops when the signal light is red and moves when it is green whether or not a policeman is present, because everyone understands why such a system is necessary. Nevertheless, although the vast majority of the citizens in a well-governed community support the system of laws and would never wish to break the law, we all know that the real world is not heaven. The total spectrum of human nature includes evil as well as a good. If there were no police at all, and if the criminal minority were completely unchecked, every citizen would be obliged to be armed. No one's life or property would be safe. Robbery, murder and rape would flourish.

Within a society with a democratic and just government, whose powers are derived from the consent of the governed, a small and lightly armed force of police is able to maintain the system of laws. One reason why this is possible has just been mentioned - the force of public opinion. A second reason is that the law acts on individuals. Since obstruction of justice and the murder of policemen both rank as serious crimes, an individual criminal is usually not able to organize massive resistance against police action.

Edith Wynner, one of the pioneers of the World Federalist movement, lists the following characteristics of police power in a well-governed society:

1. "A policeman operates within a framework of organized government having legislative, executive and judicial authority operating on individuals. His actions are guided by a clearly stated criminal code that has the legislative sanction of the community. Should he abuse the authority vested in him, he is subject to discipline and court restraint."

2. "A policeman seeing a fight between two men does not attempt to determine which of them is in the right and then help him beat up the one he considers wrong. His function is to restrain violence by both, to bring them before a judge who has authority to determine the rights of the dispute, and to see that the court's decision is carried out."

3. "In carrying out his duties, the policeman must apprehend the suspected individual without jeopardizing either the property or the lives of the community where the suspect is to be arrested. And not only is the community safeguarded against destruction of property and loss of life but the rights of the suspect are also carefully protected by an elaborate network of judicial safeguards."

Edith Wynner also discusses the original union of the thirteen American colonies, which was a confederation, analogous to the present United Nations. This confederation was found to be too weak, and after eleven years it was replaced by a federation, one of whose key powers was the power to make and enforce laws which acted on individuals. George Mason, one of the architects of the federal constitution of the United States, believed that "such a government was necessary as could directly operate on individuals, and would punish those only whose guilt required it", while James Madison (another drafter of the U. S. federal constitution) remarked that the more he reflected on the use of force, the more he doubted "the practicability, the justice and the efficacy of it when applied to people collectively, and not individually". Finally, Alexander Hamilton, in his "Federalist Papers", discussed the confederation with the following words: "To coerce the states is one of the maddest projects that was ever devised... Can any reasonable man be well disposed towards a government, which makes war and carnage the only means of supporting itself - a government that can exist only by the sword? Every such war must involve the innocent with the guilty. This single consideration should be enough to dispose every peaceable citizen against such a government... What is the cure for this great evil? Nothing, but to enable the... laws to operate on individuals, in the same manner as those of states do."

The United Nations is at present a confederation rather than a federation, and thus it acts by attempting to coerce states, a procedure which Alexander Hamilton characterized as "one of the maddest projects that was ever devised". Whether this coercion takes the form of economic sanctions, or whether it takes the form of military intervention, the practicability, the justice and the efficacy of the UN's efforts are hampered because they are applied to people collectively and not individually. It is obvious that the United Nations actions to stop aggression of one state against another in the Korean War and in the Gulf War fail to match the three criteria for police action listed above. What is the cure for this great evil? "Nothing", Hamilton tells us, "but to enable the laws to act on individuals, in the same manner as those of states do."

Historically, confederations have always proved to be too weak; but federations have on the whole been very successful, mainly because a federation has the power to make laws which act on individuals. At the same time, a federation aims at leaving as many powers as possible in the hands of local authorities. Recent examples of federations include the United States of America, the United States of Brazil, the United States of Mexico, the United States of Venezuela, the Argentine Nation, the Commonwealth of Australia, the Dominion of Canada, the Union of South Africa, Switzerland, the Union of Soviet Socialist Republics and the European Federation. Thus we are rich in historical data on the strengths and weaknesses of federations, and we can make use of this data as we attempt to construct good government at the global level.

Looking towards the future, we can perhaps foresee a time when the United Nations will have been converted to a federation and given the power to make international laws which are binding on individuals. Under such circumstances, true international law enforcement will be possible, incorporating all of the needed safeguards for lives and property of the innocent. One can hope for a future world where the institution of war will be abolished, and where public opinion will support international law to such an extent that a new Hitler or a future Melosovic will not be able to organize large-scale resistance to arrest, a world where international law will be seen by all to be just, impartial and necessary, a well-governed global community within which each person will owe his or her ultimate loyalty to humanity as a whole.

Besides a humane, democratic and just framework of international law and governance, we urgently need a new global ethic, - an ethic where loyalty to family, community and nation will be supplemented by a strong sense of the brotherhood of all humans, regardless of race, religion or nationality. Schiller expressed this feeling in his "Ode to Joy", the text of Beethoven's Ninth Symphony. Hearing Beethoven's music and Schiller's words, most of us experience an emotion of resonance and unity with its message: All humans are brothers and sisters - not just some - all! It is almost a national anthem of humanity. The feelings which the music and words provoke are similar to patriotism, but broader. It is this sense of a universal human family, which we need to cultivate in education, in the mass media, and in religion.

Educational reforms are urgently needed, particularly in the teaching of history. As it is taught today, history is a chronicle of power struggles and war, told from a biased national standpoint. Our own race or religion is superior; our own country is always heroic and in the right.

We urgently need to replace this indoctrination in chauvinism by a reformed view of history, where the slow development of human culture is described, giving adequate credit to all those who have contributed. Our modern civilization is built on the achievements of ancient cultures. China, India, Mesopotamia, ancient Egypt, Greece, the Islamic world, Christian Europe, and Jewish intellectual traditions all have contributed. Potatoes, corn and squash are gifts from the American Indians. Human culture, gradually built up over thousands of years by the patient work of millions of hands and minds, should be presented to students of history as a precious heritage - far too precious to be risked in a thermonuclear war.

In the teaching of science too, reforms are needed. Graduates in science and technology should be conscious of their responsibilities. They must resolve never to use their education in the service of war, or in any way which might be harmful to society or to the environment.

In modern societies, mass media play an extremely important role in determining behavior and attitudes. This role can be a negative one when the media show violence and enemy images, but if used constructively, the mass media can offer a powerful means for creating international understanding. If it is indeed true that tribalism is part of human nature, it is extremely important that the mass media be used to the utmost to overcome the barriers between nations and cultures. Through increased communication, the world's peoples can learn to accept each other as members of a single family.

Finally, let us turn to religion, with its enormous influence on human thought and behavior. Christianity, for example, offers a strongly stated ethic, which, if practiced, would make war impossible. In Mathew, the following passage occurs: "Ye have heard it said: Thou shalt love thy neighbor and hate thy enemy. But I say unto you: Love your enemies, bless them that curse you, do good to them that hate you, and pray for them that spitefully use you and persecute you."

This seemingly impractical advice, that we should love our enemies, is in fact of the greatest practicality, since acts of unilateral kindness and generosity can stop escalatory cycles of revenge and counter-revenge such as those which characterize the present conflict in the Middle East and the recent troubles of Northern Ireland. However, Christian nations, while claiming to adhere to the ethic of love and forgiveness, have adopted a policy of "massive retaliation", involving systems of thermonuclear missiles whose purpose is to destroy as much as possible of the country at which the retaliation is aimed. It is planned that entire populations shall be killed in a "massive retaliation", innocent children along with the guilty politicians. The startling contradiction between what the Christian nations profess and what they do was obvious even before the advent of nuclear weapons, at the time when Leo Tolstoy, during his last years, was exchanging letters with a young Indian lawyer in South Africa. In one of his letters to Gandhi, Tolstoy wrote:

"The whole life of the Christian peoples is a continuous contradiction between that which they profess and the principles on which they order their lives, a contradiction between love accepted as the law of life, and violence, which is recognized and praised, acknowledged even as a necessity."

"This year, in the spring, at a Scripture examination at a girls' high school in Moscow, the teacher and the bishop present asked the girls questions on the Commandments, and especially on the sixth. After a correct answer, the bishop generally put another question, whether murder was always in all cases forbidden by God's law; and the unhappy young ladies were forced by previous instruction to answer 'Not always' - that murder was permitted in war and in the execution of criminals. Still, when one of these unfortunate young ladies (what I am telling is not an invention but a fact told to me by an eye witness) after her first answer, was asked the usual question, if killing was always sinful, she, agitated and blushing, decisively answered 'Always', and to the usual sophisms of the bishop, she answered with decided conviction that killing was always forbidden in the Old Testament and forbidden by Christ, not only killing but every wrong against a brother. Notwithstanding all his grandeur and arts of speech, the bishop became silent and the girl remained victorious."

As everyone knows, Gandhi successfully applied the principle of non-violence to the civil rights struggle in South Africa, and later to the political movement, which gave India its freedom and independence. The principle of non-violence was also successfully applied by Martin Luther King, and by Nelson Mandela. It is perhaps worthwhile to consider Gandhi's comment on the question of whether the end justifies the means: "The means may be likened to a seed", Gandhi wrote, "and the end to a tree; and there is the same inviolable connection between the means and the end as there is between the seed and the tree." In other words, a dirty method produces a dirty result; killing produces more

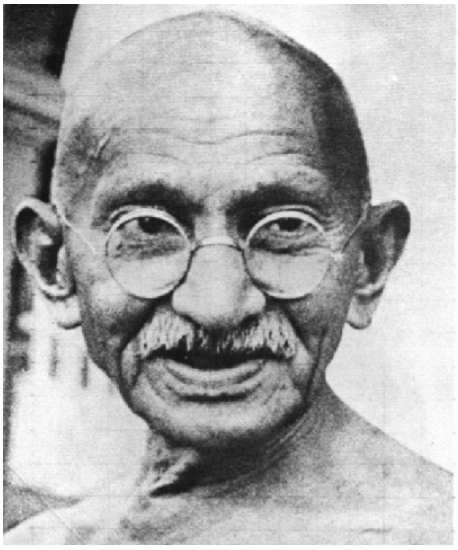


Figure 1.1: **Mahatma Gandhi in Bombay, September, 1944. Public domain, Wikimedia Commons**

killing; hate leads to more hate. Everyone who reads the newspapers knows that this is true. But there are positive feedback loops as well as negative ones. A kind act produces a kind response; a generous gesture is returned; hospitality results in reflected hospitality. Buddhists call this principle of reciprocity "the law of karma".

The religious leaders of the world have the opportunity to contribute importantly to the solution of the problem of war. They have the opportunity to powerfully support the concept of universal human brotherhood, to build bridges between religious groups, to make intermarriage across ethnic boundaries easier, and to soften the distinctions between communities. If they fail to do this, they will have failed humankind at a time of crisis.

It is useful to consider the analogy between the institution of war and the institution of slavery. We might be tempted to say, "There has always been war, throughout human history; and war will always continue to exist." As an antidote for this kind of pessimism, we can think of slavery, which, like war, has existed throughout most of recorded history. The cultures of ancient Egypt, Greece and Rome were all based on slavery, and, in more recent times, 13 million Africans were captured and forced into a life of slavery in the New World. Slavery was as much an accepted and established institution as war is today. Many people made large profits from slavery, just as arms manufacturers today make enormous profits. Nevertheless, in spite of the weight of vested interests, slavery has now been abolished throughout most of the world.

Today we look with horror at drawings of slave ships, where human beings were packed together like cord-wood; and we are amazed that such cruelty could have been possible. Can we not hope for a time when our descendants, reading descriptions of the wars of the twentieth century, will be equally amazed that such cruelty could have been possible? If we use them constructively, the vast resources now wasted on war can initiate a new era

of happiness and prosperity for the family of humankind. It is within our power to let this happen. The example of the men and women who worked to rid the world of slavery can give us courage as we strive for a time when war will exist only as a dark memory fading into the past.

The training of soldiers

Within individual countries, murder is rightly considered to be the worst of crimes. But the institution of war tries to convince us that if a soldier murders someone from another country, whom the politicians have designated as an "enemy", it is no longer a crime, no longer a violation of the common bonds of humanity. It is "heroic".

In their hearts, soldiers know that this is nonsense. Murder is always murder. The men, women and children who are supposed to be the "enemy", are just ordinary people, with whom the soldier really has no quarrel. Therefore when the training of soldiers wears off a little, so that they realize what they have done, they have to see themselves as murderers, and many commit suicide.

A recent article in the journal "Epidemiology" pointed out a startling statistic: for every American soldier killed in combat this year[1], 25 will commit suicide. The article also quotes the Department of Veterans Affairs, which says that 18 veterans commit suicide every day.

Obviously, the training of soldiers must overwrite fundamental ethical principles. This training must make a soldier abandon his or her individual conscience and sense of responsibility. It must turn the soldier from a compassionate human being into an automaton, a killing machine. How is this accomplished? Through erosion of of the soldier's self-respect. Through the endless repetition of senseless rituals where obedience is paramount and from which rational thought and conscience are banished.

In his book on fanaticism, "The True Believer" (1951), the American author Eric Hoffer gives the following description of the factors promoting self-sacrifice:

"To ripen a person for self-sacrifice, he must be stripped of his individual identity. He must cease to be George, Hans, Ivan or Tado - a human atom with an existence bounded by birth and death. The most drastic way to achieve this end is by the complete assimilation of the individual into a collective body. The fully assimilated individual does not see himself and others as human beings. When asked who he is, his automatic response is that he is a German, a Russian, a Japanese, a Christian, a Muslim, a member of a certain tribe or family. He has no purpose, worth or destiny apart from his collective body, and as long as that body lives, he cannot really die. ...

"The effacement of individual separateness must be thorough. In every act, however trivial, the individual must, by some ritual, associate himself with the

[1] 2012



Figure 1.2: **Eric Hoffer's book, "The True Believer", accurately describes the indoctrination needed to make soldiers kill ordinary people whom politicians have labeled as "enemies".**

congregation, the tribe, the party, etcetera. His joys and sorrows, his pride and confidence must spring from the fortunes and capacities of the group, rather than from his individual prospects or abilities. Above all, he must never feel alone. Though stranded on a desert island, he must feel that he is under the eyes of the group. To be cast out from the group must be equivalent to being cut off from life.

"This is undoubtedly a primitive state of being, and its most perfect examples are found among primitive tribes. Mass movements strive to approximate this primitive perfection, and we are not imagining things when the anti-individualist bias of contemporary mass movements strikes us as being a throwback to the primitive."

The conditioning of a soldier in a modern army follows the pattern described in Eric Hoffer's book. The soldier's training aims at abolishing his sense of individual separateness, individual responsibility, and moral judgment. It is filled with rituals, such as saluting, by which the soldier identifies with his tribe-like army group. His uniform also helps to strip him of his individual identity and to assimilate him into the group. The result of this psychological conditioning is that the soldier's mind reverts to a primitive state. He surrenders his moral responsibility, and when the politicians tell him to kill, he kills.

The illegality of NATO

Violation of the UN Charter and the Nuremberg Principles

In recent years, participation in NATO has made European countries accomplices in US efforts to achieve global hegemony by means of military force, in violation of international law, and especially in violation of the UN Charter, the Nuremberg Principles.

Former UN Assistant Secretary General Hans Christof von Sponeck used the following words to express his opinion that NATO now violates the UN Charter and international law: "In the 1949 North Atlantic Treaty, the Charter of the United Nations was declared to be NATO's legally binding framework. However, the United-Nations monopoly of the use of force, especially as specified in Article 51 of the Charter, was no longer accepted according to the 1999 NATO doctrine. NATO's territorial scope, until then limited to the Euro-Atlantic region, was expanded by its members to include the whole world".

Article 2 of the UN Charter requires that "All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state." This requirement is somewhat qualified by Article 51, which says that "Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security."

Thus, in general, war is illegal under the UN Charter. Self-defense against an armed



Figure 1.3: **Former UN Under Secretary General Hans Christof von Sponeck has stated that NATO in its present form is illegal.**

attack is permitted, but only for a limited time, until the Security Council has had time to act. The United Nations Charter does not permit the threat or use of force in preemptive wars, or to produce regime changes, or for so-called "democratization", or for the domination of regions that are rich in oil. NATO must not be a party to the threat or use of force for such illegal purposes.

In 1946, the United Nations General Assembly unanimously affirmed "the principles of international law recognized by the Charter of the Nuremberg Tribunal and the judgment of the Tribunal". The General Assembly also established an International Law Commission to formalize the Nuremberg Principles. The result was a list that included Principles VI and VII, which are particularly important in the context of the illegality of NATO:

1. **Principle VI**: The crimes hereinafter set out are punishable as crimes under international law:

   (a) **Crimes against peace:**

i. Planning, preparation, initiation or waging of a war of aggression or a war in violation of international treaties, agreements or assurances;

ii. Participation in a common plan or conspiracy for the accomplishment of any of the acts mentioned under (i).

(b) War crimes: Violations of the laws or customs of war which include, but are not limited to, murder, ill-treatment or deportation to slave-labor or for any other purpose of civilian population of or in occupied territory, murder or ill-treatment of prisoners of war, of persons on the seas, killing of hostages, plunder of public or private property, wanton destruction of cities, towns, or villages, or devastation not justified by military necessity.

(c) **Crimes against humanity:** Murder, extermination, enslavement, deportation and other inhuman acts done against any civilian population, or persecutions on political, racial or religious grounds, when such acts are done or such persecutions are carried on in execution of or in connection with any crime against peace or any war crime.

Robert H. Jackson, who was the chief United States prosecutor at the Nuremberg trials, said that "To initiate a war of aggression is therefore not only an international crime, it is the supreme international crime, differing from other war crimes in that it contains within itself the accumulated evil of the whole."

Europe must declare its independence

Just as the United States once declared its independence from England, so Europe must now declare its independence from the United States.

During the period from 1945 to the present, the US interfered, militarily or covertly, in the internal affairs of a large number of nations: China, 1945-49; Italy, 1947-48; Greece, 1947-49; Philippines, 1946-53; South Korea, 1945-53; Albania, 1949-53; Germany, 1950s; Iran, 1953; Guatemala, 1953-1990s; Middle East, 1956-58; Indonesia, 1957-58; British Guiana/Guyana, 1953-64; Vietnam, 1950-73; Cambodia, 1955-73; The Congo/Zaire, 1960-65; Brazil, 1961-64; Dominican Republic, 1963-66; Cuba, 1959-present; Indonesia, 1965; Chile, 1964-73; Greece, 1964-74; East Timor, 1975-present; Nicaragua, 1978-89; Grenada, 1979-84; Libya, 1981-89; Panama, 1989; Iraq, 1990-present; Afghanistan 1979-92; El Salvador, 1980-92; Haiti, 1987-94; Yugoslavia, 1999; and Afghanistan, 2001-present, Syria, 2013-present. Egypt, 2013-present.

Most of these interventions were explained to the American people as being necessary to combat communism (or more recently, terrorism), but an underlying motive was undoubtedly the desire of the ruling oligarchy to put in place governments and laws that would be favorable to the economic interests of the US and its allies. Also, the military-industrial complex needs justification for the incredibly bloated military budgets that drain desperately needed resources from social and environmental projects.

Do the people of Europe really want to participate in the madness of US aggressive wars? Of course not! What about European leaders? Why don't they follow the will of the people and free Europe from bondage to the United States? Have our leaders been bribed? Or have they been blackmailed through personal secrets, discovered by the long arm of NSA spying?

The special responsibility of scientists and engineers

The crisis of civilization, which we face today, has been produced by the rapidity with which science and technology have developed. Our institutions and ideas adjust too slowly to the change. The great challenge which history has given to our generation is the task of building new international political structures, which will be in harmony with modern technology. At the same time, we must develop a new global ethic, which will replace our narrow loyalties by loyalty to humanity as a whole.

Ethical considerations have traditionally been excluded from scientific discussions. This tradition perhaps has its roots in the desire of the scientific community to avoid the bitter religious controversies which divided Europe following the Reformation. Whatever the historical reason may be, it has certainly be- come customary to speak of scientific problems in a dehumanized language, as though science had nothing to do with ethics or politics.

The great power of science is derived from an enormous concentration of attention and resources on the understanding of a tiny fragment of nature; but this concentration is at the same time a distortion of values. To be effective, a scientist must believe, at least temporarily, that the problem on which he or she is working is more important than anything else in the world, which is of course untrue. Thus a scientist, while seeing a fragment of reality better than anyone else, becomes blind to the larger whole. For example, when one looks into a microscope, one sees the tiny scene on the slide in tremendous detail, but that is all one sees. The remainder of the universe is blotted out by this concentration of attention.

The system of rewards and punishments in the training of scientists produces researchers who are highly competent when it comes to finding solutions to technical problems, but whose training has by no means encouraged them to think about the ethical or political consequences of their work. Scientists may, in fact, be tempted to escape from the intractable moral and political difficulties of the world by immersing themselves in their work. Enrico Fermi, (whose research as much as that of any other person made nuclear weapons possible), spoke of science as "soma" - the escapist drug of Aldous Huxley's Brave New World. Fermi perhaps used his scientific preoccupations as an escape from the worrying political problems of the 30's and 40's.

The education of a scientist often produces a person with a strong feeling of loyalty to a particular research discipline, but perhaps without sufficient concern for the way in which progress in that discipline is related to the general welfare of humankind. To remedy this lack, it would be very desirable if the education of scientists could include some discussion of ethics, as well as a review of the history of modern science and its impact on society.



Figure 1.4: **Enormous concentration of attention on a small fragment of reality blinds the researcher to the larger whole. Looking through a microscope, he sees what is on the slide in great detail, but he sees nothing else.**

The explosive growth of science-driven technology during the last two centuries has changed the world completely; and our social and political institu- tions have adjusted much too slowly to the change. The great problem of our times is to keep society from being shaken to pieces by the headlong progress of science, the problem of harmonizing our social and political institutions with technological change. Because of the great importance of this problem, it is perhaps legitimate to ask whether anyone today can be considered to be educated without having studied the impact of science on society. Should we not include this topic in the education of both scientists and non-scientists?

Science has given us great power over the forces of nature. If wisely used, this power will contribute greatly to human happiness; if wrongly used, it will result in misery. In the words of the Spanish writer, Ortega y Gasset, "We live at a time when man, lord of all things, is not lord of himself"; or as Arthur Koestler has remarked, "We can control the movements of a spaceship orbiting about a distant planet, but we cannot control the situation in Northern Ireland."

To remedy this situation, educational reforms are needed. Science and engineering students ought to have some knowledge of the history and social impact of science. They could be given a course on the history of scientific ideas; but in connection with modern historical developments, such as the in- dustrial revolution, the global population explosion, the development of nuclear weapons, genetic engineering, and information technology, some discussion of social impact could be introduced. One might hope to build up in science and engineering students an understanding of the way in which their work is related to the general welfare of humankind. These elements are needed in science education if rapid technological development is to be beneficial rather than disastrous.

The threats and costs of war

In the long run, because of the enormously destructive weapons, which have been produced through the misuse of science, the survival of civilization can only be insured if we are able to abolish the institution of war.

Modern warfare has become prohibitively dangerous and destructive because of the enormously powerful weapons that scientists and engineers have developed. The institution of war could not continue without their cooperation. Thus, scientists and engineers throughout the world have a special responsibility.

Wars are driven by the collective paranoia of voters, who are willing to allow colossal sums to be spent by ‘ ‘Defense Departments”. But are civilians really defended? Absolutely not!

We can see this most clearly if we think of nuclear war. Nations threaten each other with “Mutually Assured Destruction”, which has the very appropriate acronym MAD. What does this mean? Does it mean that civilians are being protected? Not at all. Instead they are threatened with complete destruction. Civilians here play the role of hostages in the power games of their leaders. Those leaders’ goal is not protection of ordinary people, but rather protection of the gargantuan profits of the military-industrial complex. As the Indian writer Arundhati Roy put it, “Once weapons were manufactured to fight wars. Now wars are manufactured to sell weapons.”

If a thermonuclear war occurs, it will be the end of human civilization and much of the biosphere. This will definitely happen in the future unless the world rids itself of nuclear weapons, since, in the long run, the finite chance of accidental nuclear war happening due to a technical or human failure during a given year will gradually build up into a certainty of disaster. Scientists and engineers must not sell their knowledge and talents to this march towards the precipice.

The direct and indirect costs of war

The costs of war, both direct and indirect, are so enormous that they are almost beyond comprehension. We face a direct threat because a thermonuclear war may destroy human civilization and much of the biosphere, and an indirect threat because the institution of war interferes seriously with the use of tax money for constructive and peaceful purposes.

Today, despite the end of the Cold War, the world spends roughly 1.7 trillion (i.e. 1.7 million million) US dollars each year on armaments. This colossal flood of money could have been used instead for education, famine relief, development of infrastructure, or on urgently needed public health measures.

The World Health Organization lacks funds to carry through an antimalarial program on as large a scale as would be desirable, but the entire program could be financed for less than our military establishments spend in a single day. Five hours of world arms spending is equivalent to the total cost of the 20-year WHO campaign that resulted in the eradication of smallpox. For every 100,000 people in the world, there are 556 soldiers, but only 85 doctors. Every soldier costs an average of $20,000 per year, while the average spent on



Figure 1.5: **Children born with birth defects due to the US use of Agent Orange during the Vietnam War. Source: stopwarcoalition.org**

education is only $380 per school-aged child. With a diversion of funds consumed by three weeks of military spending, the world could create a sanitary water supply for all its people, thus eliminating the cause of almost half of all human illness.

A new drug-resistant form of tuberculosis has recently become widespread in Asia and in the former Soviet Union. In order to combat this new and highly dangerous form of tuberculosis and to prevent its spread, WHO needs $500 million, an amount equivalent to 1.2 hours of world arms spending.

Today's world is one in which roughly ten million children die every year from starvation or from diseases related to poverty. Besides this enormous waste of young lives through malnutrition and preventable disease, there is a huge waste of opportunities through inadequate education. The rate of illiteracy in the 25 least developed countries is 80%, and the total number of illiterates in the world is estimated to be 800 million. Meanwhile every 60 seconds the world spends $6.5 million on armaments.

It is plain that if the almost unbelievable sums now wasted on the institution of war were used constructively, most of the pressing problems of humanity could be solved, but today the world spends more than 20 times as much on war as it does on development.

Medical and psychological consequences; loss of life

While in earlier epochs it may have been possible to confine the effects of war mainly to combatants, in the 20th century the victims of war were increasingly civilians, and especially children. For example, according to Quincy Wright's statistics, the First and Second World Wars cost the lives of 26 million soldiers, but the toll in civilian lives was much larger: 64 million.

Since the Second World War, despite the best efforts of the UN, there have been over 150 armed conflicts; and, if civil wars are included, there are on any given day an average of 12 wars somewhere in the world. In the conflicts in Indo-China, the proportion of civilian victims was between 80% and 90%, while in the Lebanese civil war some sources state that the proportion of civilian casualties was as high as 97%.

Civilian casualties often occur through malnutrition and through diseases that would be preventable in normal circumstances. Because of the social disruption caused by war,



Figure 1.6: **A little girl cries as medics attend to her injuries at al-Shifa hospital in Gaza in 2014, during the conflict. Photo: UNICEF/Eyad El Baba**

normal supplies of food, safe water and medicine are interrupted, so that populations become vulnerable to famine and epidemics.[2]

Effects of war on children

According to UNICEF figures, 90% of the casualties of recent wars have been civilians, and 50% children. The organization estimates that in recent years, violent conflicts have driven 20 million children from their homes. They have become refugees or internally displaced persons within their own countries.

During the last decade 2 million children have been killed and 6 million seriously injured or permanently disabled as the result of armed conflicts, while 1 million children have been orphaned or separated from their families. Of the ten countries with the highest rates of death of children under five years of age, seven are affected by armed conflicts. UNICEF estimates that 300,000 child soldiers are currently forced to fight in 30 armed conflicts throughout the world. Many of these have been forcibly recruited or abducted.

Even when they are not killed or wounded by conflicts, children often experience painful psychological traumas: the violent death of parents or close relatives, separation from their families, seeing family members tortured, displacement from home, disruption of ordinary life, exposure to shelling and other forms of combat, starvation and anxiety about the future.[3]

[2]http://www.cadmusjournal.org/article/volume-2/issue-2-part-3/lessons-world-war-i
http://www.truth-out.org/opinion/item/27201-the-leading-terrorist-state

[3]http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2080482/



Figure 1.7: **Asylum-seekers in a holding centre on Greece's Samos Island.**

Refugees

Human Rights Watch estimates that in 2001 there were 15 million refugees in the world, forced from their countries by war, civil and political conflict, or by gross violations of human rights. In addition, there were an estimated 22 million internally displaced persons, violently forced from their homes but still within the borders of their countries.

In 2001, 78% of all refugees came from ten areas: Afghanistan, Angola, Burma, Burundi, Congo-Kinshasa, Eritrea, Iraq, the Palestinian territories, Somalia and Sudan. A quarter of all refugees are Palestinians, who make up the world's oldest and largest refugee population. 45% of the world's refugees have found sanctuaries in Asia, 30% in Africa, 19% in Europe and 5% in North America.

Refugees who have crossed an international border are in principle protected by Article 14 of the Universal Declaration of Human Rights, which affirms their right "to seek and to enjoy in other countries asylum from persecution". In 1950 the Office of the High Commissioner for Refugees was created to implement Article 14, and in 1951 the Convention Relating to the Status of Refugees was adopted by the UN. By 2002 this legally binding treaty had been signed by 140 nations. However the industrialized countries have recently adopted a very hostile and restrictive attitude towards refugees, subjecting them to arbitrary arrests, denial of social and economic rights, and even forcible return to countries in which they face persecution.

The status of internally displaced persons is even worse than that of refugees who have crossed international borders. In many cases the international community simply ignores their suffering, reluctant to interfere in the internal affairs of sovereign states. In fact, the United Nations Charter is self-contradictory in this respect, since on the one hand it calls for non-interference in the internal affairs of sovereign states, but on the other hand, people everywhere are guaranteed freedom from persecution by the Charter's Universal

Declaration of Human Rights.[4]

Damage to infrastructure

Most insurance policies have clauses written in fine print exempting companies from payment of damage caused by war. The reason for this is simple. The damage caused by war is so enormous that insurance companies could never come near to paying for it without going bankrupt.

We mentioned above that the world spends 1.7 trillion dollars each year on preparations for war. A similarly colossal amount is needed to repair the damage to infrastructure caused by war. Sometimes this damage is unintended, but sometimes it is intentional.

During World War II, one of the main aims of air attacks by both sides was to destroy the industrial infrastructure of the opponent. This made some sense in a war expected to last several years, because the aim was to prevent the enemy from producing more munitions. However, during the Gulf War of 1990, the infrastructure of Iraq was attacked, even though the war was expected to be short. Electrical generating plants and water purification facilities were deliberately destroyed with the apparent aim of obtaining leverage over Iraq after the war.

In general, because war has such a catastrophic effect on infrastructure, it can be thought of as the opposite of development. War is the greatest generator of poverty.[5]

Ecological damage

Warfare during the 20th century has not only caused the loss of 175 million lives (primarily civilians) - it has also caused the greatest ecological catastrophes in human history. The damage takes place even in times of peace. Studies by Joni Seager, a geographer at the University of Vermont, conclude that "a military presence anywhere in the world is the single most reliable predictor of ecological damage".

Modern warfare destroys environments to such a degree that it has been described as an "environmental holocaust." For example, herbicides use in the Vietnam War killed an estimated 6.2 billion board-feet of hardwood trees in the forests north and west of Saigon, according to the American Association for the Advancement of Science. Herbicides such as Agent Orange also made enormous areas of previously fertile land unsuitable for agriculture for many years to come. In Vietnam and elsewhere in the world, valuable agricultural land has also been lost because land mines or the remains of cluster bombs make it too dangerous for farming.

During the Gulf War of 1990, the oil spills amounted to 150 million barrels, 650 times the amount released into the environment by the notorious Exxon Valdez disaster. During

[4] https://www.hrw.org/topic/refugees

[5] https://www.wsws.org/en/articles/2002/11/iraq-n04.html
http://www.globalresearch.ca/crimes-against-humanity-the-destruction-of-iraqs-electricity-infrastructure-the-social-economic-and-environmental-impacts/5355665
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Figure 1.8: **Image source: Greenpeace**

the Gulf War an enormous number of shells made of depleted uranium were fired. When the dust produced by exploded shells is inhaled it often produces cancer, and it will remain in the environment of Iraq for decades.

Radioactive fallout from nuclear tests pollutes the global environment and causes many thousands of cases of cancer, as well as birth abnormalities. Most nuclear tests have been carried out on lands belonging to indigenous peoples. Agent Orange also produced cancer, birth abnormalities and other serious forms of illness both in the Vietnamese population and among the foreign soldiers fighting in Vietnam[6]

The threat of nuclear war

As bad as conventional arms and conventional weapons may be, it is the possibility of a catastrophic nuclear war that poses the greatest threat to humanity. There are today roughly 16,000 nuclear warheads in the world. The total explosive power of the warheads that exist or that could be made on short notice is approximately equal to 500,000 Hiroshima bombs.

To multiply the tragedy of Hiroshima by a factor of half a million makes an enormous difference, not only quantitatively, but also qualitatively. Those who have studied the question believe that a nuclear catastrophe today would inflict irreversible damage on our civilization, genetic pool and environment.

Thermonuclear weapons consist of an inner core where the fission of uranium-235 or plutonium takes place. The fission reaction in the core is able to start a fusion reaction in the next layer, which contains isotopes of hydrogen. It is possible to add a casing of ordinary uranium outside the hydrogen layer, and under the extreme conditions produced

[6]http://www.dailymail.co.uk/news/article-2401378/Agent-Orange-Vietnamese-children-suffering-effects-herbicide-sprayed-US-Army-40-years-ago.html



Figure 1.9: **The 15 megaton explosion detonated by the United States at Bikini Atoll in 1954 produced lasting biological damage to humans and animals living on the distant Marshall Islands. Today, half a century later, the islanders still experience radiation sickness in the form of leukemia and birth defects. Source: www.theguardian.com**

by the fusion reaction, this ordinary uranium can undergo fission. In this way, a fission-fusion-fission bomb of almost limitless power can be produced.

For a victim of severe radiation exposure, the symptoms during the first week are nausea, vomiting, fever, apathy, delirium, diarrhoea, oropharyngeal lesions and leukopenia. Death occurs during the first or second week.

We can perhaps be helped to imagine what a nuclear catastrophe means in human terms by reading the words of a young university professor, who was 2,500 meters from the hypocenter at the time of the bombing of Hiroshima: "Everything I saw made a deep impression: a park nearby covered with dead bodies... very badly injured people evacuated in my direction... Perhaps most impressive were girls, very young girls, not only with their clothes torn off, but their skin peeled off as well. ... My immediate thought was that this was like the hell I had always read about. ... I had never seen anything which resembled it before, but I thought that should there be a hell, this was it."

One argument that has been used in favor of nuclear weapons is that no sane political leader would employ them. However, the concept of deterrence ignores the possibility of war by accident or miscalculation, a danger that has been increased by nuclear proliferation and by the use of computers with very quick reaction times to control weapons systems.

Recent nuclear power plant accidents remind us that accidents frequently happen through human and technical failure, even for systems which are considered to be very "safe." We must also remember the time scale of the problem. To assure the future of humanity, nuclear catastrophe must be avoided year after year and decade after decade. In the long run, the safety of civilization cannot be achieved except by the abolition of nuclear weapons, and ultimately the abolition of the institution of war.

In 1985, International Physicians for the Prevention of Nuclear War received the Nobel

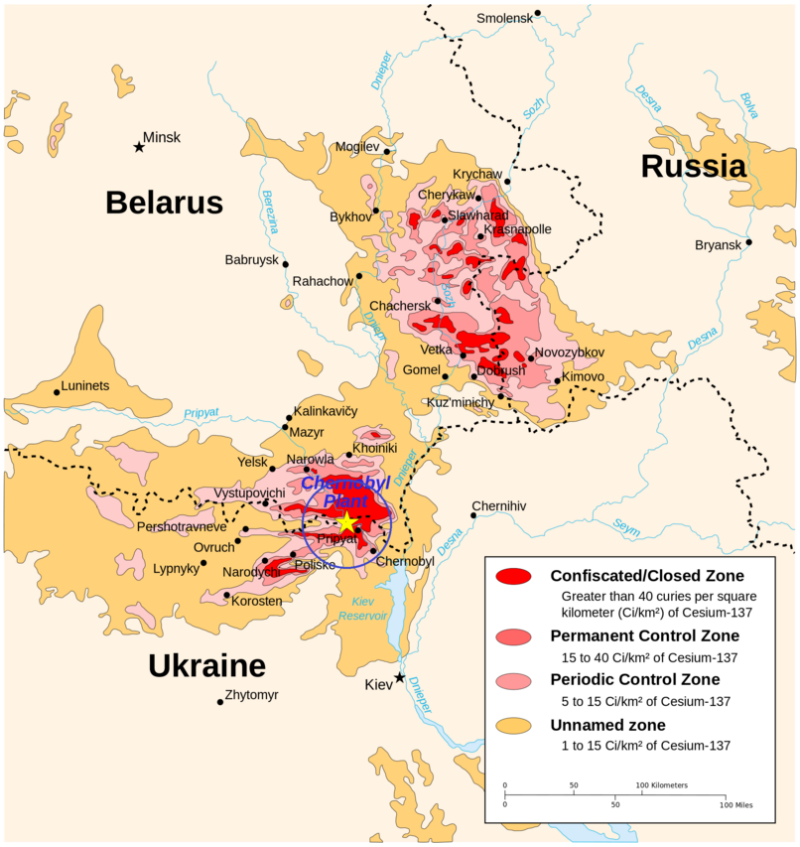


Figure 1.10: **A nuclear war would be an ecological disaster, making large portions of the world permanently uninhabitable because of long-lasting radioactivity. Chernobyl radiation map 1996 30km zone by CIA Factbook. Licensed under CC BY-SA 2.5 via Wikimedia Commons.**



Figure 1.11: **Sculpture depicting Saint George slaying the dragon. The dragon is created from fragments of Soviet SS-20 and United States Pershing nuclear missiles. UN Photo/Milton Grant**

Peace Prize. IPPNW had been founded in 1980 by six physicians, three from the Soviet Union and three from the United States. Today, the organization has wide membership among the world's physicians. Professor Bernard Lowen of the Harvard School of Public Health, one of the founders of IPPNW, said in a recent speech:

"...No public health hazard ever faced by humankind equals the threat of nuclear war. Never before has man possessed the destructive resources to make this planet uninhabitable... Modern medicine has nothing to offer, not even a token benefit, in the event of nuclear war..."

"We are but transient passengers on this planet Earth. It does not belong to us. We are not free to doom generations yet unborn. We are not at liberty to erase humanity's past or dim its future. Social systems do not endure for eternity. Only life can lay claim to uninterrupted continuity. This continuity is sacred."

The danger of a catastrophic nuclear war casts a dark shadow over the future of our species. It also casts a very black shadow over the future of the global environment. The environmental consequences of a massive exchange of nuclear weapons have been treated in a number of studies by meteorologists and other experts from both East and West. They predict that a large-scale use of nuclear weapons would result in fire storms with very high winds and high temperatures, which would burn a large proportion of the wild land fuels in the affected nations. The resulting smoke and dust would block out sunlight for a period of many months, at first only in the northern hemisphere but later also in the southern hemisphere.

Temperatures in many places would fall far below freezing, and much of the earth's plant life would be killed. Animals and humans would then die of starvation. The nuclear winter effect was first discovered as a result of the Mariner 9 spacecraft exploration of Mars in 1971. The spacecraft arrived in the middle of an enormous dust-storm on Mars, and measured a large temperature drop at the surface of the planet, accompanied by a heating of the upper atmosphere. These measurements allowed scientists to check their theoretical models for predicting the effect of dust and other pollutants distributed in planetary atmospheres.

Using experience gained from the studies of Mars, R.P. Turco, O.B. Toon, T. Ackerman, J.B. Pollack and C. Sagan made a computer study of the climatic effects of the smoke and dust that would result from a large-scale nuclear war. This early research project is sometimes called the TTAPS Study, after the initials of the authors.

In April 1983, a special meeting was held in Cambridge, Massachusetts, where the results of the TTAPS Study and other independent studies of the nuclear winter effect were discussed by more than 100 experts. Their conclusions were presented at a forum in Washington, D.C., the following December, under the chairmanship of U.S. Senators Kennedy and Hatfield. The numerous independent studies of the nuclear winter effect all agreed of the following main predictions:

High-yield nuclear weapons exploded near the earth's surface would put large amounts of dust into the upper atmosphere. Nuclear weapons exploded over cities, forests, oilfields and refineries would produce fire storms of the type experienced in Dresden and Hamburg after incendiary bombings during the Second World War. The combination of high-altitude

dust and lower altitude soot would prevent sunlight from reaching the earth's surface, and the degree of obscuration would be extremely high for a wide range of scenarios.

A baseline scenario used by the TTAPS study assumes a 5,000-megaton nuclear exchange, but the threshold for triggering the nuclear winter effect is believed to be much lower than that. After such an exchange, the screening effect of pollutants in the atmosphere might be so great that, in the northern and middle latitudes, the sunlight reaching the earth would be only 1% of ordinary sunlight on a clear day, and this effect would persist for many months. As a result, the upper layers in the atmosphere might rise in temperature by as much as 100 °C, while the surface temperatures would fall, perhaps by as much a 50 °C.

The temperature inversion produced in this way would lead to superstability, a condition in which the normal mixing of atmospheric layers is suppressed. The hydrological cycle (which normally takes moist air from the oceans to a higher and cooler level, where the moisture condenses as rain) would be strongly suppressed. Severe droughts would thus take place over continental land masses. The normal cleansing action of rain would be absent in the atmosphere, an effect which would prolong the nuclear winter.

In the northern hemisphere, forests would die because of lack of sunlight, extreme cold, and drought. Although the temperature drop in the southern hemisphere would be less severe, it might still be sufficient to kill a large portion of the tropical forests, which normally help to renew the earth's oxygen.

The oxygen content of the atmosphere would then fall dangerously, while the concentration of carbon dioxide and oxides of nitrogen produced by firestorms would remain high. The oxides of nitrogen would ultimately diffuse to the upper atmosphere, where they would destroy the ozone layer.

Thus, even when the sunlight returned after an absence of many months, it would be sunlight containing a large proportion of the ultraviolet frequencies which are normally absorbed by the ozone in the stratosphere, and therefore a type of light dangerous to life. Finally, after being so severely disturbed, there is no guarantee that the global climate would return to its normal equilibrium.

Even a nuclear war below the threshold of nuclear winter might have climatic effects very damaging to human life. Professor Paul Ehrlich, of Stanford University, has expressed this in the following words:

"...A smaller war, which set off fewer fires and put less dust into the atmosphere, could easily depress temperatures enough to essentially cancel grain production in the northern hemisphere. That in itself would be the greatest catastrophe ever delivered upon Homo Sapiens, just that one thing, not worrying about prompt effects. Thus even below the threshold, one cannot think of survival of a nuclear war as just being able to stand up after the bomb has gone off."[7]

[7]http://www.voanews.com/content/pope-francis-calls-for-nuclear-weapons-ban/2909357.html
http://www.cadmusjournal.org/article/issue-4/flaws-concept-nuclear-deterrance
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Flaws in the concept of nuclear deterrence

Before discussing other defects in the concept of deterrence, it must be said very clearly that the idea of "massive nuclear retaliation" is completely unacceptable from an ethical point of view. The doctrine of retaliation, performed on a massive scale, violates not only the principles of common human decency and common sense, but also the ethical principles of every major religion. Retaliation is especially contrary to the central commandment of Christianity which tells us to love our neighbor, even if he or she is far away from us, belonging to a different ethnic or political group, and even if our distant neighbor has seriously injured us. This principle has a fundamental place not only in in Christianity but also in Buddhism. "Massive retaliation" completely violates these very central ethical principles, which are not only clearly stated and fundamental but also very practical, since they prevent escalatory cycles of revenge and counter-revenge.

Contrast Christian ethics with estimates of the number of deaths that would follow a US nuclear strike against Russia: Several hundred million deaths. These horrifying estimates shock us not only because of the enormous magnitude of the expected mortality, but also because the victims would include people of every kind: women, men, old people, children and infants, completely irrespective of any degree of guilt that they might have. As a result of such an attack, many millions of people in neutral countries would also die. This type of killing has to be classified as genocide.

When a suspected criminal is tried for a wrongdoing, great efforts are devoted to clarifying the question of guilt or innocence. Punishment only follows if guilt can be proved

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nuclear-weapons
http://www.informationclearinghouse.info/article42488.htm
http://www.informationclearinghouse.info/article42492.htm
http://www.commondreams.org/views/2015/08/06/hiroshima-and-nagasaki-remembering-power
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http://human-wrongs-watch.net/2015/06/25/militarisms-hostages/
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http://human-wrongs-watch.net/2015/08/03/why-nuclear-weapons/

beyond any reasonable doubt. Contrast this with the totally indiscriminate mass slaughter that results from a nuclear attack!

It might be objected that disregard for the guilt or innocence of victims is a universal characteristic of modern war, since statistics show that, with time, a larger and larger percentage of the victims have been civilians, and especially children. For example, the air attacks on Coventry during World War II, or the fire bombings of Dresden and Tokyo, produced massive casualties which involved all segments of the population with complete disregard for the question of guilt or innocence. The answer, I think, is that modern war has become generally unacceptable from an ethical point of view, and this unacceptability is epitomized in nuclear weapons.

The enormous and indiscriminate destruction produced by nuclear weapons formed the background for an historic 1996 decision by the International Court of Justice in the Hague. In response to questions put to it by WHO and the UN General Assembly, the Court ruled that "the threat and use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and particularly the principles and rules of humanitarian law." The only *possible* exception to this general rule might be "an extreme circumstance of self-defense, in which the very survival of a state would be at stake". But the Court refused to say that even in this extreme circumstance the threat or use of nuclear weapons would be legal. It left the exceptional case undecided. In addition, the World Court added unanimously that "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 international control."

This landmark decision has been criticized by the nuclear weapon states as being decided "by a narrow margin", but the structuring of the vote made the margin seem more narrow than it actually was. Seven judges voted against Paragraph 2E of the decision (the paragraph which states that the threat or use of nuclear weapons would be generally illegal, but which mentions as a possible exception the case where a nation might be defending itself from an attack that threatened its very existence.) Seven judges voted for the paragraph, with the President of the Court, Muhammad Bedjaoui of Algeria casting the deciding vote. Thus the Court adopted it, seemingly by a narrow margin. But three of the judges who voted against 2E did so because they believed that no possible exception should be mentioned! Thus, if the vote had been slightly differently structured, the result would have be ten to four.

Of the remaining four judges who cast dissenting votes, three represented nuclear weapons states, while the fourth thought that the Court ought not to have accepted the questions from WHO and the UN. However Judge Schwebel from the United States, who voted against Paragraph 2E, nevertheless added, in a separate opinion, "It cannot be accepted that the use of nuclear weapons on a scale which would - or could - result in the deaths of many millions in indiscriminate inferno and by far-reaching fallout, have pernicious effects in space and time, and render uninhabitable much of the earth, could be lawful." Judge Higgins from the UK, the first woman judge in the history of the Court, had problems with the word "generally" in Paragraph 2E and therefore voted against it, but she thought that a more profound analysis might have led the Court to conclude in

favor of illegality in all circumstances. Judge Fleischhauer of Germany said in his separate opinion, "The nuclear weapon is, in many ways, the negation of the humanitarian considerations underlying the law applicable in armed conflict and the principle of neutrality. The nuclear weapon cannot distinguish between civilian and military targets. It causes immeasurable suffering. The radiation released by it is unable to respect the territorial integrity of neutral States."

President Bedjaoui, summarizing the majority opinion, called nuclear weapons "the ultimate evil", and said "By its nature, the nuclear weapon, this blind weapon, destabilizes humanitarian law, the law of discrimination in the use of weapons... The ultimate aim of every action in the field of nuclear arms will always be nuclear disarmament, an aim which is no longer utopian and which all have a duty to pursue more actively than ever."

Thus the concept of nuclear deterrence is not only unacceptable from the standpoint of ethics; it is also contrary to international law. The World Courts 1996 advisory Opinion unquestionably also represents the opinion of the majority of the worlds peoples. Although no formal plebiscite has been taken, the votes in numerous resolutions of the UN General Assembly speak very clearly on this question. For example the New Agenda Resolution (53/77Y) was adopted by the General Assembly on 4 December 1998 by a massively affirmative vote, in which only 18 out of the 170 member states voted against the resolution.[8] The New Agenda Resolution proposes numerous practical steps towards complete nuclear disarmament, and it calls on the Nuclear-Weapon States "to demonstrate an unequivocal commitment to the speedy and total elimination of their nuclear weapons and without delay to pursue in good faith and bring to a conclusion negotiations leading to the elimination of these weapons, thereby fulfilling their obligations under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)". Thus, in addition to being ethically unacceptable and contrary to international law, nuclear weapons also contrary to the principles of democracy.

Having said these important things, we can now turn to some of the other defects in the concept of nuclear deterrence. One important defect is that nuclear war may occur through accident or miscalculation - through technical defects or human failings. This possibility is made greater by the fact that despite the end of the Cold War, thousands of missiles carrying nuclear warheads are still kept on a "hair-trigger" state of alert with a quasi-automatic reaction time measured in minutes. There is a constant danger that a nuclear war will be triggered by error in evaluating the signal on a radar screen. For example, the BBC reported recently that a group of scientists and military leaders are worried that a small asteroid entering the earths atmosphere and exploding could trigger a nuclear war if mistaken for a missile strike.

