

WHY WAR?

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INTRODUCTION¹

Albert Einstein's letter to Sigmund Freud

Why War?, the title of this book, was also the title of a famous letter written to Sigmund Freud by Albert Einstein.

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. Here are some quotations from Einsteins's letter, translated from the original German:

“Dear Professor Freud,

“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 and death for 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 thought 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 to bear 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 leg-

¹This book makes use of my previously published book chapters, but a considerable amount of new material has also been added.

islative and judicial body to settle every conflict arising between nations. Each nation would undertake to abide by the orders issued by this legislative body, to invoke its decision in every dispute, to accept its judgments unreservedly and to carry out every measure the tribunal deems necessary for the execution of its decrees. 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 inadequate to enforce its verdicts, is all the more 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.

Tribalism, and its relationship to nationalism

Can we give better answers today to the questions raised by the exchange of letters between Albert Einstein and Sigmund Freud?

Charles Darwin's observations convinced him that in humans, just as in other mammals, the emotions and their expression are to a very large extent inherited universal characteristics of the species.

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 Physiology or Medicine in 1973.

The third of the 1973 prizewinners, Konrad Lorenz, is the most 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 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.

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 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

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

defense mechanism (“militant enthusiasm”) described in biological terms by Lorenz.

Population genetics

Human emotions evolved during the long period when our ancestors lived in small, genetically homogeneous tribes, competing for territory on the grasslands of Africa.

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 first proposed by J.B.S. Haldane and R.A. Fischer, and more recently it has been discussed by W.D. Hamilton and E.O. Wilson.

Military-industrial complexes

In his farewell address, US President Dwight D. Eisenhower warned his nation against the excessive power that had been acquired during World War II by the military-industrial complex: “We have been compelled to create an armaments industry of vast proportions,” Eisenhower said, “...Now this conjunction of an immense military establishment and a large arms industry is new in American experience. The total influence - economic, political, even spiritual - is felt in every city, every state house, every office in the federal government. ... We must not fail to comprehend its grave implications. Our toil, resources and livelihood are all involved; so is the very structure of our society. ... We must stand guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists and will persist. We must never let the weight of this combination endanger our democratic processes. We should take nothing for granted.”

Because the world spends roughly two trillion 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, political and economic

institution, and also one of the main reasons why war persists, although everyone realizes that it is the cause of much of the suffering of humanity.

We know that war is madness, but it persists. We know that it threatens the 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.

Colonialism

The Industrial Revolution opened up an enormous gap in military strength between the industrialized nations and the rest of the world. Taking advantage of their superior weaponry, Europe, the United States and Japan rapidly carved up the remainder of the world into colonies, which acted as sources of raw materials and food, and as markets for manufactured goods. Between 1800 and 1914, the percentage of the earth under the domination of colonial powers increased to 85 percent, if former colonies are included.

The English economist and Fabian, John Atkinson Hobson (1858-1940), offered a famous explanation of the colonial era in his book "Imperialism: A Study" (1902). According to Hobson, the basic problem that led to colonial expansion was an excessively unequal distribution of incomes in the industrialized countries. The result of this unequal distribution was that neither the rich nor the poor could buy back the total output of their society. The incomes of the poor were insufficient, and rich were too few in number. The rich had finite needs, and tended to reinvest their money. As Hobson pointed out, reinvestment in new factories only made the situation worse by increasing output.

Hobson had been sent as a reporter by the Manchester Guardian to cover the Second Boer War. His experiences had convinced him that colonial wars have an economic motive. Such wars are fought, he believed, to facilitate investment of the excess money of the rich in African or Asian plantations and mines, and to make possible the overseas sale of excess manufactured goods. Hobson believed imperialism to be immoral. The cure that he recommended was a more equal distribution of incomes in the manufacturing countries.

Nuclear war

Do our “Defense Departments” really defend us? Absolutely not! Their very title is a lie. The military-industrial complex sells itself by claiming to defend civilians. It justifies vast and crippling budgets by this claim; but it is a fraud. For the military-industrial complex, the only goal is money and power. Civilians like ourselves are just hostages. We are expendable. We are pawns in the power game, the money game.

Nations possessing nuclear weapons 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.

A thermonuclear war today would be not only genocidal but also omniscidal. It would kill people of all ages, babies, children, young people, mothers, fathers and grandparents, without any regard whatever for guilt or innocence. Such a war would be the ultimate ecological catastrophe, destroying not only human civilization but also much of the biosphere.