A number of prominent political and military figures (many of whom have ample knowledge of the system of deterrence, having been part of it) have expressed concern about the danger of accidental nuclear war. Colin S. Grey[9] expressed this concern as follows: "The

[8]Of the 18 countries that voted against the New Agenda resolution, 10 were Eastern European countries hoping for acceptance into NATO, whose votes seem to have been traded for increased probability of acceptance.

[9]Chairman, National Institute for Public Policy

problem, indeed the enduring problem, is that we are resting our future upon a nuclear deterrence system concerning which we cannot tolerate even a single malfunction." General Curtis E. LeMay[10] has written, "In my opinion a general war will grow through a series of political miscalculations and accidents rather than through any deliberate attack by either side." Bruce G. Blair[11] 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."

Today, the system that is supposed to give us security is called Mutually Assured Destruction, appropriately abbreviated as MAD. It is based on the idea of deterrence, which maintains that because of the threat of massive retaliation, no sane leader would start a nuclear war.

Before discussing other defects in the concept of deterrence, it must be said very clearly that the idea of "massive nuclear retaliation" is a form of genocide and is completely unacceptable from an ethical point of view. It violates not only the principles of common human decency and common sense, but also the ethical principles of every major religion.

Having said this, we can now turn to some of the other faults in the concept of nuclear deterrence. One important defect is that nuclear war may occur through accident or miscalculation, through technical defects or human failings, or by terrorism. This possibility is made greater by the fact that despite the end of the Cold War, thousands of missiles carrying nuclear warheads are still kept on "hair-trigger alert" with a quasi-automatic reaction time measured in minutes. There is a constant danger that a nuclear war will be triggered by error in evaluating the signal on a radar screen.

Incidents in which global disaster is avoided by a hair's breadth are constantly occurring. For example, on the night of 26 September, 1983, Lt. Col. Stanislav Petrov, a young software engineer, was on duty at a surveillance center near Moscow. Suddenly the screen in front of him turned bright red.

An alarm went off. It's enormous piercing sound filled the room. A second alarm followed, and then a third, fourth and fifth. "The computer showed that the Americans had launched a strike against us", Petrov remembered later. His orders were to pass the information up the chain of command to Secretary General Yuri Andropov. Within minutes, a nuclear counterattack would be launched. However, because of certain inconsistent features of the alarm, Petrov disobeyed orders and reported it as a computer error, which indeed it was.

Most of us probably owe our lives to his coolheaded decision and knowledge of software systems. The narrowness of this escape is compounded by the fact that Petrov was on duty only because of the illness of another officer with less knowledge of software, who would have accepted the alarm as real.

Narrow escapes such as this show us clearly that in the long run, the combination of space-age science and stone-age politics will destroy us. We urgently need new political structures and new ethics to match our advanced technology.

[10]Founder and former Commander in Chief of the United States Strategic Air Command
[11]Brookings Institute

Nuclear weapons are criminal! Every war is a crime!

War was always madness, always immoral, always the cause of unspeakable suffering, economic waste and widespread destruction, and always a source of poverty, hate, barbarism and endless cycles of revenge and counter-revenge. It has always been a crime for soldiers to kill people, just as it is a crime for murderers in civil society to kill people. No flag has ever been wide enough to cover up atrocities.

But today, the development of all-destroying modern weapons has put war completely beyond the bounds of sanity and elementary humanity.

Can we not rid ourselves of both nuclear weapons and the institution of war itself? We must act quickly and resolutely before everything that we love in our beautiful world is reduced to radioactive ashes.

Some of the major organizations in the peace movement

Among the many organizations working actively for peace, one can think of the following:[12]

- **The Nuclear Age Peace Foundation**
- **The International Peace Bureau**
- **International Physicians for the Prevention of Nuclear War**
- **Greenpeace**
- **Pugwash Conferences on Science and World Affairs**
- **Global Zero**
- **Abolition 2000**
- **Mayors for Peace**
- **International Campaign to Abolish Nuclear Weapons (ICAN)**
- **World Association of World Federalists**
- **Campaign for Nuclear Disarmament**
- **Pax Christi**
- **American Friends Service Committee**
- **The Society of Prayer for World Peace**
- **The Danish Peace Academy**
- **International Network of Engineers and Scientists for Global Responsibility (INES)**
- **War Resistors International**
- **Stockholm International Peace Research Institute (SIPRI)**
- **Peace Research Institute, Oslo**
- **Soka Gakkai International (SGI)**
- **Hiroshima Peace Memorial Museum**
- **Transcend International**
- **Transnational Foundation for Peace and Future Research (TFF)**
- **Gandhi International Institute of Peace**

[12]The list is in no particular order, and is by no means complete

- **Bertrand Russell Peace Foundation**
- **Lawyers' Committee on Nuclear Policy**
- **Parliamentarians for Nuclear Nonproliferation and Disarmament**
- **Nuclear Abolition Forum**
- **Code Pink**
- **Jewish Voice for Peace**
- **Women's International League for Peace and Freedom**
- **World Beyond War**
- **Global Security Institute**
- **The Council of Canadians**
- **International Fellowship of Reconciliation**
- **Physicians for Social Responsibility**
- **Anglican Pacifist Fellowship**
- **Institute for Economics and Peace**
- **Veterans Against War**
- **The Elders**
- **Nobel Women's Initiative**
- **Peace Pledge Union**
- **United Nations Integrated Peacebuilding Office**
- **The Committee for a Sane Nuclear Policy**
- **Seeds of Peace**
- **Middle Powers Initiative**

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Chapter 2

THE BIRTH OF ETHICS

Ethics can overwrite tribalism!

After the invention of agriculture, roughly 10,000 years ago, humans began to live in progressively larger groups, which were sometimes multi-ethnic. In order to make towns, cities and finally nations function without excessive injustice and violence, both ethical and legal systems were needed. Today, in an era of global economic interdependence, instantaneous worldwide communication and all-destroying thermonuclear weapons, we urgently need new global ethical principles and a just and enforcible system of international laws.

The very long childhood of humans allows learned behavior to overwrite instinctive behavior. A newborn antelope is able to stand on its feet and follow the herd almost immediately after birth. By contrast, a newborn human is totally helpless. With cultural evolution, the period of dependence has become progressively longer. Today, advanced education often requires humans to remain dependent on parental or state support until they are in their middle 20's!

Humans are capable of tribalistic inter-group atrocities such as genocides and wars, but they also have a genius for cooperation. Cultural evolution implies inter-group exchange of ideas and techniques. It is a cooperative enterprise in which all humans participate. It is cultural evolution that has given our special dominance. But cultural evolution depends on overwriting destructive tribalism with the principles of law, ethics and politeness. The success of human cultural evolution demonstrates that this is possible. Ethics can overwrite tribalism!

What is law?

The principles of law, ethics, politeness and kindness function in slightly different ways, but all of these behavioral rules help human societies to function in a cohesive and trouble-free way. Law is the most coarse. The mesh is made finer by ethics, while the rules of politeness and kindness fill in the remaining gaps.



Figure 2.1: **Hammurabi's code**

Legal systems began at a time at a time when tribal life was being replaced by life in villages, towns and cities. One of the oldest legal documents that we know of is a code of laws enacted by the Babylonian king Hammurabi in about 1754 BC. It consists of 282 laws, with scaled punishments, governing household behavior, marriage, divorce, paternity, inheritance, payments for services, and so on. An ancient 2.24 meter stele inscribed with Hammurabi's Code can be seen in the Louvre. The laws are written in the Akkadian language, using cuneiform script.

Humanity's great ethical systems also began during a period when the social unit was growing very quickly. It is an interesting fact that many of history's greatest ethical teachers lived at a time when the human societies were rapidly increasing in size. One can think, for example of Moses, Confucius, Lao-Tzu, Gautama Buddha, the Greek philosophers, and Jesus. Muhammad came slightly later, but he lived and taught at a time when tribal life was being replaced by city life in the Arab world. During the period when these great teachers lived, ethical systems had become necessary to over-write raw inherited human emotional behavior patterns in such a way that increasingly large societies could function in a harmonious and cooperative way, with a minimum of conflicts.



Figure 2.2: **Hammurabi's code**

The Ten Commandments

Here is a description of the Ten Commandments, as given in the chapter Exodus 20 of the King James Version of the Bible:

And God spake all these words, saying,

I am the Lord thy God, which have brought thee out of the land of Egypt, out of the house of bondage.

Thou shalt have no other gods before me.

Thou shalt not make unto thee any graven image, or any likeness of any thing that is in heaven above, or that is in the earth beneath, or that is in the water under the earth.

Thou shalt not bow down thyself to them, nor serve them: for I the Lord thy God am a jealous God, visiting the iniquity of the fathers upon the children unto the third and fourth generation of them that hate me;

And showing mercy unto thousands of them that love me, and keep my commandments.

Thou shalt not take the name of the Lord thy God in vain; for the Lord will not hold him guiltless that taketh his name in vain.

Remember the sabbath day, to keep it holy.

Six days shalt thou labor, and do all thy work:

But the seventh day is the sabbath of the Lord thy God: in it thou shalt not do any work, thou, nor thy son, nor thy daughter, thy manservant, nor thy maidservant, nor thy cattle, nor thy stranger that is within thy gates:

For in six days the Lord made heaven and earth, the sea, and all that in them is, and rested the seventh day: wherefore the Lord blessed the sabbath day, and hallowed it.

Honor thy father and thy mother: that thy days may be long upon the land which the Lord thy God giveth thee.

Thou shalt not kill.

Thou shalt not commit adultery.

Thou shalt not steal.

Thou shalt not bear false witness against thy neighbor.

Thou shalt not covet thy neighbor's house, thou shalt not covet thy neighbor's wife, nor his manservant, nor his maidservant, nor his ox, nor his ass, nor any thing that is thy



Figure 2.3: **The Ten Commandments**

neighbor's.

And all the people saw the thunderings, and the lightnings, and the noise of the trumpet, and the mountain smoking: and when the people saw it, they removed, and stood afar off.

And they said unto Moses, Speak thou with us, and we will hear: but let not God speak with us, lest we die.

And Moses said unto the people, Fear not: for God is come to prove you, and that his fear may be before your faces, that ye sin not.

And the people stood afar off, and Moses drew near unto the thick darkness where God was.

And the Lord said unto Moses, Thus thou shalt say unto the children of Israel, Ye have seen that I have talked with you from heaven.

Ye shall not make with me gods of silver, neither shall ye make unto you gods of gold.

An altar of earth thou shalt make unto me, and shalt sacrifice thereon thy burnt offerings, and thy peace offerings, thy sheep, and thine oxen: in all places where I record my name I will come unto thee, and I will bless thee.

And if thou wilt make me an altar of stone, thou shalt not build it of hewn stone: for if thou lift up thy tool upon it, thou hast polluted it.

Neither shalt thou go up by steps unto mine altar, that thy nakedness be not discovered thereon.

The life and message of Gautama Buddha

Evidence of a very early river-valley civilization in India has been found at a site called Mohenjo-Daro. However, in about 2,500 B.C., this early civilization was destroyed by some great disaster, perhaps a series of floods; and for the next thousand years, little is known about the history of India. During this dark period between 2,500 B.C. and 1,500 B.C., India was invaded by the Indo-Aryans, who spoke Sanskrit, a language related to Greek. The Indo-Aryans partly drove out and partly enslaved the smaller and darker native Dravidians. However, there was much intermarriage between the groups, and to prevent further intermarriage, the Indo-Aryans introduced a caste system sanctioned by religion.

According to Hindu religious belief, the soul of a person who has died is reborn in another body. If, throughout his life, the person has faithfully performed the duties of his caste, then his or her soul may be reborn into a higher caste. Finally, after existing as a Brahman, the soul may be so purified that it can be released from the cycle of death and rebirth.

In the 6th century B.C., Gautama Buddha founded a new religion in India. Gautama Buddha was convinced that all the troubles of humankind spring from attachment to earthly things. He felt that the only escape from sorrow is through the renunciation of earthly desires. He also urged his disciples to follow a high ethical code, the Eightfold Way. Among the sayings of Buddha are the following:

"Hatred does not cease by hatred at any time; hatred ceases by love."

"Let a man overcome anger by love; let him overcome evil by good."

"All men tremble at punishment. All men love life. Remember that you are like them, and do not cause slaughter."

One of the early converts to Buddhism was the emperor Ashoka Maurya, who reigned in India between 273 B.C. and 232 B.C.. During one of his wars of conquest, Ashoka Maurya became so sickened by the slaughter that he resolved never again to use war as an instrument of policy. He became one of the most humane rulers in history, and he also did much to promote the spread of Buddhism throughout Asia.

Under the Mauryan dynasty (322 B.C. - 184 B.C.), the Gupta dynasty (320 B.C. - 500 A.D.) and also under the rajah Harsha (606 A.D. - 647 A.D.), India had periods of unity, peace and prosperity. At other times, the country was divided and upset by internal wars. The Gupta period especially is regarded as the golden age of India's classical past. During this period, India led the world in such fields as medicine and mathematics.

The Guptas established both universities and hospitals. According to the Chinese Buddhist pilgrim, Fa-Hsien, who visited India in 405 A.D., "The nobles and householders have founded hospitals within the city to which the poor of all countries, the destitute, crippled and diseased may go. They receive every kind of help without payment."

Indian doctors were trained in cleansing wounds, in using ointments and in surgery. They also developed antidotes for poisons and for snakebite, and they knew some techniques for the prevention of disease through vaccination.

When they had completed their training, medical students in India took an oath, which resembled the Hippocratic oath: "Not for yourself, not for the fulfillment of any earthly



Figure 2.4: **Buddha**

desire or gain, but solely for the good of suffering humanity should you treat your patients."

In Indian mathematics, algebra and trigonometry were especially highly developed. For example, the astronomer Brahmagupta (598 A.D. - 660 A.D.) applied algebraic methods to astronomical problems. The notation for zero and the decimal system were invented in India, probably during the 8th or 9th century A.D.. These mathematical techniques were later transmitted to Europe by the Arabs.

Many Indian techniques of manufacture were also transmitted to the west by the Arabs. Textile manufacture in particular was highly developed in India, and the Arabs, who were the middlemen in the trade with the west, learned to duplicate some of the most famous kinds of cloth. One kind of textile which they copied was called "quttan" by the Arabs, a word which in English has become "cotton". Other Indian textiles included cashmere (Kashmir), chintz and calico (from Calcutta, which was once called Calicut). Muslin derives its name from Mosul, an Arab city where it was manufactured, while damask was made in Damascus.

Indian mining and metallurgy were also highly developed. The Europeans of the middle ages prized fine laminated steel from Damascus; but it was not in Damascus that the technique of making steel originated. The Arabs learned steelmaking from the Persians, and Persia learned it from India.

The Noble Eightfold Path

1. **Right understanding**. *And what is right understanding? There are fruits, and*

results of good and bad actions. There is this world and the next world. There is mother and father. There are spontaneously reborn beings; there are contemplatives and Brahmans who faring rightly and practicing rightly, proclaim this world and the next after having directly known and realized it for themselves.' This is the right view with effluents, siding with merit, resulting in acquisitions

2. **Right resolve**. *And what is right resolve? Being resolved on renunciation, on freedom from ill will, on harmlessness: This is called right resolve.*

3. **Right speech**. *And what is right speech? Abstaining from lying, from divisive speech, from abusive speech, and from idle chatter: This is called right speech.*

4. **Right action**. *And what is right action? Abstaining from killing, abstaining from stealing, abstaining from sexual misconduct. This is called right action.*

5. **Right livelihood**. *And what is right livelihood? Not possessing more than is strictly necessary. Avoiding causing suffering to sentient beings by cheating them, or harming or killing them in any way.*

6. **Right effort**. *And what is right effort? Here the monk arouses his will, puts forth effort, generates energy, exerts his mind, and strives to prevent the arising of evil and unwholesome mental states that have not yet arisen. He arouses his will... and strives to eliminate evil and unwholesome mental states that have already arisen, to keep them free of delusion, to develop, increase, cultivate, and perfect them. This is called right effort.*

7. **Right mindfulness**. *And what is right mindfulness? Here the monk remains contemplating the body as body, resolute, aware and mindful, having put aside worldly desire and sadness; he remains contemplating feelings as feelings; he remains contemplating mental states as mental states; he remains contemplating mental objects as mental objects, resolute, aware and mindful, having put aside worldly desire and sadness; This is called right mindfulness.*

8. **Right concentration**. *And what is right concentration? [i] Here, the monk, detached from sense-desires, detached from unwholesome states, enters and remains in the first jhana (level of concentration, in which there is applied and sustained thinking, together with joy and pleasure born of detachment; [ii] And through the subsiding of applied and sustained thinking, with the gaining of inner stillness and oneness of mind, he enters and remains in the second jhana, which is without applied and sustained thinking, and in which there are joy and pleasure born of concentration; [iii] And through the fading of joy, he remains equanimous, mindful and aware, and he experiences in his body the pleasure of which the Noble Ones say: "equanimous, mindful and dwelling in pleasure", and thus he enters and remains in the third jhana; [iv] And through the giving up of pleasure and pain, and through the previous disappearance of happiness and sadness, he enters and remains in the fourth jhana, which is without*

pleasure and pain, and in which there is pure equanimity and mindfulness. This is called right concentration.

Some of the sayings of Gautama Buddha

In the end, only three things matter: How much you loved, how gently you lived, and how gracefully you let go of things not meant for you.

Buddha was asked, "What have you gained from mediation?" He replied NOTHING! However let me tell you what i have lost: anger, anxiety, depression, insecurity, fear of old age and death.

When the student is ready, the teacher will appear.

The less you respond to negative people, the more peaceful your life will become.

Health is the greatest gift, contentment is the greatest wealth, A trusted friend is the best relative, liberated mind is the greatest bliss.

The thought manifests as the word: the word manifests as the deed: the deed develops into character. So watch the thought and its ways with care, and let it spring from love born out of concern for all beings.

Do not learn how to react learn how to respond.

If your compassion does not include yourself, It is incomplete.

Everything that has a beginning has an ending. Make your peace with that and all will be well.

If anything is worth doing, do it with all your heart.

Your worst enemy cannot harm you as much as your own unguarded thoughts.

The root of suffering is attachment.

Holding onto anger is like drinking poison and expecting the other person to die.

All that we are is the result of what we have thought.

Do not dwell in the past, do not dream of the future, concentrate the mind on the present moment.

What you think you become, what you feel, you attract. what you imagine, you create.

Nothing can harm you as much as your own thoughts unguarded.

The trouble is you think you have time.

Your work is to discover your world and then with all your heart give yourself to it.

Believe nothing, no matter where you read it or who has said it, not even if i have said it. Unless it agrees with your own reason and your own common sense.

On the long journey of human life, Faith is the best of companions.

To understand everything is to forgive everything.

No one saves us but ourselves. No one can and no one may. We ourselves must walk the past.

There is no path to happiness: Happiness is the path.

No matter how hard the past, you can always begin again.

If you want to fly, give up everything that weighs you down.

You only lose what you cling to.

When we meet real tragedy in life, we can react in two ways- Either by losing hope and falling into self-destructive habits or by using the challenge to find our inner strength.

Don't rush anything. When the time is right, it will happen.

The whole secret of existence is to have no fear.

Be kind to all creatures; this is the true religion.

Those who are free of resentful thoughts surely find peace.

It is during our darkest moments that we must focus to see the light.

Quiet the mind, and the soul will speak.

Each morning we are born again. What we do today is what matters most.

A man who conquers himself is greater than one who conquers a thousand men in a battle.

All human unhappiness comes from not facing reality squarely, exactly as it is.

It is better to be hated for what you are than to be loved for what you are not.

He who does not understand your silence will probably not understand your words.

You will not be punished for your anger, you will be punished by your anger.

Whatever befalls you, walk on untouched, unattached.

Confucius and Chinese civilization

After the fall of Rome in the 5th century A.D., Europe became a culturally backward area. However, the great civilizations of Asia and the Middle East continued to flourish, and it was through contact with these civilizations that science was reborn in the west.

During the dark ages of Europe, a particularly high level of civilization existed in China. The art of working in bronze was developed in China during the Shang dynasty (1,500 B.C. - 1,100 B.C.) and it reached a high pitch of excellence in the Chou dynasty (1,100 B.C. - 250 B.C.). " In the Chou period, many of the cultural characteristics which we recognize as particularly Chinese were developed. During this period, the Chinese evolved a code of behavior based on politeness and ethics. Much of this code of behavior is derived from the teachings of K'ung Fu-tzu (Confucius), a philosopher and government official who lived between 551 B.C. and 479 B.C.. In his writings about ethics and politics, K'ung Fu-tzu advocated respect for tradition and authority, and the effect of his teaching was to strengthen the conservative tendencies in Chinese civilization. He was not a religious leader, but a moral and political philosopher, like the philosophers of ancient Greece. He is traditionally given credit for the compilation of the Five Classics of Chinese Literature, which include books of history, philosophy and poetry, together with rules for religious ceremonies.

Some sayings of Confucius

By three methods we may learn wisdom: First, by reflection, which is noblest; Second, by imitation, which is easiest; and third by experience, which is the bitterest.

Everything has beauty, but not everyone sees it.

Wheresoever you go, go with all your heart.

It does not matter how slowly you go as long as you do not stop.

Life is really simple, but we insist on making it complicated.

If you make a mistake and do not correct it, this is called a mistake.

The man who moves a mountain begins by carrying away small stones.

The funniest people are the saddest ones.

Before you embark on a journey of revenge, dig two graves.

To be wronged is nothing, unless you continue to remember it.

Respect yourself and others will respect you.

Silence is a true friend who never betrays.

You cannot open a book without learning something.

When you see a good person, think of becoming like her/him. When you see someone not so good, reflect on your own weak points.

Attack the evil that is within yourself, rather than attacking the evil that is in others.

The man who asks a question is a fool for a minute, the man who does not ask is a fool for life.

What the superior man seeks is in himself; what the small man seeks is in others.

I hear and I forget. I see and I remember. I do and I understand.

Music produces a kind of pleasure which human nature cannot do without.

The hardest thing of all is to find a black cat in a dark room, especially if there is no cat.

It is not the failure of others to appreciate your abilities that should trouble you, but rather your failure to appreciate theirs.

The man of wisdom is never of two minds; the man of benevolence never worries; the man of courage is never afraid.

The gem cannot be polished without friction, nor man perfected without trials.

Give a bowl of rice to a man and you will feed him for a day. Teach him how to grow his own rice and you will save his life.

Only the wisest and stupidest of men never change.

It is more shameful to distrust our friends than to be deceived by them.

Real knowledge is to know the extent of one's ignorance.

And remember, no matter where you go, there you are.

Hold faithfulness and sincerity as first principles.

If what one has to say is not better than silence, then one should keep silent.

Forget injuries, never forget kindnesses.

When it is obvious that the goals cannot be reached, don't adjust the goals, adjust the action steps.

Better a diamond with a flaw than a pebble without.

To put the world in order, we must first put the nation in order; to put the nation in order, we must first put the family in order; to put the family in order; we must first cultivate our personal life; we must first set our hearts right.

A lion chased me up a tree, and I greatly enjoyed the view from the top.

To be wealthy and honored in an unjust society is a disgrace.



Figure 2.5: **Confucius**

In a country well governed, poverty is something to be ashamed of. In a country badly governed, wealth is something to be ashamed of.

If your plan is for one year plant rice. If your plan is for ten years plant trees. If your plan is for one hundred years educate children.

Don't do unto others what you don't want done unto you.

Education breeds confidence. Confidence breeds hope. Hope breeds peace.

To see what is right and not do it is the worst cowardice.

Time flows away like the water in the river.

The superior man thinks always of virtue; the common man thinks of comfort.

Lao Tzu: Unity with nature

The rational teachings of K'ung Fu-tzu were complemented by the more mystical and intuitive doctrines of Lao-tzu and his followers. Lao-tzu lived at about the same time as K'ung Fu-tzu, and he founded the Taoist religion. The Taoists believed that unity with nature could be achieved by passively blending oneself with the forces of nature.

On the whole, politicians and scholars followed the practical teachings of K'ung Fu-tzu, while poets and artists became Taoists. The intuitive sensitivity to nature inspired by Taoist beliefs allowed these artists and poets to achieve literature and art of unusual vividness and force with great economy of means. The Taoist religion has much in common with Buddhism, and its existence in China paved the way for the spread of Buddhism from India to China and Japan.

From 800 B.C. onwards, the central authority of the Chou dynasty weakened, and

China was ruled by local landlords. This period of disunity was ended in 246 B.C. by Shih Huang Ti, a chieftain from the small northern state of Ch'in, who became the first real emperor of China. (In fact, China derives its name from the state of Ch'in).

Shih Huang Ti was an effective but ruthless ruler. It was during his reign (246 B.C. -210 B.C.) that the great wall of China was built. This wall, built to protect China from the savage attacks of the mounted Mongolian hordes, is one of the wonders of the world. It runs 1,400 miles, over all kinds of terrain, marking a rainfall boundary between the rich agricultural land to the south and the arid steppes to the north.

In most places, the great wall is 25 feet high and 15 feet thick. To complete this fantastic building project, Shih Huang Ti carried absolutism to great extremes, uprooting thousands of families and transporting them to the comfortless north to work on the wall. He burned all the copies of the Confucian classics which he could find, since his opponents quoted these classics to show that his absolutism had exceeded proper bounds.

Soon after the death of Shih Huang Ti, there was a popular reaction to the harshness of his government, and Shih's heirs were overthrown. However, Shih Huang Ti's unification of China endured, although the Ch'in dynasty (250 B.C. - 202 B.C.) was replaced by the Han dynasty (202 B.C. -220 A.D.). The Han emperors extended the boundaries of China to the west into Turkestan, and thus a trade route was opened, through which China exported silk to Persia and Rome.

During the Han period, China was quite receptive to foreign ideas, and was much influenced by the civilization of India. For example, the Chinese pagoda was inspired by the Buddhist shrines of India. The Han emperors adopted Confucianism as the official philosophy of China, and they had the Confucian classics recopied in large numbers. The invention of paper at the end of the first century A.D. facilitated this project, and it greatly stimulated scholarship and literature.

The Han emperors honored scholarship and, in accordance with the political ideas of K'ung Fu-tzu, they made scholarship a means of access to high governmental positions. During the Han dynasty, the imperial government carried through many large-scale irrigation and flood-control projects. These projects were very successful. They increased the food production of China, and gave much prestige to the imperial government.

Like the Roman Empire, the Han dynasty was ended by attacks of barbarians from the north. However, the Huns who overran northern China in 220 A.D. were quicker to adopt civilization than were the tribes which conquered Rome. Also, in the south, the Chinese remained independent; and therefore the dark ages of China were shorter than the European dark ages.

In 581 A.D., China was reunited under the Sui dynasty, whose emperors expelled most of the Huns, built a system of roads and canals, and constructed huge granaries for the prevention of famine. These were worthwhile projects, but in order to accomplish them, the Sui emperors used very harsh methods. The result was that their dynasty was soon overthrown and replaced by the T'ang dynasty (618 A.D. - 906 A.D.).

The T'ang period was a brilliant one for China. Just as Europe was sinking further and further into a mire of superstition, ignorance and bloodshed, China entered a period of peace, creativity and culture. During this period, China included Turkestan, northern

Indochina and Korea. The T'ang emperors re-established and strengthened the system of civil-service examinations which had been initiated during the Han dynasty.

Some sayings of Lau Tzu

Being deeply loved by someone gives you strength, while loving someone deeply gives you courage.
Simplicity, patience, compassion. These three are your greatest treasures. Simple in actions and thoughts, you return to the source of being. Patient with both friends and enemies, you accord with the way things are. Compassionate toward yourself, you reconcile all beings in the world.
The journey of a thousand miles begins with a single step."
Knowing others is intelligence; knowing yourself is true wisdom. Mastering others is strength; mastering yourself is true power.
A good traveler has no fixed plans and is not intent on arriving.
Life is a series of natural and spontaneous changes. Don't resist them; that only creates sorrow. Let reality be reality. Let things flow naturally forward in whatever way they like.
Those who know do not speak. Those who speak do not know.
When you are content to be simply yourself and don't compare or compete, everyone will respect you.
The truth is not always beautiful, nor beautiful words the truth
When I let go of what I am, I become what I might be.
Time is a created thing. To say 'I don't have time,' is like saying, 'I don't want to.
Because one believes in oneself, one doesn't try to convince others. Because one is content with oneself, one doesn't need others' approval. Because one accepts oneself, the whole world accepts him or her.
A man with outward courage dares to die; a man with inner courage dares to live.
Care about what other people think and you will always be their prisoner.
If you are depressed you are living in the past. If you are anxious you are living in the future. If you are at peace you are living in the present.
Be careful what you water your dreams with. Water them with worry and fear and you will produce weeds that choke the life from your dream. Water them with optimism and solutions and you will cultivate success. Always be on the lookout for ways to turn a problem into an opportunity for success. Always be on the lookout for ways to nurture your dream.
Be content with what you have; rejoice in the way things are. When you realize there is nothing lacking, the whole world belongs to you.
Nature does not hurry, yet everything is accomplished.
Silence is a source of Great Strength.
Do you have the patience to wait until your mud settles and the water is clear?
If you understand others you are smart. If you understand yourself you are illuminated. If you overcome others you are powerful. If you overcome yourself you have strength. If you know how to be satisfied you are rich. If you can act with vigor, you have a will. If you don't lose your objectives you can be long-lasting. If you die without loss, you are eternal.



Figure 2.6: **Lao Tzu**

Kindness in words creates confidence. Kindness in thinking creates profoundness. Kindness in giving creates love.
Manifest plainness, Embrace simplicity, Reduce selfishness, Have few desires.
The flame that burns Twice as bright burns half as long.
Music in the soul can be heard by the universe.
Respond intelligently even to unintelligent treatment.
Act without expectation.

Socrates and Plato: Dialogues on ethics

The Sophists and Socrates

Since Athens was a democracy, the citizens often found themselves speaking at public meetings. Eloquence could be turned into influence, and the wealthy Athenians imported teachers to help them master the art of rhetoric. These teachers, called "Sophists" (literally "wisdomists"), besides teaching rhetoric, also taught a form of philosophy which denied the existence of absolute truth, absolute beauty and absolute justice. According to the Sophists, "man is the measure of all things", all truths are relative, "beauty is in the eye of the beholder", and justice is not divine or absolute but is a human institution.

Opposed to the Sophists was the philosopher Socrates, who believed passionately in the existence of the absolutes which the Sophists denied. According to Socrates, a beautiful object would be beautiful whether or not there were any humans to observe it. Socrates adopted from the Sophists a method of conducting arguments by asking questions which

made people see for themselves the things which Socrates wanted them to see.

The Sophists talked about moral and political questions, rather than about the nature of the universe. Socrates was an opponent of the Sophists, but like them he also neglected the study of nature and concentrated on the moral and political problems of man, "the measure of all things".The Sophists, together with Socrates and his pupil Plato, exerted a great influence in causing a split between moral philosophy and natural philosophy.

The beginning of the end of classical Greek civilization came in 431 B.C., when Athens, pushing her aggressive commercial policy to an extreme, began to expel Corinthian merchants from markets around the Aegean. Corinth reacted by persuading the Peloponesian League to declare war on Athens. This was the beginning of a long war which ruined Greece.

Realizing that they could not resist the Spartan land forces, the Athenians abandoned the farmland outside their city, and took refuge inside the walls. The Athenians continued their prosperous foreign trade, and they fed their population with grain imported from the east. Ships bringing grain also brought the plague. A large part of the population of Athens died of the plague, including the city's great leader, Pericles. No leader of equal stature was found to replace him, and the democratic Athenian government degenerated into mob rule.

In 404 B.C., when the fleet of Athens was destroyed in a disastrous battle, the city surrendered to the Spartans. However, the Spartans remembered that without Athens, they would be unable to resist the Persian Empire. Therefore they did not destroy Athens totally, but were content to destroy the walls of Athens, reducing the city to the status of a satellite of Sparta.

Looking for scapegoats on whom to blame this disaster, the Athenian mobs seized Socrates (one of the few intellectuals who remained alive after the Peloponesian War), and they condemned him to death for failing to believe in the gods of the city.

For a short period, Sparta dominated the Greek world; but soon war broke out again, and the political scene degenerated into a chaos of wars between the city states.

Plato

Darkness was falling on the classical Greek world, but the light of civilization had not quite gone out. Socrates was dead, but Plato, the student of Socrates, kept his memory alive by writing dialogues in which Socrates appeared as a character.

Plato (427 B.C. - 317 B.C.) was an Athenian aristocrat, descended from the early kings of Athens. His real name was Aristocles, but he was called by his nickname, Platon (meaning "broad") because of his broad shoulders. After the death of Socrates, Plato left Athens, saying that the troubles of the city would never end until a philosopher became king. (He may have had himself in mind!) He travelled to Italy and studied under the Pythagoreans. In 387 he returned to Athens and founded a school, which was called the Academy because it stood on ground which had once belonged to a Greek named Academus.



Figure 2.7: **Socrates**

Plato developed a philosophy which was based on the idealism of the Pythagoreans. In Pythagorean philosophy, a clear distinction was made between mathematical ideas and their physical expression. For example, geometry was considered to deal, not with real physical objects, but with idealized figures, constructed from lines of perfect straightness and infinite thinness. Plato developed and exaggerated the idealism of Pythagoras. In Plato's philosophy, the real world is corruptible and base, but the world of ideas is divine and eternal. A real table, for example, is an imperfect expression of the idea of a table. Therefore we ought to turn our eyes away from the real world and live in the world of ideas.

Plato's philosophy was just what the Athenians wanted! All around them, their world was crumbling. They gladly turned their backs on the unpleasantness of the real world, and accepted Plato's invitation to live in the world of ideas, where nothing decays and where the golden laws of mathematics rule eternally.

By all accounts, Plato was an excellent mathematician, and through his influence mathematics obtained a permanent place in education.

According to Plato, Socrates thought that knowledge is of the utmost importance because, since no man sins wittingly, only knowledge is needed to make men and women perfectly virtuous.



Figure 2.8: **Plato**

The ethical message of Greek drama

In ancient Greece, drama was an essential part of ethical culture. Performances of the plays of great dramatists, such as Sophocles, Aeschylus and Euripides, allowed the public to debate questions of morality. A recurring theme was the punishment of *hubris* (excessive pride) by *nemesis* (the revenge of the gods). Hubris is arrogance in word, deed and thought. For example, hubris is having or maintaining stubbornly an attitude which goes against or ignores, say, the prophecies, counsel or pronouncements of the Delphic Oracle. The central meaning of hubris is doing deeds and thinking thoughts more than a mere mortal human should do and think, thereby showing impiety towards the gods.

Starting in approximately 500 B.C., drama flourished in the Greek city-states, especially in Athens, which was an important cultural center. The presentation of dramas was part of a festival dedicated to the god Dionysus. Masks were used by the actors, and by members of the chorus. The chorus commented on the action, and often pointed to the moral that could be drawn from it.

The Trojan Women, by Euripides

An example of a Greek tragedy with ethical implications, *The Trojan Women* follows the fate of the women of Troy after all their husbands and sons had been slaughtered by the conquering Greeks. The play makes it clear to the audience that the conquering Greeks were guilty of *hubris*.

Lysistrata, by Aristophanes

Although *The Trojan Women* protested against the atrocities and horrors of war, the play did not attack the institution of war itself. However, in *Lysistrata*. an comedy by Aristophanes first performed in Athens in 411 B.C., war as an institution is attacked. In the play, the women of all parts of Greece are persuaded to withhold sex from their husbands and lovers until the painfully long Peloponesian Wars are ended. After much

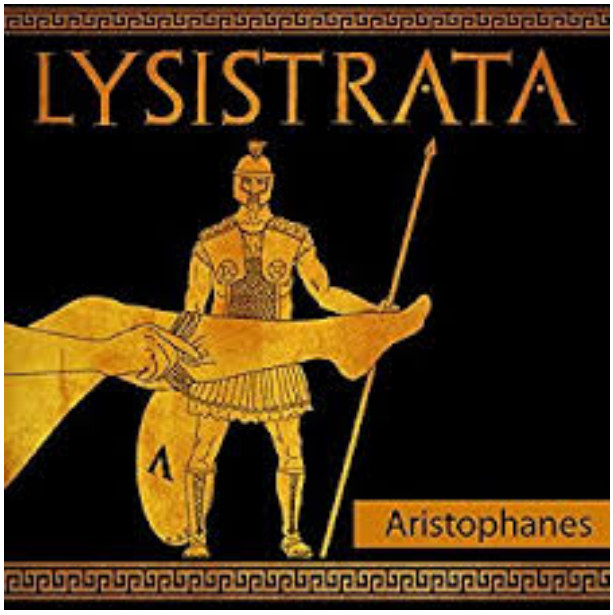


Figure 2.9: **Lysistrata**

comic struggle, the men, of course, give in and agree to peace, since their overpowering desire for sex is greater than their addiction to fighting.

Christian ethics

The three Abrahamic religions, Judaism, Christianity and Islam, have a total of 4 billion followers today, of which 2.4 billion are Christian. At its start, the Christian religion can be seen as a reform of Jewish traditions, a protest against the overly legalistic teachings of the Pharisees and a revelation of a new. more powerful and more universal system of ethics. Later, Saint Paul saw it as his mission to bring Christianity to the Gentiles (i.e. non-Jews).

If Christian ethics were really followed, war would be impossible, but wars have nevertheless persisted, and many of the most brutal wars have been fought in the name of Christianity. In the words the American poet, Edna St. Vincent Millay,[1]

Up goes the man of God before the crowd.
With voice of honey and with eyes of steel
He drones your humble Gospel to the proud.
Nobody listens, less than the wind that blows
Are all your words to us you died to save.
Oh Prince of Peace! O Sharon's dewy Rose!
How mute you lie within your vaulted grave!

[1]from her poem. *To Jesus, on His Birthday*

The stone the angel rolled away with tears
Is back upon your mouth these thousand years.

The Seven Deadly Sins

Here is a list of important human failings as recognized by Christianity. They are rooted in emotions which we share with our animal ancestors. Today these emotions are inappropriate for civilized human society, and they must be overwritten by ethical principles.

1. **LUST** Regarding lust, Schopenhauer wrote: *Lust is the ultimate goal of almost all human endeavor, exerts an adverse influence on the most important affairs, interrupts the most serious business, sometimes for a while confuses even the greatest minds, does not hesitate with its trumpery to disrupt the negotiations of statesmen and the research of scholars, has the knack of slipping its love-letters and ringlets even into ministerial portfolios and philosophical manuscripts.*

2. **GLUTTONY** Saint Thomas Aquinas argued that gluttony could include, besides eating too much, an obsessive anticipation of meals, and the constant eating of delicacies and excessively costly foods. He even proposed five categories of Gluttony: *1. Laute: eating too expensively. 2. Studiose: eating too daintily. 3. Nimis: eating too much. 4. Praepropere: eating too soon. 5. Ardenter: eating too eagerly.*

3. **GREED** As defined outside Christian writings, greed is an inordinate desire to acquire or possess more than one needs, especially with respect to material wealth. Like pride, it can lead to not just some, but all evil. Saint Thomas Aquinas wrote: *Greed is a sin against God, just as all mortal sins, in as much as man condemns things eternal for the sake of temporal things.* In the New Testament, we can find many passages condemning greed, for example: *For the love of money is the root of all evil: which while some coveted after, they have erred from the faith, and pierced themselves through with many sorrows.* Timothy 6:10, and *Lay not up for yourselves treasures upon earth, where moth and rust doth corrupt, and where thieves break through and steal.* Mathew 6:19

4. **SLOTH** Unlike the other deadly sins, Sloth is characterized by sins of omission. In his play Per Gynt, Henrik Ibsen portrays his protagonist as hearing voices which tell him: *We are the tears you should have shed. That cutting ice, which all hearts dread, we could have melted, but now its dart is frozen into a stubborn heart. Our power is lost. We are the deeds you should have done, strangled by doubt, spoiled e're begun. At the judgement day, we will be there to tell our tale. How will you fare?* Per Gynt answers: *You can't condemn a man for what he has not done!*, but Ibsen's message is: Yes, you can condemn a person for sins of omission. They too are deadly sins.

5. **WRATH** According to the Catholic Church, *Hatred is the sin of desiring that someone else may suffer misfortune or evil, and is a mortal sin when one desires grave*

harm. The Catholic Church also states that *If anger reaches the point of a deliberate desire to kill or seriously wound a neighbor, it is gravely against charity; it is a mortal sin.* We can also remember the words of Gautama Buddha, *Hatred does not cease by hatred at any time; hatred ceases by love.*

6. **ENVY** Envy can be directly related to the Ten Commandments, specifically, *Neither shall you covet... anything that belongs to your neighbor.* If we are free from envy, our happiness is greatly increased, since we can derive pleasure from the success and happiness of others.

7. **PRIDE** C.S. Lewis wrote that *Unchastity, anger, greed, drunkenness, and all that, are mere fleabites in comparison: it was through Pride that the devil became the devil: Pride leads to every other vice: it is the complete anti-God state of mind.* In ancient Greece, both philosophers and dramatists considered excessive pride, which they called *hubris*, to be a sin against the gods, which always led to punishment. According to Wikipedia, *Hubris means extreme pride or arrogance. Hubris often indicates a loss of contact with reality, and an overestimation of one's own competence or capabilities, especially when the person exhibiting it is in a position of power.... The word is also used to describe actions of those who challenged the gods or their laws, especially in Greek tragedy, resulting in the protagonist's fall.* We can think, for example of the Titanic. The invention and use of nuclear weapons can also be thought of as an example of *hubris*.

Excerpts from *The Sermon on the Mount*

Many of the important ethical principles of Christianity are contained in the Sermon on the Mount. Here is the first part of the sermon, as given by the Gospel According to Mathew, Chapter 6:

And seeing the multitudes, he went up into a mountain: and when he was set, his disciples came unto him: And he opened his mouth, and taught them, saying,

Blessed are the poor in spirit: for theirs is the kingdom of heaven.

Blessed are they that mourn: for they shall be comforted.

Blessed are the meek: for they shall inherit the earth.

Blessed are they which do hunger and thirst after righteousness: for they shall be filled.

Blessed are the merciful: for they shall obtain mercy.

Blessed are the pure in heart: for they shall see God.

Blessed are the peacemakers: for they shall be called the children of God.

Blessed are they which are persecuted for righteousness' sake: for theirs is the kingdom of heaven.

Blessed are ye, when men shall revile you, and persecute you, and shall say all manner of evil against you falsely, for my sake.

Rejoice, and be exceeding glad: for great is your reward in heaven: for so persecuted they the prophets which were before you.

Ye are the salt of the earth: but if the salt have lost his savor, wherewith shall it be salted? it is thenceforth good for nothing, but to be cast out, and to be trodden under foot of men.

Ye are the light of the world. A city that is set on an hill cannot be hid. Neither do men light a candle, and put it under a bushel, but on a candlestick; and it giveth light unto all that are in the house.

Let your light so shine before men, that they may see your good works, and glorify your Father which is in heaven.

Think not that I am come to destroy the law, or the prophets: I am not come to destroy, but to fulfil.

For verily I say unto you, Till heaven and earth pass, one jot or one tittle shall in no wise pass from the law, till all be fulfilled.

Whosoever therefore shall break one of these least commandments, and shall teach men so, he shall be called the least in the kingdom of heaven: but whosoever shall do and teach them, the same shall be called great in the kingdom of heaven.

For I say unto you, That except your righteousness shall exceed the righteousness of the scribes and Pharisees, ye shall in no case enter into the kingdom of heaven.

Ye have heard that it was said by them of old time, Thou shalt not kill; and whosoever shall kill shall be in danger of the judgment:

But I say unto you, That whosoever is angry with his brother without a cause shall be in danger of the judgment: and whosoever shall say to his brother, Raca, shall be in danger of the council: but whosoever shall say, Thou fool, shall be in danger of hell fire.

Therefore if thou bring thy gift to the altar, and there rememberest that thy brother hath ought against thee;

Leave there thy gift before the altar, and go thy way; first be reconciled to thy brother, and then come and offer thy gift.

Agree with thine adversary quickly, whiles thou art in the way with him; lest at any time the adversary deliver thee to the judge, and the judge deliver thee to the officer, and thou be cast into prison.

Verily I say unto thee, Thou shalt by no means come out thence, till thou hast paid the uttermost farthing. Ye have heard that it was said by them of old time, Thou shalt not commit adultery:

But I say unto you, That whosoever looketh on a woman to lust after her hath committed adultery with her already in his heart.

And if thy right eye offend thee, pluck it out, and cast it from thee: for it is profitable for thee that one of thy members should perish, and not that thy whole body should be cast into hell.

And if thy right hand offend thee, cut if off, and cast it from thee: for it is profitable for thee that one of thy members should perish, and not that thy whole body should be cast into hell.

It hath been said, Whosoever shall put away his wife, let him give her a writing of divorcement: But I say unto you, That whosoever shall put away his wife, saving for the

cause of fornication, causeth her to commit adultery: and whosoever shall marry her that is divorced committeth adultery.

Again, ye have heard that it hath been said by them of old time, Thou shalt not forswear thyself, but shalt perform unto the Lord thine oaths:

But I say unto you, Swear not at all; neither by heaven; for it is God's throne:

Nor by the earth; for it is his footstool: neither by Jerusalem; for it is the city of the great King. Neither shalt thou swear by thy head, because thou canst not make one hair white or black. But let your communication be, Yea, yea; Nay, nay: for whatsoever is more than these cometh of evil. Ye have heard that it hath been said, An eye for an eye, and a tooth for a tooth:

But I say unto you, That ye resist not evil: but whosoever shall smite thee on thy right cheek, turn to him the other also.

And if any man will sue thee at the law, and take away thy coat, let him have thy cloke also.

And whosoever shall compel thee to go a mile, go with him twain.

Give to him that asketh thee, and from him that would borrow of thee turn not thou away.

Ye have heard that it hath been said, Thou shalt love thy neighbour, and hate thine enemy.

But I say unto you, Love your enemies, bless them that curse you, do good to them that hate you, and pray for them which despitefully use you, and persecute you;

That ye may be the children of your Father which is in heaven: for he maketh his sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust.

For if ye love them which love you, what reward have ye? do not even the publicans the same?

And if ye salute your brethren only, what do ye more than others? do not even the publicans so?

Be ye therefore perfect, even as your Father which is in heaven is perfect.

Notice particularly that Christians are required to love their enemies and to do good to those who have wronged them. This seemingly impractical advice is in fact very practical. Endless escalating cycles of revenge and counter-revenge can only be prevented by unilateral acts of kindness.

But do the governments of supposedly Christian countries follow this commandment? Absolutely not! As Edna St. Vincent Millay says, "Nobody listens. Less than the winds that blow are all your words to us you died to save."

Contrast the duty to love and do good to one's enemies with the doctrine of massive retaliation which is built into the concept of nuclear deterrence. In a nuclear war, the hundreds of millions, or even billions, of victims in every country of the world, also neutral countries, would include people of every kind: women, men, old people, children and infants, completely irrespective of any degree of guilt that they might have. This type of killing has to be classified as genocide.

If Christians were true to their beliefs, not only nuclear war, but every kind of war would be forbidden to them.

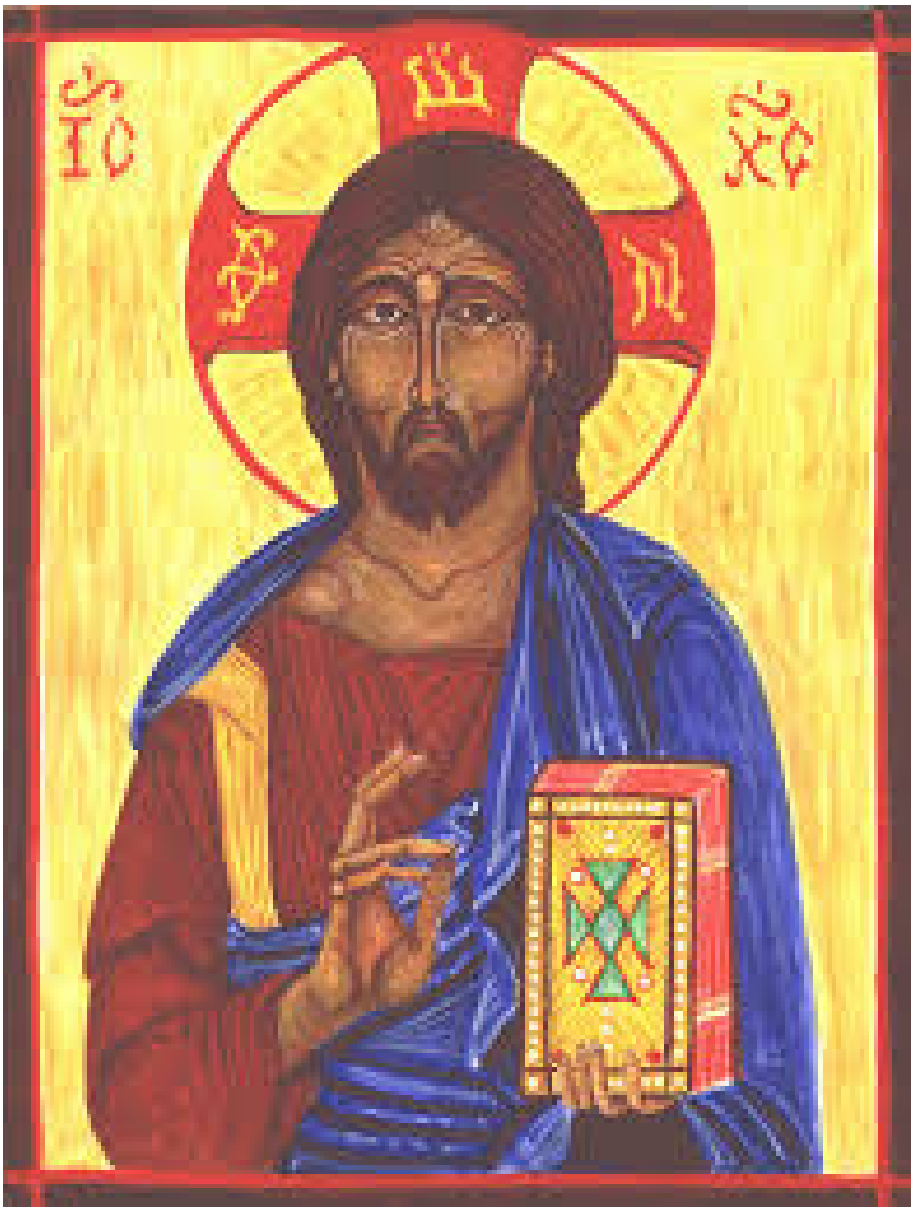


Figure 2.10: **An ikon depicting Jesus**

The Parable of the Good Samaritan

All of the major religions of humanity contain some form of the Golden Rule. Christianity offers an especially clear statement of this central ethical principle: According to the Gospel of Luke, after being told that he must love his neighbor as much as he loves himself, a man asks Jesus, "Who is my neighbor?". Jesus then replies with the Parable of the Good Samaritan, in which we are told that our neighbor need not be a member of our own tribe, but can live far away and can belong to a completely different nation or ethnic group. Nevertheless, that person is still our neighbor, and deserves our love and care.