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 thermonuclear weapons has put war completely beyond the bounds of sanity and elementary humanity.

Can we not rid the world of these insane and antihuman weapons before everything of value in our beautiful world is reduced to radioactive ashes?

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Chapter 1

ALBERT EINSTEIN, SCIENTIST AND PACIFIST

“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.

1.1 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."

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 ap-



Figure 1.1: Einstein at the age of three in 1882.



Figure 1.2: Albert Einstein in 1893 (age 14).



Figure 1.3: Albert Einstein in 1904 (age 25).



Figure 1.4: Olympia Academy founders: Conrad Habicht, Maurice Solovine and Einstein.



Figure 1.5: Albert and Mileva Einstein, 1912.



Figure 1.6: Einstein with his second wife, Elsa, in 1921.

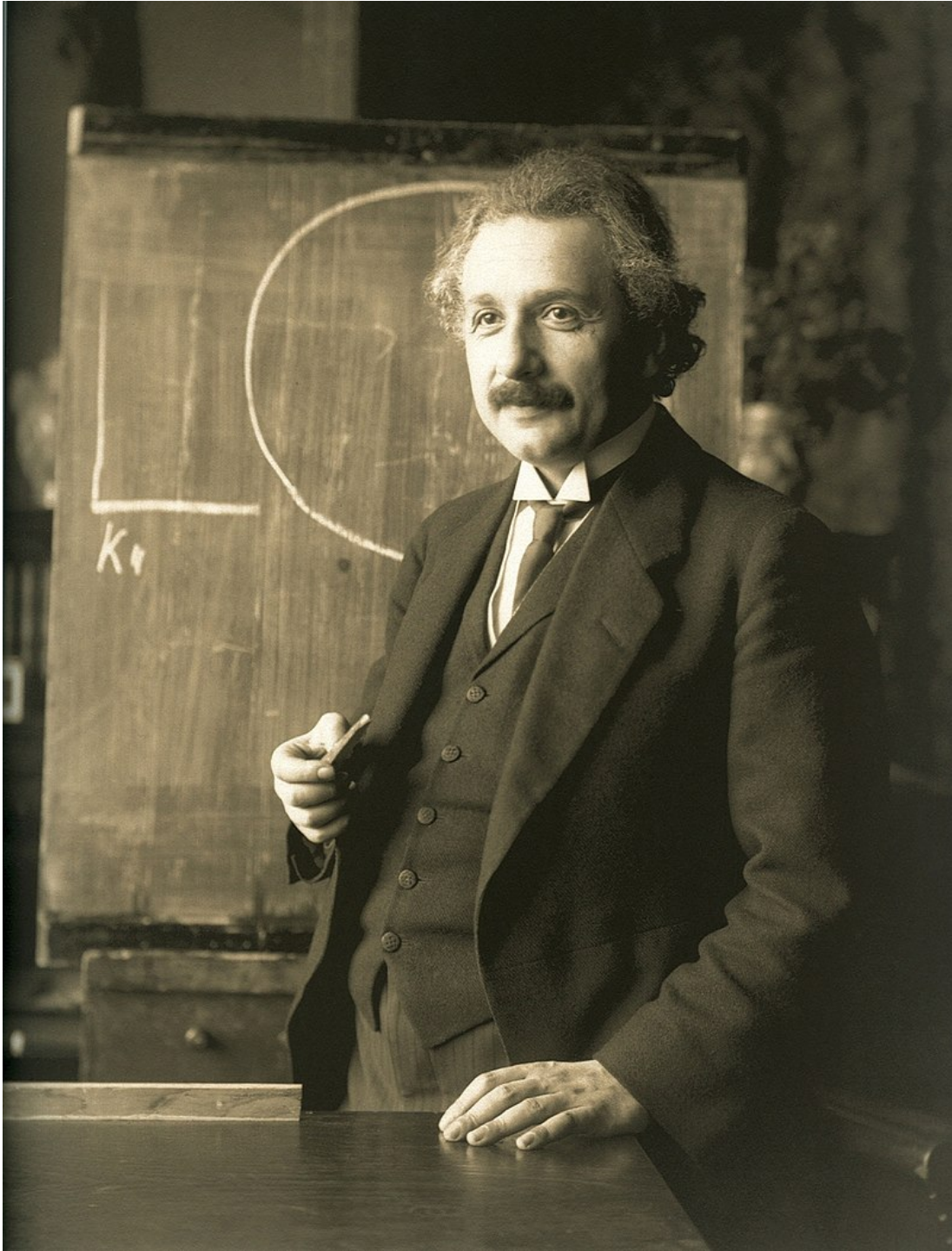


Figure 1.7: Albert Einstein during a lecture in Vienna in 1921.

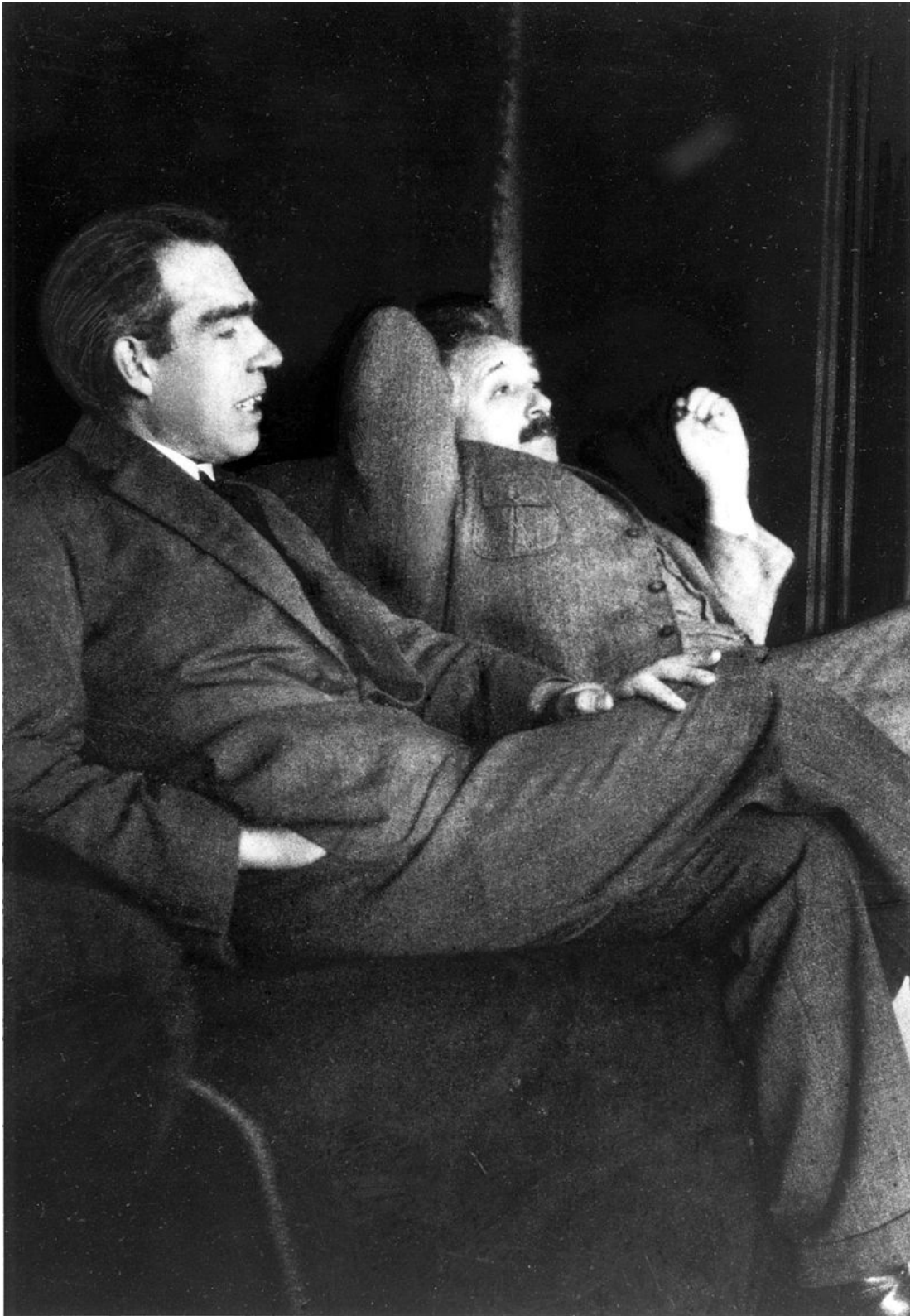


Figure 1.8: Einstein and Niels Bohr, 1925.