And, behold, a certain lawyer stood up, and tempted him, saying, Master, what shall I do to inherit eternal life?

He said unto him, What is written in the law? how readest thou?

And he answering said, Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy strength, and with all thy mind; and thy neighbour as thyself.

And he said unto him, Thou hast answered right: this do, and thou shalt live.

But he, willing to justify himself, said unto Jesus, And who is my neighbour?

And Jesus answering said, A certain man went down from Jerusalem to Jericho, and fell among thieves, which stripped him of his raiment, and wounded him, and departed, leaving him half dead.

And by chance there came down a certain priest that way: and when he saw him, he passed by on the other side.

And likewise a Levite, when he was at the place, came and looked on him, and passed by on the other side.

But a certain Samaritan, as he journeyed, came where he was: and when he saw him, he had compassion on him,

And went to him, and bound up his wounds, pouring in oil and wine, and set him on his own beast, and brought him to an inn, and took care of him.

And on the morrow when he departed, he took out two pence, and gave them to the host, and said unto him, Take care of him; and whatsoever thou spendest more, when I come again, I will repay thee.

Which now of these three, thinkest thou, was neighbour unto him that fell among the thieves?

And he said, He that shewed mercy on him. Then said Jesus unto him, Go, and do thou likewise.

Saint Paul's letter to the Corinthians

If I speak in the tongues of men or of angels, but do not have love, I am only a resounding gong or a clanging cymbal. If I have the gift of prophecy and can fathom all mysteries and all knowledge, and if I have a faith that can move mountains, but do not have love, I am nothing. If I give all I possess to the poor and give over my body to hardship that I may boast, but do not have love, I gain nothing.

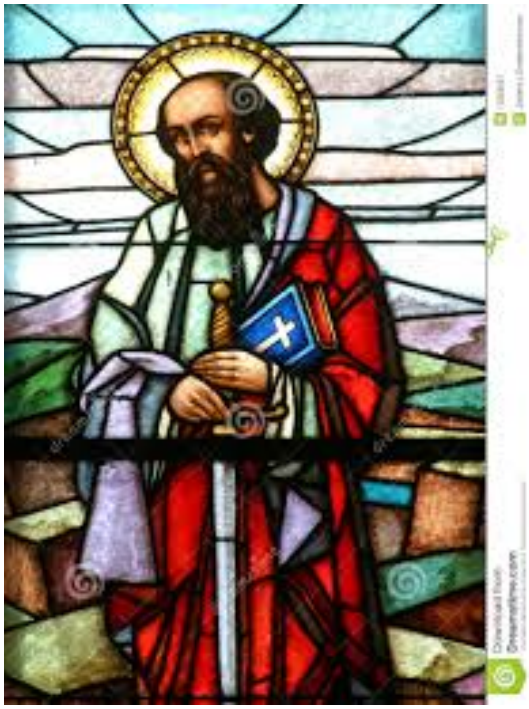


Figure 2.11: **Saint Paul**

Love is patient, love is kind. It does not envy, it does not boast, it is not proud. It does not dishonor others, it is not self-seeking, it is not easily angered, it keeps no record of wrongs. Love does not delight in evil but rejoices with the truth. It always protects, always trusts, always hopes, always perseveres. Love never fails. But where there are prophecies, they will cease; where there are tongues, they will be stilled; where there is knowledge, it will pass away. For we know in part and we prophesy in part, but when completeness comes, what is in part disappears. When I was a child, I talked like a child, I thought like a child, I reasoned like a child. When I became a man, I put the ways of childhood behind me. For now we see only a reflection as in a mirror; then we shall see face to face. Now I know in part; then I shall know fully, even as I am fully known.

And now these three remain: faith, hope and love. But the greatest of these is love.



Figure 2.12: **Saint Francis, in a painting by Giotto, preaching to the birds. Today Pope Francis I carries to us the message of Saint Francis. Pope Francis tells us that the true interpretation of Christianity includes respect for nature, social justice and opposition to the institution of war.**

The ethical message of Islam

Some Islamic contributions to civilization

In the 5th century A.D., there was a split in the Christian church of Byzantium;and the Nestorian church, separated from the official Byzantine church. The Nestorians were bitterly persecuted by the Byzantines, and therefore they migrated, first to Mesopotamia, and later to south-west Persia. (Some Nestorians migrated as far as China.)

During the early part of the middle ages, the Nestorian capital at Gondisapur was a great center of intellectual activity. The works of Plato, Aristotle, Hippocrates, Euclid, Archimedes, Ptolemy, Hero and Galen were translated into Syriac by Nestorian scholars, who had brought these books with them from Byzantium.

Among the most distinguished of the Nestorian translators were the members of a family called Bukht-Yishu (meaning "Jesus hath delivered"), which produced seven generations of outstanding scholars. Members of this family were fluent not only in Greek and Syriac, but also in Arabic and Persian.

In the 7th century A.D., the Islamic religion suddenly emerged as a conquering and proselytizing force. Inspired by the teachings of Mohammad (570 A.D. - 632 A.D.), the Arabs and their converts rapidly conquered western Asia, northern Africa, and Spain. During the initial stages of the conquest, the Islamic religion inspired a fanaticism in its followers which was often hostile to learning. However, this initial fanaticism quickly changed to an appreciation of the ancient cultures of the conquered territories; and during

the middle ages, the Islamic world reached a very high level of culture and civilization.

Thus, while the century from 750 to 850 was primarily a period of translation from Greek to Syriac, the century from 850 to 950 was a period of translation from Syriac to Arabic. It was during this latter century that Yuhanna Ibn Masawiah (a member of the Bukht-Yishu family, and medical advisor to Caliph Harun al-Rashid) produced many important translations into Arabic.

The skill of the physicians of the Bukht-Yishu family convinced the Caliphs of the value of Greek learning; and in this way the family played an extremely important role in the preservation of the western cultural heritage. Caliph al-Mamun, the son of Harun al-Rashid, established at Baghdad a library and a school for translation, and soon Baghdad replaced Gondisapur as a center of learning.

The English word "chemistry" is derived from the Arabic words *"al-chimia"*, which mean "the changing". The earliest alchemical writer in Arabic was Jabir (760-815), a friend of Harun al-Rashid. Much of his writing deals with the occult, but mixed with this is a certain amount of real chemical knowledge. For example, in his *Book of Properties*, Jabir gives the following recipe for making what we now call lead hydroxycarbonate (white lead), which is used in painting and pottery glazes: "Take a pound of litharge, powder it well and heat it gently with four pounds of vinegar until the latter is reduced to half its original volume. The take a pound of soda and heat it with four pounds of fresh water until the volume of the latter is halved. Filter the two solutions until they are quite clear, and then gradually add the solution of soda to that of the litharge. A white substance is formed, which settles to the bottom. Pour off the supernatant water, and leave the residue to dry. It will become a salt as white as snow."

Another important alchemical writer was Rahzes (c. 860 - c. 950). He was born in the ancient city of Ray, near Teheran, and his name means "the man from Ray". Rhazes studied medicine in Baghdad, and he became chief physician at the hospital there. He wrote the first accurate descriptions of smallpox and measles, and his medical writings include methods for setting broken bones with casts made from plaster of Paris. Rahzes was the first person to classify substances into vegetable, animal and mineral. The word *"al-kali"*, which appears in his writings, means "the calcined" in Arabic. It is the source of our word "alkali", as well as of the symbol K for potassium.

The greatest physician of the middle ages, Avicenna, (Abu-Ali al Hussein Ibn Abdullah Ibn Sina, 980-1037), was also a Persian, like Rahzes. More than a hundred books are attributed to him. They were translated into Latin in the 12th century, and they were among the most important medical books used in Europe until the time of Harvey. Avicenna also wrote on alchemy, and he is important for having denied the possibility of transmutation of elements.

In mathematics, one of the most outstanding Arabic writers was al-Khwarizmi (c. 780 - c. 850). The title of his book, *Ilm al-jabr wa'd muqabalah*, is the source of the English word "algebra". In Arabic *al-jabr* means "the equating". Al-Khwarizmi's name has also become an English word, "algorism", the old word for arithmetic. Al-Khwarizmi drew from both Greek and Hindu sources, and through his writings the decimal system and the use of zero wereff transmitted to the west.

One of the outstanding Arabic physicists was al-Hazen (965-1038). He made the mistake of claiming to be able to construct a machine which could regulate the flooding of the Nile. This claim won him a position in the service of the Egyptian Caliph, al-Hakim. However, as al-Hazen observed Caliph al-Hakim in action, he began to realize that if he did not construct his machine *immediately*, he was likely to pay with his life! This led al-Hazen to the rather desperate measure of pretending to be insane, a ruse which he kept up for many years. Meanwhile he did excellent work in optics, and in this field he went far beyond anything done by the Greeks.

Al-Hazen studied the reflection of light by the atmosphere, an effect which makes the stars appear displaced from their true positions when they are near the horizon; and he calculated the height of the atmospheric layer above the earth to be about ten miles. He also studied the rainbow, the halo, and the reflection of light from spherical and parabolic mirrors. In his book, *On the Burning Sphere*, he shows a deep understanding of the properties of convex lenses. Al-Hazen also used a dark room with a pin-hole opening to study the image of the sun during an eclipses. This is the first mention of the *camera obscura*, and it is perhaps correct to attribute the invention of the *camera obscura* to al-Hazen.

Another Islamic philosopher who had great influence on western thought was Averröes, who lived in Spain from 1126 to 1198. His writings took the form of thoughtful commentaries on the works of Aristotle. He shocked both his Moslem and his Christian readers by maintaining that the world was not created at a definite instant, but that it instead evolved over a long period of time, and is still evolving.

Like Aristotle, Averröes seems to have been groping towards the ideas of evolution which were later developed in geology by Steno, Hutton and Lyell and in biology by Darwin and Wallace. Much of the scholastic philosophy which developed at the University of Paris during the 13th century was aimed at refuting the doctrines of Averröes; but nevertheless, his ideas survived and helped to shape the modern picture of the world.

A few verses from the Quran

1. THE OPENING:
All praise is due to Allah, the Lord of the Worlds.
The Beneficent, the Merciful.
Master of the Day of Judgment.
Thee do we serve and Thee do we beseech for help.
Keep us on the right path.
The path of those upon whom Thou hast bestowed favors.
Not (the path) of those upon whom Thy wrath is brought down, nor of those who go astray.

107. ALMS
In the name of Allah, the Beneficent, the Merciful.
Have you considered him who calls the judgment a lie?
That is the one who treats the orphan with harshness,

And does not urge (others) to feed the poor.
So woe to the praying ones,
Who are unmindful of their prayers,
Who do (good) to be seen,
And withhold the necessaries of life.

109. THE DISBELIEVERS
In the name of Allah, the Beneficent, the Merciful.
Say: O unbelievers!
I do not serve that which you serve,
Nor do you serve Him Whom I serve:
Nor am I going to serve that which you serve,
Nor are you going to serve Him Whom I serve:
You shall have your religion and I shall have my religion.

112. THE UNITY
In the name of Allah, the Beneficent, the Merciful.
Say: He, Allah, is One.
Allah is He on Whom all depend.
He begets not, nor is He begotten.
And none is like Him.

113. THE DAWN
In the name of Allah, the Beneficent, the Merciful.
Say: I seek refuge in the Lord of the dawn,
From the evil of what He has created,
And from the evil of the utterly dark night when it comes,
And from the evil of those who blow on knots,
And from the evil of the envious when he envies.

114. THE PEOPLE
In the name of Allah, the Beneficent, the Merciful.
Say: I seek refuge in the Lord of men,
The King of men,
The God of men,
From the evil of the whisperings of the slinking (Shaitan),
Who whispers into the hearts of men,
From among the jinn and the men.



Figure 2.13: **Mosaics at the Alhambra**



Figure 2.14: **Mosaics at the Alhambra**



Figure 2.15: **The interior of the great mosque at Isfahan**

East-West exchanges in Toledo

In the 12th century, parts of Spain, including the city of Toledo, were reconquered by the Christians. Toledo had been an Islamic cultural center, and many Muslim scholars, together with their manuscripts, remained in the city when it passed into the hands of the Christians. Thus Toledo became a center for the exchange of ideas between east and west; and it was in this city that many of the books of the classical Greek and Hellenistic philosophers were translated from Arabic into Latin.

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In the 12th century, the translation was confined to books of science and philosophy. Classical Greek literature was forbidden by both the Christian and Moslem religions; and the beautiful poems and dramas of Homer, Sophocles and Euripides were not translated into Latin until the time of the Renaissance Humanists.

It is interesting and inspiring to visit Toledo. A tourist there can see ample evidence of a period of tolerance and enlightenment, when members of the three Abrahamic religions, Christianity, Judaism and Islam , lived side by side in harmony and mutual respect, exchanging important ideas which were to destined to become the foundations of our modern civilization. One can also see a cathedral, a mosque and a synagogue, in each of which craftsmen from all three faiths worked cooperatively to produce a beautiful monument to human solidarity.

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Chapter 3

TOLSTOY, GANDHI AND KING

Count Leo Tolstoy

Leo Tolstoy was born in 1828. While he was still a child, his parents died, and he became Count Tolstoy, with responsibility for the family estate at Yasnaya Polyana. As a young man, he was attracted to the gay and worldly social life of Moscow, but his diary during this period shows remorse over his pursuit of sensual pleasures. Disgusted with himself, he entered the army, and during idle periods he began his career as a writer. While still a soldier, he published a beautiful nostalgic work entitled "Childhood" as well as a number of skillful stories describing army life.

Schools and textbooks for peasants

At the age of 28, Tolstoy left the army and spent a brief period as a literary idol in St. Petersburg. He then became concerned about lack of education among Russian peasants, and he traveled widely in Europe, studying educational theory and methods. Returning to Yasnaya Polyana, he established schools for the peasants, published an educational magazine and compiled a number of textbooks whose simplicity and attractiveness anticipated modern teaching methods.

Tolstoy's great novels

Tolstoy married in 1862 at the age of 34. His wife, Sonya Bers, shared his wide intellectual interests, and they had a happy family life with thirteen children1 . During this period, Tolstoy managed his estate with much success, and he produced his great literary masterpieces "War and Peace" and "Anna Karenina". He modeled the characters in "War and Peace" after members of his own family. For example, Tolstoy's famous heroine, Natasia, is modeled after his sister-in-law, Tanya Bers. Pierre in "War and Peace" and Levin in "Anna Karenina" reflect Tolstoy's own efforts to understand the meaning of life, his concern with the misery of the Russian peasants, and his ultimate conclusion that true happiness and peace of mind can only be found in a simple life devoted to the service of others.

Search for life's meaning

By the time Tolstoy had finished "Anna Karenina", he had become very dissatisfied with the life that he was leading. Despite having achieved in great measure all of the goals for which humans usually strive, he felt that his existence lacked meaning; and in 1879 he even contemplated suicide. He looked for life's purpose by systematically studying the writings of scientists and philosophers, but he could not find an answer there that satisfied him.

Finally Tolstoy found inspiration in the humble and devout lives of the peasants. He decided that the teachings of Jesus, as recorded in the New Testament, could provide the answer for which he was searching. Tolstoy published an account of his spiritual crisis in a book entitled "A Confession", in which he says:

"I searched for enlightenment everywhere in the hard-won accumulated knowledge of mankind. I searched passionately and long, not in a lazy way, but with my whole soul, day and night. I searched like a drowning man looking for safety - and found nothing. I searched all the sciences, and not only did I find nothing, but I also came to the conclusion that everyone who, like myself, had searched in the sciences for life's meaning had also found nothing."

"I then diligently studied the teachings of Buddhism and Islam in the holy books of those religions; but most of all I studied Christianity as I met it in the holy Scriptures and in the living Christians around me..."

Love for the poor

"I began to approach the believers among the poor, simple ignorant people: pilgrims, monks and peasants... The whole life of Christians of our own circle seemed to be a contradiction of their faith. By contrast, the whole life of Christians of the peasant class was an affirmation of the view of life which their religious faith gave to them. I looked more and more deeply into the faith of these people, and the more deep my insight became, the more I became convinced that they had a genuine belief, that their faith was essential to them, and that it was their faith alone which gave their life a meaning and made it possible for them to live... I developed a love for these simple people."

Moved by the misery of the urban poor whom he encountered in the slums of Moscow, Tolstoy wrote: "Between us, the rich and the poor, there is a wall of false education, and before we can help the poor, we must first tear down that wall. I was forced to the conclusion that our own wealth is the true cause of the misery of the poor."

What Then Must We Do?

Tolstoy's book, "What Then Must We Do?", tells of his experiences in the slums and analyses the causes of poverty. Tolstoy felt that the professed Christian belief of the Czarist state was a thin cosmetic layer covering a structure that was fundamentally built on violence. Violence was used to maintain a huge gap between the rich and the poor, and violence was used in international relations. Tolstoy felt especially keenly the contradiction

between Christianity and war. In a small book entitled "The Kingdom of God is Within Us" he wrote:

The contradiction between Christianity and war

"All other contradictions are insignificant compared with the contradiction which now faces humankind in international relations, and which cries out for a solution, since it brings the very existence of civilization into danger. This is the contradiction between the Christian conscience and war."

"All of the Christian peoples of the world, who all follow one and the same spiritual life, so that any good and fruitful thought which is put forward in any corner of the world is immediately communicated to all of Christiandom, where it arouses feelings of pride and happiness in us regardless of our nationality; we who simply love the thinkers, humanitarians, and poets of other countries; we who not only admire their achievements, but also feel delight in meeting them and greet them with friendly smiles; we will all be forced by the state to participate in a murderous war against these same people, a war which if it does not break out today will do so tomorrow."

"...The sharpest of all contradictions can be seen between the government's professed faith in the Christian law of the brotherhood of all humankind, and the military laws of the state, which force each young man to prepare himself for enmity and murder, so that each must be simultaneously a Christian and a gladiator."

Banned and excommunicated

Tolstoy's writings on Christianity and on social questions were banned by the public censor, and he was excommunicated from the Russian Orthodox Church. However, his universally recognized stature as one of the world's greatest writers was undiminished, and his beliefs attracted many followers, both inside and outside of Russia.

Tolstoy and Gandhi

In 1894, the young Indian lawyer, Mohandas K. Gandhi, (who was then working for the civil rights of Indians in South Africa), read Tolstoy's books on Christianity and was greatly influenced by them. Gandhi wrote a review of "The Kingdom of God is Within Us", and in 1909 he sent Tolstoy an account of the activities of the civil rights movement in South Africa. He received a reply in which Tolstoy said:

"...The longer I live, and especially now, when I vividly feel the nearness of death, the more I want to tell others what I feel so particularly clearly and what to my mind is of great importance, namely that which is called passive resistance, but which is in reality nothing else but the teaching of love, uncorrupted by false interpretations. That love, i.e. the striving for the union of human souls and the activity derived from that striving, is the highest and only law of human life, and in the depth of his soul every human being knows this (as we most clearly see in children); he knows this until he is entangled in the false

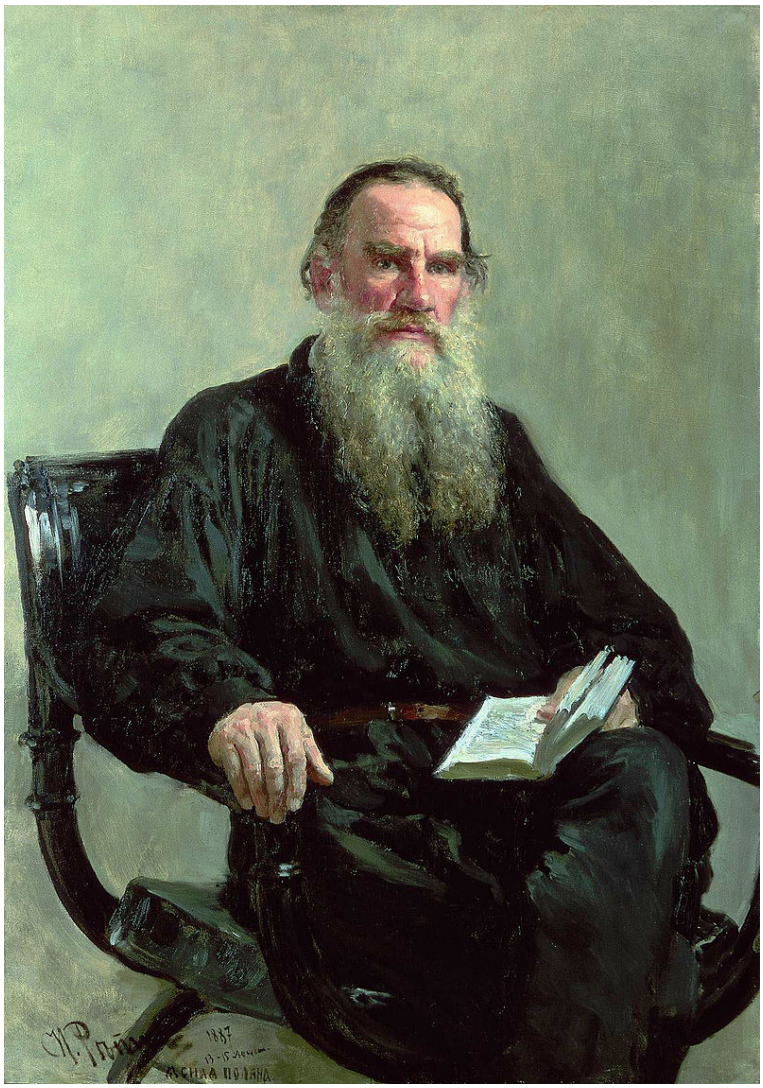


Figure 3.1: **Portrait of Count Leo Tolstoy made in 1887 by Ilia Repin. Public domain, Wikimedia Commons**

teachings of the world. This law was proclaimed by all, by the Indian as by the Chinese, Hebrew, Greek and Roman sages of the world. I think that this law was most clearly expressed by Christ, who plainly said that in this alone is all the law and the prophets..."

"...The peoples of the Christian world have solemnly accepted this law, while at the same time they have permitted violence and built their lives on violence; and that is why the whole life of the Christian peoples is a continuous contradiction between what they profess, and the principles on which they order their lives - a contradiction between love accepted as the law of life, and violence which is recognized and praised, acknowledged even as a necessity in different phases of life, such as the power of rulers, courts, and armies..."

Nonviolent resistance to governmental violence

Tolstoy believed that violence can never under any circumstances be justified, and that therefore an individual's resistance to governmental violence must be passive and non-violent. He also believed that each individual ought to reduce his needs to a minimum in order to avoid exploiting the labor of others.

Tolstoy gave up meat, alcohol, tobacco, and hunting. He began to clean his own room, wore simple peasant clothes, worked in the fields, and made his own boots. He participated in famine relief, and he would have liked to give away all of his great wealth to feed the poor, but bowing to the protests of his family, he gave his wealth to them instead. Because he had been unable to convert his family to his beliefs, Tolstoy left home secretly on a November night in 1910, accompanied, like King Lear, by his youngest daughter. He died of pneumonia a few days later at a remote railway junction.

Mahatma Gandhi

If humans are ever to achieve a stable global society in the future, they will have to become much more modest in their economic behavior and much more peaceful in their politics. For both modesty and peace, Gandhi is a useful source of ideas. The problems with which he struggled during his lifetime are extremely relevant to us in the 21st Century, when both nuclear and ecological catastrophes threaten the world.

Avoiding escalation of conflicts

Today we read almost every day of killings that are part of escalating cycles of revenge and counter-revenge, for example in the Middle East. Gandhi's experiences both in South Africa and in India convinced him that such cycles could only be ended by unilateral acts of kindness and understanding from one of the parties in a conflict. He said, "An eye for an eye makes the whole world blind".

To the insidious argument that "the end justifies the means", Gandhi answered firmly: "They say that 'means are after all means'. I would say that 'means are after all everything'.

As the means, so the end. Indeed, the Creator has given us limited power over means, none over end... The means may be likened to a seed, and the end to a tree; and there is the same inviolable connection between the means and the end as there is between the seed and the tree. Means and end are convertible terms in my philosophy of life."

Gandhi's advocacy of non-violence is closely connected to his attitude towards ends and means. He believed that violent methods for achieving a desired social result would inevitably result in an escalation of violence. The end achieved would always be contaminated by the methods used. He was influenced by Leo Tolstoy with whom he exchanged many letters, and he in turn influenced Martin Luther King and Nelson Mandela.

The power of truth

Gandhi was trained as a lawyer, and when he began to practice in South Africa, in his first case, he was able to solve a conflict by proposing a compromise that satisfied both parties. Of this result he said, "My joy was boundless. I had learnt the true practice of law. I had learnt to find out the better side of human nature and to enter men's hearts. I realized that the true function of a lawyer was to unite parties riven asunder." When Gandhi became involved with the struggle for civil rights of the Indian minority in South Africa, his background as a lawyer once more helped him. This time his jury was public opinion in England. When Gandhi lead the struggle for reform, he insisted that the means of protest used by his followers should be non-violent, even though violence was frequently used against them. In this way they won their case in the court of public opinion. Gandhi called this method of protest "satyagraha", a Sanskrit word meaning "the power of truth". In today's struggles for justice and peace, the moral force of truth and nonviolence can win victories in the court of world public opinion.

Harmony between religious groups

Gandhi believed that at their core, all religions are based on the concepts of truth, love, compassion, nonviolence and the Golden Rule. When asked whether he was a Hindu, Gandhi answered, "Yes I am. I am also a Christian, a Muslim, a Buddhist and a Jew." When praying at his ashram, Gandhi made a point of including prayers from many religions. One of the most serious problems that he had to face in his efforts to free India from British rule was disunity and distrust, even hate, between the Hindu and Muslim communities. Each community felt that with the British gone, they might face violence and repression from the other. Gandhi made every effort to bridge the differences and to create unity and harmony. His struggles with this problem are highly relevant to us today, when the world is split by religious and ethnic differences.

Solidarity with the poor

Today's world is characterized by intolerable economic inequalities, both between nations and within nations. 8 million children die each year from poverty-related causes. 1.3 billion

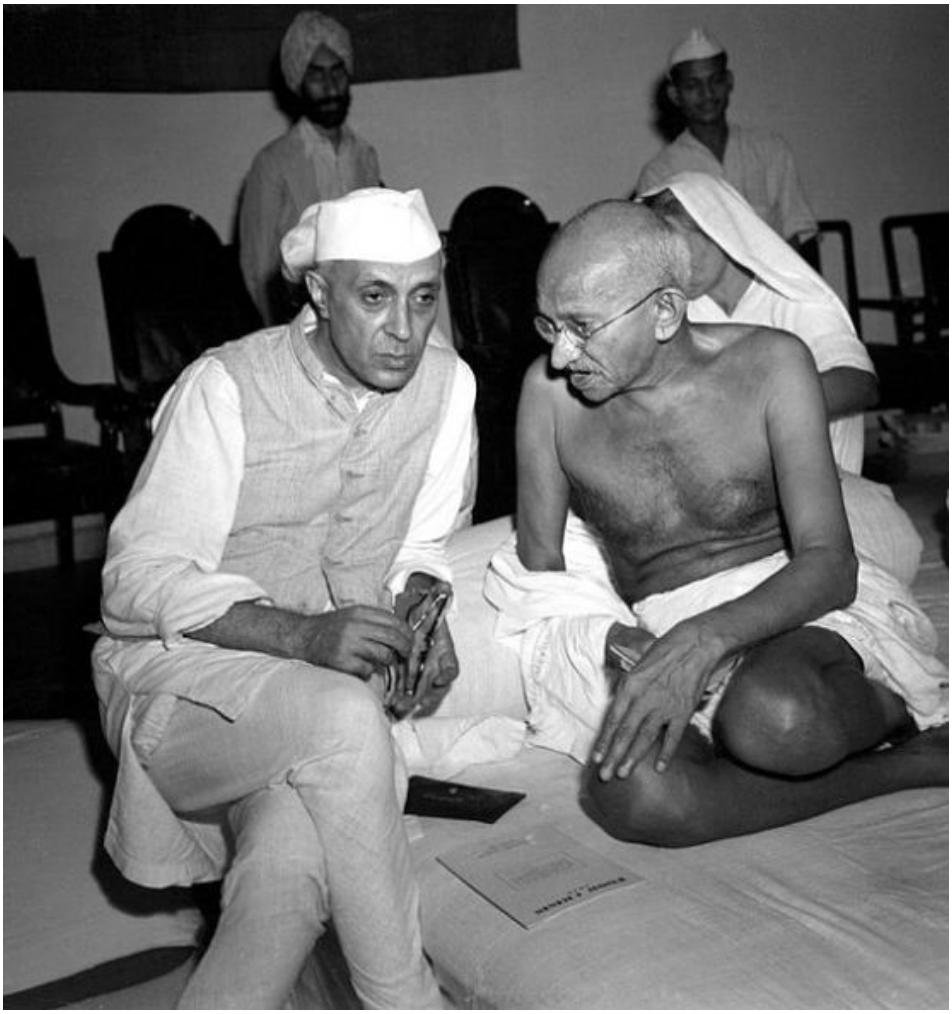


Figure 3.2: **Gandhi and Nehru at a meeting of the Congress Party. After India gained its independence, it was Nehru's vision of an urbanized and industrialized India that prevailed. Gandhi's much more sustainable vision of "India of villages" was lost. (Wikimedia Commons)**

people live on less than 1.25 dollars a day. Gandhi's concern for the poor can serve as an example to us today, as we work to achieve a more equal world. He said, "There is enough for every man's need, but not for every man's greed."

Voluntary reduction of consumption

After Gandhi's death, someone took a photograph of all his worldly possessions. It was a tiny heap, consisting of his glasses, a pair of sandals, a homespun cloth (his only garment) and a watch. That was all. By reducing his own needs and possessions to an absolute minimum, Gandhi had tried to demonstrate that the commonly assumed connection between wealth and merit is false. This is relevant today, in a world where we face a crisis of diminishing resources. Not only fossil fuels, but also metals and arable land per capita will become scarce in the future. This will force a change in lifestyle, particularly in the industrialized countries, away from consumerism and towards simplicity. Gandhi's example can teach us that we must cease to use wealth and "conspicuous consumption" as a measure of merit.

Gandhian economics

In his autobiography, Mahatma Gandhi says: "Three moderns have left a deep impression on my life and captivated me: Raychandbhai (the Indian philosopher and poet) by his living contact; Tolstoy by his book 'The Kingdom of God is Within You'; and Ruskin by his book 'Unto This Last'." Ruskin's book, "Unto This Last", which Gandhi read in 1904, is a criticism of modern industrial society. Ruskin believed that friendships and warm interpersonal relationships are a form of wealth that economists have failed to consider. He felt that warm human contacts are most easily achieved in small agricultural communities, and that therefore the modern tendency towards centralization and industrialization may be a step backward in terms of human happiness. While still in South Africa, Gandhi founded two religious Utopian communities based on the ideas of Tolstoy and Ruskin, Phoenix Farm (1904) and Tolstoy Farm (1910).

Because of his growing fame as the leader of the Indian civil rights movement in South Africa, Gandhi was persuaded to return to India in 1914 and to take up the cause of Indian home rule. In order to reacquaint himself with conditions in India, he travelled tirelessly, now always going third class as a matter of principle.

During the next few years, Gandhi worked to reshape the Congress Party into an organization which represented not only India's Anglicized upper middle class but also the millions of uneducated villagers who were suffering under an almost intolerable burden of poverty and disease. In order to identify himself with the poorest of India's people, Gandhi began to wear only a white loincloth made of rough homespun cotton. He traveled to the remotest villages, recruiting new members for the Congress Party, preaching non-violence

and "firmness in the truth", and becoming known for his voluntary poverty and humility. The villagers who flocked to see him began to call him "Mahatma" (Great Soul).

Disturbed by the spectacle of unemployment and poverty in the villages, Gandhi urged the people of India to stop buying imported goods, especially cloth, and to make their own. He advocated the reintroduction of the spinning wheel into village life, and he often spent some hours spinning himself. The spinning wheel became a symbol of the Indian independence movement, and was later incorporated into the Indian flag.

The movement for boycotting British goods was called the "Swadeshi movement". The word Swadeshi derives from two Sanskrit roots: Swa, meaning self, and Desh, meaning country. Gandhi described Swadeshi as "a call to the consumer to be aware of the violence he is causing by supporting those industries that result in poverty, harm to the workers and to humans or other creatures."

Gandhi tried to reconstruct the crafts and self-reliance of village life that he felt had been destroyed by the colonial system. "I would say that if the village perishes, India will perish too", he wrote, "India will be no more India. Her own mission in the world will get lost. The revival of the village is only possible when it is no more exploited. Industrialization on a mass scale will necessarily lead to passive or active exploitation of the villagers as problems of competition and marketing come in. Therefore we have to concentrate on the village being self-contained, manufacturing mainly for use. Provided this character of the village industry is maintained, there would be no objection to villagers using even the modern machines that they can make and can afford to use. Only they should not be used as a means of exploitation by others."

"You cannot build nonviolence on a factory civilization, but it can be built on self-contained villages... Rural economy as I have conceived it, eschews exploitation altogether, and exploitation is the essence of violence... We have to make a choice between India of the villages that are as ancient as herself and India of the cities which are a creation of foreign domination..."

"Machinery has its place; it has come to stay. But it must not be allowed to displace necessary human labour. An improved plow is a good thing. But if by some chances, one man could plow up, by some mechanical invention of his, the whole of the land of India, and control all the agricultural produce, and if the millions had no other occupation, they would starve, and being idle, they would become dunces, as many have already become. There is hourly danger of many being reduced to that unenviable state."

In these passages we see Gandhi not merely as a pioneer of nonviolence; we see him also as an economist. Faced with misery and unemployment produced by machines, Gandhi tells us that social goals must take precedence over blind market mechanisms. If machines are causing unemployment, we can, if we wish, and use labor-intensive methods instead. With Gandhi, the free market is not sacred; we can do as we wish, and maximize human happiness, rather than maximizing production and profits.

Mahatma Gandhi was assassinated by a Hindu extremist on January 30, 1948. After his death, someone collected and photographed all his worldly goods. These consisted of a pair of glasses, a pair of sandals, a pocket watch and a white homespun loincloth. Here, as in the Swadeshi movement, we see Gandhi as a pioneer of economics. He deliberately

reduced his possessions to an absolute minimum in order to demonstrate that there is no connection between personal merit and material goods. Like Veblen, Mahatma Gandhi told us that we must stop using material goods as a means of social competition. We must start to judge people not by what they have, but by what they are.

Martin Luther King, Jr.

King applies the teachings of Thoreau and Gandhi to the Civil Rights movement

The son of a southern Baptist minister, Martin Luther King, Jr received his Ph.D. in theology from Boston University in 1955. During his studies, he had admired Thoreau's essay "On the Duty of Civil Disobedience," and he had also been greatly moved by the life and teachings of Mahatma Gandhi.

Martin Luther King Jr. had been pastor of the Dexter Avenue Baptist Church in Montgomery Alabama for only a year when he was chosen to lead a boycott protesting segregation in the Montgomery buses. Suddenly thrust into this situation of intense conflict, he remembered both the Christian principle of loving one's enemies and Gandhi's methods of non-violent protest. In his first speech as President of the Montgomery Improvement Association (a speech which the rapid pace of events had forced him to prepare in only twenty minutes, five of which he spent in prayer), he said:

"Our method will be that of persuasion, not coercion. We will only say to people, 'Let your conscience be your guide'. Our actions must be guided by the deepest principles of our Christian faith. Love must be our regulating ideal. Once again we must hear the words of Jesus echoing across the centuries: 'Love your enemies, bless them that curse you, and pray for them that despitefully use you.' If we fail to do this, our protest will end up as a meaningless drama on the stage of history, and its memory will be shrouded by the ugly garments of shame. In spite of the mistreatment that we have confronted, we must not become bitter and end up by hating our white brothers. As Booker T. Washington said, 'Let no man pull you down so low as to make you hate him.'"

"If you will protest courageously, and yet with dignity and Christian love, when the history books are written in future generations, the historians will have to pause and say, 'There lived a great people, a black people, who injected new meaning and dignity into the veins of civilization.' This is our challenge and our overwhelming responsibility."

Victory in the court of public opinion

This speech, which Dr. King made in December 1955, set the tone of the black civil rights movement. Although the protesters against racism were often faced with brutality and violence; although many of them, including Dr. King were unjustly jailed; although the homes of the leaders were bombed; although they constantly received telephone calls

threatening their lives; although many civil rights workers were severely beaten, and several of them killed, they never resorted to violence in their protests against racial discrimination. Because of this adherence to Christian ethics, public opinion shifted to the side of the civil rights movement, and the United States Supreme Court ruled bus segregation to be unconstitutional.

Welcomed to India by Nehru

In 1959, while recovering from an almost-fatal stabbing, Martin Luther King Jr. visited India at the invitation of Prime Minister Jawaharlal Nehru. Dr. King and his wife Coretta were warmly welcomed by Nehru, who changed his schedule in order to meet them. They had an opportunity to visit a religious community or "ashram" that Gandhi had founded, and they discussed non-violence with many of Gandhi's disciples.

King is awarded the Nobel Peace Prize

In 1964, the change in public opinion produced by the non-violent black civil rights movement resulted in the passage of the civil rights act. In the same year, Dr. King was awarded the Nobel Peace Prize. He accepted it, not as an individual, but on behalf of all civil rights workers; and he immediately gave all the prize money to the movement.

Opposition to the Viet Nam War

In 1967, a year before his assassination, Dr. King forcefully condemned the Viet Nam war in an address at a massive peace rally in New York City. He felt that opposition to war followed naturally from his advocacy of non-violence. Speaking against the Viet Nam War, Dr. King said: "We have corrupted their women and children and killed their men. They move sadly and apathetically as we herd them off the land of their fathers into concentration camps where minimal social needs are rarely met. They know they must move on or be destroyed by our bombs ... primarily women and children and the aged watch as we poison their water, as we kill a million acres of their crops. They must weep as the bulldozers roar through their areas preparing to destroy the precious trees. They wander into the hospitals. So far we may have killed a million of them, [in Vietnam by 1967] mostly children. They wander into the towns and see thousands of the children, homeless, without clothes, running in packs on the streets like animals. They see the children degraded by our soldiers as they beg for food. They see the children selling their sisters to our soldiers, soliciting for their mothers."

Opposition to nuclear weapons

In his book, "Strength to Love", Dr. King wrote,"Wisdom born of experience should tell us that war is obsolete. There may have been a time when war served a negative good by preventing the spread of an evil force, but the power of modern weapons eliminates



Figure 3.3: **Martin Luther King Jr. speaking in Washington. Source: American Civil Liberties Union of Virginia, acluva.org**

even the possibility that war may serve as a negative good. If we assume that life is worth living, and that man has a right to survival, then we must find an alternative to war ... I am convinced that the Church cannot be silent while mankind faces the threat of nuclear annihilation. If the church is true to her mission, she must call for an end to the nuclear arms race."

Assassination

On April 4, 1968, Dr. King was shot and killed. A number of people, including members of his own family, believe that he was killed because of his opposition to the Viet Nam War. This conclusion is supported by the result of a 1999 trial initiated by members of the King family. Summing up the arguments to the jury, the family's lawyer said "We are dealing in conspiracy with agents of the City of Memphis and the governments of the State of Tennessee and the United States of America. We ask that you find that a conspiracy existed." After two and a half hour's deliberation, the jury found that Lloyd Jowers and "others, including governmental agencies, were parties to this conspiracy". The verdict of the jury remains judicially valid today, and it has never been overturned in a court of law, although massive efforts have been made to discredit it.

Redemptive love

Concerning the Christian principle of loving one's enemies, Dr. King wrote: "Why should we love our enemies? Returning hate for hate multiplies hate, adding deeper darkness to a night already devoid of stars. Darkness cannot drive out darkness; only light can do that. Hate cannot drive out hate. Only love can do that ... Love is the only force capable of transforming an enemy into a friend. We never get rid of an enemy by meeting hate with hate; we get rid of an enemy by getting rid of enmity... It is this attitude that made it possible for Lincoln to speak a kind word about the South during the Civil War, when feeling was most bitter. Asked by a shocked bystander how he could do this, Lincoln said, 'Madam, do I not destroy my enemies when I make them my friends?' This is the power of redemptive love."

To a large extent, the black civil rights movement of the '50's and '60's succeeded in ending legalized racial discrimination in America. If the methods used had been violent, the movement could easily have degenerated into a nightmare of interracial hatred; but by remembering the Christian message, "Love your enemy; do good to them that despitefully use you", Martin Luther King Jr. raised the ethical level of the civil rights movement; and the final result was harmony and understanding between the black and white communities. Later the nonviolent methods of Gandhi and King were successfully applied to the South African struggle against Apartheid by Nelson Mandela and his followers.

Here are a few more things that Martin Luther King said

I have decided to stick to love...Hate is too great a burden to bear

Faith is taking the first step even when you can't see the whole staircase.

Our lives begin to end the day we become silent about things that matter.

In the end, we will remember not the words of our enemies, but the silence of our friends.

If you can't fly then run, if you can't run then walk, if you can't walk then crawl, but whatever you do you have to keep moving forward.

Only in the darkness can you see the stars.

There comes a time when a person must take a position that is neither safe, nor politic, nor popular, but he must take it because conscience tells him it is right.

Everybody can be great...because anybody can serve. You don't have to have a college degree to serve. You don't have to make your subject and verb agree

to serve. You only need a heart full of grace. A soul generated by love.

Forgiveness is not an occasional act, it is a constant attitude.

We must accept finite disappointment, but never lose infinite hope.

There is some good in the worst of us and some evil in the best of us. When we discover this, we are less prone to hate our enemies.

We must live together as brothers or perish together as fools.

Intelligence plus character - that is the goal of true education.

True peace is not merely the absence of tension; it is the presence of justice.

Science investigates; religion interprets. Science gives man knowledge, which is power; religion gives man wisdom, which is control. Science deals mainly with facts; religion deals mainly with values. The two are not rivals.

The ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy.

We know through painful experience that freedom is never voluntarily given by the oppressor, it must be demanded by the oppressed.

Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly.

We have also come to this hallowed spot to remind America of the fierce urgency of Now. This is no time to engage in the luxury of cooling off or to take the tranquilizing drug of gradualism. Now is the time to make real the promises of democracy.

The time is always right to do what is right.

For when people get caught up with that which is right and they are willing to sacrifice for it, there is no stopping point short of victory.

All we say to America is, 'Be true to what you said on paper.' If I lived in... any totalitarian country, maybe I could understand the denial of certain basic First Amendment privileges, because they hadn't committed themselves to that over there. But somewhere I read of the freedom of assembly. Somewhere

I read of the freedom of speech. Somewhere I read of the freedom of the press. Somewhere I read that the greatness of America is the right to protest for right.

We've got some difficult days ahead. But it really doesn't matter with me now because I've been to the mountaintop . . .I've looked over and I've seen the promised land. I may not get there with you. But I want you to know tonight that we as a people will get to the promised land.

An excerpt from Martin Luther King, Jr.'s Riverside Church speech

This I believe to be the privilege and the burden of all of us who deem ourselves bound by allegiances and loyalties which are broader and deeper than nationalism and which go beyond our nation's self-defined goals and positions. We are called to speak for the weak, for the voiceless, for the victims of our nation and for those it calls "enemy," for no document from human hands can make these humans any less our brothers.

And as I ponder the madness of Vietnam and search within myself for ways to understand and respond in compassion, my mind goes constantly to the people of that peninsula. I speak now not of the soldiers of each side, not of the ideologies of the Liberation Front, not of the junta in Saigon, but simply of the people who have been living under the curse of war for almost three continuous decades now. I think of them, too, because it is clear to me that there will be no meaningful solution there until some attempt is made to know them and hear their broken cries.

They must see Americans as strange liberators. The Vietnamese people proclaimed their own independence in 1954 – in 1945 rather – after a combined French and Japanese occupation and before the communist revolution in China. They were led by Ho Chi Minh. Even though they quoted the American Declaration of Independence in their own document of freedom, we refused to recognize them. Instead, we decided to support France in its reconquest of her former colony. Our government felt then that the Vietnamese people were not ready for independence, and we again fell victim to the deadly Western arrogance that has poisoned the international atmosphere for so long. With that tragic decision we rejected a revolutionary government seeking self-determination and a government that had been established not by China – for whom the Vietnamese have no great love – but by clearly indigenous forces that included some communists. For the peasants this new government meant real land reform, one of the most important needs in their lives.

For nine years following 1945 we denied the people of Vietnam the right of independence. For nine years we vigorously supported the French in their abortive effort to recolonize Vietnam. Before the end of the war we were

meeting eighty percent of the French war costs. Even before the French were defeated at Dien Bien Phu, they began to despair of their reckless action, but we did not. We encouraged them with our huge financial and military supplies to continue the war even after they had lost the will. Soon we would be paying almost the full costs of this tragic attempt at recolonization.

After the French were defeated, it looked as if independence and land reform would come again through the Geneva Agreement. But instead there came the United States, determined that Ho should not unify the temporarily divided nation, and the peasants watched again as we supported one of the most vicious modern dictators, our chosen man, Premier Diem. The peasants watched and cringed as Diem ruthlessly rooted out all opposition, supported their extortionist landlords, and refused even to discuss reunification with the North. The peasants watched as all this was presided over by United States' influence and then by increasing numbers of United States troops who came to help quell the insurgency that Diem's methods had aroused. When Diem was overthrown they may have been happy, but the long line of military dictators seemed to offer no real change, especially in terms of their need for land and peace.

The only change came from America, as we increased our troop commitments in support of governments which were singularly corrupt, inept, and without popular support. All the while the people read our leaflets and received the regular promises of peace and democracy and land reform. Now they languish under our bombs and consider us, not their fellow Vietnamese, the real enemy. They move sadly and apathetically as we herd them off the land of their fathers into concentration camps where minimal social needs are rarely met. They know they must move on or be destroyed by our bombs.

So they go, primarily women and children and the aged. They watch as we poison their water, as we kill a million acres of their crops. They must weep as the bulldozers roar through their areas preparing to destroy the precious trees. They wander into the hospitals with at least twenty casualties from American firepower for one Vietcong-inflicted injury. So far we may have killed a million of them, mostly children. They wander into the towns and see thousands of the children, homeless, without clothes, running in packs on the streets like animals. They see the children degraded by our soldiers as they beg for food. They see the children selling their sisters to our soldiers, soliciting for their mothers.

What do the peasants think as we ally ourselves with the landlords and as we refuse to put any action into our many words concerning land reform? What do they think as we test out our latest weapons on them, just as the Germans tested out new medicine and new tortures in the concentration camps of Europe? Where are the roots of the independent Vietnam we claim to be building? Is it among these voiceless ones?

We have destroyed their two most cherished institutions: the family and the

village. We have destroyed their land and their crops. We have cooperated in the crushing – in the crushing of the nation's only non-Communist revolutionary political force, the unified Buddhist Church. We have supported the enemies of the peasants of Saigon. We have corrupted their women and children and killed their men.

Now there is little left to build on, save bitterness. Soon, the only solid – solid physical foundations remaining will be found at our military bases and in the concrete of the concentration camps we call "fortified hamlets." The peasants may well wonder if we plan to build our new Vietnam on such grounds as these. Could we blame them for such thoughts? We must speak for them and raise the questions they cannot raise. These, too, are our brothers.