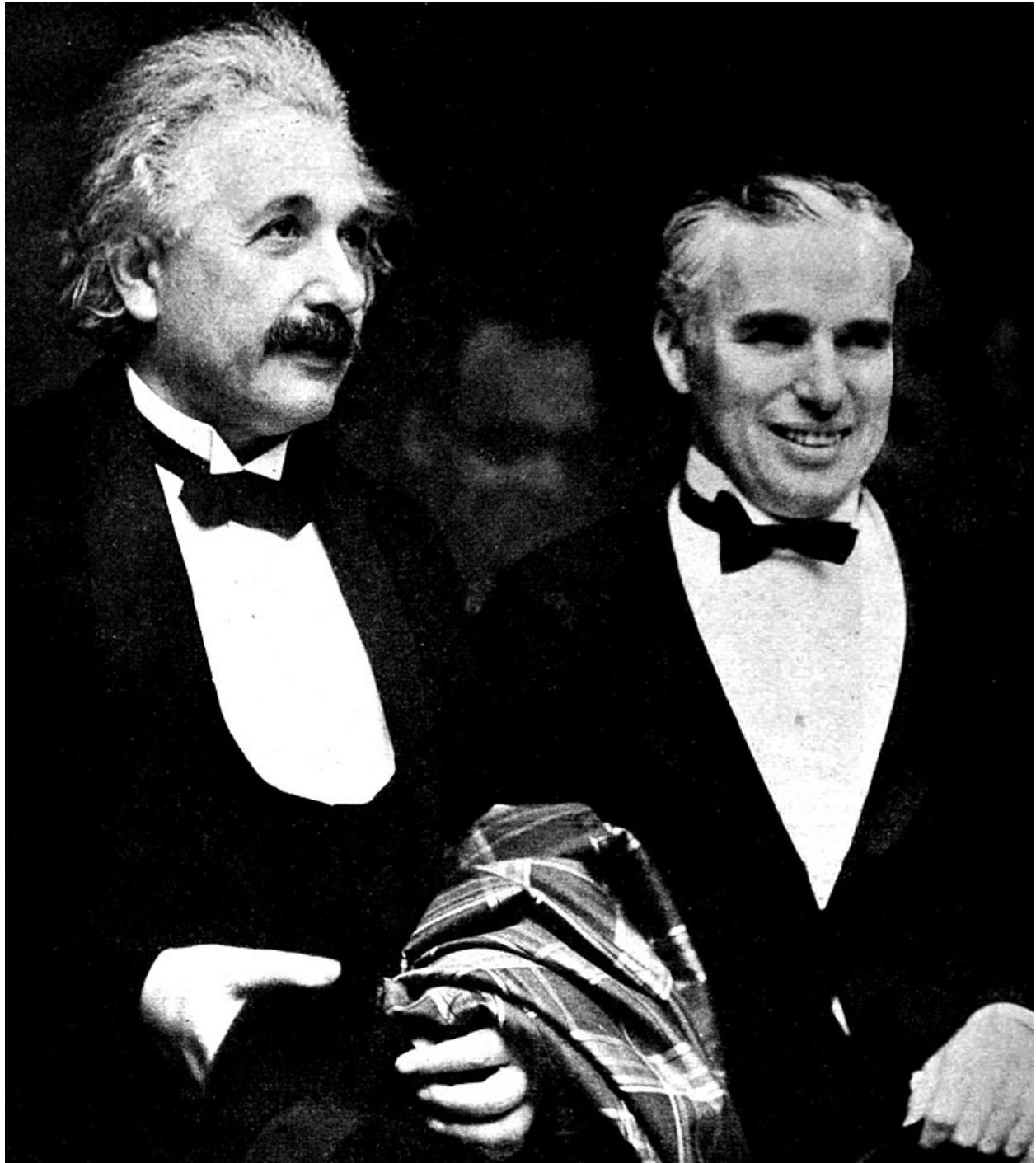


Figure 1.9: Einstein (left) and Charlie Chaplin at the Hollywood premiere of *City Lights*, January 1931.