Perhaps a more difficult but no less necessary task is to speak for those who have been designated as our enemies. What of the National Liberation Front, that strangely anonymous group we call "VC" or "communists"? What must they think of the United States of America when they realize that we permitted the repression and cruelty of Diem, which helped to bring them into being as a resistance group in the South? What do they think of our condoning the violence which led to their own taking up of arms? How can they believe in our integrity when now we speak of "aggression from the North" as if there were nothing more essential to the war? How can they trust us when now we charge them with violence after the murderous reign of Diem and charge them with violence while we pour every new weapon of death into their land? Surely we must understand their feelings, even if we do not condone their actions. Surely we must see that the men we supported pressed them to their violence. Surely we must see that our own computerized plans of destruction simply dwarf their greatest acts.

How do they judge us when our officials know that their membership is less than twenty-five percent communist, and yet insist on giving them the blanket name? What must they be thinking when they know that we are aware of their control of major sections of Vietnam, and yet we appear ready to allow national elections in which this highly organized political parallel government will not have a part? They ask how we can speak of free elections when the Saigon press is censored and controlled by the military junta. And they are surely right to wonder what kind of new government we plan to help form without them, the only party in real touch with the peasants. They question our political goals and they deny the reality of a peace settlement from which they will be excluded. Their questions are frighteningly relevant. Is our nation planning to build on political myth again, and then shore it up upon the power of new violence?

Here is the true meaning and value of compassion and nonviolence, when it helps us to see the enemy's point of view, to hear his questions, to know his assessment of ourselves. For from his view we may indeed see the basic weaknesses of our own condition, and if we are mature, we may learn and grow

and profit from the wisdom of the brothers who are called the opposition.

So, too, with Hanoi. In the North, where our bombs now pummel the land, and our mines endanger the waterways, we are met by a deep but understandable mistrust. To speak for them is to explain this lack of confidence in Western words, and especially their distrust of American intentions now. In Hanoi are the men who led the nation to independence against the Japanese and the French, the men who sought membership in the French Commonwealth and were betrayed by the weakness of Paris and the willfulness of the colonial armies. It was they who led a second struggle against French domination at tremendous costs, and then were persuaded to give up the land they controlled between the thirteenth and seventeenth parallel as a temporary measure at Geneva. After 1954 they watched us conspire with Diem to prevent elections which could have surely brought Ho Chi Minh to power over a united Vietnam, and they realized they had been betrayed again. When we ask why they do not leap to negotiate, these things must be remembered.

Also, it must be clear that the leaders of Hanoi considered the presence of American troops in support of the Diem regime to have been the initial military breach of the Geneva Agreement concerning foreign troops. They remind us that they did not begin to send troops in large numbers and even supplies into the South until American forces had moved into the tens of thousands.

Hanoi remembers how our leaders refused to tell us the truth about the earlier North Vietnamese overtures for peace, how the president claimed that none existed when they had clearly been made. Ho Chi Minh has watched as America has spoken of peace and built up its forces, and now he has surely heard the increasing international rumors of American plans for an invasion of the North. He knows the bombing and shelling and mining we are doing are part of traditional pre-invasion strategy. Perhaps only his sense of humor and of irony can save him when he hears the most powerful nation of the world speaking of aggression as it drops thousands of bombs on a poor, weak nation more than eight hundred – rather, eight thousand miles away from its shores.

At this point I should make it clear that while I have tried in these last few minutes to give a voice to the voiceless in Vietnam and to understand the arguments of those who are called "enemy," I am as deeply concerned about our own troops there as anything else. For it occurs to me that what we are submitting them to in Vietnam is not simply the brutalizing process that goes on in any war where armies face each other and seek to destroy. We are adding cynicism to the process of death, for they must know after a short period there that none of the things we claim to be fighting for are really involved. Before long they must know that their government has sent them into a struggle among Vietnamese, and the more sophisticated surely realize that we are on the side of the wealthy, and the secure, while we create a hell for the poor.

Somehow this madness must cease. We must stop now. I speak as a child of God and brother to the suffering poor of Vietnam. I speak for those whose

land is being laid waste, whose homes are being destroyed, whose culture is being subverted. I speak of the – for the poor of America who are paying the double price of smashed hopes at home, and death and corruption in Vietnam. I speak as a citizen of the world, for the world as it stands aghast at the path we have taken. I speak as one who loves America, to the leaders of our own nation: The great initiative in this war is ours; the initiative to stop it must be ours.

This is the message of the great Buddhist leaders of Vietnam. Recently one of them wrote these words, and I quote: "Each day the war goes on the hatred increases in the heart of the Vietnamese and in the hearts of those of humanitarian instinct. The Americans are forcing even their friends into becoming their enemies. It is curious that the Americans, who calculate so carefully on the possibilities of military victory, do not realize that in the process they are incurring deep psychological and political defeat. The image of America will never again be the image of revolution, freedom, and democracy, but the image of violence and militarism".

If we continue, there will be no doubt in my mind and in the mind of the world that we have no honorable intentions in Vietnam. If we do not stop our war against the people of Vietnam immediately, the world will be left with no other alternative than to see this as some horrible, clumsy, and deadly game we have decided to play. The world now demands a maturity of America that we may not be able to achieve. It demands that we admit that we have been wrong from the beginning of our adventure in Vietnam, that we have been detrimental to the life of the Vietnamese people. The situation is one in which we must be ready to turn sharply from our present ways. In order to atone for our sins and errors in Vietnam, we should take the initiative in bringing a halt to this tragic war.

I would like to suggest five concrete things that our government should do [immediately] to begin the long and difficult process of extricating ourselves from this nightmarish conflict:

Number one: End all bombing in North and South Vietnam.

Number two: Declare a unilateral cease-fire in the hope that such action will create the atmosphere for negotiation.

Three: Take immediate steps to prevent other battlegrounds in Southeast Asia by curtailing our military buildup in Thailand and our interference in Laos.

Four: Realistically accept the fact that the National Liberation Front has substantial support in South Vietnam and must thereby play a role in any meaningful negotiations and any future Vietnam government.

Five: Set a date that we will remove all foreign troops from Vietnam in accordance with the 1954 Geneva Agreement...

In 1957, a sensitive American official overseas said that it seemed to him that our nation was on the wrong side of a world revolution. During the past ten

years, we have seen emerge a pattern of suppression which has now justified the presence of U.S. military advisors in Venezuela. This need to maintain social stability for our investments accounts for the counterrevolutionary action of American forces in Guatemala. It tells why American helicopters are being used against guerrillas in Cambodia and why American napalm and Green Beret forces have already been active against rebels in Peru.

It is with such activity in mind that the words of the late John F. Kennedy come back to haunt us. Five years ago he said, "Those who make peaceful revolution impossible will make violent revolution inevitable." Increasingly, by choice or by accident, this is the role our nation has taken, the role of those who make peaceful revolution impossible by refusing to give up the privileges and the pleasures that come from the immense profits of overseas investments. I am convinced that if we are to get on the right side of the world revolution, we as a nation must undergo a radical revolution of values. We must rapidly begin...we must rapidly begin the shift from a thing-oriented society to a person-oriented society. When machines and computers, profit motives and property rights, are considered more important than people, the giant triplets of racism, extreme materialism, and militarism are incapable of being conquered.

A true revolution of values will soon cause us to question the fairness and justice of many of our past and present policies. On the one hand, we are called to play the Good Samaritan on life's roadside, but that will be only an initial act. One day we must come to see that the whole Jericho Road must be transformed so that men and women will not be constantly beaten and robbed as they make their journey on life's highway. True compassion is more than flinging a coin to a beggar. It comes to see that an edifice which produces beggars needs restructuring.

A true revolution of values will soon look uneasily on the glaring contrast of poverty and wealth. With righteous indignation, it will look across the seas and see individual capitalists of the West investing huge sums of money in Asia, Africa, and South America, only to take the profits out with no concern for the social betterment of the countries, and say, "This is not just." It will look at our alliance with the landed gentry of South America and say, "This is not just." The Western arrogance of feeling that it has everything to teach others and nothing to learn from them is not just.

A true revolution of values will lay hand on the world order and say of war, "This way of settling differences is not just." This business of burning human beings with napalm, of filling our nation's homes with orphans and widows, of injecting poisonous drugs of hate into the veins of peoples normally humane, of sending men home from dark and bloody battlefields physically handicapped and psychologically deranged, cannot be reconciled with wisdom, justice, and love. A nation that continues year after year to spend more money on military defense than on programs of social uplift is approaching spiritual death.

Chapter 4

THREE POETS

Wilfred Owen

Expressing the horror of war

Wilfred Owen and his mentor, Siegfried Sassoon were two poets who eloquently described the horrors of World War I. They met in a military hospital, after both had been wounded in the war. Owen had been writing poetry since the age of 11, but not about war. When he became friends with Sassoon during their hospital stay, Owen was inspired by Sassoon's example and realized that the horrors of trenches and gas warfare deserved to be described realistically in poetry. Against the strong advice of Sassoon, Owen insisted on returning to active duty in France, where he wrote the eloquent and bitter war poems for which he is remembered.

Owen was killed in action exactly one week before the end of the war. His mother received the telegram informing her of his death on Armistice Day, as the church bells were ringing out in celebration. Here are two of Owen's poems:

Dulce et decorum Est

Bent double, like old beggars under sacks,
Knock-kneed, coughing like hags, we cursed through sludge,
Till on the haunting flares we turned out backs,
And towards our distant rest began to trudge.
Men marched asleep. Many had lost their boots,
But limped on, blood-shod. All went lame, all blind;
Drunk with fatigue; deaf even to the hoots
Of gas-shells dropping softly behind.

Gas! GAS! Quick, boys! - An ecstasy of fumbling
Fitting the clumsy helmets just in time,
But someone still was yelling out and stumbling

And flound'ring like a man in fire or lime.
Dim through the misty panes and thick green light,
As under a green sea, I saw him drowning.
In all my dreams before my helpless sight
He plunges at me, guttering, choking, drowning.

If in some smothering dreams, you too could pace
Behind the wagon that we flung him in,
And watch the white eyes writhing in his face,
His hanging face, like a devil's sick of sin,
If you could hear, at every jolt, the blood
Come gargling from the froth-corrupted lungs
Obscene as cancer, bitter as the cud
Of vile, incurable sores on innocent tongues,
My friend, you would not tell with such high zest
To children ardent for some desperate glory,
The old Lie: Dulce et decorum est
Pro patria mori.

The parable of the old man and the young

So Abram rose, and clave the wood, and went,
And took the fire with him, and a knife.
And as they sojourned both of them together,
Isaac the first-born spake and said, My Father,
Behold the preparations, fire and iron,
But where the lamb for this burnt-offering?
Then Abram bound the youth with belts and straps,
and builded parapets and trenches there,
And stretchèd forth the knife to slay his son.
When lo! an angel called him out of heaven,
Saying, Lay not thy hand upon the lad,
Neither do anything to him. Behold,
A ram, caught in a thicket by its horns;
Offer the Ram of Pride instead of him.

But the old man would not so, but slew his son,
And half the seed of Europe, one by one.



Figure 4.1: **Wilfred Owen.**

Siegfried Sassoon

Siegfried Sassoon was born into a wealthy family, and prior to World War I, he led a privileged life. During the war, he served in France, and he received the Military Cross for bringing back a wounded soldier under heavy fire. After being wounded, he shared a hospital room with Wilfred Owen. Sassoon's bitter poems describing the horrors of war inspired Owen's own poems. Here are two by Sassoon:

Attack

At dawn the ridge emerges massed and dun
In the wild purple of the glow'ring sun,
Smouldering through spouts of drifting smoke that shroud
The menacing scarred slope; and, one by one,
Tanks creep and topple forward to the wire.
The barrage roars and lifts. Then, clumsily bowed
With bombs and guns and shovels and battle-gear,
Men jostle and climb to, meet the bristling fire.
Lines of grey, muttering faces, masked with fear,
They leave their trenches, going over the top,
While time ticks blank and busy on their wrists,
And hope, with furtive eyes and grappling fists,
Flounders in mud. O Jesus, make it stop!

The death bed

He drowsed and was aware of silence heaped
Round him, unshaken as the steadfast walls;
Aqueous like floating rays of amber light,
Soaring and quivering in the wings of sleep.
Silence and safety; and his mortal shore
Lipped by the inward, moonless waves of death.

Someone was holding water to his mouth.
He swallowed, unresisting; moaned and dropped
Through crimson gloom to darkness; and forgot
The opiate throb and ache that was his wound.
Water - calm, sliding green above the weir;
Water - a sky-lit alley for his boat,
Bird-voiced, and bordered with reflected flowers
And shaken hues of summer: drifting down,
He dipped contented oars, and sighed, and slept.

Night, with a gust of wind, was in the ward,
Blowing the curtain to a gummering curve.
Night. He was blind; he could not see the stars
Glinting among the wraiths of wandering cloud;
Queer blots of colour, purple, scarlet, green,
Flickered and faded in his drowning eyes.

Rain - he could hear it rustling through the dark;
Fragrance and passionless music woven as one;
Warm rain on drooping roses; pattering showers
That soak the woods; not the harsh rain that sweeps
Behind the thunder, but a trickling peace,
Gently and slowly washing life away.

He stirred, shifting his body; then the pain
Leaped like a prowling beast, and gripped and tore
His groping dreams with grinding claws and fangs.
But someone was beside him; soon he lay
Shuddering because that evil thing had passed.
And death, who'd stepped toward him, paused and stared.

Light many lamps and gather round his bed.
Lend him your eyes, warm blood, and will to live.
Speak to him; rouse him; you may save him yet.
He's young; he hated war; how should he die
When cruel old campaigners win safe through?

But death replied: "I choose him." So he went,
And there was silence in the summer night;
Silence and safety; and the veils of sleep.
Then, far away, the thudding of the guns.



Figure 4.2: **Siegfried Sassoon.**

Edna St. Vincent Millay

The beautiful red-haired American poet, Edna St. Vincent Millay (1892-1950), is known for her lyric poetry, but she also wrote some of the finest sonnets in the English language, combining classic form with modern imagery. Many of these sonnets are based on the emotions that she experienced in her love affairs. However, my own favorite is a serious sequence of eighteen sonnets, *Epitaph for the Race of Man*, published in 1934, just as the catastrophe of World War II was about to engulf our planet.

The basic premise of Millay's *Epitaph*‘ is that we know from the evolutionary history of life on earth, that no species survives forever. She speculates on what will be the final cause of the extinction of the human race, and concludes that Man will die by his own hand, since none the innumerable disasters that nature has thrown at us over the millennia has persuaded humankind "to lay aside the lever and the spade, and be as dust among the dusts that blow‘"‘. Here are the eighteen sonnets from the sequence:

Epitaph For The Race Of Man

Before this cooling planet shall be cold,
Long, long before the music of the Lyre,
Like the faint roar of distant breakers rolled
On reefs unseen, when wind and flood conspire
To drive the ships inshore - long, long, I say,
Before this ominous humming hits the ear,
Earth will have come upon a stiller day,
Man and his engines be no longer here.
High on his naked rock the mountain sheep
Will stand alone against the final sky,
Drinking a wind of danger new and deep,
Staring on Vega with a piercing eye,
And gather up his slender hooves and leap
From crag to crag down Chaos, and so go by.

When Death was young and bleaching bones were few,
A moving hill against the risen day
The dinosaur at morning made his way,
And dropped his dung along the blazing dew;
Trees with no name that now are agate grew
Lushly beside him in the steamy clay;
He woke and hungered, rose and stalked his prey,
And slept contented, in a world he knew.
In punctual season, with the race in mind,
His consort held aside her heavy tail,
And took the seed; and heard the seed confined



Figure 4.3: **The American poet, Edna St. Vincent Millay.**

Roar in her womb; and made a nest to hold
A hatched-out conqueror . . . but to no avail:
The veined and fertile eggs are long since cold.

Cretaceous bird, your giant claw no lime
From bark of holly bruised or mistletoe
Could have arrested, could have held you so
Through fifty million years of jostling time;
Yet cradled with you in the catholic slime
Of the young ocean's tepid lapse and flow
Slumbered an agent, weak in embryo,
Should grip you straitly, in its sinewy prime.
What bright collision in the zodiac brews,
What mischief dimples at the planet's core
For shark, for python, for the dove that coos
Under the leaves? - what frosty fate's in store
For the warm blood of man, - man, out of ooze
But lately crawled, and climbing up the shore?

Oh Earth, unhappy planet, born to die,
Might I your scribe and your confessor be,
What wonders must you not relate to me

Of Man, who, when his destiny was high
Strode like the sun into the middle sky
And shone an hour, and who so bright as he,
And like the sun went down into the sea,
Leaving no spark to be remembered by.
But no; you have not learned in all these years
To tell the leopard and the newt apart;
Man, with his singular laughter, his droll tears,
His engines and his conscience and his art,
Made but a simple sound upon your ears:
The patient beating of an animal heart.

When man is gone and only gods remain
To stride the world, their mighty bodies hung
With golden shields, and golden curls outflung
Above their childish foreheads; when the plain
Round skull of Man is lifted and again
Abandoned by the ebbing wave, among
The sand and pebbles of the beach, - what tongue
Will tell the marvel of the human brain?
Heavy with music once this windy shell,
Heavy with knowledge of the clustered stars;
The one-time tenant of this draughty hall
Himself, in learned pamphlet, did foretell,
After some aeons of study jarred by wars,
This toothy gourd, this head emptied of all.

See where Capella with her golden kids
Grazes the slope between the east and north?
Thus when the builders of the pyramids
Flung down their tools at nightfall and poured forth
Homeward to supper and a poor man's bed,
Shortening the road with friendly jest and slur,
The risen She-Goat showing blue and red
Climbed the clear dusk, and three stars followed her.
Safe in their linen and their spices lie
The kings of Egypt; even as long ago
Under these constellations, with long eye
And scented limbs they slept, and feared no foe.
Their will was law; their will was not to die:
And so they had their way; or nearly so.

He heard the coughing tiger in the night

Push at his door; close by his quiet head
About the wattled cabin the soft tread
Of heavy feet he followed, and the slight
Sigh of the long banana leaves; in sight
At last and leaning westward overhead
The Centaur and the Cross now heralded
The sun, far off but marching, bringing light.
What time the Centaur and the Cross were spent
Night and the beast retired into the hill,
Whereat serene and undevoured he lay,
And dozed and stretched and listened and lay still,
Breathing into his body with content
The temperate dawn before the tropic day.

Observe how Miyanoshita cracked in two
And slid into the valley; he that stood
Grinning with terror in the bamboo wood
Saw the earth heave and thrust its bowels through
The hill, and his own kitchen slide from view,
Spilling the warm bowl of his humble food
Into the lap of horror; mark how lewd
This cluttered gulf, - 'twas here his paddy grew.
Dread and dismay have not encompassed him;
The calm sun sets; unhurried and aloof
Into the riven village falls the rain;
Days pass; the ashes cool; he builds again
His paper house upon oblivion's brim,
And plants the purple iris in its roof.

He woke in terror to a sky more bright
Than middle day; he heard the sick earth groan,
And ran to see the lazy-smoking cone
Of the fire-mountain, friendly to his sight
As his wife's hand, gone strange and full of fright;
Over his fleeing shoulder it was shown
Rolling its pitchy lake of scalding stone
Upon his house that had no feet for flight.
Where did he weep? Where did he sit him down
And sorrow, with his head between his knees?
Where said the Race of Man, "Here let me drown"?
"Here let me die of hunger"? . "let me freeze"?
By nightfall he has built another town:
This boiling pot, this clearing in the trees.

The broken dike, the levee washed away,
The good fields flooded and the cattle drowned,
Estranged and treacherous all the faithful ground,
And nothing left but floating disarray
Of tree and home uprooted, - was this the day
Man dropped upon his shadow without a sound
And died, having laboured well and having found
His burden heavier than a quilt of clay?
No, no. I saw him when the sun had set
In water, leaning on his single oar
Above his garden faintly glimmering yet …
There bulked the plough, here washed the updrifted weeds …
And scull across his roof and make for shore,
With twisted face and pocket full of seeds.

Sweeter was loss than silver coins to spend,
Sweeter was famine than the belly filled;
Better than blood in the vein was the blood spilled;
Better than corn and healthy flocks to tend
And a tight roof and acres without end
Was the barn burned and the mild creatures killed,
And the back aging fast, and all to build:
For then it was, his neighbor was his friend.
Then for a moment the averted eye
Was turned upon him with benignant beam,
Defiance faltered, and derision slept;
He saw in a not unhappy dream
The kindly heads against the horrid sky,
And scowled, and cleared his throat and spat, and wept.

Now forth to meadows as the farmer goes
With shining buckets to the milking-ground,
He meets the black ant hurrying from his mound
To milk the aphid pastured on the rose;
But no good-morrow, as you might suppose,
No nod of greeting, no perfunctory sound
Passes between them; no occasion's found
For gossip as to how the fodder grows.
In chilly autumn on the hardening road
They meet again, driving their flocks to stall,
Two herdsmen, each with winter for a goad;
They meet and pass, and never a word at all

Gives one to t'other. On the quaint abode
Of each, the evening and the first snow fall.

His heatless room the watcher of the stars
Nightly inhabits when the night is clear;
Propping his mattress on the turning sphere,
Saturn his rings or Jupiter his bars
He follows, or the fleeing moons of Mars,
Till from his ticking lens they disappear...
Whereat he sighs, and yawns, and on his ear
The busy chirp of Earth remotely jars.
Peace at the void's heart through the wordless night,
A lamb cropping the awful grasses, grazed;
Earthward the trouble lies, where strikes his light
At dawn industrious Man, and unamazed
Goes forth to plough, flinging a ribald stone
At all endeavor alien to his own.

Him not the golden fang of furious heaven,
Nor whirling Aeolus on his awful wheel,
Nor foggy specter ramming the swift keel,
Nor flood, nor earthquake, nor the red tongue even
Of fire, disaster's dog - him, him bereaven
Of all save the heart's knocking, and to feel
The air upon his face: not the great heel
Of headless Force into the dust was driven.
These sunken cities, tier on tier, bespeak
How ever from the ashes with proud beak
And shining feathers did the phoenix rise,
And sail, and send the vulture from the skies...
That in the end returned; for Man was weak
Before the unkindness in his brother's eyes.

Now sets his foot upon the eastern sill
Aldeberan, swiftly rising, mounting high,
And tracks the Pleiads down the crowded sky,
And drives his wedge into the western hill;
Now for the void sets forth, and further still,
The questioning mind of man... that by and by
From the void's rim returns with swooping eye,
Having seen himself into the maelstrom spill.
Blench not, O race of Adam, lest you find
In the sun's bubbling bowl anonymous death,

Or lost in whistling space without a mind
To monstrous Nothing yield your little breath:
You shall achieve destruction where you stand,
In intimate conflict, at your brother's hand.

Alas for Man, so stealthily betrayed,
Bearing the bad cell in him from the start,
Pumping and feeding on his healthy heart
That wild disorder never to be stayed
When once established, destined to invade
With angry hordes the true and proper part,
'Til Reason joggles in the headsman's cart,
And Mania spits from every balustrade.
Would he had searched his closet for his bane,
Where lurked the trusted ancient of his soul,
Obsequious Greed, and seen that visage plain;
Would he had whittled treason from his side
In his stout youth and bled his body whole,
Then had he died a king, or never died.'"

Only the diamond and the diamond's dust
Can render up the diamond unto Man;
One and invulnerable as it began
Had it endured, but for the treacherous thrust
That laid its hard heart open, as it must,
And ground it down and fitted it to span
A turbaned brow or fret an ivory fan,
Lopped of its stature, pared of its proper crust.
So Man, by all the wheels of heaven unscored,
Man, the stout ego, the exuberant mind
No edge could cleave, no acid could consume,
Being split along the vein by his own kind,
Gives over, rolls upon the palm abhorred,
Is set in brass on the swart thumb of Doom.

Here lies, and none to mourn him but the sea,
That falls incessant on the empty shore,
Most various Man, cut down to spring no more;
Before his prime, even in his infancy
Cut down, and all the clamour that was he,
Silenced; and all the riveted pride he wore,
A rusted iron column whose tall core
The rains have tunneled like an aspen tree.

Man, doughty Man, what power has brought you low,
That heaven itself in arms could not persuade
To lay aside the lever and the spade
And be as dust among the dusts that blow?
Whence, whence the broadside? Whose the heavy blade?...
Strive not to speak, poor scattered mouth; I know.

It seems to me that although Millay's words were extremely appropriate as a warning to humankind in 1934, they are even more heavy with meaning today. Millay speaks eloquently to us over the years:.

Chapter 5

BERTHA VON SUTTNER AND HELEN KELLER

Bertha von Suttner

Early life and marriage

Baroness Bertha von Suttner (1843-1914) was born in Prague as Countess Kinsky. She was the posthumous daughter of a Field Marshall, and during the first part of her life, she accepted the military traditions of her family. Later she vigorously opposed militarism, and she became a leader of the peace movement. It was her arguments that persuaded Alfred Nobel to establish the Nobel Peace Prize, and in 1905 she became the first woman to receive the prize.

After serving as Alfred Nobel's secretary (and close friend) in Paris (1876), Bertha married Baron Arthur von Suttner. However, the von Suttner family was strongly opposed to the marriage, and the young couple left for the Caucasus where for nine years they earned a living by giving lessons in languages and music. During this period, Bertha von Suttner became a highly successful writer.

In 1885 the von Suttner family relented, and welcomed the couple back to Austria. Here Bertha von Suttner wrote most of her books, including her many novels. The couple's life was oriented almost solely toward the literary until, through a friend, they learned about the International Arbitration and Peace Association1 in London and about similar groups on the Continent, organizations that had as an actual working objective what they had now both accepted as an ideal: arbitration and peace in place of armed force.

Bertha von Suttner immediately added material on this to her second serious book, *Das Maschinenzeitalter (The Machine Age)* which, when published early in 1889. Her book was much discussed and reviewed. It criticizing many aspects of the times, and it was among the first to foretell the results of exaggerated nationalism and armaments. Her novel *Lay Down Your Arms*, published in the same year, had a huge impact.



Figure 5.1: **Bertha von Suttner.**

The 1905 Nobel Peace Prize

Here are some excerpts from Bertha von Suttner's acceptance speech:

One of the eternal truths is that happiness is created and developed in peace, and one of the eternal rights is the individual's right to live. The strongest of all instincts, that of self-preservation, is an assertion of this right, affirmed and sanctified by the ancient commandment "Thou shalt not kill."

It is unnecessary for me to point out how little this right and this commandment are respected in the present state of civilization. Up to the present time, the military organization of our society has been founded upon a denial of the possibility of peace, a contempt for the value of human life, and an acceptance of the urge to kill...

It is erroneous to believe that the future will of necessity continue the trends of the past and the present. The past and present move away from us in the stream of time like the passing landscape of the riverbanks, as the vessel carrying mankind is borne inexorably by the current toward new shores...

"If you keep me in touch with developments, and if I hear that the Peace Movement is moving along the road of practical activity, then I will help it on with money." These words were spoken by that eminent Scandinavian to whom I owe this opportunity of appearing before you today, Ladies and Gentlemen. Alfred Nobel said them when my husband and I visited with him in 1892 in Bern, where a peace congress1 was in progress...

..although the supporters of the existing structure of society, which accepts war, come to a peace conference prepared to modify the nature of war, they are basically trying to keep the present system intact. The advocates of pacifism, inside and outside the Conference, will, however, defend their objectives and press forward... to "bring nearer the time when the sword shall not be the arbiter among nations".

A few more things the Bertha von Suttner said about peace

Strange how blind people are! They are horrified by the torture chambers of the Middle Ages, but their arsenals fill them with pride!

After the verb 'to Love', 'to Help' is the most beautiful verb in the world.

I wanted to be of service to the Peace League, and how could I better do so than by trying to write a book which should propagate its ideas. And I could do it most effectively, I thought, in the form of a story.

The instinct of self-preservation in human society, acting almost subconsciously, as do all drives in the human mind, is rebelling against the constantly refined methods of annihilation, and against the destruction of humanity.



Figure 5.2: **A portrait of Helen Keller.**

Helen Keller

Childhood

Helen Keller was born in 1880, in Tuscumbia, Alabama. Her father had served as a captain in the Confederate Army during the American Civil War, and her mother, Kate Adams, was the daughter of a Confederate general. She was also related to Robert E. Lee, so by birth she was certainly a Southerner. Today Helen Keller Day is celebrated each year in Alabama following a 1980 proclamation by President Jimmy Carter.

Helen was a normal child until the age of 19 months, when she contracted an illness which may have been scarlet fever or meningitis. It left her both deaf and blind. When Helen was 6 years old, her parents followed the advice of Alexander Graham Bell and contacted the Perkins Institute for the Blind. The Perkins Institute recommended their recent graduate Annie Sullivan, who became Helen's teacher.

Annie Sullivan, who was 20 years old at that time and also blind, began to work with Helen, spelling out words on the palm of Helen's hand. This method was unsuccessful at first, but one day, when Annie Sullivan was spelling out "water" on one of Helen's hands while water was running over the other, Helen suddenly realized that the letters were a symbol for water. For the next many days, the child almost wore her teacher out by demanding the spelling of hundreds of other things within her experience. Annie Sullivan later became Helen's lifelong friend and companion.

Victory over a triple handicap

Starting in 1888, Helen Keller began her formal education, at first at the Perkins Institute, then at a succession of other schools. Finally, at the age of 24, with financial help from a wealthy friend of Mark Twain. Helen graduated from Radcliffe College. She was the first blind and deaf person to obtain a BA degree. On the way to this triumph, Helen had taught herself to speak normally, and she could understand what other people were saying by placing her hand on their lips.

Helen Keller quickly developed into a popular lecturer and author. She spoke and wrote to advocate many social reforms, including woman's suffrage, labour rights, socialism and antimilitarism.

The story of Helen Keller and Annie Sullivan, as told in Helen's *Autobiography*, became known to a very wide public through the drama *The Miracle Worker*, which was first produced as a radio broadcast, then as a television drams, then as a Broadway play and finally as a succession of films.

Here is a newspaper account of one of Helen Keller's lectures:

"The wonderful girl who has so brilliantly triumphed over the triple afflictions of blindness, dumbness and deafness, gave a talk with her own lips on 'Happiness,' and it will be remembered always as a piece of inspired teaching by those who heard it.

"According to those who attended, Helen Keller spoke of the joy that life gave her. She

was thankful for the faculties and abilities that she did possess and stated that the most productive pleasures she had were curiosity and imagination. Keller also spoke of the joy of service and the happiness that came from doing things for others ... Keller imparted that 'helping your fellow men is one's only excuse for being in this world and in the doing of things to help one's fellows lay the secret of lasting happiness.' She also told of the joys of loving work and accomplishment and the happiness of achievement. Although the entire lecture lasted only a little over an hour, the lecture had a profound impact on the audience."

A few things that Helen Keller said

Strike against war, for without you no battles can be fought! Strike against manufacturing shrapnel and gas bombs and all other tools of murder! Strike against preparedness that means death and misery to millions of human beings! Be not dumb, obedient slaves in an army of destruction! Be heroes in an army of construction.

The best and most beautiful things in the world cannot be seen or even touched - they must be felt with the heart.

Believe. No pessimist ever discovered the secrets of the stars or sailed to an uncharted land or opened a new heaven to the human spirit

Alone we can do so little. Together we can do so much!

It is for us to pray not for tasks equal to our powers, but for powers equal to our tasks, to go forward with a great desire forever beating at the door of our hearts as we travel toward our distant goal

When one door of happiness closes, another opens; but often we look so long at the closed door that we do not see the one which has been opened for us.

To keep our faces toward change, and behave like free spirits in the presence of fate, is strength undefeatable.

Self-pity is our worst enemy and if we yield to it, we can never do anything wise in the world.

Security is mostly a superstition. It does not exist in nature, nor do the children of men as a whole experience it. Avoiding danger is no safer in the long run than outright exposure. Life is either a daring adventure or nothing

I do not want the peace that passeth understanding. I want the understanding which bringeth peace.

Chapter 6

RUSSELL, EINSTEIN AND ROTBLAT

Bertrand Russell

Bertrand Arthur William Russell, 3rd Earl Russell, OM, FRS, (1872-1970), was born into a wealthy and influential English family, whose members had been active in politics since the time of the Tudors. Bertrand Russell's grandfather, Lord John Russell, the third son of the Duke of Bedford and 1st Earl Russell, had twice served as Prime Minister during Queen Victoria's reign.

Because of the early death of his parents (Viscount and Viscountess Amberly) Bertrand Russell was brought up by his grandparents, Lord John Russell and Lady Russell, who lived at Pembroke Lodge near Richmond Park, about fifteen miles west of London. Bertrand Russell's grandfather soon died too, and his grandmother became the dominant influence on the boy's early life. Although she was a religious conservative, Russell's grandmother nevertheless believed in independence of thought, accepted Darwinism, and supporter Irish Home Rule. She also had the motto (taken from the Bible) "Thou shalt not follow a multitude to do evil."

Bertrand Russell and his elder brother Frank were educated at home by tutors, and they had rather lonely and unhappy childhoods in the emotionally repressed atmosphere of Pembroke Lodge. However, when Bertrand was eleven years old, Frank introduced him to the work of Euclid. Bertrand Russell later described this event in his autobiography as "one of the great events of my life, as dazzling as first love". It is interesting that Albert Einstein had similar feelings when he encountered the works of Euclid at almost the same age.

During these early years Russell also discovered the writings of the poet Shelley, and he later wrote:"I spent all my spare time reading him, and learning him by heart, knowing no one to whom I could speak of what I thought or felt, I used to reflect how wonderful it would have been to know Shelley, and to wonder whether I should meet any live human being with whom I should feel so much sympathy".

In 1890, when Bertrand Russell was 18, he started his studies in mathematics at Trinity College, Cambridge University. He graduated with distinction, but because of his agnostic religious beliefs, he encountered difficulties. Nevertheless he continued to teach at Cambridge University, his most notable student being the Austrian-British philosopher Ludwig Wittgenstein (1889-1951).

During the years 1910-1913, Russell collaborated with his former teacher. Alfred North Whitehead (1861-1947) to write a 3-volume treatise entitled *Principia Mathematica*, which dealt with the logical foundations of mathematics and languages. At the end of the huge effort which he had devoted to writing this enormous work, Russell underwent a sudden conversion, during which all the aims of his life changed completely. Observing the terrible isolation of Whitehead's wife while she suffered an attack of angina, he had a sudden insight into the isolation of each human being and the need for better communication to break this isolation. As a result of this moment of intuition, Bertrand Russell resolved to abandon mathematics, and instead devote his life to making human existence happier and better.

Russell's idealism, honesty and humor shine from the pages of the enormous number of books, articles and letters that he wrote during the remainder of his life. His wide-ranging and influential writing won him not only great fame, but also the 1950 Nobel Prize in Literature.

Bertrand Russell was the author of the Russell-Einstein Declaration of 1955, the founding document of Pugwash Conferences on Science and World Affairs, an organization which won the Nobel Peace Prize in 1995. Russell devoted much of the last part of his life to working for the complete abolition of nuclear weapons.

Here are a few things that Bertrand Russell said:

War does not determine who is right, but only who is left.

The world is full of magical things patiently waiting for our wits to become sharper.

Men are born ignorant, not stupid. They are made stupid by education.

To fear love is to fear life, and those who fear life are already three parts dead.

The only thing that will redeem mankind is cooperation.

The trouble with the world is that the stupid are cocksure, and the intelligent are full of doubt.

Love is something more than desire for sexual intercourse; it is the principle means of escape from the loneliness which afflicts men and women throughout

the greater part of their lives.

The good life is one inspired by love and guided by knowledge.

Those who have never known the deep intimacy and the intense companionship of mutual love have missed the best thing that life has to give.

Science is what you know, philosophy is what you don't know.

I would never die for my beliefs, because I might be wrong.

Extreme hopes are born from extreme misery.

To conquer fear is the beginning of wisdom.

The fact that an opinion has been widely held is no evidence whatever that it is not utterly absurd.

I have made an odd discovery. Every time I talk with a savant, I am convinced that happiness is no longer possible. Yet when I talk with my gardener, I'm convinced of the opposite.

Patriotism is the willingness to kill and be killed for trivial reasons.

Three passions, simple but overwhelmingly strong, have governed my life: the longing for love, the search for knowledge, and unbearable pity for the suffering of mankind.

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.



Figure 6.1: **Pembroke Lodge, near Richmond Park, Bertrand Russell's childhood home.**

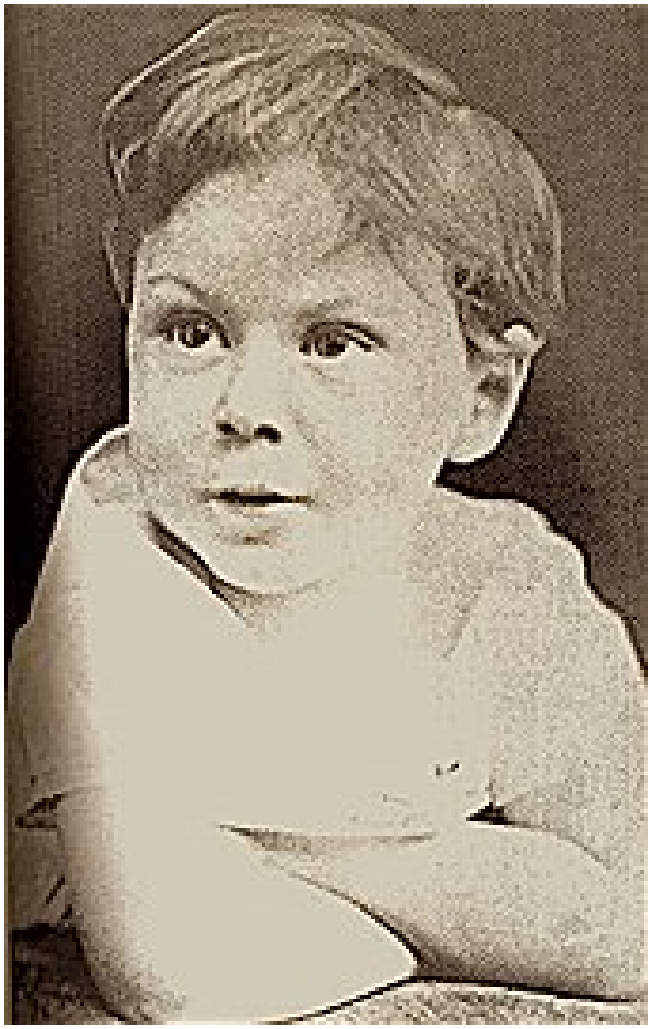


Figure 6.2: **Russell at the age of four.**



Figure 6.3: **Russell at Trinity College Cambridge in 1893.**



Figure 6.4: **Russell with two of his children, John and Kate. His second son, Conrad (1937-2004, not shown here) became the 5th Earl Russell, and had a very distinguished career as a liberal parliamentarian and historian.**

Albert Einstein

"The unleashed power of the atom has changed everything except our ways of thinking, and thus we drift towards unparalleled catastrophes."

"I don't know what will be used in the next world war, but the 4th will be fought with stones."

Albert Einstein (1879-1955)

Besides being one of the greatest physicists of all time, Albert Einstein was a lifelong pacifist, and his thoughts on peace can speak eloquently to us today. We need his wisdom today, when the search for peace has become vital to our survival as a species.

Family background

Albert Einstein was born in Ulm, Germany, in 1879. He was the son of middle-class, irreligious Jewish parents, who sent him to a Catholic school. Einstein was slow in learning to speak, and at first his parents feared that he might be retarded; but by the time he was eight, his grandfather could say in a letter: "Dear Albert has been back in school for a week. I just love that boy, because you cannot imagine how good and intelligent he has become."

Remembering his boyhood, Einstein himself later wrote: "When I was 12, a little book dealing with Euclidean plane geometry came into my hands at the beginning of the school year. Here were assertions, as for example the intersection of the altitudes of a triangle in one point, which, though by no means self-evident, could nevertheless be proved with such certainty that any doubt appeared to be out of the question. The lucidity and certainty made an indescribable impression on me."

When Albert Einstein was in his teens, the factory owned by his father and uncle began to encounter hard times. The two Einstein families moved to Italy, leaving Albert alone and miserable in Munich, where he was supposed to finish his course at the gymnasium. Einstein's classmates had given him the nickname "Beidermeier", which means something like "Honest John"; and his tactlessness in criticizing authority soon got him into trouble. In Einstein's words, what happened next was the following: "When I was in the seventh grade at the Lutpold Gymnasium, I was summoned by my home-room teacher, who expressed the wish that I leave the school. To my remark that I had done nothing wrong, he replied only, 'Your mere presence spoils the respect of the class for me'."

Einstein left gymnasium without graduating, and followed his parents to Italy, where he spent a joyous and carefree year. He also decided to change his citizenship. "The over-emphasized military mentality of the German State was alien to me, even as a boy", Einstein wrote later. "When my father moved to Italy, he took steps, at my request, to have me released from German citizenship, because I wanted to be a Swiss citizen."

Special and general relativity theory

The financial circumstances of the Einstein family were now precarious, and it was clear that Albert would have to think seriously about a practical career. In 1896, he entered the famous Zürich Polytechnic Institute with the intention of becoming a teacher of mathematics and physics. However, his undisciplined and nonconformist attitudes again got him into trouble. His mathematics professor, Hermann Minkowski (1864-1909), considered Einstein to be a "lazy dog"; and his physics professor, Heinrich Weber, who originally had gone out of his way to help Einstein, said to him in anger and exasperation: "You're a clever fellow, but you have one fault: You won't let anyone tell you a thing! You won't let anyone tell you a thing!"

Einstein missed most of his classes, and read only the subjects which interested him. He was interested most of all in Maxwell's theory of electro-magnetism, a subject which was too "modern" for Weber. There were two major examinations at the Zürich Polytechnic Institute, and Einstein would certainly have failed them had it not been for the help of his loyal friend, the mathematician Marcel Grossman.

Grossman was an excellent and conscientious student, who attended every class and took meticulous notes. With the help of these notes, Einstein managed to pass his examinations; but because he had alienated Weber and the other professors who could have helped him, he found himself completely unable to get a job. In a letter to Professor F. Ostwald on behalf of his son, Einstein's father wrote: "My son is profoundly unhappy because of his present joblessness; and every day the idea becomes more firmly implanted in his mind that he is a failure, and will not be able to find the way back again."

From this painful situation, Einstein was rescued (again!) by his friend Marcel Grossman, whose influential father obtained for Einstein a position at the Swiss Patent Office: Technical Expert (Third Class). Anchored at last in a safe, though humble, position, Einstein married one of his classmates. He learned to do his work at the Patent Office very efficiently; and he used the remainder of his time on his own calculations, hiding them guiltily in a drawer when footsteps approached.

In 1905, this Technical Expert (Third Class) astonished the world of science with five papers, written within a few weeks of each other, and published in the Annalen der Physik. Of these five papers, three were classics: One of these was the paper in which Einstein applied Planck's quantum hypothesis to the photoelectric effect. The second paper discussed "Brownian motion", the zig-zag motion of small particles suspended in a liquid and hit randomly by the molecules of the liquid. This paper supplied a direct proof of the validity of atomic ideas and of Boltzmann's kinetic theory. The third paper was destined to establish Einstein's reputation as one of the greatest physicists of all time. It was entitled "On the Electrodynamics of Moving Bodies", and in this paper, Albert Einstein formulated his special theory of relativity. Essentially, this theory maintained that all of the fundamental laws of nature exhibit a symmetry with respect to rotations in a 4-dimensional space-time continuum.

Gradually, the importance of Einstein's work began to be realized, and he was much sought after. He was first made Assistant Professor at the University of Zürich, then full

Professor in Prague, then Professor at the Zürich Polytechnic Institute; and finally, in 1913, Planck and Nernst persuaded Einstein to become Director of Scientific Research at the Kaiser Wilhelm Institute in Berlin. He was at this post when the First World War broke out

While many other German intellectuals produced manifestos justifying Germany's invasion of Belgium, Einstein dared to write and sign an anti-war manifesto. Einstein's manifesto appealed for cooperation and understanding among the scholars of Europe for the sake of the future; and it proposed the eventual establishment of a League of Europeans. During the war, Einstein remained in Berlin, doing whatever he could for the cause of peace, burying himself unhappily in his work, and trying to forget the agony of Europe, whose civilization was dying in a rain of shells, machine-gun bullets, and poison gas.

The work into which Einstein threw himself during this period was an extension of his theory of relativity. He already had modified Newton's equations of motion so that they exhibited the space-time symmetry required by his Principle of Special Relativity. However, Newton's law of gravitation. remained a problem.

Obviously it had to be modified, since it disagreed with his Special Theory of Relativity; but how should it be changed? What principles could Einstein use in his search for a more correct law of gravitation? Certainly whatever new law he found would have to give results very close to Newton's law, since Newton's theory could predict the motions of the planets with almost perfect accuracy. This was the deep problem with which he struggled.

In 1907, Einstein had found one of the principles which was to guide him, the Principle of Equivalence of inertial and gravitational mass. After turning Newton's theory over and over in his mind, Einstein realized that Newton had used mass in two distinct ways: His laws of motion stated that the force acting on a body is equal to the mass of the body multiplied by its acceleration; but according to Newton, the gravitational force on a body is also proportional to its mass. In Newton's theory, gravitational mass, by a coincidence, is equal to inertial mass; and this holds for all bodies. Einstein decided to construct a theory in which gravitational and inertial mass necessarily have to be the same.

He then imagined an experimenter inside a box, unable to see anything outside it. If the box is on the surface of the earth, the person inside it will feel the pull of the earth's gravitational field. If the experimenter drops an object, it will fall to the floor with an acceleration of 32 feet per second per second. Now suppose that the box is taken out into empty space, far away from strong gravitational fields, and accelerated by exactly 32 feet per second per second. Will the enclosed experimenter be able to tell the difference between these two situations? Certainly no difference can be detected by dropping an object, since in the accelerated box, the object will fall to the floor in exactly the same way as before.

With this "thought experiment" in mind, Einstein formulated a general Principle of Equivalence: He asserted that no experiment whatever can tell an observer enclosed in a small box whether the box is being accelerated, or whether it is in a gravitational field. According to this principle, gravitation and acceleration are locally equivalent, or, to say the same thing in different words, gravitational mass and inertial mass are equivalent.

Einstein soon realized that his Principle of Equivalence implied that a ray of light must be bent by a gravitational field. This conclusion followed because, to an observer in an

accelerated frame, a light beam which would appear straight to a stationary observer, must necessarily appear very slightly curved. If the Principle of Equivalence held, then the same slight bending of the light ray would be observed by an experimenter in a stationary frame in a gravitational field.

Another consequence of the Principle of Equivalence was that a light wave propagating upwards in a gravitational field should be very slightly shifted to the red. This followed because in an accelerated frame, the wave crests would be slightly farther apart than they normally would be, and the same must then be true for a stationary frame in a gravitational field. It seemed to Einstein that it ought to be possible to test experimentally both the gravitational bending of a light ray and the gravitational red shift.

This seemed promising; but how was Einstein to proceed from the Principle of Equivalence to a formulation of the law of gravitation? Perhaps the theory ought to be modeled after Maxwell's electromagnetic theory, which was a field theory, rather than an "action at a distance" theory. Part of the trouble with Newton's law of gravitation was that it allowed a signal to be propagated instantaneously, contrary to the Principle of Special Relativity. A field theory of gravitation might cure this defect, but how was Einstein to find such a theory? There seemed to be no way.

From these troubles Albert Einstein was rescued (a third time!) by his staunch friend Marcel Grossman. By this time, Grossman had become a professor of mathematics in Zürich, after having written a doctoral dissertation on tensor analysis and non-Euclidean geometry, the very things that Einstein needed. The year was then 1912, and Einstein had just returned to Zürich as Professor of Physics at the Polytechnic Institute. For two years, Einstein and Grossman worked together; and by the time Einstein left for Berlin in 1914, the way was clear. With Grossman's help, Einstein saw that the gravitational field could be expressed as a curvature of the 4-dimensional space-time continuum.

In 1919, a British expedition, headed by Sir Arthur Eddington, sailed to a small island off the coast of West Africa. Their purpose was to test Einstein's prediction of the bending of light in a gravitational field by observing stars close to the sun during a total eclipse. The observed bending agreed exactly with Einstein's predictions; and as a result he became world-famous. The general public was fascinated by relativity, in spite of the abstruseness of the theory (or perhaps because of it). Einstein, the absent-minded professor, with long, uncombed hair, became a symbol of science. The world was tired of war, and wanted something else to think about.

Einstein met President Harding, Winston Churchill and Charlie Chaplin; and he was invited to lunch by the Archbishop of Canterbury. Although adulated elsewhere, he was soon attacked in Germany. Many Germans, looking for an excuse for the defeat of their nation, blamed it on the pacifists and Jews; and Einstein was both these things.

Einstein's letter to Freud: Why war?

Because of his fame, Einstein was asked to make several speeches at the Reichstag. and in all these speeches he condemned violence and nationalism, urging that these be replaced by and international cooperation and law under an effective international authority. He also

wrote many letters and articles pleading for peace and for the renunciation of militarism and violence.

Einstein believed that the production of armaments is damaging, not only economically, but also spiritually. In 1930 he signed a manifesto for world disarmament sponsored by the Womens International League for Peace and Freedom. In December of the same year, he made his famous statement in New York that if two percent of those called for military service were to refuse to fight, governments would become powerless, since they could not imprison that many people. He also argued strongly against compulsory military service and urged that conscientious objectors should be protected by the international community. He argued that peace, freedom of individuals, and security of societies could only be achieved through disarmament, the alternative being "slavery of the individual and annihilation of civilization".

In letters, and articles, Einstein wrote that the welfare of humanity as a whole must take precedence over the goals of individual nations, and that we cannot wait until leaders give up their preparations for war. Civil society, and especially public figures, must take the lead. He asked how decent and self-respecting people can wage war, knowing how many innocent people will be killed.

In 1931, the International Institute for Intellectual Cooperation invited Albert Einstein to enter correspondence with a prominent person of his own choosing on a subject of importance to society. The Institute planned to publish a collection of such dialogues. Einstein accepted at once, and decided to write to Sigmund Freud to ask his opinion about how humanity could free itself from the curse of war. A translation from German of part of the long letter that he wrote to Freud is as follows:

"Dear Professor Freud, The proposal of the League of Nations and its International Institute of Intellectual Cooperation at Paris that I should invite a person to be chosen by myself to a frank exchange of views on any problem that I might select affords me a very welcome opportunity of conferring with you upon a question which, as things are now, seems the most important and insistent of all problems civilization has to face. This is the problem: Is there any way of delivering mankind from the menace of war? It is common knowledge that, with the advance of modern science, this issue has come to mean a matter of life or death to civilization as we know it; nevertheless, for all the zeal displayed, every attempt at its solution has ended in a lamentable breakdown."

"I believe, moreover, that those whose duty it is to tackle the problem professionally and practically are growing only too aware of their impotence to deal with it, and have now a very lively desire to learn the views of men who, absorbed in the pursuit of science, can see world-problems in the perspective distance lends. As for me, the normal objective of my thoughts affords no insight into the dark places of human will and feeling. Thus in the enquiry now proposed, I can do little more than seek to clarify the question at issue and, clearing the ground of the more obvious solutions, enable you to bring the light of your far-reaching knowledge of man's instinctive life upon the problem.."

"As one immune from nationalist bias, I personally see a simple way of dealing with the superficial (i.e. administrative) aspect of the problem: the setting up, by international consent, of a legislative and judicial body to settle every conflict arising between nations...

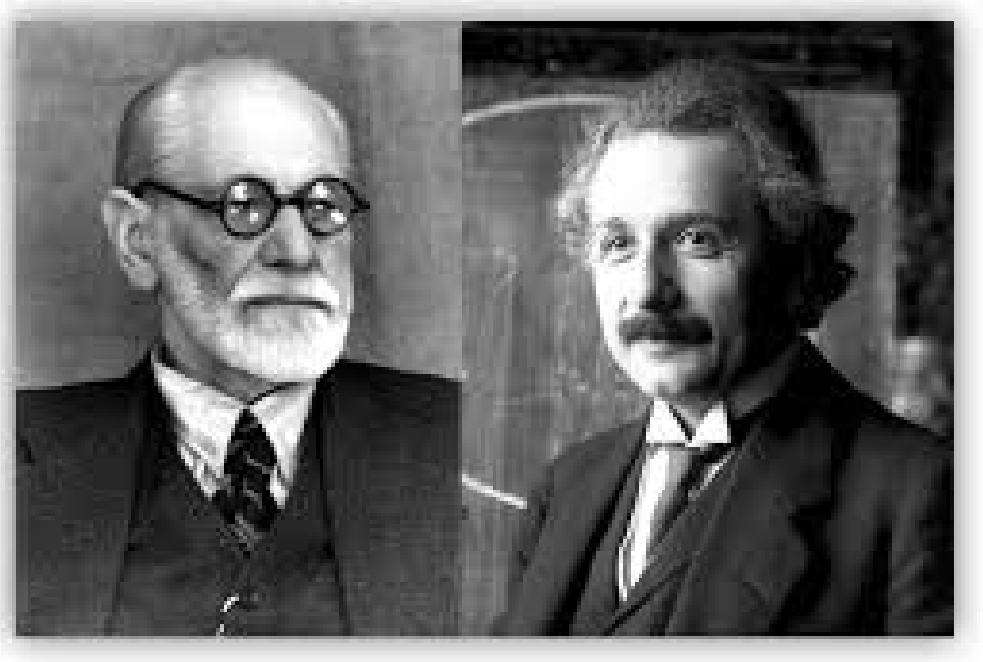


Figure 6.5: *Sigmund Freud and Albert Einstein (public domain). Their exchange of letters entitled "Why War?" deserves to be read by everyone concerned with the human future.*

But here, at the outset, I come up against a difficulty; a tribunal is a human institution which, in proportion as the power at its disposal is... prone to suffer these to be deflected by extrajudicial pressure..."

Freud replied with a long and thoughtful letter in which he said that a tendency towards conflict is an intrinsic part of human emotional nature, but that emotions can be overridden by rationality, and that rational behavior is the only hope for humankind.

The fateful letter to Roosevelt

Albert Einstein's famous relativistic formula, relating energy to mass, soon yielded an understanding of the enormous amounts of energy released in radioactive decay. Marie and Pierre Curie had noticed that radium maintains itself at a temperature higher than its surroundings. Their measurements and calculations showed that a gram of radium produces roughly 100 gram-calories of heat per hour. This did not seem like much energy until Rutherford found that radium has a half-life of about 1,000 years. In other words, after a thousand years, a gram of radium will still be producing heat, its radioactivity only reduced to one-half its original value. During a thousand years, a gram of radium produces about a million kilocalories, an enormous amount of energy in relation to the tiny size of its source! Where did this huge amount of energy come from? Conservation of energy was one of the most basic principles of physics. Would it have to be abandoned?

The source of the almost-unbelievable amounts of energy released in radioactive decay could be understood through Einstein's formula equating the energy of a system to its mass multiplied by the square of the velocity of light, and through accurate measurements of atomic weights. Einstein's formula asserted that mass and energy are equivalent. It was realized that in radioactive decay, neither mass nor energy is conserved, but only a quantity more general than both, of which mass and energy are particular forms. Scientists in several parts of the world realized that Einstein's discovery of the relationship between mass and energy, together with the discovery of fission of the heavy element uranium meant that it might be possible to construct a uranium-fission bomb of immense power.

Meanwhile night was falling on Europe. In 1929, an economic depression had begun in the United States and had spread to Europe. Without the influx of American capital, the postwar reconstruction of the German economy collapsed. The German middle class, which had been dealt a severe blow by the great inflation of 1923, now received a second heavy blow. The desperate economic chaos drove German voters into the hands of political extremists.

On January 30, 1933, Adolf Hitler was appointed Chancellor and leader of a coalition cabinet by President Hindenburg. Although Hitler was appointed legally to this post, he quickly consolidated his power by unconstitutional means: On May 2, Hitler's police seized the headquarters of all trade unions, and arrested labor leaders. The Communist and Socialist parties were also banned, their assets seized and their leaders arrested. Other political parties were also smashed. Acts were passed eliminating Jews from public service; and innocent Jewish citizens were boycotted, beaten and arrested. On March 11, 1938, Nazi troops entered Austria.

On March 16, 1939, the Italian physicist Enrico Fermi (who by then was a refugee in America) went to Washington to inform the Office of Naval Operations that it might be possible to construct an atomic bomb; and on the same day, German troops poured into Czechoslovakia.

A few days later, a meeting of six German atomic physicists was held in Berlin to discuss the applications of uranium fission. Otto Hahn, the discoverer of fission, was not present, since it was known that he was opposed to the Nazi regime. He was even said to have exclaimed: "I only hope that you physicists will never construct a uranium bomb! If Hitler ever gets a weapon like that, I'll commit suicide."

The meeting of German atomic physicists was supposed to be secret; but one of the participants reported what had been said to Dr. S. Flügge, who wrote an article about uranium fission and about the possibility of a chain reaction. Flügge's article appeared in the July issue of Naturwissenschaften, and a popular version in the Deutsche Allgemeine Zeitung. These articles greatly increased the alarm of American atomic scientists, who reasoned that if the Nazis permitted so much to be printed, they must be far advanced on the road to building an atomic bomb.

In the summer of 1939, while Hitler was preparing to invade Poland, alarming news reached the physicists in the United States: A second meeting of German atomic scientists had been held in Berlin, this time under the auspices of the Research Division of the German Army Weapons Department. Furthermore, Germany had stopped the sale of uranium from mines in Czechoslovakia.

The world's most abundant supply of uranium, however, was not in Czechoslovakia, but in Belgian Congo. Leo Szilard, a refugee Hungarian physicist who had worked with Fermi to measure the number of neutrons produced in uranium fission, was deeply worried that the Nazis were about to construct atomic bombs; and it occurred to him that uranium from Belgian Congo should not be allowed to fall into their hands.

Szilard knew that his former teacher, Albert Einstein, was a personal friend of Elizabeth, the Belgian Queen Mother. Einstein had met Queen Elizabeth and King Albert of Belgium at the Solvay Conferences, and mutual love of music had cemented a friendship between them. When Hitler came to power in 1933, Einstein had moved to the Institute of Advanced Studies at Princeton; and Szilard decided to visit him there. Szilard reasoned that because of Einstein's great prestige, and because of his long-standing friendship with the Belgian Royal Family, he would be the proper person to warn the Belgians not to let their uranium fall into the hands of the Nazis. Einstein agreed to write to the Belgian king and queen.

On August 2, 1939, Szilard again visited Einstein, accompanied by Edward Teller and Eugene Wigner, who (like Szilard) were refugee Hungarian physicists. By this time, Szilard's plans had grown more ambitious; and he carried with him the draft of another letter, this time to the American President, Franklin D. Roosevelt. Einstein made a few corrections, and then signed the fateful letter, which reads (in part) as follows:

"Some recent work of E. Fermi and L. Szilard, which has been communicated to me in manuscript, leads me to expect that the element uranium may be turned into an important source of energy in the immediate future. Certain aspects of the situation seem to call for watchfulness and, if necessary, quick action on the part of the Administration. I believe,

therefore, that it is my duty to bring to your attention the following.."

"It is conceivable that extremely powerful bombs of a new type may be constructed. A single bomb of this type, carried by boat and exploded a port, might very well destroy the whole port, together with some of the surrounding territory.."

The letter also called Roosevelt's attention to the fact that Germany had already stopped the export of uranium from the Czech mines under German control. After making a few corrections, Einstein signed it. On October 11, 1939, three weeks after the defeat of Poland, Roosevelt's economic adviser, Alexander Sachs, personally delivered the letter to the President. After discussing it with Sachs, the President commented,"This calls for action." Later, when atomic bombs were dropped on civilian populations in an already virtually-defeated Japan, Einstein bitterly regretted having signed Szilard's letter to Roosevelt. He said repeatedly that signing the letter was the greatest mistake of his life, and his remorse was extreme.

Throughout the remainder of his life, in addition to his scientific work, Einstein worked tirelessly for peace, international understanding and nuclear disarmament. His last public act, only a few days before his death in 1955, was to sign the Russell-Einstein Manifesto, warning humankind of the catastrophic consequences that would follow from a war with nuclear weapons.

A few more things that Einstein said about peace:

We cannot solve our problems with the same thinking that we used when we created them.

It has become appallingly obvious that our technology has exceeded our humanity.

Peace cannot be kept by force; it can only be achieved by understanding.

The world is a dangerous place to live; not because of the people who are evil, but because of the people who don't do anything about it.

Insanity: doing the same thing over and over again and expecting to get different results.

Nothing will end war unless the people themselves refuse to go to war.

Past thinking and methods did not prevent world wars. Future thinking must prevent war.

You cannot simultaneously prevent and prepare for war.

Never do anything against conscience, even if the state demands it.

Taken as a whole, I would believe that Gandhi's views were the most enlightened of all political men of our time.

Without ethical culture, there is no salvation for humanity.

War seems to me to be a mean, contemptible thing: I would rather be hacked in pieces than take part in such an abominable business. And yet so high, in spite of everything, is my opinion of the human race that I believe this bogey would have disappeared long ago, had the sound sense of the nations not been systematically corrupted by commercial and political interests acting through the schools and the Press.

Joseph Rotblat

Pugwash Conferences on Science and World Affairs

In March, 1954, the US tested a hydrogen bomb at the Bikini Atoll in the Pacific Ocean. It was 1000 times more powerful than the Hiroshima bomb. The Japanese fishing boat, Lucky Dragon, was 130 kilometers from the Bikini explosion, but radioactive fallout from the test killed one crew member and made all the others seriously ill.

In England, Prof. Joseph Rotblat, a Polish scientist who had resigned from the Manhattan Project for 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 became convinced that the Bikini bomb must have involved a third stage, where fast neutrons from the hydrogen thermonuclear reaction produced fission in a casing of ordinary uranium. Such a bomb would produce enormous amounts of highly dangerous radioactive fallout, and Rotblat became extremely worried about the possibly fatal effect 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 if large numbers of such bombs should ever be used in a war. After consultations with Albert Einstein and others, he drafted a document warning of the grave dangers presented by fission-fusion-fission bombs. 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



Figure 6.6: **Joseph Rotblat believed that the Bikini bomb was of a fission-fusion-fission type. Besides producing large amounts of fallout, such a bomb can be made enormously powerful at very little expense.**

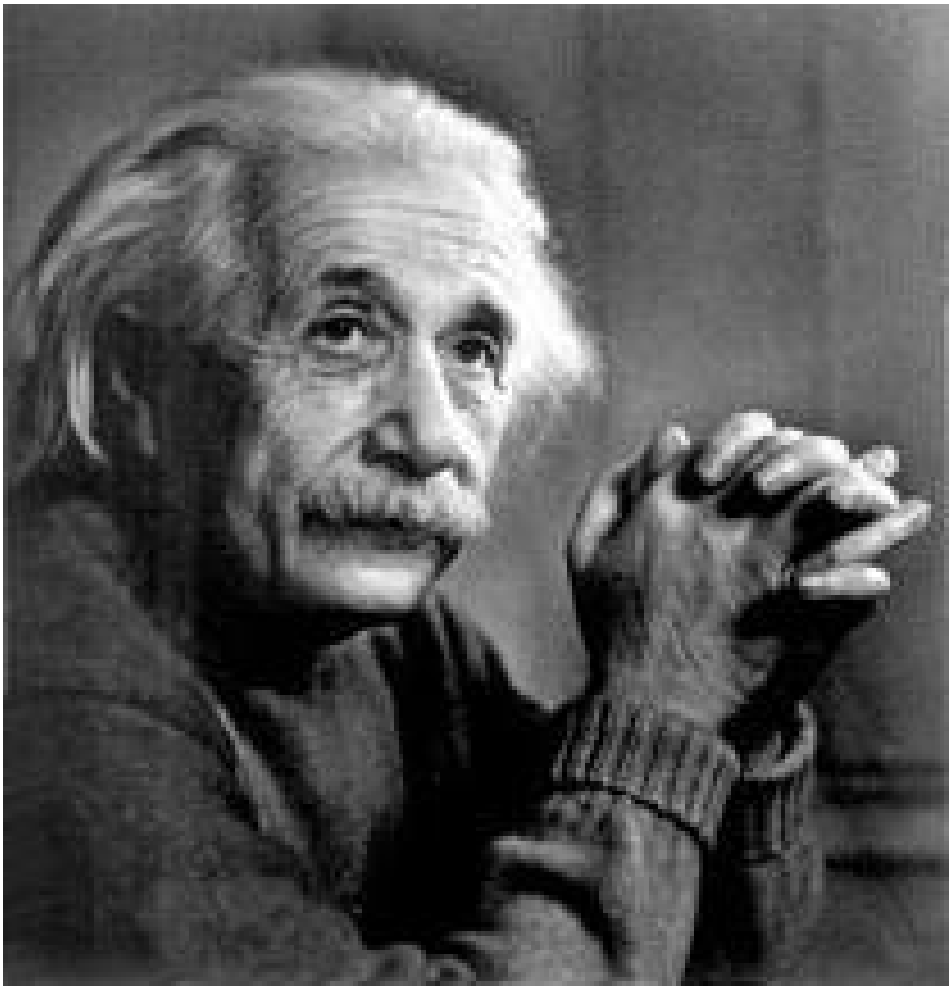


Figure 6.7: **Signing the Russell-Einstein declaration was the last public act of Einstein's life.**



Figure 6.8: **Lord Russell devoted much of the remainder of his life to working for the abolition of nuclear weapons. Here he is seen in 1962 in Trafalgar Square, London, addressing a meeting of the Campaign for Nuclear Disarmament.**

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? 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."

In 1945, with the horrors of World War II fresh in everyone's minds, the United Nations had been established with the purpose of eliminating war. A decade later, the Russell-Einstein Manifesto reminded the world that war *must* be abolished as an institution because of the constantly increasing and potentially catastrophic power of modern weapons.

The Russell-Einstein Manifesto called for a meeting of scientists from both sides of the Cold War to try to minimize the danger of a thermonuclear conflict. The first meeting took place at the summer home of the Canadian philanthropist Cyrus Eaton at the small village of Pugwash, Nova Scotia.

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 START treaties, the treaties prohibiting chemical and biological weapons, the Nuclear Nonproliferation Treaty (NPT), and the Comprehensive 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.

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



Figure 6.9: **This photo shows Sir Joseph Rotblat in his London office shortly after he had been informed about the award of the Nobel Peace Prize. The bundles of manuscripts in the background are there because he edited the proceedings of each large yearly Pugwash Conference. The resulting books were then distributed to governments and to decision-makers.**

participants finance their own travel.

In addition to 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. The international organization's website is at www.pugwash.org.

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 nuclear 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"

Text of the Russell-Einstein Manifesto

Issued in London, 9 July, 1955

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 radioactive 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 radioactive 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 situation 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 thermonuclear 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 Harbor, 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."

The document was signed by Max Born, Perry W. Bridgman, Albert Einstein, Leopold Infeld, Frederic Joliot-Curie, Herman J. Muller, Linus Pauling, Cecil F. Powell, Joseph Rotblat, Bertrand Russell, and Hideki Yukawa

Chapter 7

MUSIC FOR PEACE

Some songs of protest from World War I

Here are some anti-war songs from the First World War, collected by Holger Terp, founder and editor of the Danish Peace Academy's huge and popular website. A much more complete and beautifully illustrated compilation can be found by typing **fredsakademiet.dk sange** into a search engine. Holger says that by typing the name of the song into a search engine, one can usually hear it performed.

Oh it's a lovely war!

Oh, oh, oh, it's a lovely war,
Who wouldn't be a soldier,
eh? Oh, it's a shame to take the pay;
As soon as reveille is gone,
We feel just as heavy as lead,
But we never get up till the sergeant
Brings us breakfast up to bed.

Oh, oh, oh, it's a lovely war,
What do we want with eggs and ham,
When we've got plum and apple jam?
Form fours, right turn,
How shall we spend the money we earn?
Oh, oh, oh, it's a lovely war.

Up to your waist in water,
Up to your eyes in slush,
Using the kind of language,
That makes the sergeant blush.
Who wouldn't join the army?

That's what we all inquire;
Don't we pity the poor civilian,
Sitting beside beside the fire...

Stay down here where you belong

Down below
Down below
Sat the Devil talking to his son
Who wanted to go
Up above
Up above
He cried, "It's getting too warm for me down here and so
I'm going up on Earth where I can have a little fun".
The Devil simply shook his head and answered to his son:

Stay down here where you belong
The folks who live above you don't know right from wrong.

To please their kings they've all gone out to war
And not a one of them knows what they're fighting for.

Way up above they say that I'm a Devil and I'm bad
Kings up there are bigger devils than your dad.

They're breaking the hearts of mothers
Making butchers out of brothers
You'll find more hell up there than there is
down below.
Kings up there
They don't care
For the mothers who must stay at home
Their sorrows to bear
Stay at home
Don't you roam
Although it's warm down below,
you'll find it's warmer up there
If e'er you went up there, my son,
I know you'd be surprised
You'd find a lot of people are not civilized.

Mothers, daughters, wives

The first time it was fathers
the last time it was sons
And in between your husbands
marched away with drums and guns
And you never thought to question
you just went on with your lives
because all they'd taught you who to be
was mothers, daughters, wives.

You can only just remember
the tears your mothers shed
As they sat and read the papers
through the lists and lists of dead
And the gold frames held the photographs
that mothers kissed each night
And the doorframes held the shocked
and silent strangers from the fight

And it was 21 years later
with children of your own
The trumpet sounded once again
and the soldier boys were gone
And you drove their trucks and made their guns
and tended to their wounds
And at night you kissed their photographs
and prayed for safe returns

And after it was over
you had to learn again
To be just wives and mothers
when you'd done the work of men
So you worked to help the needy
and you never trod on toes
And the photos on the pianos
struck a happy family pose

Then your daughters grew to women
and your little boys to men
And you prayed that you were dreaming
when the call-up came again
But you proudly smiled and held your tears



Figure 7.1: **One of a series of prints which the German artist Käthe Kollwitz (1867-1945) made as a protest against the atrocities of World War I.**

as they bravely waved goodbye
And the photos on the mantelpieces
always made you cry
And now your growing older
and in time the photos fade
And in widowhood you sit back
and reflect on the parade
Of the passing of your memories
as your daughters change their lives
Seeing more to our existence
than just mothers, daughters, wives.



Figure 7.2: **Another anti-war print by Käthe Kollwitz.**

Anti-war songs from the Vietnam War

Here are a few protest songs from the Vietnam War, again collected by Holger Terp.

Dodging the Draft

First you tell your draft board you're hooked on dope.
You don't need the army 'cause you've seen Bob Hope.
Walk around the floor kinda nice and loose.
Tell 'em your fiancee's name is Bruce.

When they ask about your schooling, then you say
That you studied under Cassius Clay.
Then put some lipstick on when you're photographed,
And that's what I call dodging the draft!

Then you show the captain a note from mom,
Stand there while he reads it and suck your thumb.
When he takes your family history, state with pride,
"Benedict Arnold was on my father's side"

He'll hand you an IQ test, just look at it with gloom,
Then fold it like an airplane and sail it 'cross the room.
If they believe you don't know your fore from your aft,
That's what I call...shirking your military responsibility.

Clump around the floor like your feet are flat.
When they ask about your hearing, just say, "How's that?"
If the sergeant wants a cigarette, treat him right,
Set fire to your draft card, and offer him a light.

When you see the eyechart, don't worry at all.
Say, "I'll be glad to read it, just point me at the wall."
And if the draft board acts in the usual way,
You'll be what I call 1-A.

Fields of Vietnam

Oh brothers though we're strangers and your land and mine are far apart,
And though your name lies awkwardly and strange upon my tongue.
As the needle's drawn towards the pole,
So I am drawn both heart and soul,
To sing of your great struggle in the fields of Vietnam.

Your barefoot farmers would not wear the yoke and chains of slavery -
For four long bitter years they fought the armies of Japan;
Your flesh opposed their armoured might
You harried them by day and night -
And you drove them from the jungles and the fields of Vietnam.

Before you could draw peaceful breath more death was raining from the skies,
The French came, and for nine more years your land they overran;
But the enemy could not subdue.
They broke at Dien Bien Phu -
And their dead lay all around them in the fields of Vietnam.

The French had scarcely left your shores when more invading armies came,
Equipped with all the latest tools men use to kill a man;
"We've come to show you," was their cry,
"All the ways a man can die -
And we'll make a bloody desert of the fields of Vietnam.

The skies by day were dark with planes, with hungry flames the nights were red,
The stench of death lay on the air with reek of spent napalm;
Death bloomed in every paddy field,
And still your people would not yield -
To American invaders in the fields of Vietnam.



Figure 7.3: **Photo taken by United States Army photographer Ronald L. Haeberle on March 16, 1968, in the aftermath of the My Lai Massacre showing mostly women and children dead on a road.**

For thirteen years the U.S. Army's sown your soil with blood and tears,
Impartially they deal out death to women, child and man,
And still no victory - instead
They count their own dishonoured dead,
And contempt's their only harvest in the fields of Vietnam.

O, brothers, where did you find the strength to fight so long for freedom's cause?
A quarter-century has passed since first your fight began;
Long have you fought, and valiantly,
And as long as men love liberty -
They will sing of your great struggle in the fields of Vietnam.



Figure 7.4: **Frightened children fleeing from bombs in Vietnam.**

The Greenham Common Song Book

The Women's Peace Camps at Greenham Commons, Berkshire, England, refer to a 19-year-long series of women's protests against the use of common land, which ought to belong to the people, to house a base with US nuclear weapons. The women in the movement used their identity as mothers and grandmothers to protest against preparations for a nuclear war that could kill hundreds of millions of young children and make large portions of the earth uninhabitable.

The first protests began in 1981, when a Welsh group, *Women for Life on Earth* arrived at Greenham Common to protest the decision to store US Cruise Missiles at an army base there. In December, 1982, 30,000 women participated in an *Embrace the Base* event, when they joined hands to encircle the Greenham military base. Another such event took place in 1983, when 70,000 women joined hands to form a human chain between Greenham Common and the munitions plants at Aldermaston.

Frequently. during the 19 years of protests, the women chained themselves to the fence surrounding the Greenham military base, or cut down sections of the fence, or even entered the base, activities for which many of them were arrested and imprisoned.

The Greenham Commons women often composed songs, and used them as an instrument of protest. Holger Terp, the founder and editor of the Danish Peace Academy's enormous and popular website, has compiled an extensive study of the Greenham Common protests, which includes the songs composed and sung at the camps. Holger's study can be found on the following link:

http://www.fredsakademiet.dk/abase/sange/greenham/greenham.pdf

Many other peace songs, as well as their recorded performances, can be found on Holger's



Figure 7.5: **A small part of the crowd of 400,000, after the rain, Woodstock, United States, August 1969.**



Figure 7.6: **Recording "Give Peace a Chance". Left to right: Rosemary Leary (face not visible), Tommy Smothers (with back to camera), John Lennon, Timothy Leary, Yoko Ono, Judy Marcioni and Paul Williams, June 1, 1969.**

website by typing **fredsakademiet.dk sange** into a search engine.



Figure 7.7: **Women at Greenham Common protesting the use of common land for a US nuclear weapons base.**



Figure 7.8: **Although what the government was doing was illegal, many of the women were arrested.**



Figure 7.9: **The best defense of any country against nuclear weapons is top be free of them.**



Figure 7.10: **Future generations depend on our actions today.**

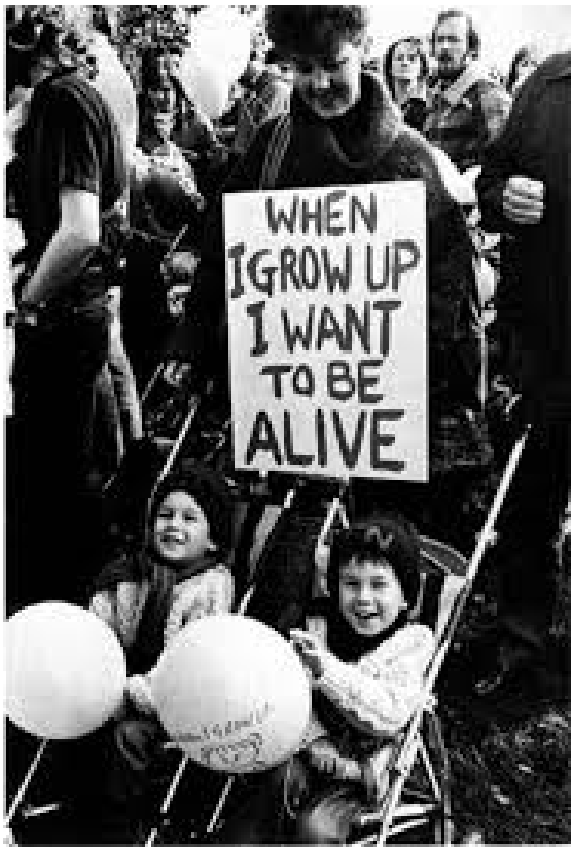


Figure 7.11: **What we all want.**



Woodstock

Wikipedia states that "Woodstock was a music festival held on a dairy farm in the Catskill Mountains, northwest of New York City, between August 15-18, 1969, which attracted an audience of more than 400,000.

"Billed as 'An Aquarian Exposition: 3 Days of Peace & Music', it was held at Max Yasgur's 600-acre dairy farm near White Lake in Bethel, New York, 43 miles (70 km) southwest of Woodstock.

"Over the sometimes rainy weekend, 32 acts performed outdoors. It is widely regarded as a pivotal moment in popular music history, as well as the definitive nexus for the larger counterculture generation. Rolling Stone listed it as number 19 of the 50 Moments That Changed the History of Rock and Roll.

"The event was captured in the Academy Award-winning 1970 documentary movie *Woodstock*, an accompanying soundtrack album, and Joni Mitchell's song 'Woodstock', which commemorated the event and became a major hit for both Crosby, Stills, Nash & Young and Matthews Southern Comfort. Joni Mitchell said, 'Woodstock was a spark of beauty' where half-a-million kids 'saw that they were part of a greater organism'. In 2017, the festival site was listed on the National Register of Historic Places...

"There was worldwide media interest in the 40th anniversary of Woodstock in 2009. A number of activities to commemorate the festival took place around the world. On August 15, at the Bethel Woods Center for the Arts overlooking the original site, the largest assembly of Woodstock performing alumni since the original 1969 festival performed in an eight-hour concert in front of a sold-out crowd...

"Another event occurred in Hawkhurst, Kent (UK), at a Summer of Love party, with acts including two of the participants at the original Woodstock, Barry Melton of Country Joe and the Fish and Robin Williamson of The Incredible String Band, plus Santana and Grateful Dead cover bands. On August 14 and 15, 2009, a 40th anniversary tribute concert was held in Woodstock, Illinois, and was the only festival to receive the official blessing of the 'Father of Woodstock', Artie Kornfeld. Kornfeld later made an appearance in Woodstock with the event's promoters.

"Also in 2009, Michael Lang and Holly George-Warren published The Road to Woodstock, which describes Lang's involvement in the creation of the Woodstock Music & Arts Festival, and includes personal stories and quotes from central figures involved in the event...

"Reports in late 2018 confirmed the plans for a 50th Anniversary event on the original site to be operated by the Bethel Woods Centre for the Arts. The scheduled date for the *Bethel Woods Music and Culture Festival: Celebrating the golden anniversary at the historic site of the 1969 Woodstock festival* was August 16-18 2019. Partners in the event are Live Nation and INVNT. Bethel Woods described the festival as a 'pan-generational music, culture and community event'."



Figure 7.12: **The Woodstock Festival, 1969: "Give peace a chance!". An estimated 400,000 people attended the event.**



Figure 7.13: **Part of the crowd on the first day of the festival.**

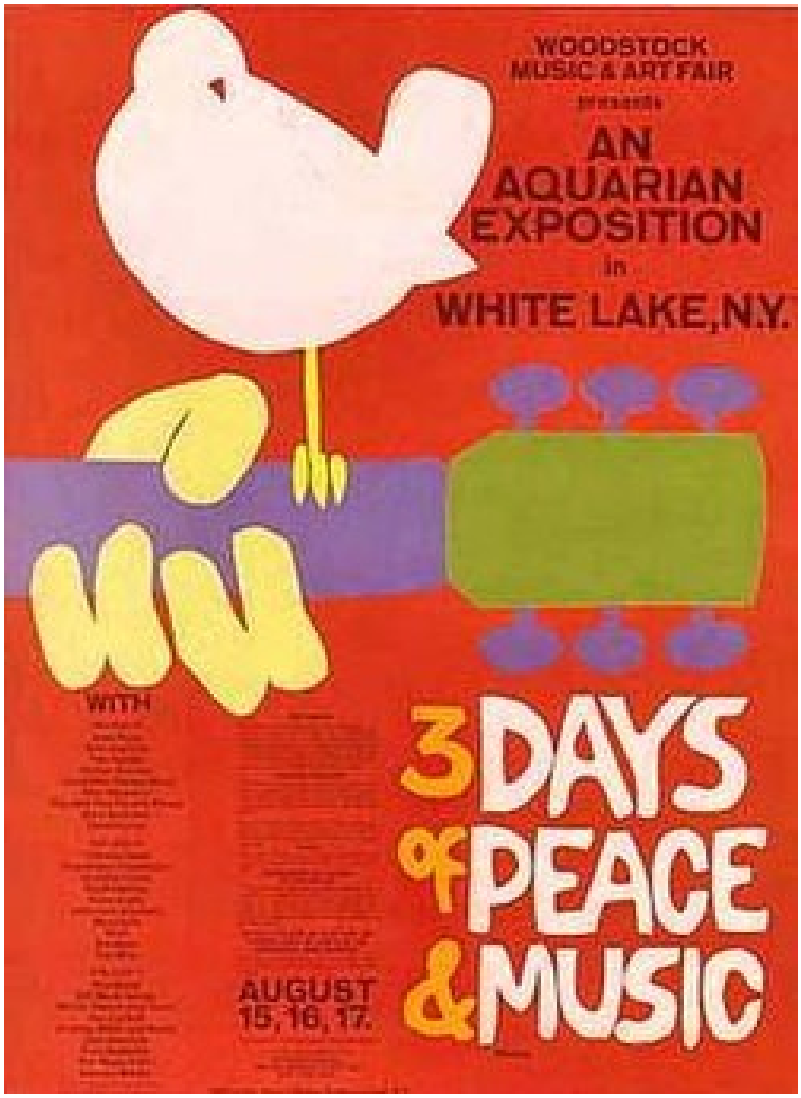


Figure 7.14: **The Woodstock logo.**



Figure 7.15: **Yes!.**



Figure 7.16: **The 50th anniversary event.**

Joan Baez

Joan Baez is an American folk-singer and activist who has been highly influential since her breakthrough 60 years ago. Her father was a Mexican-American physicist who is credited with inventing the X-ray microscope. While her father was working at MIT, Joan Baez gave her first concert in 1958 at Club 47 in Cambridge. In 1959, Bob Gibson invited Baez to perform at the Newport Folk Festival, where her astonishingly clear and expressive voice produced a sensation. Joan Baez promoted the career of Bob Dylan, at a time when she was a star while he was unknown, by inviting him to join her on the stage for duets. Wholeheartedly engaged in many anti-war, human rights and environmental causes, including opposition to the Viet Nam and Iraq wars, she regards her activism as more important than her singing. In 2011, Amnesty International introduced the yearly Joan Baez Award for outstanding service to human rights, giving the first award to Baez herself.

A few things that Joan Baez said

I would say that I'm a nonviolent soldier. In place of weapons of violence, you have to use your mind, your heart, your sense of humor, every faculty available to you...because no one has the right to take the life of another human being.

Action is the antidote to despair.

You don't get to choose how you're going to die, or when. You can only decide how you're going to live. Now.

I went to jail for 11 days for disturbing the peace; I was trying to disturb the war.

I think music has the power to transform people, and in doing so, it has the power to transform situations - some large and some small.

To sing is to love and affirm, to fly and to soar, to coast into the hearts of the people who listen to tell them that life is to live, that love is there, that nothing is a promise, but that beauty exists, and must be hunted for and found.

The easiest kind of relationship for me is with ten thousand people. The hardest is with one.

I have hope in people, in individuals. Because you don't know what's going to rise from the ruins.

As long as one keeps searching, the answers will come.

Only you and I can help the sun rise each coming morning. If we don't, it may drench itself out in sorrow.

All of us are survivors, but how many of us transcend survival?

If you don't have music, you have silence. There is power in both.

To sing is to praise God and the daffodils, and to praise God is to thank Him, in every note within my small range, and every color in the tones of my voice, with every look into the eyes of my audience, to thank Him. Thank you, God, for letting me be born, for giving me eyes to see the daffodils lean in the wind, all my brothers, all my sisters, for giving me ears to hear crying, legs to come running, hands to smooth damp hair, a voice to laugh with and to sing with...to sing to you and the daffodils.

The point on nonviolence is to build a floor, a strong new floor, beneath which we can no longer sink.

There's a consensus out that it's OK to kill when your government decides who to kill. If you kill inside the country you get in trouble. If you kill outside the country, right time, right season, latest enemy, you get a medal.

If you're going to sing meaningful songs, you have to be committed to living a life that backs that up.

Instead of getting hard ourselves and trying to compete, women should try and give their best qualities to men - bring them softness, teach them how to cry.

We're not really pacifists, we're nonviolent soldiers.

If it's natural to kill, how come men have to go into training to learn how?

If people have to put labels on me, I'd prefer the first label to be human being, the second label to be pacifist, and the third to be folk singer.

You may not know it, but at the far end of despair, there is a white clearing where one is almost happy.

I don't think of myself as a symbol of the sixties, but I do think of myself as a symbol of following through on your beliefs.



Figure 7.17: **Joan Baez (born 1941) on the 1962 cover of Time Magazine.**



What have they done to the rain?

Just a little rain falling all around
The grass lifts its head to the heavenly sound
Just a little rain, just a little rain
What have they done to the rain
Just a little boy standing in the rain
The gentle rain that falls for years
And the grass is gone, the boy disappears
And rain keeps falling like helpless tears
And what have they done to the rain
Just a little breeze out of the sky
The leaves nod their head as the breeze blows by
Just a little breeze with some smoke in its eye
What have they done to the rain

Just a little boy standing in the rain
The gentle rain that falls for years
And the grass is gone, the boy disappears
And rain keeps falling like helpless tears
And what have they done to the rain
What have they done to the rain

We shall overcome

We shall overcome,
We shall overcome,
We shall overcome, some day.

Oh, deep in my heart,
I do believe
We shall overcome, some day.

We'll walk hand in hand,
We'll walk hand in hand,
We'll walk hand in hand, some day.

Oh, deep in my heart,
I do believe
We'll walk hand in hand, some day.

We shall live in peace,

We shall live in peace,
We shall live in peace, some day.

Oh, deep in my heart,
I do believe
We shall live in peace, some day.

We shall all be free,
We shall all be free,
We shall all be free, some day.

Oh, deep in my heart,
I do believe
We shall all be free, some day.

We are not afraid,
We are not afraid,
We are not afraid, today.

Oh, deep in my heart,
I do believe
We are not afraid, today.

We shall overcome,
We shall overcome,
We shall overcome, some day.

Oh, deep in my heart,
I do believe
We shall overcome, some day.

Bob Dylan

An outstanding influence on music, poetry and the anti-war movement over six decades, Bob Dylan was awarded the Nobel Prize for Literature in 2016.

Bob Dylan was born in 1941 into a Jewish immigrant family named Zimmerman. He later changed his name to Dylan because of his admiration for the Welsh poet, Dylan Thomas. As a highschool student Bob Dylan initially formed a rock and roll band, but later realized that folk music was much more meaningful. Explaining this change, he said "The thing about rock'n'roll is that for me anyway it wasn't enough... There were great catch-phrases and driving pulse rhythms... but the songs weren't serious or didn't reflect

life in a realistic way. I knew that when I got into folk music, it was more of a serious type of thing. The songs are filled with more despair, more sadness, more triumph, more faith in the supernatural, much deeper feelings."

Bob Dylan greatly admired folk singer Woodie Guthrie. Describing Guthrie's influence, he wrote: "The songs themselves had the infinite sweep of humanity in them... [He] was the true voice of the American spirit. I said to myself I was going to be Guthrie's greatest disciple."

Wikipedia states that "Many early songs reached the public through more palatable versions by other performers, such as Joan Baez, who became Dylan's advocate as well as his lover. Baez was influential in bringing Dylan to prominence by recording several of his early songs and inviting him on stage during her concerts. 'It didn't take long before people got it, that he was pretty damned special,' says Baez."

Here are a few things that Bob Dylan said:

Behind every beautiful thing, there's some kind of pain.

I accept chaos, I'm not sure whether it accepts me.

Don't criticize what you can't understand.

Sometimes it's not enough to know what things mean, sometimes you have to know what things don't mean.

I think women rule the world and that no man has ever done anything that a woman either hasn't allowed him to do or encouraged him to do.

People seldom do what they believe in. They do what is convenient, then repent.

Gonna change my way of thinking, make myself a different set of rules. Gonna put my good foot forward and stop being influenced by fools.

When you've got nothing, you've got nothing to lose.

You can never be wise and be in love at the same time.

When you feel in your gut what you are and then dynamically pursue it - don't back down and don't give up - then you're going to mystify a lot of folks.

It frightens me, the awful truth, of how sweet life can be...

Blowin' in the wind

How many roads must a man walk down
Before you call him a man?
How many seas must a white dove sail
Before she sleeps in the sand?
Yes, and how many times must the cannonballs fly
Before they're forever banned?

The answer, my friend, is blowin' in the wind
The answer is blowin' in the wind

Yes, and how many years can a mountain exist
Before it's washed to the sea?
Yes, and how many years can some people exist
Before they're allowed to be free?
Yes, and how many times can a man turn his head
And pretend that he just doesn't see?

The answer, my friend, is blowin' in the wind
The answer is blowin' in the wind

Yes, and how many times must a man look up
Before he can see the sky?
Yes, and how many ears must one man have
Before he can hear people cry?
Yes, and how many deaths will it take 'til he knows
That too many people have died?

The answer, my friend, is blowin' in the wind
The answer is blowin' in the wind



Figure 7.18: **One of Bob Dylan's paintings**



Figure 7.19: **Another Dylan painting. His work has been exhibited by major museums.**

Pete Seeger

Here are a few things that Pete Seeger said:

Do you know the difference between education and experience? Education is when you read the fine print; experience is what you get when you don't.

Any darn fool can make something complex; it takes a genius to make something simple.

If it can't be reduced, reused, repaired, rebuilt, refurbished, refinished, resold, recycled or composted, then it should be restricted, redesigned or removed from production.

Participation - that's what's gonna save the human race.

Well, normally I'm against big things. I think the world is going to be saved by millions of small things. Too many things can go wrong when they get big.

Once upon a time, wasn't singing a part of everyday life as much as talking, physical exercise, and religion? Our distant ancestors, wherever they were in this world, sang while pounding grain, paddling canoes, or walking long journeys. Can we begin to make our lives once more all of a piece? Finding the right songs and singing them over and over is a way to start. And when one person taps out a beat, while another leads into the melody, or when three people discover a harmony they never knew existed, or a crowd joins in on a chorus as though to raise the ceiling a few feet higher, then they also know there is hope for the world.

I've never sung anywhere without giving the people listening to me a chance to join in - as a kid, as a lefty, as a man touring the U.S.A. and the world, as an oldster. I guess it's kind of a religion with me. Participation. That's what's going to save the human race.

It's a very important thing to learn to talk to people you disagree with.

This banjo surrounds hate and forces it to surrender.

Singing with children in the schools has been the most rewarding experience of my life.

The key to the future of the world, is finding the optimistic stories and letting them be known.

The nice thing about poetry is that you're always stretching the definitions of words. Lawyers and scientists and scholars of one sort or another try to restrict the definitions, hoping that they can prevent people from fooling each other. But that doesn't stop people from lying.

Cezanne painted a red barn by painting it ten shades of color: purple to yellow. And he got a red barn. Similarly, a poet will describe things many different ways, circling around it, to get to the truth.

My father also had a nice little simile. He said, "The truth is a rabbit in a bramble patch. And you can't lay your hand on it. All you do is circle around and point, and say, 'It's in there somewhere'."

Keep your sense of humor. There is a 50-50 chance the world can be saved. You - yes you - might be the grain of sand that tips the scales the right way.

The world is like a seesaw out of balance: on one side is a box of big rocks, tilting it its way. On the other side is a box, and a bunch of us with teaspoons, adding a little sand at a time. One day, all of our teaspoons will add up, and the whole thing will tip, and people will say, 'How did it happen so fast?'

Our technology and our economic system seem to produce the present bad situation: millions of people feel themselves poor and powerless; millions feel that music is something to be made only by experts.

It all boils down to what I would most like to do as a musician. Put songs on people's lips instead of just in their ears.

Where have all the flowers gone?

Where have all the flowers men gone,
Long time passing,
Where have all the flowers men gone,
Long time ago,
Where have all the flowers men gone,
Young girls picked them every one,
When will they ever learn?
When will they ever learn?

Where have all the young girls gone,
Long time passing,
Where have all the young girls gone,
Long time ago,

Where have all the young girls gone,
Gone to husbands every one,
When will they ever learn?
When will they ever learn?

Where have all the young men gone,
Long time passing,
Where have all the young men gone,
Long time ago,
Where have all the young men gone,
Gone to soldiers every one,
When will they ever learn?
When will they ever learn?

Where have all the soldiers gone,
Long time passing,
Where have all the soldiers gone,
Long time ago,
Where have all the soldiers gone,
They've gone to graveyards every one,
When will they ever learn?
When will they ever learn?

Where have all the graveyards gone,
Long time passing,
Where have all the graveyards gone,
Long time ago,
Where have all the graveyards gone,
Gone to flowers every one,
When will we ever learn?
When will we ever learn?

What did you learn in school today?

What did you learn in school today,
Dear little boy of mine?
What did you learn in school today,
Dear little boy of mine?

I learned that Washington never told a lie.
I learned that soldiers seldom die.
I learned that everybody's free,

And that's what the teacher said to me.

I learned our Government must be strong;
It's always right and never wrong;
Our leaders are the finest men
And we elect them again and again.

I learned that war is not so bad;
I learned about the great ones we have had;
We fought in Germany and in France
And someday I might get my chance.

That's what I learned in school today,
That's what I learned in school.

Die gedanken sind frei

Die gedanken sind frei
My thoughts freely flower
Die gedanken sind frei
My thoughts give me power
No scholar can map them
No hunter can trap them
No man can deny
Die gedanken sind frei

I think as I please
And this gives me pleasure
My conscience decrees
This right I must treasure
My thoughts will not cater
To duke or dictator
No man can deny
Die gedanken sind frei

Tyrants can take me
And throw me in prison
My thoughts will burst forth
Like blossoms in season
Foundations may crumble
And structures may tumble
But free men shall cry



Figure 7.20: **Pete Seeger (on his father's lap) with his musicologist father and mother, Charles and Constance Seeger, and brothers on a camping trip, 23 May, 1921.**

Die gedanken sind frei

We will love, or we will perish

We will love or we will perish
We will learn the rainbow to cherish

Dare to struggle, dare to danger
Dare to touch the hand of a stranger



Figure 7.21: **Pete Seeger entertaining Eleanor Roosevelt (center), honored guest at a racially integrated Valentine's Day party marking the opening of a Canteen of the United Federal Labor, CIO, in then-segregated Washington, D.C., 1944.**



Figure 7.22: **Pete Seeger in 1979.**

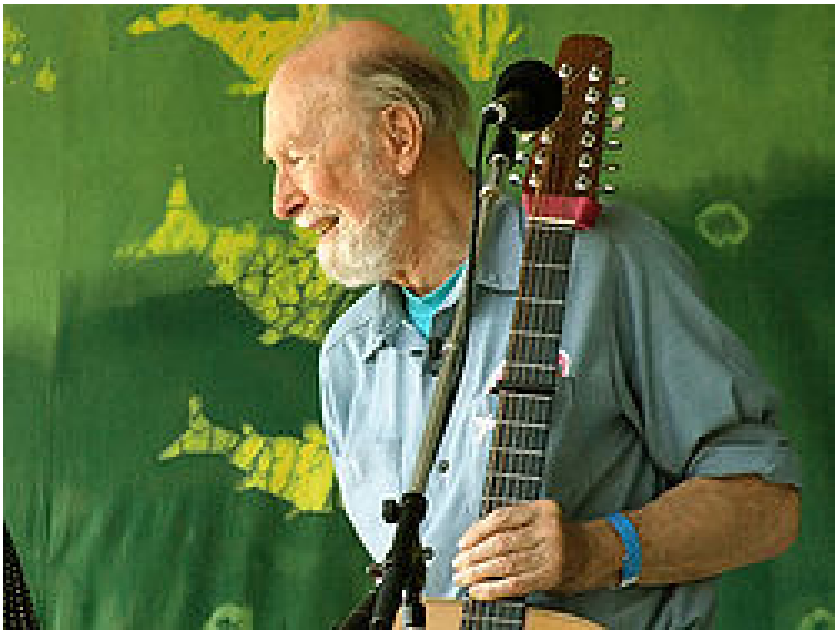


Figure 7.23: **Pete Seeger at the Ckearwater Festival in June, 2007.**



Figure 7.24: **Seeger at 86 on the cover of Sing Out! (Summer 2005), a magazine he helped found in 1950.**

Universal Soldier

He's five feet two and he's six feet four
He fights with missiles and with spears
He's all of 31 and he's only 17
He's been a soldier for a thousand years

He's a Catholic, a Hindu, an atheist, a Jain,
a Buddhist and a Baptist and a Jew
and he knows he shouldn't kill
and he knows he always will
kill you for me my friend and me for you

And he's fighting for Canada,
he's fighting for France,
he's fighting for the USA,
and he's fighting for the Russians
and he's fighting for Japan,
and he thinks we'll put an end to war this way

And he's fighting for Democracy
and fighting for the Reds
He says it's for the peace of all
He's the one who must decide
who's to live and who's to die
and he never sees the writing on the walls

But without him how would Hitler have
condemned him at Dachau
Without him Caesar would have stood alone
He's the one who gives his body
as a weapon to a war
and without him all this killing can't go on

He's the universal soldier and he
really is to blame
His orders come from far away no more
They come from him, and you, and me
and brothers can't you see
this is not the way we put an end to war.[1]

[1]by Buffy Saint-Marie

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Chapter 8

MAIREAD CORRIGAN MAGUIRE

Mairead Corrigan was born in 1944. She was the second of eight children of a Catholic family in Belfast, Ireland. In 1976, an event occurred which led Mairead to become a peace activist. Her sister Anne Maguire and three of Anne's children were run over and killed by a car driven by a Provisional Irish Republican Army (PIRA) member who had been fatally shot by British troops while trying to escape. Mairead Corrigan and Betty Williams became leaders of a "virtually spontaneous mass movement" of both Catholic and Protestant women protesting against violence and urging both sides to settle the conflict peacefully.

A march of 10,000 women to the burial place of the three Maguire children, in which both Catholics and Protestants took part, was physically attacked by members of the PIRA. Later the same month, the movement mobilized 35,000 protesters against violence on the streets of Belfast. The movement was initially called "Women for Peace", but later changed its name to the gender-neutral "Community of Peace People", or simply "Peace People". The movement's two leaders, Betty Williams and Mairead Corrigan, were awarded the 1976 Nobel Peace Prize.

In 1980, after a prolonged struggle with depression following the loss of three of her children, Mairead's sister, Anne Maguire committed suicide. A year and a half later, Mairead Corrigan married her sister's widower, Jackie Maguire.

Although Mairead Corrigan Maguire has continued to work with Peace People until the present, the scope of her work for peace and non-violence has broadened greatly.
Here are a few things that Mairead Corrigan Maguire said:

Our common humanity is more important than all the things that divide us.

It's okay to be scared, but fear is different. Fear is when we let being scared prevent us from doing what love requires of us.

We have really got to create a culture in our world today where we recognize that every human life is sacred and precious and we have no right to take another human life.

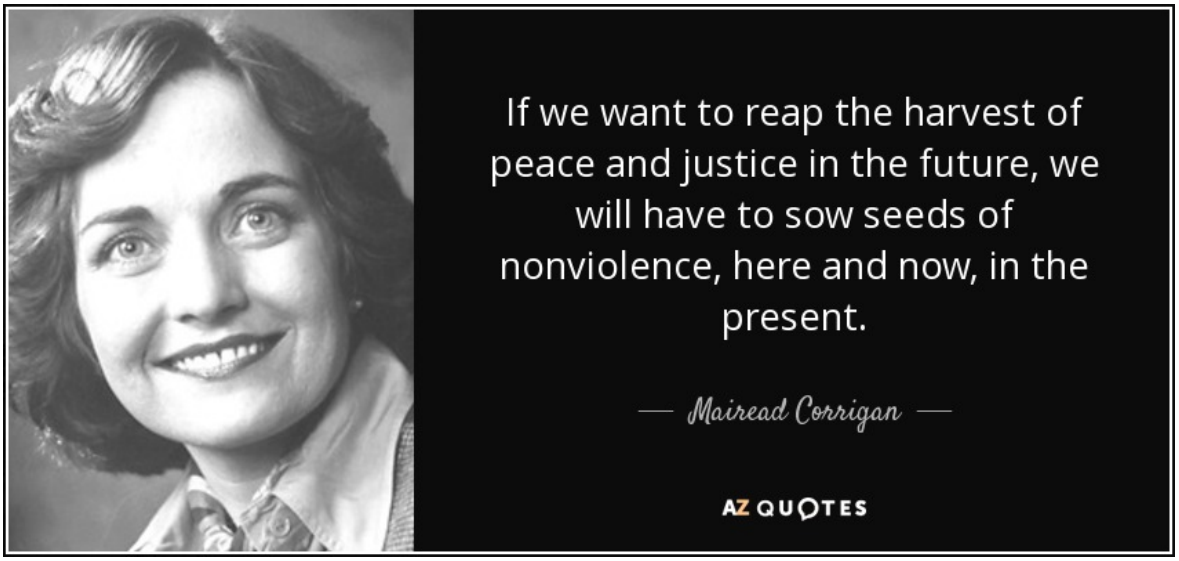


Figure 8.1:

We frail humans are at one time capable of the greatest good and, at the same time, capable of the greatest evil. Change will only come about when each of us takes up the daily struggle ourselves to be more forgiving, compassionate, loving, and above all joyful in the knowledge that, by some miracle of grace, we can change as those around us can change too.

We are all invited to work together for peace. We shall join hands and minds to work for peace through active nonviolence. We shall help one another, encourage one another and learn from one another how to bring peace to our children and to all.

We have to start from the fact that there are always alternatives to violence.

We need radical thinking, creative ideas, and imagination.

I witnessed a lot of violence, and I found myself asking the question: Do you ever use violence to try to bring about political change?

Love for others and respect for their rights and their human dignity, irrespective of who or what they are, no matter what religion - or none - that they choose to follow, will bring about real change and set in motion proper relationships. With such relationships built on equality and trust, we can work together on so many of the threats to our common humanity.



Figure 8.2: **Mairead Corrigan Maguire (born 1944). She and Betty Williams shared the 1976 Nobel Peace Prize for founding and leading Peace People, an organization working for peace in Northern Ireland. Today Maguire's concerns are global. She opposed the Iraq Wars of 1990 and 2003, and the sanctions that caused hundreds of thousands of deaths among the civilians of Iraq. She is critical of US militarism and wars, nuclear weapons wherever they are found, and Israel's occupation of Gaza. At the Russell Tribunal in 2012. she "asked the question that seems to be taboo in the U.S.: Why does President Barack Obama allow Israel to threaten Iran with war when Iran has signed the NPT and Israel has at least 200 nuclear weapons? Why does the president not demand that Israel sign the NPT?" Regarding nuclear weapons, she said "I have for years been speaking out against nuclear weapons. I am actively opposed to nuclear weapons in Britain, in the United States, in Israel, in any country, because nuclear weapons are the ultimate destruction of humankind." Together with Desmond Tutu and Adolfo Pérez Esquivel, Mairead Maguire has also published a letter in support of Chelsea Manning. In 2019, she nominated Julian Assange for the Nobel Peace Prize.**

Every day there are people in our world that do absolutely amazing things. People of all ages are very capable of doing tremendous, courageous things in spite of their fear.

Perhaps the greatest contribution that those of us who come from a Christian tradition can make is to throw out the old just-war theory, embrace the nonviolence of Jesus, refuse to kill one another, and truly follow his commandment to "love our enemies".

I believe that hope for the future depends on each of us taking nonviolence into our hearts and minds and developing new and imaginative structures which are nonviolent and life-giving for all.

We need now to build a culture of genuine nonviolence and real democracy.

One great hope lies in the fact that there is a new consciousness in our World, particularly among young people.

Once we link up and network, there will be new institutions, new beginnings, and a change in the economy because capitalism is destroying many people's lives. It's just one leap to think in a different way.

To enable consensus politics to develop we need to empower people where they live. This means devolving financial resources and political power down to the community level. One of the greatest blocks to movement is fear. This fear can only be removed when people feel their voices are being heard by government and when they have a say in their own lives and communities.

...I believe, with Gandhi, that we need to take an imaginative leap forward toward fresh and generous idealism for the sake of all humanity - that we need to renew this ancient wisdom of nonviolence, to strive for a disarmed world, and to create a culture of nonviolence.

I have always been inspired by the American peace movement because it is operating in a very hard and militarist environment.

I believe we are on the edge of a quantum leap into a whole new way of organizing and living as a human family.

When I visited Auschwitz I was horrified. And when I visited Iraq, I thought to myself, 'What will we tell our children in fifty years when they ask what we did when the people in Iraq were dying.'



Figure 8.3: **In 1981, Mairead Corrigan married her sister Anne's widower, Jackie Maguire.**

I think Assange has been very courageous. I've also defended Bradley Manning. I think they've been tremendously courageous in telling the truth, and the public has the right to the truth.

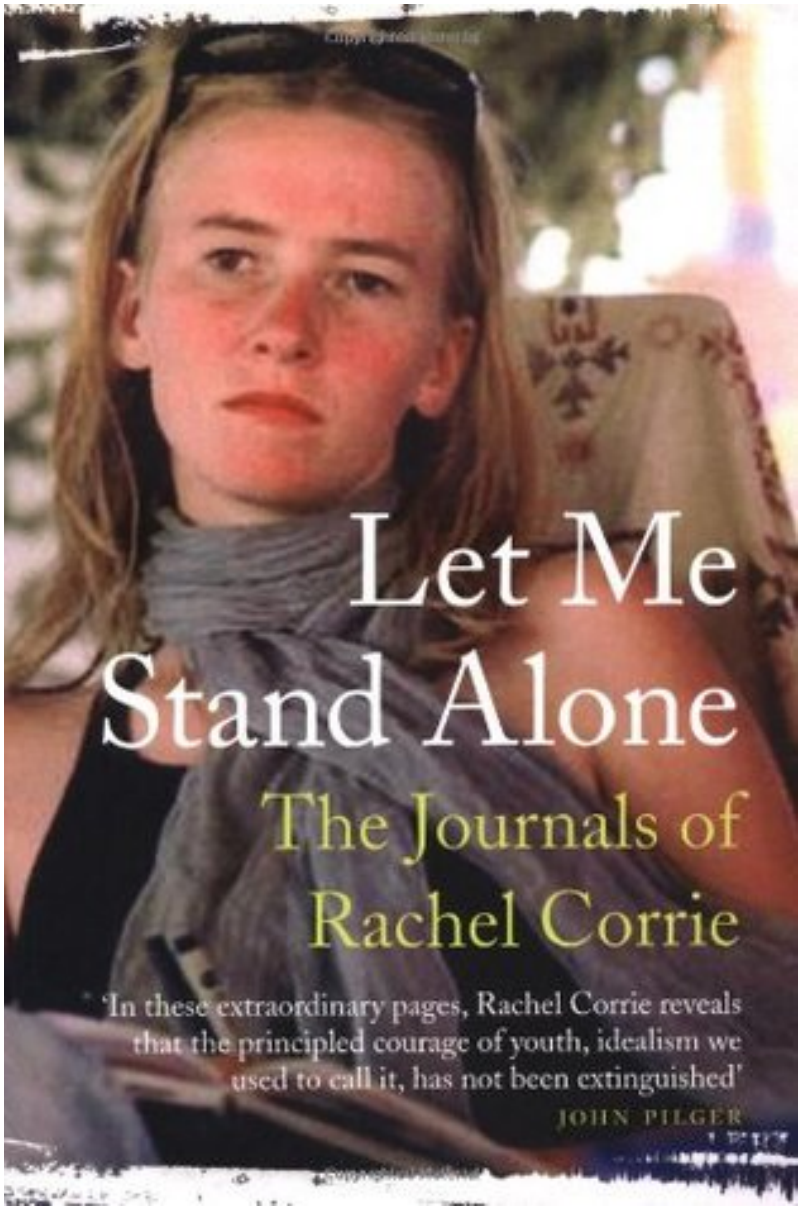


Figure 8.4: **Rachael Corrie was killed when she stood in front of an Israeli bulldozer to prevent it from destroying the houses of Palestinians. The bulldozer driver ran over Rachael repeatedly to make sure that she was dead. Mairead Corrigan Maguire recently sailed on a small ship named after Rachael Corrie in an attempt to break Israel's illegal blockade of Gaza.**

Drop the Just War theory and abolish nuclear weapons

Here are excerpts from a 2016 article by Mairead Corrigan Maguire:[1]

Isn't it strange how war has always found legitimacy by some "thinkers" or "moral" philosophers?

Did you ever hear about just human rights violations? Just genocide? Just poverty? Just gender violence? Just destruction of Nature? Just child labour? - like "if only it's proportional to the challenge we see and we try our best to follow some rules of the fighting it's OK"?

Something very important happened a couple of weeks ago - missed of course by virtually all near-governmental media:

Members of a three day event in Rome co-hosted by the Pontifical Council for Justice and Peace and the International Catholic Peace Movement Organization, Pax Christi, strongly called on Pope Francis:

"To share with the world an encyclical on nonviolence and Just Peace; and on the Church to no longer use or teach 'just war theory'; and continue advocating for the abolition of war and nuclear weapons".

Mrs. Maguire later added the following comments:[2]

I believe the misguided age of 'blessing wars, militarism and killing' must become abolished and the responsibility lies with Pope Francis and religious/spiritual leaders to be true shepherds of Peace and Nonkilling/nonviolence following the command of Jesus to love our enemies and not kill each other.

I hope also that Pope Francis will unambiguously proclaim that 'Violence is always wrong, it is not the way of Jesus' and reject militarism thereby calling upon Catholics not to join armies and take up arms to kill people, thus becoming a true peace church.

The Appeal is now in the hands of Pope Francis, and we can now work, fast, pray, for an Nonkilling/Nonviolence Encyclical - and hope that Pope Francis will continue to show courage, be brave and bold, a true Prophet, a loving Shepherd and a bright light in these dark days for all the human family, which he has so rightly describes as 'this unique and terrible world war in instalments'.

[1] https://www.pressenza.com/2016/05/drop-just-war-theory-abolish-nuclear-weapons/

[2] http://blog.transnational.org/2016/04/tff-pressinfo-372-drop-the-just-war-theory-and-abolish-nuclear-weapons/

Chapter 9

GLOBAL ZERO

On December 8-9, 2008, approximately 100 international leaders met in Paris to launch the Global Zero Campaign. They included Her Majesty Queen Noor of Jordan, Norway's former Prime Minister Gro Harlem Brundtland, Ireland's former Prime Minister Mary Robinson and Nobel Peace Prize winners President Jimmy Carter, President Mikhail Gorbachev, Archbishop Desmond Tutu and Prof. Muhammad Yunus.

The concrete steps advocated by Global Zero include:

- Deep reductions to Russian-US arsenals, which comprise 96% of the world's nuclear weapons.
- Russia and the United States, joined by other nuclear weapons states, cutting arsenals to zero in phased and verified reductions.
- Establishing verification systems and international management of the fuel cycle to prevent future development of nuclear weapons.

A few of the many global leaders supporting the work and aims of Global Zero are shown below.



Figure 9.1: **President Mary Robinson of Ireland.**



Figure 9.2: **Chancellor Helmut Schmidt**



Figure 9.3: **Hans Blix addressing a conference on "Strengthening the Nuclear Nonproliferation Treaty and the International Atomic Energy Agency", which we organized at the Danish Parliament. To his right are Jens-Christian, myself, MP Holger K. Nielsen, Hans K. Kristensen, and Ambassador Ali Soltineah.**



Figure 9.4: **The audience listening to Hans Blix.**



Figure 9.5: **Gro Harlem Brundtland (born in 1939). In 1981, she became the first female Prime Minister of Norway. Although her first term in this position only lasted a year, she was later Prime Minister for longer periods, from 1986 to 1989 and from 1990 to 1996. In 1983, Gro Harlem Brundtland was invited by United Nations Secretary-General Javier Pérez du Cuéllar to set up and chair a World Commission on Environment and Development. This later became known as the Brundtland Commission. The Commission's report, entitled *Our Common Future* was published in 1987, and it provided a basis for the 1992 Earth Summit, which was held in Rio de Janeiro.**



Figure 9.6: **Jayantha Dhanapala. He served as UN Under Secretary General for Disarmament and later as President of Pugwash Conferences on Science and World Affairs**



Figure 9.7: **Václav Havel, the 1st President of the Czech Republic.**



Figure 9.8: **Professor Pervez Hoodbhoy, a world-famous theoretical physicist, educator and social reformer.**



Figure 9.9: **Prime Minister Wim Kok of the Netherlands.**

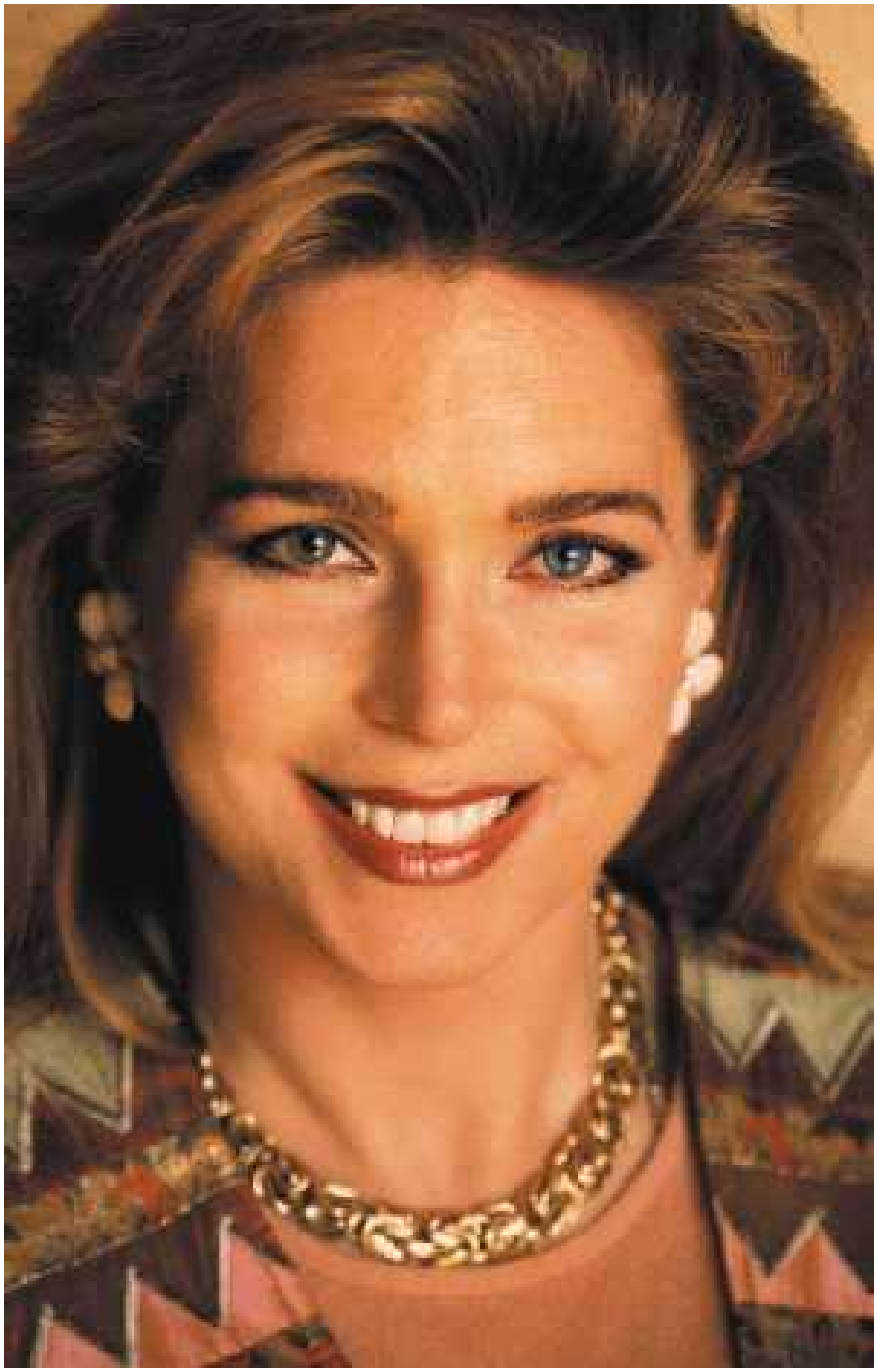


Figure 9.10: **HM Queen Noor of Jordan.**



Figure 9.11: **Professor John Polanyi shared the 1986 Nobel Prize in Chemistry.**



Figure 9.12: **Archbishop Desmond Tutu, who won the 1984 Nobel Peace Prize for his work on truth and reconciliation in South Africa.**



Figure 9.13: **Mohammad Yunus was awarded a Nobel Peace Prize for establishing economic institutions, such as banks, which are especially for the benefit of the poor.**



Figure 9.14: **Jimmy Carter. The Nobel Peace Prize 2002 was awarded to Jimmy Carter "for his decades of untiring effort to find peaceful solutions to international conflicts, to advance democracy and human rights, and to promote economic and social development." Jimmy Carter is the only US President during whose term of office the country was not at war anywhere in the world.**

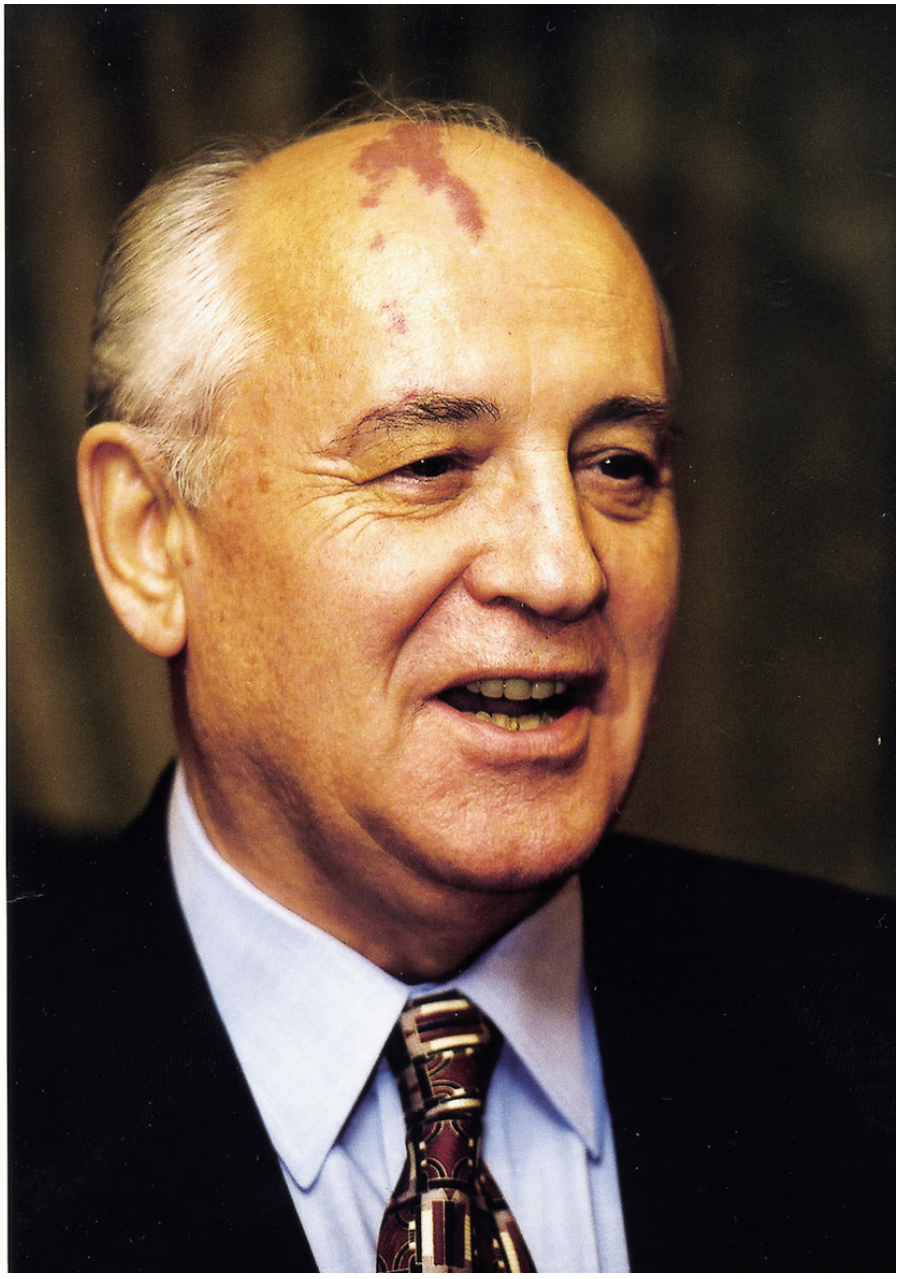


Figure 9.15: **Mikhail Gorbachev. By ending the Cold War he probably saved the lives of most of us. We would otherwise very likely have died in a catastrophic thermonuclear war.**

Chapter 10

DAISAKU IKEDA AND SGI

Soka Gakkai is a large Nichiren Buddhist religious group. Its 12 million members are centered primarily in Japan, but Soka Gakkai International (SGI) has groups in 192 countries. In Japanese, the words "Soka Gakkai" mean "Value-Creating Education". The organization was started by two Japanese educators, Tsunisaburo Makiguchi and Josei Toda, both of whom were imprisoned by their government during World War II because of their opposition to militarism. Makiguchi died as a result of his imprisonment, but Josei Toda went on to found a large and vigorous educational organization dedicated to culture, humanism, world peace and nuclear abolition.

The SGI-International website states that "For most of his life Makiguchi's central concern was to reform the education system that, he felt, discouraged independent thinking and stifled students' happiness and creativity. He believed that education should serve the happiness of the students, rather than the needs of the state. His educational ideas, and his theory of value-creation (soka), which underlies his pedagogy, are explored in his 1930 work *Soka Kyoikugaku Taikei* (The Theory of Value-Creating Pedagogy). Makiguchi's views completely contradicted the logic of the militarist government, which sought to use education to mold obedient, unquestioning servants of the state...

"Josei Toda (1900-1958) was an educator, publisher and entrepreneur who, as second president of the Soka Gakkai, revived the lay Buddhist organization after World War II, building it into a dynamic, popular movement."

The Toda Declaration and Daisaku Ikeda's Proposals

In 1957, before a cheering audience of 50,000 young Soka Gakkai members, Josei Toda declared nuclear weapons to be an absolute evil. He said that their possession is criminal under all circumstances, and he called the young people present to work untiringly to rid the world of all nuclear weapons.

Toda was the mentor of Daisaku Ikeda, the first president SGI-International. Every year, President Ikeda issues a Peace Proposal, calling for international understanding and dialogue, as well as nuclear abolition, and outlining practical steps by which he believes



Figure 10.1: **In 1957, before a cheering audience of 50,000 young Soka Gakkai members, Josei Toda declared nuclear weapons to be an absolute evil. He said that their possession is criminal under all circumstances, and he called on the young people present to work untiringly to rid the world of all nuclear weapons. Source: SGI International**

these goals may be achieved. In his 2013 Peace Proposal, Ikeda, noted that 2015 will be the 70th anniversary of the destruction of Hiroshima, and he proposed that the NPT review conference should take place in Hiroshima, rather that in New York. He proposed that this should be followed by "an expanded global summit for a nuclear-weapon-free world"

Ikeda was born in Tokyo, Japan, on January 2, 1928, the fifth of eight children, to a family of seaweed farmers. The devastation and senseless horror he witnessed as a teenager during World War II gave birth to a lifelong passion to work for peace, rooting out the fundamental causes of human conflict.

In 1947, at the age of 19, he met Josei Toda, educator and leader of the Soka Gakkai. Ikeda found in Toda an open and unaffected person, a man of unshakable conviction with a gift for explaining profound Buddhist concepts in logical, accessible terms. He soon found employment at one of Toda's companies and later completed his education under the tutelage of Toda, who became his mentor in life.

Ikeda was one of the first major Japanese figures to call for normalization of relations with China. His call met with fierce criticism in Japan, but it also caught the attention of those, both in China and in Japan, who sought an easing of tensions between the two countries, including Chinese Premier Zhou Enlai. Today, Ikeda's statement is widely recognized as having played a catalytic role in the process that culminated in the restoration of diplomatic ties between the two countries in 1972.

In the years after normalization, Ikeda engaged in a form of "citizen diplomacy" among the Cold War rivals, particularly between China and the Soviet Union, which at times seemed on the brink of full-scale conflict. During 1974 and 1975, he repeatedly visited



Figure 10.2: **Daisaku Ikeda at the age of 19. Josei Toda became his teacher and mentor.**



Figure 10.3: **Daisaku Ikeda (born 1928), President of the 12-million-strong Buddhist organization Soka Gakkai International. Throughout his long life he has worked with courage and dedication for peace and international dialogue.**

China, the USSR and the US, meeting with Soviet Premier Aleksey Kosygin, Chinese Premier Zhou Enlai, US Secretary of State Henry Kissinger and other key figures. Conveying the concerns and aspirations of the leaders of these hostile powers, as well as the yearning for peace he had felt in his encounters with the ordinary citizens of each society, Ikeda worked to defuse tensions and help build the foundations for mutual understanding and dialogue.

Book review: "Hiroshima, August 6, 1945, a Silence Broken"

Why the book is important

The nuclear destruction of Hiroshima was a tragedy in itself, but its larger significance is that it started a nuclear arms race which today threatens to destroy human society and much of the biosphere.

Soka Gakkai

Soka Gakkai is a large Nichiren Buddhist religious group. Its 12 million members are centered primarily in Japan, but Soka Gakkai International (SGI) has groups in 192 countries. In Japanese, the words "Soka Gakkai" mean "Value-Creating Education". The organization was started by two Japanese educators, Tsunisaburo Makiguchi and Josei Toda, both of whom were imprisoned by their government during World War II because of their opposition to militarism. Makiguchi died as a result of his imprisonment, but Josei Toda went on to found a large and vigorous educational organization dedicated to culture, humanism, world peace and nuclear abolition.

The Toda Declaration and Daisaku Ikeda's Proposals

In 1957, before a cheering audience of 50,000 young Soka Gakkai members, Josei Toda declared nuclear weapons to be an absolute evil. He said that their possession is criminal under all circumstances, and he called the young people present to work untiringly to rid the world of all nuclear weapons.

Toda was the mentor of Daisaku Ikeda, the first president SGI. Every year, President Ikeda issues a Peace Proposal, calling for international understanding and dialogue, as well as nuclear abolition, and outlining practical steps by which he believes these goals may be achieved. In his 2013 Peace Proposal, Ikeda, noted that 2015 will be the 70th anniversary of the destruction of Hiroshima, and he proposed that the NPT review conference should take place in Hiroshima, rather that in New York. He proposed that this should be followed by "an expanded global summit for a nuclear-weapon-free world"

The Hiroshima Peace Committee and the last remaining hibakushas

In Japanese the survivors of injuries from the nuclear bombing of Hiroshima and Nagasaki are called "hibakushas". Over the years, the Soka Gakkai Hiroshima Peace Committee has published many books containing their testimonies. The most recent of these books, "A Silence Broken", contains the testimonies of 14 men, now all in their late 70's or in their 80's, who are among the last few remaining hibakushas. All 14 of these men have kept silent until now because of the prejudices against hibakushas in Japan, where they and their children are thought to be unsuitable as marriage partners because of the effects of radiation. But now, for various reasons, they have chosen to break their silence. Many have chosen to speak now because of the Fukushima disaster.

The testimonies of the hibakushas give a vivid picture of the hell-like horrors of the nuclear attack on the civilian population of Hiroshima, both in the short term and in the long term. For example, Shigeru Nonoyama, who was 15 at the time of the attack, says: "People crawling out from crumbled houses started to flee. We decided to escape to a safe place on the hill. We saw people with melted ears stuck to their cheeks, chins glued to their shoulders, heads facing in awkward positions, arms stuck to bodies, five fingers joined together and grab nothing. Those were the people fleeing. Not merely a hundred or two, The whole town was in chaos."

"I saw the noodle shop's wife leg was caught under a fallen pole, and a fire was approaching. She was screaming, 'Help me!Help me!' There were no soldiers, no firefighters. I later heard that her husband had cut off his wife's leg with a hatchet to save her."

"Each and every scene was hell itself. I couldn't tell the difference between the men and the women. Everybody had scorched hair, burned hair, and terrible burns. I thought I saw a doll floating in a fire cistern, but it was a baby. A wife trapped under her fallen house was crying, 'Dear, please help me, help me!' Her husband had no choice but to leave her in tears."

"...I hovered between life and death for three months, from August to October. When a fly landed on a festering wound, it would bleed white maggots in a few days. My mother shooed away the flies through the night with a fan through the night. She must have been desperately determined not to lose any more sons or daughters. My dangling skin dried and turned hard, like paper. My mother picked off the dried skin. She made a cream of straw ash and cooking oil, and applied it to my burnt head, face and fingertips, turning me black..."

The testimonies of the other hibakushas are equally horrifying.

The postwar nuclear arms race

On August 29, 1949, the USSR exploded its first nuclear bomb. It had a yield equivalent to 21,000 tons of TNT, and had been constructed from Pu-239 produced in a nuclear reactor. Meanwhile the United Kingdom had begun to build its own nuclear weapons.

The explosion of the Soviet nuclear bomb caused feelings of panic in the United States, and President Truman authorized an all-out effort to build superbombs using thermonu-



Figure 10.4: *It was like a scene from hell. Source: SGI International.*

clear reactions - the reactions that heat the sun and stars. On October 31, 1952, the first US thermonuclear device was exploded at Eniwetok Atoll in the Pacific Ocean. It had a yield of 10.4 megatons, that is to say it had an explosive power equivalent to 10,400,000 tons of TNT. Thus the first thermonuclear bomb was five hundred times as powerful as the bombs that had devastated Hiroshima and Nagasaki. The Soviet Union and the United Kingdom were not far behind.

In 1955 the Soviets exploded their first thermonuclear device, followed in 1957 by the UK. In 1961 the USSR exploded a thermonuclear bomb with a yield of 58 megatons. A bomb of this size, two thousand times the size of the Hiroshima bomb, would destroy a city completely even if it missed it by 50 kilometers. France tested a fission bomb in 1966 and a thermonuclear bomb in 1968. In all about thirty nations contemplated building nuclear weapons, and many made active efforts to do so.

Because the concept of deterrence required an attacked nation to be able to retaliate massively even though many of its weapons might be destroyed by a preemptive strike, the production of nuclear warheads reached insane heights, driven by the collective paranoia of the Cold War. More than 50,000 nuclear warheads were produced worldwide, a large number of them thermonuclear. The collective explosive power of these warheads was equivalent to 20,000,000,000 tons of TNT, i.e., 4 tons for every man, woman and child on the planet, or, expressed differently, a million times the explosive power of the bomb that destroyed Hiroshima. Today, the collective explosive power of all the nuclear weapons in the world is about half that much, but still enough to destroy human society.

There are very many cases on record in which the world has come very close to a catastrophic nuclear war. One such case was the Cuban Missile Crisis. Robert McNamara, who was the US Secretary of Defense at the time of the crisis, had this to say about how close the world came to a catastrophic nuclear war: “I want to say, and this is very important: at the end we lucked out. It was luck that prevented nuclear war. We came that close



Figure 10.5: *Burned beyond recognition. Source: SGI International.*



Figure 10.6: *Memories of August 6. Source: SGI International.*



Figure 10.7: *The effects lasted a lifetime. Source: SGI International.*



Figure 10.8: *After the bombing. Source: SGI International.*

to nuclear war at the end. Rational individuals: Kennedy was rational; Khrushchev was rational; Castro was rational. Rational individuals came that close to total destruction of their societies. And that danger exists today."

A number of prominent political and military figures (many of whom have ample knowledge of the system of deterrence, having been part of it) have expressed concern about the danger of accidental nuclear war. Colin S. Gray, Chairman, National Institute for Public Policy, expressed this concern as follows: "The problem, indeed the enduring problem, is that we are resting our future upon a nuclear deterrence system concerning which we cannot tolerate even a single malfunction". 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."

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, a number far too large to monitored exhaustively. Such an event might trigger a large-scale nuclear conflagration.

Recent research has shown that a large-scale nuclear war would be an ecological catastrophe of enormous proportions, producing very large-scale famine through its impact on global agriculture, and making large areas of the world permanently uninhabitable through long-lived radioactive contamination.

How do these dangers look in the long-term perspective? Suppose that each year there is a certain finite chance of a nuclear catastrophe, let us say 1 percent. Then in a century the chance of a disaster will be 100 percent, and in two centuries, 200 percent, in three

centuries, 300 percent, and so on. Over many centuries, the chance that a disaster will take place will become so large as to be a certainty. Thus by looking at the long-term future, we can see that if nuclear weapons are not entirely eliminated, civilization will not survive.

We will do well to remember Josei Toda's words: "Nuclear weapons are an absolute evil. Their possession is criminal under all circumstances"

Book review: Aurelio Pecci and Daisaku Ikeda, "Before It's Too Late"

This book was published in 1984 in English, French, German, Italian and Japanese. Far from being our of date, it is even more urgently relevant today than when it was published. It is a dialogue between two great men, Aurelio Peccei and Daisaku Ikeda. Their greatness is both moral and intellectual.

Aurelio Peccei (1908-1984) was the principal founder of the Club of Rome, an organization whose 1972 report, "Limits to Growth" first called to the world's attention the impossibility of constantly-increasing economic growth on a finite planet.

The second author, Daisaku Ikeda (1928-), is the founding President of Soka Gakkai International (SGI), a 12-million-strong lay Buddhist organization with members in 192 countries or regions.

The Japanese words "Soka Gakkai" mean "Value-Creating Education", and the members of SGI are strongly committed to working for peace, international understanding, and the complete abolition of nuclear weapons.

"Before It Is Too Late" is a comprehensive discussion of the urgent need to re-establish human respect for nature, and harmony with nature.

It is even more clear today than it was 30 years ago that, unless it is checked, unrestrained commercial exploitation of the environment, will lead to an environmental mega-catastrophe.

Today there is unequivocal scientific evidence that if the use of fossil fuels is not replaced by 100% renewable energy within the next few decades, we will pass a tipping point.

Beyond this point, feed-back mechanisms for global warming will take over and lead us uncontrollably to catastrophic climate change.

There is a danger that human actions will produce a 6th extinction event comparable to five largest events that are found in the geological record. During each of these, more than half the species of living organisms became extinct.

Although Aurelio Peccei and Daisaku Ikeda did not have this new scientific information available when they were writing their important dialogue, they nevertheless were acutely aware of the environmental damage caused by the unrestrained activities of industrial civilization.

An initial statement by Aurelio Pecci

Here are some quotations from Peccei's introductory remarks:

"Paradoxically, man has never been so much in danger as he is now, at the peak of his power. .. Mesmerized by our own power, we do what we can do, not what we ought to do...

"The consequences of our misjudgement and our irresponsible behaviour are quite evident. We have vanquished so many diseases without reducing our reproductive fertility, with the result that the world population is multiplying phenomenally...

"Today, in a time of quarrelsome so-called sovereign states that lose no opportunity to arm themselves to the teeth, the way we have enormously developed military technologies means that humanity is actually playing with fire...

"Hurtling on full speed ahead and indulging our propensity for material possessions and consumption, we have dramatically swelled the global demand for goods, foods and services...

"We have created artificial needs, artfully expanding the range of what is considered indespensible by constantly renewing fashions, and designing products with built-in technological obsolescence.

"The only way we have devised to meet the surging waves of our rampant militarism and consumerism is to draw increasingly on the natural environment and to exploit, indiscriminately, the most accessible mineral and fuel deposits and all living resources we can lay our hands on...

"Such actions irreversibly impoverish our unique, irreplaceable world, whose bounty and generosity are not infinite. Even if all other adverse situations in which we find ourselves today were to be alleviated, in itself, out high-handed treatment of Nature can bring about our doom."

President Daisaku Ikeda replies

In the dialogue, President Ikeda supports Peccei's analysis and adds:

"While striving to reduce the numbers of their unemployed, increase their military arsenals, and stimulate industry in their own lands, politicians continue to hold out to their own peoples the dream of a richer society. Economists continue to try to invigorate economic growth, probably because development and growth in business are directly linked with support of their own social positions. Technocrats follow a similar course,,,

"Sympathizers with the stands of overly optimistic politicians, economists and technicians condemn indications of the gravity of the situation on the grounds that they weaken people's will to grow and develop. In Japan, this attitude has led the Ministry of Education to request publishers of primary

and middle-school textbooks to delete pictures of the atomic bombings as intolerable horrible, and to change articles about industries that pollute the environment.

"The ministry is guilty of putting the cart before the horse. What it should be insisting on is the prevention of production, stockpiling and use of the nuclear weapons responsible for the horrors that it deplores in the textbook illustrations. People who assume an optimistic stance in connection with polluting industries and reckless consumption of the world's natural resources are guilty of similar folly."

A Human Revolution

Both authors agree that, in order to avoid the dangers of ecological, economic or thermonuclear catastrophe, a Human Revolution is necessary. By this they mean a revolution in the way that humans think of themselves.

The two authors agree that this will require a reform of current educational systems. President Ikeda, who has spent many years establishing reformed educational institutions throughout the world, is extremely well qualified to discuss this issue.

The reader will find much in this book that is vitally important to our current situation.

It is like a musical composition which constantly returns to the theme of harmony between humans and Nature and between humans and other humans, with a richness of variations on these themes that progressively builds up our understanding.

SGI Denmark

For many years I have worked with the Danish National Group of Pugwash Conferences on Science and World Affairs. In 2007 we arranged for Dr. Tadatoshi Akeba, the Mayor of Hiroshima, to visit Copenhagen and meet Copenhagen's Lord Mayor, Ritt Bjergaard. The meeting was a great success, and, as we had hoped, Copenhagen joined the Mayors for Peace organization, despite a Danish regulation that forbids mayors from expressing themselves on foreign policy issues.

One of the greatest benefits of Dr. Akiba's visit was that it brought us into contact with the Danish branch of SGI. Getting to know and cooperate with SGI Denmark and its leaders, Jan Møller and Mark Kamio, as well as many others in the organization, has been a great joy to me personally, and it has greatly helped the work for peace of our Danish Pugwash Group. Like the Quakers, and a few other religious groups, SGI is dedicated to working courageously and actively for peace, international understanding, and the total abolition of nuclear weapons.

We soon found that it was convenient to have our Pugwash meetings at SGI Denmark's beautiful Nordic Cultural Center, enjoying the wonderful hospitality of Jan and Mark and the others. I also began the practice of traveling to Askov College in Jutland twice a year to lecture about nuclear dangers to visiting students from the Soka University, Tokyo. Also,



Figure 10.9: **In 2007, we decided to invite Dr. Tadatoshi Akeba, the Mayor of Hiroshima, to visit Copenhagen.**

for three years in a row, I had the privilege of being invited to give a half-hour speech on Hiroshima Day (August 6) at SGI Denmark's annual summer course. It was an enormous pleasure to speak to the 400 or so enthusiastic SGI members assembled for the course.



Figure 10.10: **We arranged for survivors of the destruction of Hiroshima to meet Copenhagen's Cultural Mayor, Pia Allerslev.**



Figure 10.11: **SGI's beautiful Nordic Cultural Center, at A.F. Kriegersvej 3, Copenhagen.**



Figure 10.12: **An SGI event in which I participated. On the right are Jan Møller. President of SGI Denmark, and the famous Danish actress Mia Lyhne.**



Figure 10.13: **Another SGI event: Hiroshima Day at Askov College. In the front row, from left to right, we see the Japanese Ambassador and his wife, Tom Børsen, myself, Maj Britt Theorin President of the International Peace Bureau, Caecilie Buhmann, and Maj Britt's husband. On the far right are Jens Junghans, Mark Kamio and Jan Møller. Holger Terp can be seen just behind Maj Britt Theorin.**



Figure 10.14: **One of the wonderful students from Soka University in Tokyo. Two times a year for many years I lectured to them on the history of Pugwash Conferences, and the current situation in the struggle to abolish nuclear weapons.**



Figure 10.15: **A meeting between President Daisaku Ikeda and Sir Joseph Rotblat.**

Full List of Published Dialogues of Daisaku Ikeda

1. **"Civilization, East and West", with Richard Coudenhove-Kalergi, Japanese, (1972)**
2. **"On the Japanese Classics", with Makoto Nemoto English, Japanese (1974), Portuguese, Thai**
3. **"Choose Life: A Dialogue" with Arnold J. Toynbee, Bengali, Bulgarian, Chinese (simplified and traditional), Czech, Dutch, English, Filipino, French, German, Hindi, Hungarian, Indonesian, Italian, Japanese (1975), Korean, Laotian, Malay, Nepali, Polish, Portuguese, Russian, Serbian, Sinhalese, Spanish, Swahili, Thai, Turkish, Urdu, Vietnamese**
4. **"On Living", with Konosuke Matsushita, Chinese (simplified and traditional), Korean, Japanese (1975)**
5. **"Changes Within: Human Revolution vs. Human Condition", with André Malraux, Japanese (1976)**
6. **"Letters of Four Seasons", with Yasushi Inoue, Chinese (simplified), English, French, Japanese (1977), Malay, Thai**
7. **"Dawn After Dark", with René Huyghe, Chinese (simplified), English, French (1980), Japanese, Portuguese, Spanish, Thai**
8. **"Before It Is Too Late", with Aurelio Peccei, Bulgarian, Chinese (simplified and traditional), Danish, English, French, German, Indonesian,**

Italian, Japanese (1984), Korean, Malay, Portuguese, Spanish, Swedish, Thai, Vietnamese

9. **"Human Values in a Changing World", with Bryan Wilson, Chinese (simplified and traditional), English, French, Italian, Japanese (1985), Portuguese, Spanish, Thai**

10. **"The Third Rainbow Bridge", with Anatoli A. Logunov, Chinese (simplified), Japanese (1987), Russian**

11. **"Philosophy of Human Peace", with Henry Kissinger, Japanese (1987)**

12. **"Humanity at the Crossroads", with Karan Singh, English, Japanese (1988), Thai**

13. **"Search for a New Humanity", with Josef Derbolav, Chinese (simplified), English, German (1988), Japanese, Thai**

14. **"A Lifelong Quest for Peace", with Linus Pauling, Chinese (simplified and traditional), English, Filipino, French, Japanese (1990), Korean, Malay, Russian, Spanish, Vietnamese**

15. **"The Radiance of Dunhuang: On Beauty and Life", with Chang Shuhong, Chinese (simplified and traditional), Japanese (1990)**

16. **"Dialogue Between Citizens of the World", with Norman Cousins, Japanese (1991)**

17. **"The Sun and the Good Earth: An Ode to Pioneering Japanese Immigrants", with Ryoichi Kodama, Japanese(1991), Kyrgyz, Portuguese**

18. **"Ode to the Grand Spirit", with Chingiz Aitmatov, English, German, Japanese (1991), Kyrgyz, Russian**

19. **"Dialogue on Humanity and Culture", with Kenji Doi, Japanese (1991)**

20. **"Space and Eternal Life", with Chandra Wickramasinghe, English, Japanese (1992), Portuguese**

21. **"Science and Religion", with Anatoli A. Logunov, Japanese (1994) , Russian**

22. **"Human Rights in the Twenty-First Century", with Austregésilo de Athayde, English, Japanese (1995), Portuguese**

23. **"Choose Peace", with Johan Galtung, English, Italian, Japanese (1995), Korean, Thai**

24. **"Moral Lessons of the Twentieth Century", with Mikhail Gorbachev, Chinese (simplified and traditional), English, French, German, Greek, Icelandic, Italian, Japanese (1996), Korean, Russian, Slovakian**

25. **"Dawn of the Pacific", with Patricio Aylwin Azócar, Japanese (1997), Spanish**

26. **"The Tempestuous Life of Napoleon", with Philippe Moine, Patrice Morlat and Tadashige Takamura, Japanese (1997)**

27. **"Compassionate Light in Asia", with Jin Yong, Chinese (simplified and traditional), English, Japanese (1998)**

28. **"The Path to the Land of Children", with Albert A. Likhanov, Chinese (simplified and traditional), Japanese (1998), Russian**

29. **"A Lion's Heart", with Axinia Djourova, Bulgarian, Japanese (1999)**

30. **"On Being Human: Where Ethics, Medicine and Spirituality Converge", with René Simard and Guy Bourgeault, Chinese (traditional), English, French, Italian, Japanese (2000), Vietnamese**

31. **"Global Civilization: A Buddhist-Islamic Dialogue", with Majid Tehranian, Arabic, Chinese (traditional), Dutch, English, French, Hebrew, Indonesian, Italian, Japanese (2000), Malay, Persian, Thai**

32. **"José Martí, Cuban Apostle", with Cintio Vitier, English, Japanese (2001), Spanish**

33. **"Choose Hope", with David Krieger, English, Italian, Japanese (2001)**

34. **"Distinct Encounters", with Rogelio M. Quiambao, English, Japanese (2001)**

35. **"Dialogue on World Literature", with Tadashige Takamura and Philippe Moine; Kentaro Nishihara and Rogelio M. Quiambao; Ryohei Tanaka and Hirotomo Teranishi; Tadashige Takamura and Henry Indangasi, Japanese (2001)**

36. **"Beyond the Century: Dialogue on Education and Society", with Victor A. Sadovnichy, Chinese (traditional), Japanese (2002), Russian**

37. **"Dialogue on Oriental Wisdom", with Ji Xianlin and Jiang Zhongxin, Chinese (simplified and traditional), Japanese (2002)**

38. **"Buddhism: A Way of Values", with Lokesh Chandra, English, Korean, Japanese (2002)**

39. "The Bridge toward a Century of Hope", with Cho Moon Boo, Korean, Japanese (2002)

40. "Planetary Citizenship", with Hazel Henderson, Chinese (simplified and traditional), English, French, Italian, Japanese (2002), Portugese

41. "The Illuminating Power of Learning", with Victor A. Sadovnichy, Chinese (traditional), Japanese (2004)

42. "The Cosmos, Earth and Human Beings", with Alexander Serebrov, Japanese (2004), Korean, Russian

43. "A Rainbow Bridge of Humanity and Culture", with Cho Moon Boo, Japanese (2005)

44. "Our World To Make: Buddhism and the Rise of Global Civil Society", with Ved Prakash Nanda, English, Japanese (2005)

45. "Toward Creating an Age of Humanism", with John Kenneth Galbraith, Japanese (2005)

46. "A Dialogue Between East and West: Looking to a Human Revolution", with Ricardo Díez-Hochleitner, English, Japanese (2005), Malay, Spanish

47. "Into Full Flower: Making Peace Cultures Happen", with Elise Boulding, English, Japanese (2006)

48. "Revolutions: to green the environment, to grow the human heart", with M. S. Swaminathan, English (2005), Italian, Japanese, Vietnamese

49. "A Quest for Global Peace", with Joseph Rotblat, Chinese (traditional), English, German, Italian, Japanese (2006)

50. "Creating Waldens: An East-West Conversation on the American Renaissance", with Ronald A. Bosco and Joel Myerson, English, Japanese (2006)

51. "New Horizons in Eastern Humanism: Buddhism, Confucianism and the Quest for Global Peace", with Tu Weiming, Chinese (simplified and traditional), English, Japanese (2007)

52. "The Humanist Principle: On Compassion and Tolerance", with H. C. Felix Unger, English, Italian, Japanese (2007)

53. "A Passage to Peace: Global Solutions from East and West" with Nur Yalman, English, Japanese (2007), Malay

54. "Grand Steppes of Friendship", with Dojoogiin Tsedev, Japanese (2007), Mongolian

55. "The Persistence of Religion: Comparative Perspectives on Modern Spirituality", with Harvey Cox, Chinese (traditional), English, Japanese (2008)

56. "Walking with the Mahatma: Gandhi for Modern Times", with Neelakanta Radhakrishnan, English, Chinese (traditional), Japanese (2009), Malayalam, Tamil

57. "A Journey on the Path of Culture and the Arts", with Jao Tsung-I, Chinese (simplified and traditional), Japanese (2009)

58. "A Dialogue on Astronomy and Buddhism", with Ronaldo Rogério de Freitas Mouráo, Chinese (traditional), Japanese (2009), Portuguese

59. "A Message to the Century of Human Rights", with Adolfo Pérez Esquivel, Italian, Japanese (2009), Spanish

60. "Shaping the Future: The Sacred Task of Education", with Hans Henningsen, Danish, Japanese (2009)

61. "The Noble Path of Education and Culture", with Chang Jen Hu, Chinese (traditional), Japanese (2010)

62. "The Wisdom of Tolerance: A Philosophy of Generosity and Peace", with Abdurrahman Wahid, English, Indonesian, Japanese (2010)

63. "An Epoch of Human Triumph: A Dialogue on History, Life and Education", with Zhang Kaiyuan, Chinese (simplified and traditional), Japanese (2010)

64. "The Inner Philosopher: Conversations on Philosophy's Transformative Power", with Lou Marinoff, Chinese (simplified), English, Italian, Japanese (2011)

65. "The Great Light of Education toward the Dawn of Peace: Ukraine-Japan Friendship", with Michael Z. Zgurovsky, Japanese (2011), Russian, Ukrainian

66. "Creating a New Global Society–A Discourse on the United Nations and a Culture of Peace", with Anwarul K. Chowdhury, Chinese (traditional), Japanese (2011)

67. "Napoléon of the Twenty-first Century: A Conversation on the Spirit of Creating History", with Charles Napoléon, Japanese (2011)

68. **"Connecting the World through the Power of Culture", with Gao Zhanxiang, Chinese (simplified) (2012), Japanese**

69. **"Humanistic Education, A Bridge to Peace", with Gu Mingyuan, Chinese (simplified), Japanese (2012)**

70. **"America Will Be! : Conversations on Hope, Freedom, and Democracy", with Vincent Harding, English, French, Japanese (2012)**

71. **"Reaching Beyond: Improvisations on Jazz, Buddhism, and a Joyful Life", with Herbie Hancock and Wayne Shorter, English, Japanese (2013)**

72. **"The Mission of Education in Tomorrow's World–Thoughts on Humanity in the 21st Century", with Victor Sadovnichy, Japanese (2013)**

73. **"The Art of True Relations: Conversations on the Poetic Heart of Human Possibility", with Sarah Wider, English, Italian, Japanese (2013)**

74. **"Living As Learning: John Dewey in the 21st Century", with Jim Garrison and Larry Hickman, English, Japanese (2014)**

75. **"Peace, Justice and the Poetic Mind: Conversations on the Path of Nonviolence", with Stuart Rees, English, Japanese (2014)**

76. **"Knowing Our Worth–Conversation on Energy and Sustainability", with Ernst Ulrich von Weizsäcker, English, German, Italian, Japanese (2014)**

77. **"The Light of Life Songs of Mothers", with Jutta Unkart-Seifert, Japanese (2015)**

78. **"Global Citizenship: Toward a Civilization of Wisdom, Love and Peace", with José Veloso Abueva, English, Japanese (2015)**

79. **"Shaping a New Society: Conversations on Economics, Education, and Peace", with Lawrence J. Lau, Chinese (traditional), English, Japanese (2015)**

80. **"Song for a New Global Civilization: Conversations on Tagore and World Citizens", with Bharati Mukherjee, English, Japanese (2016)**

81. **"Toward a Century of Peace: A Dialogue on the Role of Civil Society in Peacebuilding", with Kevin Clements, English, Japanese (2016)**

82. **"A Philosophy of Life for Future Generations: Learning from Literature and People", with Wang Meng, Chinese (simplified and traditional), Japanese (2017)**

Chapter 11

DAVID KRIEGER AND RICHARD FALK

The Path to Zero, by Richard Falk and David Krieger

This book ought to be required reading for college students everywhere in the world, and also for decision-makers. It shakes us out of our complacency and makes us realize that widespread, immediate and dedicated public action is urgently needed if we are to save human civilization and the biosphere from a thermonuclear catastrophe. The book is published by Paradigm Publishers, 2845 Wilderness Place, Boulder, CO 80301, USA. (www.paradigmpublishers.com) On the back cover there are endorsements, with which I entirely agree, by Archbishop Desmond Tutu and David Ellsberg.

" We are greatly privileged, like flies on the wall, to join this conversation between two remarkable stalwarts. Richard Falk and David Krieger, in the campaign for a nuclear-free world. It is unconscionable that so many of us seem to accept the prospect of our 'mutually assured destruction', the immoral massacre of millions of civilians, and to view with equanimity such a gross violation of international law. Falk and Krieger discuss persuasively and cogently the folly of reliance on nuclear weapons that can cause apocalyptic devastation. If we want to survive in a habitable world, then we have no choice: we must heed, and do so urgently, these lovers of mankind." Archbishop Desmond Tutu, Nobel Peace Laureate

" In 'The Path to Zero', Falk and Krieger engage in a stunningly eloquent dialogue on a range of nuclear dangers, and our common responsibility to put an end to them. This is urgent reading for citizens, scientists, policy-makers and political leaders, actually for anyone who cares about the future of civilization and life on earth", Daniel Ellsberg, Whistleblower

Other enthusiastic endorsements come from Jonathan Schell, Commander Robert Green and Maude Barlow.

The book has ten chapters: 1 The Nuclear Age; 2 Nuclear Deterrence; 3 Nuclear Pro-

liferation; 4 Nuclear Arms Control and Nuclear Disarmament; 5 Nuclear Weapons and Militarism; 6 Nuclear Weapons and Nuclear Energy; 7 Nuclear Weapons and International Law; 8 Nuclear Weapons, Culture and Morality; 9 Nuclear Weapons and Democracy; 10 The Path to Zero.

The two authors

Richard Falk is Albert G. Milbank Professor of International Law and Practice Emeritus at Princeton, where he was a member of the faculty for 40 years. Since 2002 he has been a research professor at the University of California-Santa Barbara. He has been Special Rapporteur on Occupied Palestine for the UN Human Rights Council since 2008, and served on a panel of experts appointed by the President of the UN General Assembly, 2008-2009. He is the author or editor of numerous books, including " Legality and Legitimacy in Global Affairs" (Oxford 2012).

David Krieger is a Founder of the Nuclear Age Peace Foundation, and has served as President of the Foundation since 1982. Under his leadership, the Foundation has initiated many innovative projects for building peace, strengthening international law, abolishing nuclear weapons, and empowering peace leaders. Among other leadership positions, he is one of 50 Councilors from around the world on the World Future Council. He is the author and editor of numerous books and articles related to achieving peace in the Nuclear Age. A graduate of Occidental College, he holds MA and PhD degrees in political science from the University of Hawaii.

Flaws in the concept of nuclear deterrence

In discussing the concept of nuclear deterrence, the two authors emphasize the fact that it violates the fundamental ethical principles of every major religion. Dr. Krieger comments:

Krieger: " Who are we? What kind of culture would be content to base its security on threatening to murder hundreds of millions of innocent people?"

The two authors also point out that the idea of deterrence is an unproved theory, based on the assumption that accidents will not happen, and that leaders are always rational. In fact, we know historically that the world has come extremely near to accidental nuclear war on very numerous occasions, and there are also many historical instances of irrational behavior by leaders. This cannot continue indefinitely without a catastrophe.[1]

The illegality of nuclear weapons

As Dr. Krieger and Prof. Falk point out, the threat or use of nuclear weapons violates international law. The fact that planning an aggressive war or conducting one is a crime

[1]See: http://www.cadmusjournal.org/article/issue-4/flaws-concept-nuclear-deterrance



Figure 11.1: *Richard Falk*



Figure 11.2: *David Krieger*

according to the Nuremberg Principles is discussed. The two authors also review in detail the 1996 Advisory Opinion of the International Court of Justice, which was asked by the UN General Assembly and the World Health Organization to rule on the legality of the threat or use of nuclear weapons. The ICJ ruled that under almost all circumstances, the threat or use of nuclear weapons would be illegal. The only possible exception was the case where a country might be under attack and its very survival threatened. The Court gave no ruling on this extreme case. Finally, the ICJ ruled unanimously that states possessing nuclear weapons have an obligation to get rid of them within a short time-frame.

Falk: " It may be time for the General Assembly to put this question to the ICJ: What legal consequences arise from the persistent failure of the nuclear weapon states to fulfill their obligations under Article VI of the NPT? In my view, the nonnuclear states have also been irresponsible in not insisting on on mutuality of respect in the nonproliferation setting. It may be up to civil society actors to bring wider attention to this disrespect for the vital norms of international law..." [2]

Colonialism and exceptionalism

Falk: " We need to remember that the expansion of Europe at the expense of the non-Western world rested on violence and the superiority of European weaponry and strategic logistics, including naval power. This link between Western militarism and historical ascendancy is, in my view, one of the deep reasons why there is such an irrational attachment to nuclear weaponry, making it very difficult to renounce as the supreme expression of political violence."

Krieger: " I would like to add that there is a general orientation in much of Western society to subordinate international law to geopolitical desire, in other words, not to allow international law to be a limiting factor in seeking geopolitical advantage. International law is thus applied when useful and ignored when self-interest and convenience dictate. This is a striking manifestation of the double standards that have served the interests of the powerful in both the colonial and postcolonial worlds."

The Nuclear Non-Proliferation Treaty

In discussing the Nuclear Non-Proliferation Treaty, Prof. Falk and Dr. Krieger point out that that it has several serious flaws: It is unsymmetrical, giving a special status to the

[2]http://www.icj-cij.org/docket/files/93/7407.pdf
http://www.currentconcerns.ch/index.php?id=711
https://www.wagingpeace.org/author/john-avery/
http://human-wrongs-watch.net/2015/03/27/tactical-nuclear-weapons-in-europe-the-dangers-are-very-great-today/
http://www.countercurrents.org/avery250514.htm

nuclear weapons states, and forbidding all others to possess these weapons. The treaty encourages the " peaceful" use of nuclear energy, which in practice opens the door to acquisition of nuclear weapons by many nations and which exposes the world to radioactive fallout from accidents like Chernobyl and Fukushima, and very long-term dangers from radioactive wastes. Finally, membership in the NPT is not universal. Here are some comments by the two authors:

Falk: " In my view, the failure of the nuclear weapon states to pursue nuclear disarmament over a period of more than forty years, despite the injunction to do so by the International Court of Justice, is a material breach of the NPT that would give any party the option of pronouncing the treaty void."

Krieger: " It would be wonderful to see a strong and concerted effort by non-nuclear-weapon states to challenge the nuclear weapons club. I think that the most effective thing that such states could do would be to start the process of negotiating a nuclear weapons convention and, if necessary, to do it without the nuclear weapon states."

Falk: " My proposal is a two-year ultimatum by as many nonnuclear states as possible, threatening to withdraw from the NPT unless serious nuclear disarmament negotiations get underway."

Dr. Krieger is not in complete agreement with Prof. Falk regarding such an ultimatum. He feels that even though it is flawed in many ways, the NPT is still so valuable that its continuation ought not to be threatened.

Krieger: " One of the great problems with the NPT is that it encourages the peaceful use of nuclear energy, which actually opens the door to nuclear weapons proliferation. It ends up making the treaty work against itself. Of course, Israel is not a party to the treaty, nor are India and Pakistan. This demonstrates a fundamental weakness of international law, that is, the exemption of nations that do not sign a treaty from the law. This would be unworkable in domestic law, and it is equally so in international law."

Krieger: " The nuclear plant operators are willing to downplay for short-term gain the catastrophic risks that are involved in the use of nuclear reactors to boil water. They are wiling to generate wastes that will adversely affect the health and well-being of untold generations to follow us on the planet. The tragedy is that governments embrace and support this industry, demonstrating that they also do not place the interests of their people and the future at the forefront of their planning and decision making."

http://www.baselpeaceoffice.org/article/global-wave-2015-and-peace-planet-un-nuclear-non-proliferation-conference

No first use; no hair-trigger alerted missiles

In their concluding chapter, the two authors agree that a No First Use declaration could be a useful first step. Prof. Falk comments:

Falk: " What conceivable justification, consistent with a deterrence rationale for the retention of nuclear weapons, is there for not assuring other governments that the United States will only use such weaponry in retaliation a prior attack with nuclear weaponry? It is rather clear that such a declaration, especially if backed up by non-nuclear deployments, would both give the United States some new claim to leadership with respect to the weaponry and exert enormous psychological pressure on other nuclear weapon states to follow the American lead."

This, of course, could be linked to taking all nuclear weapons systems off hair-trigger alert, which is probably the most important first step towards avoiding the catastrophe of an accidental nuclear war. Dr Krieger comments:

Krieger: " Those responsible for maintaining nuclear arsenals on hair-trigger alert are delusional if they think that it can be maintained indefinitely without dire consequences."

Developments since the publication of the book

Since the publication of the book, two developments have occurred which the two authors certainly would have wished to discuss. On July 7, 2017, the Treaty on the Prohibition of Nuclear Weapons was adopted by an overwhelming majority, 122 to 1, by the United Nations General Assembly. The adoption of the treaty, a milestone in humanity's efforts to rid itself of nuclear insanity, was to a large extent due to the efforts of ICAN's participating organizations.

Another development which Prof. Falk and Dr. Krieger would certainly have discussed, had it occurred earlier, is an heroic law suit by the Republic of the Marshall Islands, suing the nuclear weapons states for violation of Article VI of the Nuclear Non-Proliferation Treaty. In fact Dr. Krieger and his organization, the Nuclear Age Peace Foundation, are actively supporting the Marshall Islands in this David-versus-Goliath-like law suit.
http://www.wagingpeace.org/tag/marshall-islands/

Finally, the two authors would probably have discussed the hubris of Washington's power-holders in threatening war with both Russia and China. The effect of this colossally misguided US action has been to firmly unite China and Russia. In fact the BRICS countries, with their vast resources, are now moving away from using the dollar as a reserve currency for international trade. The probable effect will be the collapse of the already-strained US economy, and as a consequence, the fall of the US Empire. Prof. Falk and Dr. Krieger both wonder whether they have been too America-centric in their discussions of nuclear

abolition. The probable fall of the United States from its present position of global hegemony may mean that US leadership will not, in the future, be the key to nuclear abolition.
http://www.countercurrents.org/roberts110515.htm
http://www.truth-out.org/opinion/item/19734-hubris-versus-wisdom
http://beforeitsnews.com/alternative/2014/04/wolfowitz-doctrine-us-plans-for-russia-2945824.html

Some conclusions

When the Cold War ended in 1991, many people heaved a sigh of relief and concluded that they no longer had to worry about the threat of a nuclear Armageddon. Prof. Falk and Dr. Krieger show us that this comforting belief is entirely false, that the dangers are greater than ever before, and that it is vital to bring this fact to the urgent attention of today's young people, who were born long after the tragic nuclear destruction of Hiroshima and Nagasaki, or perhaps even born after the end of the Cold War.

Ultimately, the complete abolition of nuclear weapons is linked with a change of heart, the replacement of narrow nationalism by loyalty to humanity as a whole, and the replacement of militarism by a just and enforcible system of international law.

Some facts about David Krieger and the Nuclear Age Peace Foundation

The Nuclear Age Peace Foundation was founded in 1982 by Dr. David Krieger. Since that time, under the dedicated leadership of Dr. Krieger, the Foundation has made extremely important contributions to world peace and to the work for the abolition of nuclear weapons.

The Nuclear Age Peace Foundation is a designated consultant to the United Nations Economic and Social Council and was named by the UN as a Peace Messenger Organization. It Co-founded and provided early leadership to the Abolition 2000 Global Network, made up of over 2,000 organizations and municipalities seeking a multilateral treaty banning nuclear weaponry. The Foundation co-founded and provided early leadership to the Abolition 2000 Global Network, made up of over 2,000 organizations and municipalities seeking a multilateral treaty banning nuclear weaponry. It also co-founded the Middle Powers Initiative, a coalition of seven international organizations working with "middle power" governments toward a global nuclear disarmament agenda (MPI holds annual consultations and sends delegations to participating nations).

The Nuclear Age Peace Foundation participates in the five-year Non-Proliferation Treaty (NPT) Review Conferences and/or Preparatory Committee meetings (which take place between Review Conferences). It prepares policy briefs on the NPT's progress for State delegates, members of Congress and UN Missions, one of which has been translated and published in Russia. Through its annual International Law Symposium, the Foundation

has played a leadership role in establishing a coalition of civil society organizations working to establish a United Nations Emergency Peace Service (UNEPS) to prevent genocide and crimes against humanity.

The Nuclear Age Peace Foundation has created and maintains several websites, including NuclearFiles.org, a compendium of educational and research information on the Nuclear Age visited by more than 1 million visitors annually and recently made part of a National Science Foundation educational consortium entitled Nuclear Pathways. It has sponsored and organized four regional conferences around the world on regional nuclear dangers, missile proliferation, ballistic missile defenses and policy alternatives in cooperation with the International Network of Scientists and Engineers Against Proliferation. The Foundation has honored outstanding peace leaders for 28 years, including His Holiness the XIVth Dalai Lama, Archbishop Desmond Tutu, Captain Jacques Cousteau, King Hussein of Jordan, Walter Cronkite, and Daniel Ellsberg.

The Nuclear Age Peace Foundation has assembled a world class Advisory Council, including many Nobel Peace Laureates; and has created a national and international network of affiliates, associates and representatives at the United Nations, in Latin America, Africa, Asia and in North America.

Dr. Krieger himself holds a Bachelor of Arts in Psychology from Occidental College (1963), a Ph.D. in Political Science from the University of Hawaii (1968), and a J.D. from the Santa Barbara College of Law (1987). He has been deeply immersed in issues of nuclear weapons and the obligations under international law for nuclear disarmament, and has represented the Nuclear Age Peace Foundation at a number of Non-Proliferation Treaty Review Conferences and Preparatory Committee meetings for Non-Proliferation Treaty Review Conferences.

Dr Krieger has written and edited several books on the subject of nuclear weapons and the obligation under international law to achieve nuclear disarmament. These books have been brought out by publishers who exercise care in meeting high academic standards. One such book is entitled, Nuclear Weapons and the World Court (New York, Transnational Publishers, Inc., 1998), co-authored with University of Denver Strum Law School professor Ved Nanda. Another is The Path to Zero, Dialogues on Nuclear Dangers (Boulder: Paradigm Publishers, 2012), co-authored with Richard Falk, Princeton University professor emeritus of international law and practice. He has also edited volumes on nuclear weapons abolition, dealing, inter alia, with nuclear nonproliferation and complete nuclear disarmament. One such edited volume is The Challenge of Abolishing Nuclear Weapons (New Brunswick: Transaction Publishers, 2011). Another such volume, co-edited with Richard Falk, is At the Nuclear Precipice: Catastrophe of Transformation? (New York: Palgrave Macmillan, 2008). He also written numerous book chapters, booklets and articles on nuclear weapons dangers and the need to abolish nuclear weapons.

Dr. Krieger is one of 50 councilors from around the world elected to the World Future Council and serve as the chair of its Peace and Disarmament Working Group. He is a founder of the Abolition 2000 Global Network to Abolish Nuclear Weapons and serve on its Global Council. He has one of the principal authors of the Abolition 2000 Founding Statement. He has served on the Executive Committee of the Middle Powers Initiative

(MPI) since its founding in 1998. He is currently serving as vice chair of MPI and as the chair of the MPI Executive Committee. MPI is a coalition of eight international civil society organizations working with middle power governments to achieve nuclear disarmament. Additionally, he is the chair of the Executive Committee of the International Network of Engineers and Scientists for Global Responsibility, which works inter alia for the abolition of nuclear weapons.

Dr. Krieger serves on the Advisory Councils of many peace and justice organizations, including Free the Children International (Toronto), the Bianca Jagger Human Rights Foundation (London), the Right Livelihood Foundation (Sweden), the Mayors for Peace (Hiroshima), the Peace Resources Cooperative (Yokohama), the Transnational Foundation for Peace and Future Research (Sweden), and the Lawyers Committee on Nuclear Policy (New York).

Dr. Krieger has received a number of awards for his work, including the Russian Academy of Natural Sciences Award for Saving Life on Earth (2012); the Citizens for Peaceful Resolutions' Earth Charter Award for Democracy, Nonviolence and Peace (2011); Occidental College Alumnus of the Year (2008); Global Green's Millennium Award for International Environmental Leadership (2005); the Peace Educator of the Year Award of the Consortium of Peace Research, Education and Development (2001); the Gakudo Peace Award of the Ozaki Yukio Memorial Foundation (2001); Soka Gakkai Hiroshima Peace Award (2000); Soka Gakkai International Peace and Culture Award (1997); Soka University Award of Highest Honor (1997); Peace Award of the War and Peace Foundation (1996); Big Canvas Award of Santa Barbara Magazine (1996); and the Bronze Medal of the Hungarian Engineers for Peace (1995).In his early career Dr. Krieger was an Assistant Professor at the University of Hawaii and San Francisco State University. He worked at the Center for the Study of Democratic Institutions on issues of international law, ocean governance, nuclear terrorism and disarmament; and at the Foundation for Reshaping the International Order (RIO Foundation) in the Netherlands on the effects of dual-purpose technologies on disarmament, development and the environment.

The Marshall Islands sue all nuclear nations for violation of the NPT's Article VI

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 to 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.

In 1954, the United States tested a hydrogen bomb at Bikini. The bomb was 1,300 times more powerful than the bombs that destroyed Hiroshima and Nagasaki. 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) Â¨C 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 Â¨C India, Pakistan and North Korea, and the one undeclared nuclear weapons state, Israel."

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.

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 Â¨C 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."

David Krieger continued, "In 2009, President Obama shared his vision for the world,

saying, 'So today, I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons. This lawsuit provides the perfect opportunity for President Obama to move his vision forward. Yet, rather than seizing that opportunity, the U.S. government is seeking dismissal without a full and fair hearing on the merits of the case."

Some facts about Richard Falk

Professor Richard Anderson Falk was born in 1930, and thus today (2019) he is 88 years old. Nevertheless he remains an astonishingly active campaigner for peace, global governance and human rights. Trained in international law at the University of Pennsylvania, Yale University and Harvard, he is now Professor Emeritus of International Law at Princeton University. Between 2008 1nd 2014, he held the post of United Nations Special Rapporteur on the Situation of Human Rights in the Palestinian Territories Occupied since 1967. His report, is entitled "QUESTION OF THE VIOLATION OF HUMAN RIGHTS IN THE OCCUPIED ARAB TERRITORIES, INCLUDING PALESTINE".[3]

Professor Falk is the author of more than 20 books, and the editor of 20 others. He is also the author of several hundred articles on topics related to peace and justice.

A few things that Richard Falk said

It is inescapable that an objective observer would reach the conclusion that this Iraq War is a war of aggression, and as such, that it amounts to a Crime against Peace of the sort for which surviving German leaders were indicted, prosecuted and punished at the Nuremberg trials conducted shortly after the Second World War

The essential inquiry of a citizen-pilgrim is to discover how to make desirable, yet unlikely, social movements succeed. The movements against slavery, colonialism, racial discrimination, and patriarchy are some instances. My overriding concern is to foster an abolitionist movement against war and aggression as social institutions, which implies the gradual construction of a new world order that assures basic human needs of all people, that safeguards the environment, that protects the fundamental human rights of all individuals and groups without encroaching upon the precarious resources of cultural diversity, and that works toward the non-violent resolution of intersocietal conflicts.

Is it an irresponsible overstatement to associate the treatment of Palestinians with this criminalized Nazi record of collective atrocity? I think not.

[3]https://web.archive.org/web/20051202025015/http://www.unhchr.ch/Huridocda/Huridoca.nsf/TestFrame/19cfafb52ab5fc2bc1256a11005de32c?Opendocument

Among the salient apartheid features of the Israeli occupation are the following: preferential citizenship, visitation and residence laws and practices that prevent Palestinians who reside in the West Bank or Gaza from reclaiming their property or from acquiring Israeli citizenship, as contrasted to a Jewish right of return that entitles Jews anywhere in the world with no prior tie to Israel to visit, reside and become Israeli citizens; differential laws in the West Bank and East Jerusalem favoring Jewish settlers who are subject to Israeli civilian law and constitutional protection, as opposed to Palestinian residents, who are governed by military administration; dual and discriminatory arrangements for movement in the West Bank and to and from Jerusalem; discriminatory policies on land ownership, tenure and use; extensive burdening of Palestinian movement, including checkpoints applying differential limitations on Palestinians and on Israeli settlers, and onerous permit and identification requirements imposed only on Palestinians; punitive house demolitions, expulsions and restrictions on entry and exit from all three parts of the Occupied Palestinian Territories.

Suggestions for further reading

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Chapter 12

ICAN'S NOBEL LECTURES

What is ICAN?

The International Campaign to Abolish Nuclear Weapons, abbreviated ICAN, is a coalition of 468 NGO's in 101 countries. The purpose of ICAN is to change the focus in the disarmament debate to "the the humanitarian threat posed by nuclear weapons, drawing attention to their unique destructive capacity, their catastrophic health and environmental consequences, their indiscriminate targeting, the debilitating impact of a detonation on medical infrastructure and relief measures, and the long-lasting effects of radiation on the surrounding area."

ICAN was founded in 2007 by the International Physicians for the Prevention of Nuclear War, an organization which itself received a Nobel Peace Prize in 1985. IPPNW was inspired by the success of the campaign that achieved the Ottawa Treaty in 1997, a treaty which banned antipersonnel land-mines against bitter opposition from the worst offenders. Thus, from the start. ICAN envisioned a treaty passed and without the participation or signatures of the nuclear weapons states. ICAN believed that such a treaty would have the great value of unambiguously underlining the illegality, immorality and omnicidal nature of nuclear weapons. Nuclear weapons states would eventually be forced to yield to the will of the vast majority of humankind.

On July 7, 2017, the Treaty on the Prohibition of Nuclear Weapons was adopted by an overwhelming majority, 122 to 1, by the United Nations General Assembly. The adoption of the treaty, a milestone in humanity's efforts to rid itself of nuclear insanity, was to a large extent due to the efforts of ICAN's participating organizations.

On December 10, 2017 ICAN's efforts were recognized by the award of the Nobel Peace Prize. Part of the motivation for the award was the fact that the threat of a thermonuclear global catastrophe is higher today than it has been at any time since the Cuban Missile Crisis. Because of the belligerent attitudes and mental instability of Donald Trump and Kim Jong Un, the end of human civilization and much of the biosphere is, in the words of Beatrice Fihn, "only a tantrum away".



Figure 12.1: *From left to right: Berit Reiss-Andersen, Chairman of the Norwegian Nobel Committee, Setsuko Thurlow, an 85-year-old survivor of the 1945 atomic bombing of Hiroshima, and ICAN Executive Director Beatrice Fihn.*



Figure 12.2: *Celebrating the award.*

The ICAN Nobel Lecture by Beatrice Fihn

Your Majesties, Members of the Norwegian Nobel Committee, Esteemed guests,

Today, it is a great honour to accept the 2017 Nobel Peace Prize on behalf of thousands of inspirational people who make up the International Campaign to Abolish Nuclear Weapons.

Together we have brought democracy to disarmament and are reshaping international law.

We most humbly thank the Norwegian Nobel Committee for recognizing our work and giving momentum to our crucial cause.

We want to recognize those who have so generously donated their time and energy to this campaign.

We thank the courageous foreign ministers, diplomats, Red Cross and Red Crescent staff, UN officials, academics and experts with whom we have worked in partnership to advance our common goal.

And we thank all who are committed to ridding the world of this terrible threat.

At dozens of locations around the world - in missile silos buried in our earth, on submarines navigating through our oceans, and aboard planes flying high in our sky - lie 15,000 objects of humankind's destruction.

Perhaps it is the enormity of this fact, perhaps it is the unimaginable scale of the consequences, that leads many to simply accept this grim reality. To go about our daily lives with no thought to the instruments of insanity all around us.

For it is insanity to allow ourselves to be ruled by these weapons. Many critics of this movement suggest that we are the irrational ones, the idealists with no grounding in reality. That nuclear-armed states will never give up their weapons.

But we represent the only rational choice. We represent those who refuse to accept nuclear weapons as a fixture in our world, those who refuse to have their fates bound up in a few lines of launch code.

Ours is the only reality that is possible. The alternative is unthinkable.

The story of nuclear weapons will have an ending, and it is up to us what that ending will be.

Will it be the end of nuclear weapons, or will it be the end of us?

One of these things will happen.

The only rational course of action is to cease living under the conditions where our mutual destruction is only one impulsive tantrum away.

Today I want to talk of three things: fear, freedom, and the future.

By the very admission of those who possess them, the real utility of nuclear weapons is in their ability to provoke fear. When they refer to their "deterrent" effect, proponents of nuclear weapons are celebrating fear as a weapon of war.

They are puffing their chests by declaring their preparedness to exterminate, in a flash, countless thousands of human lives.

Nobel Laureate William Faulkner said when accepting his prize in 1950, that "There is only the question of 'when will I be blown up?'" But since then, this universal fear has given way to something even more dangerous: denial.

Gone is the fear of Armageddon in an instant, gone is the equilibrium between two blocs that was used as the justification for deterrence, gone are the fallout shelters.

But one thing remains: the thousands upon thousands of nuclear warheads that filled us up with that fear.

The risk for nuclear weapons use is even greater today than at the end of the Cold War. But unlike the Cold War, today we face many more nuclear armed states, terrorists, and cyber warfare. All of this makes us less safe.

Learning to live with these weapons in blind acceptance has been our next great mistake.

Fear is rational. The threat is real. We have avoided nuclear war not through prudent leadership but good fortune. Sooner or later, if we fail to act, our luck will run out.

A moment of panic or carelessness, a misconstrued comment or bruised ego, could easily lead us unavoidably to the destruction of entire cities. A calculated military escalation could lead to the indiscriminate mass murder of civilians.

If only a small fraction of today's nuclear weapons were used, soot and smoke from the firestorms would loft high into the atmosphere - cooling, darkening and drying the Earth's surface for more than a decade.

It would obliterate food crops, putting billions at risk of starvation.

Yet we continue to live in denial of this existential threat.

But Faulkner in his Nobel speech also issued a challenge to those who came after him. Only by being the voice of humanity, he said, can we defeat fear; can we help humanity endure.

ICAN's duty is to be that voice. The voice of humanity and humanitarian law; to speak up on behalf of civilians. Giving voice to that humanitarian perspective is how we will create the end of fear, the end of denial. And ultimately, the end of nuclear weapons.

That brings me to my second point: freedom.

As the International Physicians for the Prevention of Nuclear War, the first ever anti-nuclear weapons organization to win this prize, said on this stage in 1985:

"We physicians protest the outrage of holding the entire world hostage. We protest the moral obscenity that each of us is being continuously targeted for extinction."

Those words still ring true in 2017.

We must reclaim the freedom to not live our lives as hostages to imminent annihilation.

Man - not woman! - made nuclear weapons to control others, but instead we are controlled by them.

They made us false promises. That by making the consequences of using these weapons so unthinkable it would make any conflict unpalatable. That it would keep us free from war.

But far from preventing war, these weapons brought us to the brink multiple times throughout the Cold War. And in this century, these weapons continue to escalate us towards war and conflict.

In Iraq, in Iran, in Kashmir, in North Korea. Their existence propels others to join the nuclear race. They don't keep us safe, they cause conflict.

As fellow Nobel Peace Laureate, Martin Luther King Jr, called them from this very stage in 1964, these weapons are "both genocidal and suicidal".

They are the madman's gun held permanently to our temple. These weapons were supposed to keep us free, but they deny us our freedoms.

It's an affront to democracy to be ruled by these weapons. But they are just weapons. They are just tools. And just as they were created by geopolitical context, they can just as easily be destroyed by placing them in a humanitarian context.

That is the task ICAN has set itself - and my third point I wish to talk about, the future.

I have the honour of sharing this stage today with Setsuko Thurlow, who has made it her life's purpose to bear witness to the horror of nuclear war.

She and the hibakusha were at the beginning of the story, and it is our collective challenge to ensure they will also witness the end of it.

They relive the painful past, over and over again, so that we may create a better future.

There are hundreds of organizations that together as ICAN are making great strides towards that future.

There are thousands of tireless campaigners around the world who work each day to rise to that challenge.

There are millions of people across the globe who have stood shoulder to shoulder with those campaigners to show hundreds of millions more that a different future is truly possible.

Those who say that future is not possible need to get out of the way of those making it a reality.

As the culmination of this grassroots effort, through the action of ordinary people, this year the hypothetical marched forward towards the actual as 122 nations negotiated and concluded a UN treaty to outlaw these weapons of mass destruction.

The Treaty on the Prohibition of Nuclear Weapons provides the pathway forward at a moment of great global crisis. It is a light in a dark time.

And more than that, it provides a choice.

A choice between the two endings: the end of nuclear weapons or the end of us.

It is not naive to believe in the first choice. It is not irrational to think nuclear states can disarm. It is not idealistic to believe in life over fear and destruction; it is a necessity.

All of us face that choice. And I call on every nation to join the Treaty on the Prohibition of Nuclear Weapons.

The United States, choose freedom over fear. Russia, choose disarmament over destruction. Britain, choose the rule of law over oppression. France, choose human rights over terror. China, choose reason over irrationality. India, choose sense over senselessness. Pakistan, choose logic over Armageddon. Israel, choose common sense over obliteration. North Korea, choose wisdom over ruin.

To the nations who believe they are sheltered under the umbrella of nuclear weapons, will you be complicit in your own destruction and the destruction of others in your name?

To all nations: choose the end of nuclear weapons over the end of us!

This is the choice that the Treaty on the Prohibition of Nuclear Weapons represents. Join this Treaty.

We citizens are living under the umbrella of falsehoods. These weapons are not keeping us safe, they are contaminating our land and water, poisoning our bodies and holding hostage our right to life.

To all citizens of the world: Stand with us and demand your government side with humanity and sign this treaty. We will not rest until all States have joined, on the side of reason.

No nation today boasts of being a chemical weapon state. No nation argues that it is acceptable, in extreme circumstances, to use sarin nerve agent. No nation proclaims the right to unleash on its enemy the plague or polio.

That is because international norms have been set, perceptions have been changed.

And now, at last, we have an unequivocal norm against nuclear weapons.

Monumental strides forward never begin with universal agreement.

With every new signatory and every passing year, this new reality will take hold.

This is the way forward. There is only one way to prevent the use of nuclear weapons: prohibit and eliminate them.

Nuclear weapons, like chemical weapons, biological weapons, cluster munitions and land mines before them, are now illegal. Their existence is immoral. Their abolishment is in our hands.

The end is inevitable. But will that end be the end of nuclear weapons or the end of us? We must choose one.

We are a movement for rationality. For democracy. For freedom from fear.

We are campaigners from 468 organizations who are working to safeguard the future, and we are representative of the moral majority: the billions of people who choose life over death, who together will see the end of nuclear weapons.

Thank you.

The Nobel Lecture continued by Setsuko Thurlow

Your Majesties, Distinguished members of the Norwegian Nobel Committee, My fellow campaigners, here and throughout the world, Ladies and gentlemen,

It is a great privilege to accept this award, together with Beatrice, on behalf of all the remarkable human beings who form the ICAN movement. You each give me such tremendous hope that we can - and will - bring the era of nuclear weapons to an end.

I speak as a member of the family of hibakusha - those of us who, by some miraculous chance, survived the atomic bombings of Hiroshima and Nagasaki. For more than seven decades, we have worked for the total abolition of nuclear weapons.

We have stood in solidarity with those harmed by the production and testing of these horrific weapons around the world. People from places with long-forgotten names, like Moruroa, Ekker, Semipalatinsk, Maralinga, Bikini. People whose lands and seas were irradiated, whose bodies were experimented upon, whose cultures were forever disrupted.

We were not content to be victims. We refused to wait for an immediate fiery end or the slow poisoning of our world. We refused to sit idly in terror as the so-called great powers

took us past nuclear dusk and brought us recklessly close to nuclear midnight. We rose up. We shared our stories of survival. We said: humanity and nuclear weapons cannot coexist.

Today, I want you to feel in this hall the presence of all those who perished in Hiroshima and Nagasaki. I want you to feel, above and around us, a great cloud of a quarter million souls. Each person had a name. Each person was loved by someone. Let us ensure that their deaths were not in vain.

I was just 13 years old when the United States dropped the first atomic bomb, on my city Hiroshima. I still vividly remember that morning. At 8:15, I saw a blinding bluish-white flash from the window. I remember having the sensation of floating in the air.

As I regained consciousness in the silence and darkness, I found myself pinned by the collapsed building. I began to hear my classmates' faint cries: "Mother, help me. God, help me."

Then, suddenly, I felt hands touching my left shoulder, and heard a man saying: "Don't give up! Keep pushing! I am trying to free you. See the light coming through that opening? Crawl towards it as quickly as you can." As I crawled out, the ruins were on fire. Most of my classmates in that building were burned to death alive. I saw all around me utter, unimaginable devastation.

Processions of ghostly figures shuffled by. Grotesquely wounded people, they were bleeding, burnt, blackened and swollen. Parts of their bodies were missing. Flesh and skin hung from their bones. Some with their eyeballs hanging in their hands. Some with their bellies burst open, their intestines hanging out. The foul stench of burnt human flesh filled the air.

Thus, with one bomb my beloved city was obliterated. Most of its residents were civilians who were incinerated, vaporized, carbonized - among them, members of my own family and 351 of my schoolmates.

In the weeks, months and years that followed, many thousands more would die, often in random and mysterious ways, from the delayed effects of radiation. Still to this day, radiation is killing survivors.

Whenever I remember Hiroshima, the first image that comes to mind is of my four-year-old nephew, Eiji - his little body transformed into an unrecognizable melted chunk of flesh. He kept begging for water in a faint voice until his death released him from agony.

To me, he came to represent all the innocent children of the world, threatened as they are at this very moment by nuclear weapons. Every second of every day, nuclear weapons endanger everyone we love and everything we hold dear. We must not tolerate this insanity any longer.

Through our agony and the sheer struggle to survive - and to rebuild our lives from the ashes - we hibakusha became convinced that we must warn the world about these apocalyptic weapons. Time and again, we shared our testimonies.

But still some refused to see Hiroshima and Nagasaki as atrocities - as war crimes. They accepted the propaganda that these were "good bombs" that had ended a "just war". It was this myth that led to the disastrous nuclear arms race - a race that continues to this day.

Nine nations still threaten to incinerate entire cities, to destroy life on earth, to make our beautiful world uninhabitable for future generations. The development of nuclear weapons signifies not a country's elevation to greatness, but its descent to the darkest depths of

depravity. These weapons are not a necessary evil; they are the ultimate evil.

On the seventh of July this year, I was overwhelmed with joy when a great majority of the world's nations voted to adopt the Treaty on the Prohibition of Nuclear Weapons. Having witnessed humanity at its worst, I witnessed, that day, humanity at its best. We hibakusha had been waiting for the ban for seventy-two years. Let this be the beginning of the end of nuclear weapons.

All responsible leaders will sign this treaty. And history will judge harshly those who reject it. No longer shall their abstract theories mask the genocidal reality of their practices. No longer shall "deterrence" be viewed as anything but a deterrent to disarmament. No longer shall we live under a mushroom cloud of fear.

To the officials of nuclear-armed nations - and to their accomplices under the so-called "nuclear umbrella" - I say this: Listen to our testimony. Heed our warning. And know that your actions are consequential. You are each an integral part of a system of violence that is endangering humankind. Let us all be alert to the banality of evil.

To every president and prime minister of every nation of the world, I beseech you: Join this treaty; forever eradicate the threat of nuclear annihilation.

When I was a 13-year-old girl, trapped in the smouldering rubble, I kept pushing. I kept moving toward the light. And I survived. Our light now is the ban treaty. To all in this hall and all listening around the world, I repeat those words that I heard called to me in the ruins of Hiroshima: "Don't give up! Keep pushing! See the light? Crawl towards it."

Tonight, as we march through the streets of Oslo with torches aflame, let us follow each other out of the dark night of nuclear terror. No matter what obstacles we face, we will keep moving and keep pushing and keep sharing this light with others. This is our passion and commitment for our one precious world to survive.

Chapter 13

PEACE EDUCATION

Traditional school systems aim at indoctrination in nationalism

School systems have traditionally aimed at producing nationalism in their students. Within the Roman Empire, students were taught the motto "Dulce et decorum est pro patria mori" (It is sweet and noble to die for one's country). In the era when the sun never set on the British Empire, schoolboys in England were taught the same motto, and the Roman Empire was held up as an ideal. One said the "The battle of Waterloo was won on the playing fields of Eton".

If the reader will excuse a personal note, I can remember attending elementary schools in the United States where every morning we pledged allegiance to the US flag. With hands on our hearts, we students repeated "I pledge allegiance to the flag of the United States of America, and to the Republic for which it stands - one nation, indivisible, with liberty and justice for all." I believe that with small changes in wording, this ceremony is repeated every day today in all American schools.

I can also remember, later on, my great surprise in learning that many of the wars conducted by the United States have been aggressive and unjust. There had been no hint of that in the history lessons of US schools. I believe that the situation is the same in every country. History lessons are an indoctrination in nationalism. In history, as it is taught, one's own country is always heroic and in the right.

Today, in an era of instantaneous communication, global economic and cultural interdependence, and all-destroying modern weapons, the absolutely sovereign nation-state has become a dangerous anachronism. Blind nationalism too, has become a dangerous anachronism. Therefore we need to reform our school systems, but the process of making the needed changes is slowed the habits of teachers and administrators, and by shelves full of nationalistic history books.

The urgent need for peace education

Since modern war has become prohibitively dangerous, there is an urgent need for peace education. Why do we pay colossal sums for war, which we know is the source of so much

human suffering, and which threatens to destroy human civilization? Why not instead support peace and peace education?

In this section, we will see that many groups and individuals are already working for this goal. With even a little more support, they would be much more effective.

The growth of global consciousness

Besides a humane, democratic and just framework of international law and governance, we urgently need a new global ethic, - an ethic where loyalty to family, community and nation will be supplemented by a strong sense of the brotherhood of all humans, regardless of race, religion or nationality. Schiller expressed this feeling in his "Ode to Joy", a part of which is the text of Beethoven's Ninth Symphony. Hearing Beethoven's music and Schiller's words, most of us experience an emotion of resonance and unity with the message: All humans are brothers and sisters - not just some - all! It is almost a national anthem of humanity. The feelings that the music and words provoke are similar to patriotism, but broader. It is this sense of a universal human family that we need to cultivate in education, in the mass media, and in religion. We already appreciate music, art and literature from the entire world, and scientific achievements are shared by all, regardless of their country of origin. We need to develop this principle of universal humanism so that it will become the cornerstone of a new ethic.

Reformed teaching of history

Educational reforms are urgently needed, particularly in the teaching of history. As it is taught today, history is a chronicle of power struggles and war, told from a biased national standpoint. Our own race or religion is superior; our own country is always heroic and in the right.

We urgently need to replace this indoctrination in chauvinism by a reformed view of history, where the slow development of human culture is described, giving adequate credit to all who have contributed. Our modern civilization is built on the achievements of many ancient cultures. China, Japan, India, Mesopotamia, Egypt, Greece, the Islamic world, Christian Europe, and the Jewish intellectual traditions all have contributed. Potatoes, corn, squash, vanilla, chocolate, chili peppers, pineapples, quinine, etc. are gifts from the American Indians. Human culture, gradually built up over thousands of years by the patient work of millions of hands and minds, should be presented as a precious heritage - far too precious to be risked in a thermonuclear war.

The teaching of history should also focus on the times and places where good government and internal peace have been achieved, and the methods by which this has been accomplished. Students should be encouraged to think about what is needed if we are to apply the same methods to the world as a whole. In particular, the histories of successful federations should be studied, for example the Hanseatic League, the Universal Postal Union, the federal governments of Australia, Brazil, Germany, Switzerland, the United States, Canada, and so on. The recent history of the European Union provides another extremely

important example. Not only the successes, but also the problems of federations should be studied in the light of the principle of subsidiarity[1]. The essential features of federations should be clarified[2], as well as the reasons why weaker forms of union have proved to be unsuccessful.

Reformed education of economists and businessmen

The education of economists and businessmen needs to face the problems of global poverty - the painful contrast between the affluence and wastefulness of the industrial North and the malnutrition, disease and illiteracy endemic in the South. Students of economics and business must look for the roots of poverty not only in population growth and war, but also in the history of colonialism and neocolonialism, and in defects in global financial institutions and trade agreements. They must be encouraged to formulate proposals for the correction of North-South economic inequality.

The economic impact of war and preparation for war should be included in the training of economists. Both direct and indirect costs should be studied. An example of an indirect cost of war is the effect of unimaginably enormous military budgets in reducing the amount of money available for solving the serious problems facing the world today.

Law for a united world

Law students should be made aware of the importance of international law. They should be familiar with its history, starting with Grotius and the Law of the Sea. They should know the histories of the International Court of Justice and the Nuremberg Principles. They should study the United Nations Charter (especially the articles making war illegal) and the Universal Declaration of Human Rights, as well as the Rome Treaty and the foundation of the International Criminal Court. They should be made aware of a deficiency in the present United Nations - the lack of a legislature with the power to make laws that are binding on individuals.

Students of law should be familiar with all of the details of the World Court's historic Advisory Opinion on Nuclear Weapons, a decision that make the use or threat of use of nuclear weapons illegal. They should also study the Hague and Geneva Conventions, and the various international treaties related to nuclear, chemical and biological weapons. The relationship between the laws of the European Union and those of its member states should be given high importance. The decision by the British Parliament that the laws of the EU take precedence over British law should be a part of the curriculum.

[1]The principle of subsidiarity states that within a federation, decisions should be taken at the lowest level at which there are no important externalities. Thus, for example, decisions affecting air quality within Europe should be taken in Bruxelles because winds blow freely across national boundaries, but decisions affecting only the local environment should be taken locally.

[2]One of the most important of these features is that federations have the power to make and enforce laws that are binding on individuals, rather than trying to coerce their member states.

Teaching global ethics

Professors of theology should emphasize three absolutely central components of religious ethics: the duty to love and forgive one's enemies, the prohibition against killing, and the concept of universal human brotherhood. They should make their students conscious of a responsibility to give sermons that are relevant to the major political problems of the modern world, and especially to relate the three ethical principles just mentioned to the problem of war. Students of theology should be made conscious of their responsibility to soften the boundaries between ethnic groups, to contribute to interreligious understanding, and to make marriage across racial and religious boundaries more easy and frequent.

The social responsibility of scientists

In teaching science too, reforms are needed. Graduates in science and engineering should be conscious of their responsibilities. They must resolve never to use their education in the service of war, nor for the production of weapons, nor in any way that might be harmful to society or to the environment.

Science and engineering students ought to have some knowledge of the history and social impact of science. They could be given a course on the history of scientific ideas; but in connection with modern historical developments such as the industrial revolution, the global population explosion, the development of nuclear weapons, genetic engineering, and information technology, some discussion of social impact of science could be introduced. One might hope to build up in science and engineering students an understanding of the way in which their own work is related to the general welfare of humankind, and a sense of individual social and ethical responsibility. These elements are needed in science education if rapid technological progress is to be beneficial to society rather than harmful.

The changes just mentioned in the specialized lawyers, theologians, scientists and engineers should have a counterpart in elementary education. The basic facts about peace and war should be communicated to children in simple language, and related to the everyday experiences of children. Teachers' training colleges ought to discuss with their student-teachers the methods that can be used to make peace education a part of the curriculum at various levels, and how it can be related to familiar concepts. They should also discuss the degree to which the painful realities of war can be explained to children of various ages without creating an undesirable amount of anxiety.

Peace education can be made a part of the curriculum of elementary schools through (for example) theme days or theme weeks in which the whole school participates. This method has been used successfully in many European schools. During the theme days the children have been encouraged to produce essays, poems and drawings illustrating the difference between peace and war, and between negative peace and positive peace[3]. Another activity has been to list words inspired by the concept "peace", rapidly and by free association, and

[3]Negative peace is merely the absence of war. In positive peace, neighboring nations are actively engaged in common projects of mutual benefit, in cultural exchanges, in trade, in exchanges of students and so on.

to do the same for the concept "war". Drama has also been used successfully in elementary school peace education, and films have proved to be another useful teaching aid.

The problems of reducing global inequalities, of protecting human rights, and of achieving a war-free world can be introduced into grade school courses in history, geography, religion and civics. The curriculum of these courses is frequently revised, and advocates of peace education can take curriculum revisions as opportunities to introduce much-needed reforms that will make the students more international in their outlook. The argument (a true one) should be that changes in the direction of peace education will make students better prepared for a future in which peace will be a central issue and in which they will interact with people of other nations to a much greater extent than was the case in previous generations. The same can be said for curriculum revisions at the university level.

Large nations compared with global government

The problem of achieving internal peace over a large geographical area is not insoluble. It has already been solved. There exist today many nations or regions within each of which there is internal peace, and some of these are so large that they are almost worlds in themselves. One thinks of China, India, Brazil, Australia, the Russian Federation, the United States, and the European Union. Many of these enormous societies contain a variety of ethnic groups, a variety of religions and a variety of languages, as well as striking contrasts between wealth and poverty. If these great land areas have been forged into peaceful and cooperative societies, cannot the same methods of government be applied globally?

But what are the methods that nations use to achieve internal peace? Firstly, every true government needs to have the power to make and enforce laws that are binding on individual citizens. Secondly the power of taxation is a necessity. These two requirements of every true government have already been mentioned; but there is a third point that still remains to be discussed:

Within their own territories, almost all nations have more military power than any of their subunits. For example, the US Army is more powerful than the State Militia of Illinois. This unbalance of power contributes to the stability of the Federal Government of the United States. When the FBI wanted to arrest Al Capone, it did not have to bomb Chicago. Agents just went into the city and arrested the gangster. Even if Capone had been enormously popular in Illinois, the government of the state would have realized in advance that it had no chance of resisting the US Federal Government, and it still would have allowed the "Feds" to make their arrest. Similar considerations hold for almost all nations within which there is internal peace. It is true that there are some nations within which subnational groups have more power than the national government, but these are frequently characterized by civil wars.

Of the large land areas within which internal peace has been achieved, the European Union differs from the others because its member states still maintain powerful armies. The EU forms a realistic model for what can be achieved globally in the near future by reforming and strengthening the United Nations. In the distant future, however, we can

imagine a time when a world federal authority will have much more power than any of its member states, and when national armies will have only the size needed to maintain local order.

Today there is a pressing need to enlarge the size of the political unit from the nation-state to the entire world. The need to do so results from the terrible dangers of modern weapons and from global economic interdependence. The progress of science has created this need, but science has also given us the means to enlarge the political unit: Our almost miraculous modern communications media, if properly used, have the power to weld all of humankind into a single supportive and cooperative society.

Culture, education and human solidarity

Cultural and educational activities have a small ecological footprint, and therefore are more sustainable than pollution-producing, fossil-fuel-using jobs in industry. Furthermore, since culture and knowledge are shared among all nations, work in culture and education leads societies naturally towards internationalism and peace.

Economies based on a high level of consumption of material goods are unsustainable and will have to be abandoned by a future world that renounces the use of fossil fuels in order to avoid catastrophic climate change, a world where non-renewable resources such as metals will become increasingly rare and expensive. How then can full employment be maintained?

The creation of renewable energy infrastructure will provide work for a large number of people; but in addition, sustainable economies of the future will need to shift many workers from jobs in industry to jobs in the service sector. Within the service sector, jobs in culture and education are particularly valuable because they will help to avoid the disastrous wars that are currently producing enormous human suffering and millions of refugees, wars that threaten to escalate into an all-destroying global thermonuclear war.[4]

Human nature has two sides: It has a dark side, to which nationalism and militarism appeal; but our species also has a genius for cooperation, which we can see in the growth of culture. Our modern civilization has been built up by means of a worldwide exchange of ideas and inventions. It is built on the achievements of many ancient cultures. China, Japan, India, Mesopotamia, Egypt, Greece, the Islamic world, Christian Europe, and the Jewish intellectual traditions all have contributed. Potatoes, corn, squash, vanilla, chocolate, chilli peppers, and quinine are gifts from the American Indians.[5]

We need to reform our educational systems, particularly the teaching of history. As it is taught today, history is a chronicle of power struggles and war, told from a biased national standpoint. We are taught that our own country is always heroic and in the right. We urgently need to replace this indoctrination in chauvinism by a reformed view of history, where the slow development of human culture is described, giving credit to all who have

[4]http://www.fredsakademiet.dk/library/need.pdf
http://eruditio.worldacademy.org/issue-5/article/urgent-need-renewable-energy

[5]http://eruditio.worldacademy.org/article/evolution-cooperation



Figure 13.1: **Cultural exchanges lead to human solidarity** (Public domain)

contributed. When we teach history, it should not be about power struggles. It should be about how human culture was gradually built up over thousands of years by the patient work of millions of hands and minds. Our common global culture, the music, science, literature and art that all of us share, should be presented as a precious heritage - far too precious to be risked in a thermonuclear war.

We have to extend our loyalty to the whole of the human race, and to work for a world not only free from nuclear weapons, but free from war. A war-free world is not utopian but very practical, and not only practical but necessary. It is something that we can achieve and must achieve. Today their are large regions, such as the European Union, where war would be inconceivable. What is needed is to extend these.

Nor is a truly sustainable economic system utopian or impossible. To achieve it, we should begin by shifting jobs to the creation of renewable energy infrastructure, and to the fields of culture and education. By so doing we will support human solidarity and avoid the twin disasters of catastrophic war and climate change.

The Danish National Group of Pugwash Conferences on Science and World Affairs

In March, 1954, the US tested a hydrogen bomb at the Bikini Atoll in the Pacific Ocean. It was 1000 times more powerful than the Hiroshima bomb. The Japanese fishing boat, Lucky Dragon, was 130 kilometers from the Bikini explosion, but radioactive fallout from the test killed one crew member and made all the others seriously ill.

Concerned about the effects of a large-scale war fought with such bombs, or even larger ones, Albert Einstein and Bertrand Russell published a manifesto containing the words:

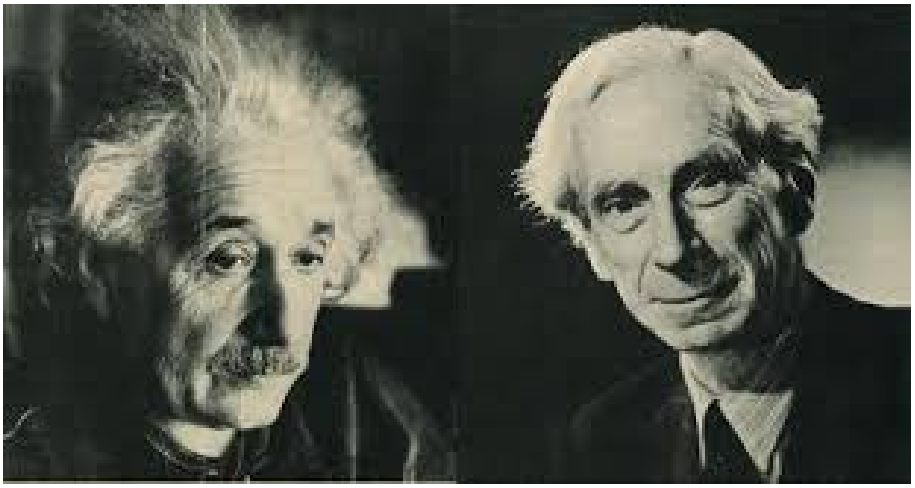


Figure 13.2: **The Russell-Einstein Manifesto: "Shall we put an end to the human race, or shall mankind renounce war?"** (Pugwash Conferences)

"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? 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 Russell-Einstein Manifesto called for a meeting of scientists from both sides of the Cold War to try to minimize the danger of a thermonuclear conflict. The first meeting took place in 1957 at the summer home of the Canadian philanthropist Cyrus Eaton at the small village of Pugwash, Nova Scotia.

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.

Many countries have local Pugwash groups, and the Danish National Pugwash Group is one of these. Our activities include conferences at the Danish Parliament, aimed at influencing decision-makers, but other activities are aimed influencing public opinion. Peace education activities include the award of student peace prizes on United Nations Day.

United Nations Day Student Peace Prizes

In collaboration with the Danish Peace Academy, and with the help of the Hermod Lannung Foundation the Danish National Group of Pugwash Conferences on Science and World

Affairs has offered prizes each year to students at 10 Danish gymnasiums for projects related to global problems and their solutions and to the United Nations.

These projects are essays, dramatic sketches, videos, websites, posters, etc., and they were judged on UN Day, before large audiences of students. The background for this project is as follows: In 2007, in collaboration with several other NGO's, we arranged a visit to Copenhagen by Dr. Tadatoshi Akiba, the Mayor of Hiroshima. In connection with his visit, we arranged a Peace Education Conference at the University of Copenhagen.

In connection with Dr. Akiba's visit, we also arranged a day of peace education at Copenhagen's Open Gymnasium. About 15 people from various branches of Denmark's peace movement arrived at the gymnasium at 7.00 a.m., and between 8.00 and 10.00 they talked to 15 groups of about 25-50 students about topics related to peace. At 10.30, all 500 students assembled in a large hall, where Dr. Akiba gave an address on abolition of nuclear weapons. A chorus from the gymnasium sang, and finally there was a panel discussion.

The students were extremely enthusiastic about the whole program. The success of our 2007 effort made us want to do something similar in 2008, and perhaps to broaden the scope. Therefore we wrote to the Minister of Education, and proposed that October 24, United Nations Day, should be a theme day in all Danish schools and gymnasiums, a day devoted to the discussion of global problems and their solutions. We received the very kind reply. The Minister said that he thought our idea was a good one, but that he did not have the power to dictate the curricula to schools. We needed to contact the individual schools, gymnasiums and municipalities.

In the autumn of 2008 we arranged a United Nations Day program on October 24 at Sankt Annæ Gymnasium with the cooperation of Nørre Gymnasium. We offered prizes to drama students at the two gymnasiums for the best peace-related dramatic sketch, a condition being that the sketches should be performed and judged before a large audience. Our judges were the famous actress Mia Luhne, Johan Olsen, the lead singer of a popular rock group, and the dramatist Steen Haakon Hansen. The students' sketches and the judges speeches about the meaning of peace were very strong and moving. Everyone was very enthusiastic about the day. The judges have said that they would be willing to work with us again on peace-related cultural events.

Our successes in 2007 and 2008 have made us wish to continue and possibly expand the idea of making United Nations Day a theme day in Danish schools and gymnasiums, a day for discussion of global problems and their solutions, with special emphasis on the role of the United Nations. The Hermod Lannung Foundation supported our project for extending this idea to 10 Danish gymnasiums from 2010 until the present.

The Grundtvigian Peoples' Colleges

A unique feature of the Danish educational system is the adult education that is available at about a hundred Folkehøjskole (Peoples' Colleges). This tradition of adult education dates back to the Danish poet-bishop N.F.S. Grundtvig (1783-1872). Besides writing more than half of the hymns presently used in Danish churches, Grundtvig also introduced farmers' cooperatives into Denmark and founded a system of adult education.



Figure 13.3: **A painting representing the work of the United Nations. It won first prize at a UN Day Student Peace Prize competition.** (Danish National Pugwash Group)

At the time when Grundtvig lived, the Industrial Revolution had already transformed England into a country that exported manufactured goods but was unable to feed itself because of its large population. In this situation, Denmark began a prosperous trade, exporting high quality agricultural produce to England (for example dairy products, bacon, and so on). Grundtvig realized that it would be to the advantage of small-scale Danish farmers to process and export these products themselves, thus avoiding losing a part of their profits to large land-owners or other middlemen who might do the processing and exporting for them. He organized the small farmers into cooperatives, and in order to give the farmers enough knowledge and confidence to run the cooperatives, Grundtvig created a system of adult education: the Peoples' Colleges. The cooperatives and the adult education system contributed strongly to making Denmark a prosperous and democratic country.

Of the hundred or so Grundtvigian Peoples' Colleges exiting today, about forty offer peace education as a subject. An example of such a peace education course was the two-week summer school "Towards a Non-violent Society", held at the International College in Elsinore during the summer of 1985. Since it was supported not only by the students' fees but also by a government subsidy, the summer school was able to pay the travel and living expenses for lecturers who came from many parts of the world.

Among the stars of the summer school were former US Governor Harold Stassen, the only living person who had signed the UN Charter; the famous Cambridge University ethologist, Professor Robert Hinde; Professor Suman Khana from India, an expert on non-violence and Gandhi; Sister George, a Catholic nun from Jerusalem, who spoke 12 languages during

the course of her daily work and who was an expert on the conflicts of the Middle East; and Meta Ditzel, a member of the Danish Parliament who advocated legislation to make excessively violent videos less easily available to children. Other lectures were given by representatives of Amnesty International and the Center for Rehabilitation of Torture Victims.

In discussing Danish peace education initiatives, we must not fail to mention Holger Terp's enormous and popular Danish Peace Academy website[6]. Despite serious health problems, which include almost complete loss of vision and multiple heart bypass operations, Holger Terp singlehandedly established a unique website devoted to peace education. The Danish Peace Academy website contains more than 99,000 files in Danish, English and German. The website is visited by many thousands of students from around the world.

The World Conference of Religions for Peace

Other powerful voices for peace have been raised by the World Conference of Religions for Peace, which met for the first time in October 1970 in Kyoto, Japan.[7] At this meeting, more than 1000 religious leaders gathered to discuss the grave dangers posed by modern war. Among them were representatives of the Baha'i, Mahayana and Trevada Buddhists, Protestants, Roman Catholics, Orthodox Christians, Confucians, representatives of several streams of Hinduism, a number of communities of indigenous faith, Shiite and Sunni Muslims, Jains, Reform Jews, Shintos, Sikhs, Zoroastrians, and representatives of a number of new religions.

The WCRP sponsors many projects related to conflict resolution, the world's children, development, disarmament and security, human rights, and peace education. For example, in the field of peace education, WCRP sponsors a project in Israel called "Common Values/Different Sources" which brings together Jews, Muslims and Christians to study sacred texts together in search of shared values, eventually resulting in a book for classroom use. In England and Germany, another WCRP project analyzes school textbooks' treatment of religious traditions that are foreign to the books' intended audiences.

Dr. Edy Korthals Altes, a former Ambassador of the Netherlands to Poland and Spain and an Honorary President of the World Conference of Religions for Peace, has expressed his vision of our current global situation in the following words: "We need a new concept of security. The old concept dates back to the Romans who said 'If you want peace, prepare for war.' The new concept I would propose is exactly the opposite, 'If you want peace, prepare for peace.' While this may sound simplistic, it is difficult to put into practice since the application of justice and solidarity in international political and economic relations requires sacrifices from 'those who have.' I would give three reasons why the old concept of 'security' is no longer valid: a) The extreme vulnerability of modern society; b) The tremendous destructive power of modern arms and terrorism; c) The interdependence

[6] www.fredsakademiet.dk

[7] Subsequent World Assemblies of the WCRP have been held in Louvain, Belgium, (1974); Princeton New Jersey, (1979); Nairobi, Kenya, (1984); Melbourne, Australia, (1989); Riva del Garde, Italy, (1994); and Amman, Jordan, (1999).

between nations. These three elements are closely interconnected. It is therefore imperative to apply justice and solidarity in our international relations. If not, disaster looms!"

Dr. Altes feels that economic reforms are needed if global peace is to be achieved. "Not only economic justice is involved", he writes, "but also political justice. A clear example of which is the current situation in the Middle East. There must also be justice in the economic world situation in which 1/5 of the world population enjoys a high standard of living while 1/5 lives in terrible poverty, millions dying every year from hunger. This 'North South gap' is increasing!"

Discussing "myths that underlie our present economic system", he points to

1. "The notion that each person has unlimited material needs. We are told to 'consume more' which is totally contrary to any religion. What is more, it is a self-defeating program that is contrary to humanity in general. The New Testament is clear 'you shall not live on bread alone.' Our deeper needs are not for material goods but for inner growth."

2. "Unlimited growth. The economy, my firm, my salary should all grow. In a finite planet, this is total nonsense. This maxim of growth has brought about great ecological damage."

3. Idolatry of the Free Market. I am in favor of a free market, but one that is set in the context of social and human conditions. We need to apply means to avoid the 'law of the jungle' in the market place."

No enumeration of religious voices raised in the cause of peace would be complete without mention of the Religious Society of Friends (Quakers), all of whom refuse to give any support whatever to the institution of war. Although they are fundamentally opposed to war as being completely contrary to Christian ethics, the Quakers are active in caring for the victims of war, and in 1947 the American Friends Service Committee and the Friends Service Council were jointly awarded the Nobel Peace Prize.

The non-violence of Mahatma Gandhi, Martin Luther King and Nelson Mandela, the writings of the Dalai Lama, the messages of Pope John Paul II and other popes, the anti-war convictions of the Quakers, and the many projects of the World Conference of Religions for Peace all illustrate the potentialities of the world's religions as powerful forces for mobilizing public opinion in the cause of peace. One hopes that the voice of religion in this cause will become still more powerful in the future. Each week, all over the world, congregations assemble and are addressed by their leaders on ethical issues. But all too often there is no mention of the astonishing and shameful contradiction between the institution of war (especially the doctrine of "massive retaliation"), and the principle of universal human brotherhood, loving and forgiving one's enemies, and returning good for evil. At a moment of history when the continued survival of civilization is in doubt because of the incompatibility of war with the existence of thermonuclear weapons, our religious leaders ought to use their enormous influence to help to solve the problem of war, which is after all an ethical problem. In this way, religion can become part of the cure of a mortal

social illness rather than part of the disease - part of the answer rather than of part of the problem.

The Hiroshima Peace Committee and the last remaining hibakushas

In Japanese the survivors of injuries from the nuclear bombing of Hiroshima and Nagasaki are called "hibakushas". Over the years, the Soka Gakkai Hiroshima Peace Committee has published many books containing their testimonies. The most recent of these books, "A Silence Broken", contains the testimonies of 14 men, now all in their late 70's or in their 80's, who are among the last few remaining hibakushas. All 14 of these men have kept silent until now because of the prejudices against hibakushas in Japan, where they and their children are thought to be unsuitable as marriage partners because of the effects of radiation. But now, for various reasons, they have chosen to break their silence. Many have chosen to speak now because of the Fukushima disaster.

The testimonies of the hibakushas give a vivid picture of the hell-like horrors of the nuclear attack on the civilian population of Hiroshima, both in the short term and in the long term. For example, Shigeru Nonoyama, who was 15 at the time of the attack, says: "People crawling out from crumbled houses started to flee. We decided to escape to a safe place on the hill. We saw people with melted ears stuck to their cheeks, chins glued to their shoulders, heads facing in awkward positions, arms stuck to bodies, five fingers joined together and grab nothing. Those were the people fleeing. Not merely a hundred or two, The whole town was in chaos."

"I saw the noodle shop's wife leg was caught under a fallen pole, and a fire was approaching. She was screaming, 'Help me!Help me!' There were no soldiers, no firefighters. I later heard that her husband had cut off his wife's leg with a hatchet to save her."

"Each and every scene was hell itself. I couldn't tell the difference between the men and the women. Everybody had scorched hair, burned hair, and terrible burns. I thought I saw a doll floating in a fire cistern, but it was a baby. A wife trapped under her fallen house was crying, 'Dear, please help me, help me!' Her husband had no choice but to leave her in tears."

The Catholic Church

An outstanding example of religious leadership in addressing global problems was given by H.H. Pope John Paul II. In his Christmas address on 25 December, 2002, the Pope said that efforts for peace were urgently needed "in the Middle East, to extinguish the ominous smouldering of a conflict which, with the joint efforts of all, can be avoided."

Pope John Paul II was not an exception among the Roman Catholic Popes of the 20th century. All of them have spoken strongly against the institution of war. Especially notable are H.H. Pope Paul IV who made a one-day visit to the United Nations where his speech included the words "no more war, war never again", and H.H. Pope John XXIII, author of the eloquent encyclical, *Pacem in Terris*. One can think also of the Ecumenical Council Vatican II, which denounced the arms race as an "utterly treacherous trap for

humanity", questioned the method of deterrence as a safe way to preserve a steady peace, and condemned war as a "crime against God and man himself".

In his Apostolic Exhortation, "Evangelii Gaudium", Pope Francis said: "In our time humanity is experiencing a turning-point in its history, as we can see from the advances being made in so many fields. We can only praise the steps being taken to improve people's welfare in areas such as health care, education and communications. At the same time we have to remember that the majority of our contemporaries are barely living from day to day, with dire consequences. A number of diseases are spreading. The hearts of many people are gripped by fear and desperation, even in the so-called rich countries. The joy of living frequently fades, lack of respect for others and violence are on the rise, and inequality is increasingly evident. It is a struggle to live and, often, to live with precious little dignity."

"This epochal change has been set in motion by the enormous qualitative, quantitative, rapid and cumulative advances occurring in the sciences and in technology, and by their instant application in different areas of nature and of life. We are in an age of knowledge and information, which has led to new and often anonymous kinds of power."

"Just as the commandment 'Thou shalt not kill' sets a clear limit in order to safeguard the value of human life, today we also have to say 'thou shalt not' to an economy of exclusion and inequality. Such an economy kills. How can it be that it is not a news item when an elderly homeless person dies of exposure, but it is news when the stock market loses two points? This is a case of exclusion. Can we continue to stand by when food is thrown away while people are starving? This is a case of inequality. Today everything comes under the laws of competition and the survival of the fittest, where the powerful feed upon the powerless. As a consequence, masses of people find themselves excluded and marginalized: without work, without possibilities, without any means of escape."

"In this context, some people continue to defend trickle-down theories which assume that economic growth, encouraged by a free market, will inevitably succeed in bringing about greater justice and inclusiveness in the world. This opinion, which has never been confirmed by the facts, expresses a crude and naive trust in the goodness of those wielding economic power and in the sacralized workings of the prevailing economic system. Meanwhile, the excluded are still waiting."

The Dalai Lama

In his excellent and highly readable book, *Ancient Wisdom, Modern World: Ethics for the New Millennium*, the Dalai Lama writes: "..At present and for the conceivable future, the UN is the only global institution capable of influencing and formulating policy on behalf of the international community. Of course, many people criticize it on the grounds that it is ineffective, and it is true that time and again we have seen its resolutions ignored, abandoned and forgotten. Nevertheless, in spite of its shortcomings, I for one continue to have the highest regard not only for the principles on which it was founded but also for the great deal that it has achieved since its inception in 1945. We need only ask ourselves whether or not it has helped to save lives by defusing potentially dangerous situations to see that it is more than the toothless bureaucracy some people say it is. We should also

consider the great work of its subsidiary organizations, such as UNICEF, United Nations High Commission for Refugees, UNESCO and the World Health Organization..."

"I see the UN, developed to its full potential, as being the proper vehicle for carrying out the wishes of humanity as a whole. As yet it is not able to do this very effectively, but we are only just beginning to see the emergence of a global consciousness (which is made possible by the communications revolution). And in spite of tremendous difficulties, we have seen it in action in numerous parts of the world, even though at the moment there may be only one or two nations spearheading these initiatives. The fact that they are seeking the legitimacy conferred by a United Nations mandate suggests a felt need for justification through collective approbation. This, in turn, I believe to be indicative of a growing sense of a single, mutually dependent, human community."

Unfulfilled responsibilities of the mainstream media

Throughout history, art was commissioned by rulers to communicate, and exaggerate, their power, glory, absolute rightness etc, to the populace. The pyramids gave visual support to the power of the Pharaoh; portraits of rulers are a traditional form of propaganda supporting monarchies; and palaces were built as symbols of power. Modern powerholders are also aware of the importance of propaganda. Thus the media are a battleground where reformers struggle for attention, but are defeated with great regularity by the wealth and power of the establishment. This is a tragedy because today there is an urgent need to make public opinion aware of the serious problems facing civilization, and the steps that are needed to solve these problems. The mass media could potentially be a great force for public education, but in general their role is not only unhelpful - it is often negative. War and conflict are blatantly advertised by television and newspapers. Meanwhile the peace movement has almost no access to the mainstream media.

Today we are faced with the task of creating a new global ethic in which loyalty to family, religion and nation will be supplemented by a higher loyalty to humanity as a whole. In case of conflicts, loyalty to humanity as a whole must take precedence. In addition, our present culture of violence must be replaced by a culture of peace. To achieve these essential goals, we urgently need the cooperation of the mass media.

The predicament of humanity today has been called "a race between education and catastrophe": Human emotions have not changed much during the last 40,000 years, and human nature still contains an element of tribalism to which nationalistic politicians successfully appeal. The completely sovereign nation-state is still the basis of our global political system. The danger in this situation is due to the fact that modern science has given us incredibly destructive weapons. Because of these weapons, the tribal tendencies in human nature and the politically fragmented structure of our world have both become dangerous anachronisms.

After the tragedies of Hiroshima and Nagasaki, Albert Einstein said, "The unleashed power of the atom has changed everything except our way of thinking, and thus we drift towards unparalleled catastrophes." We have to learn to think in a new way. Will we learn this in time to prevent disaster? When we consider the almost miraculous power of our

modern electronic media, we can be optimistic. Cannot our marvelous global communication network be used to change anachronistic ways of thought and anachronistic social and political institutions in time, so that the system will not self-destruct as science and technology revolutionize our world? If they were properly used, our instantaneous global communications could give us hope.

The success of our species is built on cultural evolution, the central element of which is cooperation. Thus human nature has two sides, tribal emotions are present, but they are balanced by the human genius for cooperation. The case of Scandinavia - once war-torn, now cooperative - shows that education is able to bring out either the kind and cooperative side of human nature, or the xenophobic and violent side. Which of these shall it be? It is up to our educational systems to decide, and the mass media are an extremely important part of education. Hence the great responsibility that is now in the hands of the media.

How do the media fulfill this life-or-death responsibility? Do they give us insight? No, they give us pop music. Do they give us an understanding of the sweep of evolution and history? No, they give us sport. Do they give us an understanding of need for strengthening the United Nations, and the ways that it could be strengthened? No, they give us sit-coms and soap operas. Do they give us unbiased news? No, they give us news that has been edited to conform with the interests of the military-industrial complex and other powerful lobbys. Do they present us with the need for a just system of international law that acts on individuals? On the whole, the subject is neglected. Do they tell of of the essentially genocidal nature of nuclear weapons, and the need for their complete abolition? No, they give us programs about gardening and making food.

A consumer who subscribes to the "package" of broadcasts sold by a cable company can often search through all 35 or 45 channels without finding a single program that offers insight into the various problems that are facing the world today. What the viewer finds instead is a mixture of pro-establishment propaganda and entertainment. Meanwhile the neglected global problems are becoming progressively more severe.

In general, the mass media behave as though their role is to prevent the peoples of the world from joining hands and working to change the world and to save it from thermonuclear and environmental catastrophes. The television viewer sits slumped in a chair, passive, isolated, disempowered and stupefied. The future of the world hangs in the balance, the fate of children and grandchildren hang in the balance, but the television viewer feels no impulse to work actively to change the world or to save it. The Roman emperors gave their people bread and circuses to numb them into political inactivity. The modern mass media seem to be playing a similar role.

The alternative media

Luckily, there are alternatives to the mainstream media, available primarily on the Internet, but also to a certain extent on radio and television and in films. One can think of such alternative media figures as Thom Hartmann, Leonardo DiCaprio, Amy Goodman and Oliver Stone, or Internet sites such as Common Dreams, EcoWatch, Truthout, Countercurrents, the Danish Peace Academy website and TMS Weekly Digest. Interestingly,

Bob Dylan, a longtime counterculture hero, has recently been awarded the Nobel Prize in Literature.

Johan Galtung

One of the founders of Peace Studies and Conflict Resolution as academic disciplines, is Professor Johan Galtung (1930 -). He is the author of more than a thousand articles and over a hundred books in these fields. He was also the main founder of the Peace Research Institute Oslo in 1959, and he served as its first director until 1970. Prof. Galtung established the *Journal of Peace Research* in 1964. A few years later. in 1969, he was appointed to the world's first chair in peace and conflict studies at the University of Oslo. Dr. Jan Øberg, a student of Prof. Galtung, went on to found the influential Transnational Foundation for Peace and Future Research in Lund, Sweden.

Universities Offering Peace Studies Degrees

Among the American universities and colleges offering degrees in Peace Studies and Conflict Resolution[8], one can mention the University of Notre Dame, the University of California, Berkeley, Georgetown University, Swarthmore College, Tufts University, Wellesley College. the University of North Carolina at Chapel Hill, Colgate University, Brandeis University, the University of Texas at Austin, George Washington University, DePauw University, Smith College, Syracuse University, Southern Methodist University, Saint Johns University, American University, Marquette University, College of Saint Benedict. University of San Diego, Creighton University, Willamette University, University of Denver, Duquesne University, John Caroll University, Earlham College, George Mason University, Juniata College, University of Utah and Manhattan College. A degree program in Peace Studies is also offered by Clark University[9].

In Costa Rica, the University for Peace (UPEACE)[10] offers a wide variety of courses. The departments of UPEACE include Environment and Development, International Law and Human Rights, and Peace and Conflict Studies. UPEACE also offers online education[11].

The many educational institutions founded by Soka Gakkai International offer courses in peace studies. Among these are Soka University Japan, the Toda Institute for Global Peace, and Soka University of America.

Masters courses in peace studies and conflict resolution[12] are also offered at Universitat Oberta de Catallunya, University of Malta, Durham University, Trinity College Dublin, Alice Salimon University of Applied Sciences Berlin, University of Nicosia, Australian National University, Middlebury Institute of International Studies at Monterey, Swansea

[8]http://colleges.startclass.com/d/o/Peace-Studies-and-Conflict-Resolution

[9]https://www2.clarku.edu/departments/peacestudies/gradprograms.cfm

[10]https://www.upeace.org/academic/academic-departments/peace-and-conflict-studies/peace-education

[11]http://www.elearning.upeace.org/

[12]http://www.masterstudies.com/Masters-Degree/Political-Science/Peace-and-Conflict-Studies/

University, Aarhus University, Utrecht University, University of Kent, CIFE, University of Technology Sidney, University of Bridgeport, Duquesne University, SOAS University of London, Chapman University, SIT Graduate Institute, Kings College London, Goethe University Frankfurt, Joan B. Kroc School of Peace Studies, Johns Hopkins University School of Advanced International Studies, University of Bradford Faculty of Social and International Studies, and University of East Anglia Faculty of Social Sciences.

Jakob von Uexküll and The World Future Council

Jakob von Uexküll belongs to a brilliant family. His grandfather was a famous Baltic-German physiologist who founded the discipline of Biosemiotics. Besides being a former Member of the European Parliament and a leader of the German Green Party, von Uexküll himself founded both the Right Livelihood Award (sometimes called the Alternative Nobel Prize) and also the World Future Council. [13]

A few outstanding voices

The greatest threats facing the world today are catastrophic climate change and thermonuclear war, but a large-scale global famine also has to be considered.

We give our children loving care, but it makes no sense do so and at the same time to neglect to do all that is within our power to ensure that they and their descendants will inherit an earth in which they can survive. We also have a responsibility to all the other living organisms with which we share the gift of life.

Inaction is not an option. We have to act with courage and dedication, even if the odds are against success, because the stakes are so high.

The mass media could mobilize us to action, but they have failed in their duty.

Our educational system could also wake us up and make us act, but it too has failed us. The battle to save the earth from human greed and folly has to be fought in the alternative media.

It is impossible to list all of the many thousands of brave, dedicated and eloquent people who write for the alternative media, or the equally brave and dedicated editors who publish these articles. But here are pictures of a few famous names that come to mind:

[13] http://www.rightlivelihood.org/
http://www.worldfuturecouncil.org/
http://www.worldfuturecouncil.org/gpact/



Figure 13.4: **The Norwegian mathematician and sociologist Johan Galtung (born 1930), pioneer of the discipline Conflict Resolution. He also founded the Peace Research Institute, Oslo and the Journal of Peace Research. He has published over 1000 articles and more than 100 books.**



Figure 13.5: **Jan Øberg (born 1951), co-founder and Director of the Transnational Foundation for Peace and Future Research, and editor of The Transnational. Born in Denmark, Dr. Øberg was formerly the leader of the Lund Peace Research Institute.**



Figure 13.6: **Mrs. Fumiko Galtung, Transcend Media Service Weekly Digest editor Antonio C.S. Rosa, and Johan Galtung in Norway, 2007.**



Figure 13.7: **Binu Mathew is the heroic and dedicated editor of the Internet journal "Countercurrents". He lives in the Kerala Provence of India, which has recently been hit by enormous floods, despite which he continues to publish his vitally important journal every day.**



Figure 13.8: **John Pilger (born in Australia in 1939). His outstanding documentary films on global problems have won a BAFTA award. He is a critic of American, British and Australian foreign policy, which he considers to be driven by an imperialist agenda.**



Figure 13.9: **The American film maker Oliver Stone (born 1946) has won three Academy Awards for his work, and he has been nominated for very many other Oscars. His Vietnam War trilogy "Platoon", "Born on the Fourth of July", and "Heaven and Earth" have won critical acclaim, as have his films "Salvador", "Wall Street", "Money Never Sleeps", "JFK", "Nixon", "W", and "Snowdon".**



Figure 13.10: **Born in 1957. Amy Goodman co-founded Democracy Now: The War and Peace Report in 1996. She credits the great success of the program, broadcast on radio, television and the Internet, with the deficiencies of the mainstream media which leave a huge niche for alternative reporting. Amy Goodman has received dozens of awards for her work, including the Right Livelihood Award, sometimes called "The Alternative Nobel Prize", and the Gandhi Peace Award for making "a significant contribution to the promotion of an enduring international peace".**



Figure 13.11: **Thom Hartmann (born in 1951) is the host of the daily radio and television show "The Big Picture". As a writer, he has published more than twenty books. His book "Last Hours of Ancient Sunlight" inspired Leonardo DiCaprio's documentary "Before the Flood". Together with the DiCaprio family, Hartmann helped to produce an important short video "Last Hours", which is available at https://www.youtube.com/watch?v=2bRrg96UtMc . The video discusses the mass extinctions that can be observed in the geological record, and warns that anthropogenic climate change might cause an extinction comparable to the largest one, the Permian-Triassic event, by initiating a methane hydrate feedback loop.**

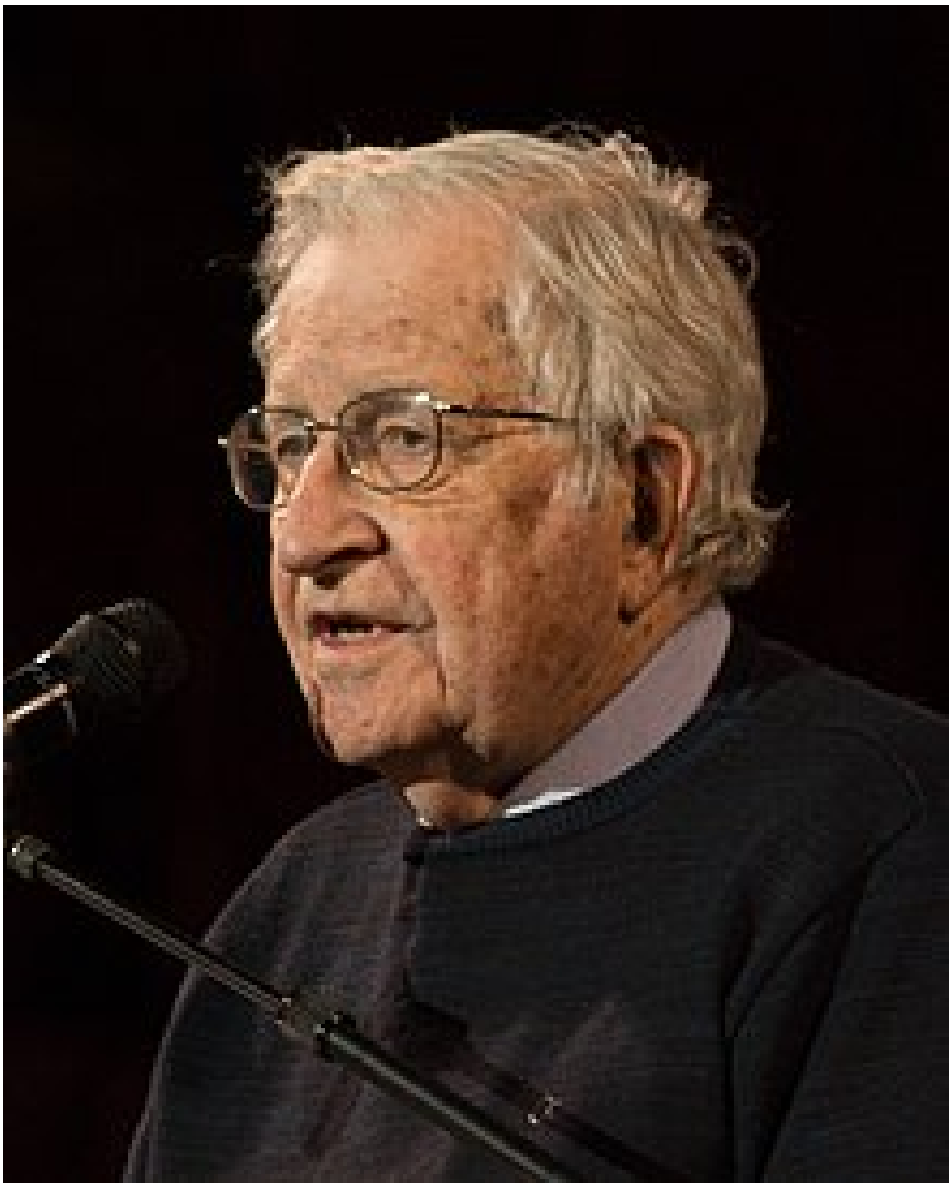


Figure 13.12: **Born in 1928, Institute Professor Emeritus Noam Chomsky of MIT and the University of Arizona is considered to be one of the greatest public intellectuals in the world. As a linguist and cognitive scientist, he revolutionized our ideas of the inherited universal grammar of humans. He is also a philosopher and historian, and has written more than 100 important books, many of which criticize the the mass media and US government policies. Professor Chomsky has stated that because of its climate change denial, the US Republican Party is the most dangerous organization in history, since its actions may lead to catastrophic climate change and perhaps the extinction of the human species.**

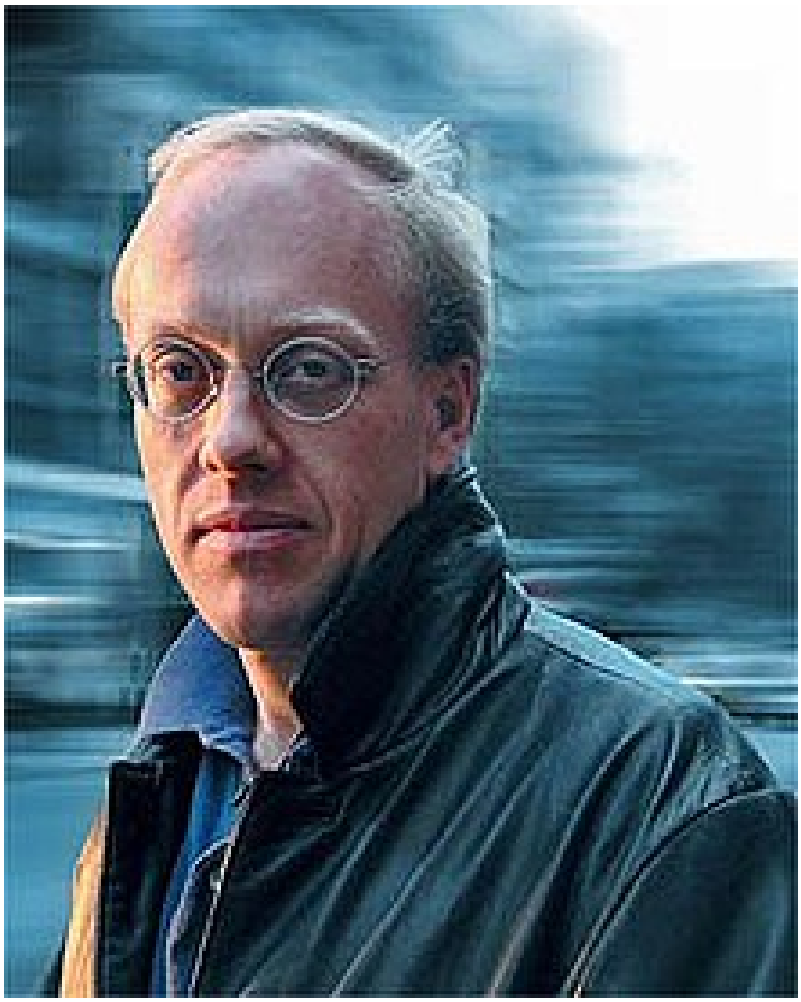


Figure 13.13: **Pulitzer Prize winning author Chris Hedges (born in 1956) worked for 15 years as a foreign correspondent for the New York Times, before resigning in 2005. He is the author of many important anti-war and anti-fascist books, including "War is a Force That Gives Us Meaning" (2002), "Empire of Illusion: The End of Literacy and the Triumph of Spectacle" (2009), "Death of the Liberal Class" (2010), "Days of Destruction, Days of Revolt" (2012), "Wages of Rebellion: The Moral Imperative of Revolt" (2015) and "America. The Farewell Tour" (2018). In a 2013 interview, Hedges said that "the left has been destroyed, especially the radical left, quite consciously in the whole name of anti-communism", and "we have allowed ourselves to embrace an ideology which, at its core, states that all governance is about maximizing corporate profit at the expense of the citizenry. For what do we have structures of government, for what do we have institutions of state, if not to hold up all the citizenry, and especially the most vulnerable?".**



Figure 13.14: **Award-winning author Naomi Klein was born in 1970 into a Canadian family of prominent peace activists. As a teenager, she felt embarrassed by her family's politics, and she reacted by becoming a mall-junkie, addicted to consumerism. Later, however, she became (in her own words) "less of a brat", and she wholeheartedly adopted her family's reformist traditions. Her first book, "No Logo: Taking Aim at the Brand Bullies" was published in 1999, shortly after the Seattle WTO protests, and it quickly became a highly-influential best-seller. Her famous book "The Shock Doctrine" (2007) argues that neoliberal politicians take advantage of disasters, when the public demands quick action, to ram through whatever changes they wish, and these are accepted uncritically by the change-demanding public, although they may have nothing to do with correcting the disaster. In another deservedly-famous book, "This Changes Everything" (2014), Naomi Klein addresses the twin threats of catastrophic climate change and thermonuclear war. She argues that environmental activists and peace activists ought to join hands and work together for system change. Partly as a result of her book, the slogan "System change not climate change!" was adopted by protest marchers both in New York and Paris.**



Figure 13.15: **The extremely distinguished scholar and author Professor Richard Falk was born in 1930, and is still very active today. He is the author of more than 20 books on international law and editor or co-editor of 20 others.**

The Eqbal Ahmed Centre For Public Education

This centre for public education (EACPE) can be reached on the link http://eacpe.org/ . It was established by the distinguished theoretical physicist Pervez Hoodbhoy and others, and it takes its name from the courageous writer, university professor and activist Eqbal Ahmed.

An article by S.M. Tatar in the Friday Times[14] states that "The late Eqbal Ahmad was an internationally known and respected Pakistani political scientist, intellectual, scholar and teacher who returned to Islamabad in the 1990's with a dream. He wanted to build Khaldunia University. Khaldunia could have been a game-changer in Pakistan's higher education system. Eqbal Ahmad taught at various US universities and was a key political voice in international affairs. He enjoyed the friendship and respect of the likes of Edward Said and Noam Chomsky - who admired his work, his independent thinking and his identification with the causes of oppressed peoples.

"Ahmad was an intellectual with roots in Pakistan, influencing thinking on major world events like the Vietnam war, Algeria's war of independence and the Palestinian tragedy. He was fully committed to his vision. He was not a desk scholar. He was part of the Algerian liberation movement in the 1960's and an active opponent of the Vietnam war. Along with others, he was charged with being part of a plot to kidnap Henry Kissinger, in an effort to end the Vietnam war. And he advised the the PLO leadership in Palestine!"

The Eqbal Ahmed Centre for Public Education states that "Knowledge translated into action is the most potent and powerful game-changer known to man. The wedding of com-

[14]https://www.thefridaytimes.com/tft/a-dream-rudely-shattered/

puters and telecommunications enables the transportation of ideas, the sharing of knowledge and the promotion of learning on a scale and with a speed that is near miraculous.

"The Eqbal Ahmad Centre for Public Education honours the life and work of Dr. Eqbal Ahmad, a Pakistani academic, social scientist, writer, public intellectual and activist. The Centre's web site of the same name is a rich mother lode of enlightening content for those who thirst for knowledge.They also keep adding to the content frequently, so the site is always worth a visit.

"We believe the site is a great resource for students as well. Some their content is directed at science students, particularly students of the physical sciences and mathematics. This particular section is rich in video content, and is certain to be helpful in acquiring a solid grounding in the subjects. Apart from such video lectures, there is also a great wealth of video material for those who wish to enhance their knowledge of scientific subjects in general."



Figure 13.16: **Professer Eqbal Ahmed (1933-1999).**



Figure 13.17: **Professer Pervez Hoodbhoy (born in 1950) is Zohra and Z.Z. Ahmad Distinguished Professor of Physics and Mathematics at Forman Christian College, Lahore. In 2013, he was made a member of the UN Secretary General's Advisory Board on Disarmament. Among the awards he has won are the IEEE Baker Award for Electronics (1968); the Abdus Salam Prize for Mathematics (1984); the UNESCO Kalinga Prize for the popularization of science (2003); the Joseph A. Burton Award (2010) from the American Physical Society and the Jean Meyer Award from Tufts University. In 2011, he was included in the list of 100 most influential global thinkers by Foreign Policy magazine. As the head of Mashal Books in Lahore, Prof. Hoodbhoy leads a major translation effort to produce books in Urdu that promote modern thought, human rights, and emancipation of women.**

The Danish Peace Academy

The Danish Peace Academy is an organization that was founded by Holger Terp. Holger completed his education as a librarian in 1992. In 1996, he participated in a course on "Internet and Presentation Technique" at the Academy of Fine Arts in Copenhagen. However, in 1999 he suffered a stroke, which made him blind in one eye and almost blind in the other. The stroke also affected Holger's speech, so that it was difficult to understand him when he talked. Instead of giving up, as many people would have done, Holger resolved to devote the remainder his life to the cause of world peace. Despite his severe handicap, he has achieved almost incredible results.

Holger's greatest achievement has been to found the Danish Peace Academy and to single-handedly create its enormous website. The website contains more than 90,000 files related to peace, in Danish, English and German, and it is currently visited by approximately 4,000 different people each day. Many of the visitors are from schools and universities in various parts of the world, who use the information on the website as a part of their studies.

In creating his website, Holger has used both his training as a librarian and the knowledge that he gained from the 1996 course at Copenhagen's Academy of Fine Arts. As a result, many parts of the website have great visual beauty because of the liberal use of images. For example, one can enjoy Holger's "Greenham Common Songbook", which is an account of the successful efforts of the woman's peace movement in England to prevent common land at Greenham from being used as a base for nuclear weapons. The songbook is a piece of history, illustrated not only by the songs, which the visitor to the website can hear performed by such artists as Peggy Seeger, but also by countless beautiful posters and photos from the era. Other special features of the website are numerous books, articles, poetry and song collections, a peace-related encyclopedia, and a timeline showing the history of the peace movement, from the middle ages up to the present.

Holger himself is the author or editor of numerous books, and he has translated Gandhi's autobiography into Danish. The example of Gandhi's life has always been a guide for Holger, and perhaps Holger's life can be a guide for our own efforts, as we strive to work for peace. If he could achieve so much with such a severe handicap, then the rest of us ought to be able to do something too.

Here are some quotations from the forward to Holger's autobiography. It is written in Danish, but I have made an approximate translation:

Militarism and the Military Industrial Complex have proved to be too big a mouthful for the peace movement, despite the fact that militarism has always been the main contributor to pollution and climate change. Ever since the First World War, military activities have been the largest users of fossil fuels.

Let's consider a nice little war somewhere. Besides the human and other biological costs, cities are ruined, as well as the country's administration and infrastructure. The gross national product collapses down to a tiny fraction of what it had been before the war. Military hardware is destroyed in war, and the environment is polluted with poisonous



Figure 13.18: **Holger Terp receives an award for his life-long efforts for world peace.**

byproducts of its degradation, such as heavy metals. This has always been the case with war. Furthermore, wars do not turn out as the politicians and war departments plan. Wars are unpredictable. Militarists make at least as many mistakes as the rest of us.

Therefore it cannot surprise even the most ignorant politician that war is primarily about resources and economy. The empty places in arsenals need to be refilled after a war. Governments buy from private weapons manufacturers, and a new war starts somewhere in a distant country whose policies have not given us unlimited access to cheap resources; and the mills of disaster begin to roll again, since weapon production is both resource-swallowing and environment-destroying. The more powerful weapons are, the more environmentally destructive they are, both when they are ,manufactured and when they are used....

It seems strange to me that religious fundamentalists can read in the Old Testament the commandment: "Thou shalt not kill". In other words, killing is both a sin and a crime; also when the killing is organized by governments. But soldiers do exactly the opposite of what religion requires. They go to war and kill. They do so because politicians are manipulated by the merchants of death. the arms manufacturers. One has to admire the war party's propaganda-machine. It is amazingly effective, with the result that the weapon industry's profits have grown enormously ever since the Iraq War of 2003. Soldiers and civilians are traumatized by war. Not so the politicians who start the wars, and certainly not the weapons manufacturers.

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