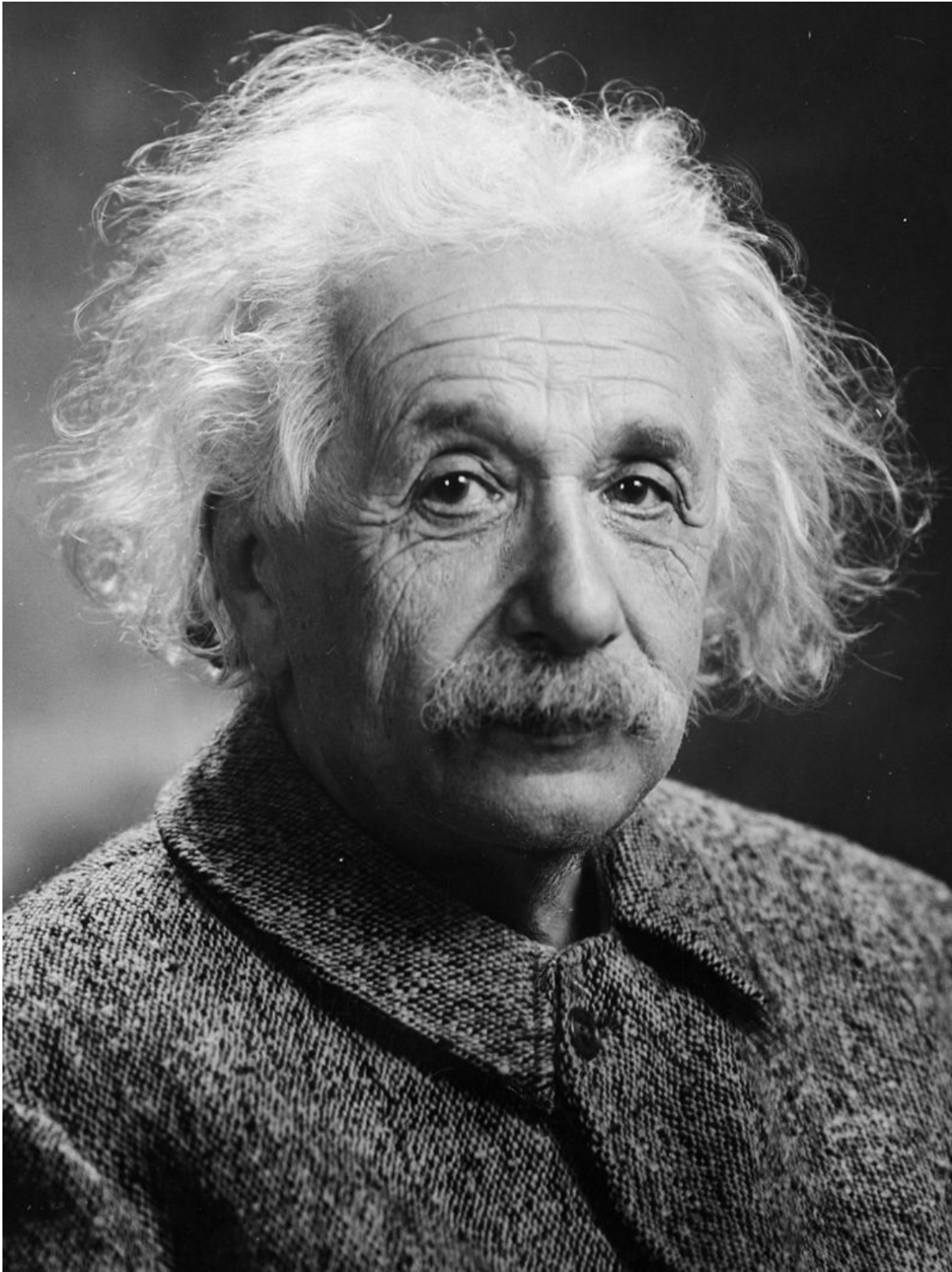


Figure 1.10: Einstein in 1947.

plied 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.

1.2 Special relativity theory

The theory of relativity grew out of problems connected with Maxwell's electromagnetic theory of light. Ever since the wavelike nature of light had first been demonstrated, it had been supposed that there must be some medium to carry the light waves, just as there must be some medium (for example air) to carry sound waves. A word was even invented for the medium which was supposed to carry electromagnetic waves: It was called the "ether".

By analogy with sound, it was believed that the velocity of light would depend on the velocity of the observer relative to the "ether". However, all attempts to measure differences in the velocity of light in different directions had failed, including an especially sensitive experiment which was performed in America in 1887 by A.A. Michelson and E.W. Morley.

Even if the earth had, by a coincidence, been stationary with respect to the "ether" when Michelson and Morley first performed their experiment, they should have found an "ether wind" when they repeated their experiment half a year later, with the earth at the other side of its orbit. Strangely, the observed velocity of light seemed to be completely independent of the motion of the observer!

In his famous 1905 paper on relativity, Einstein made the negative result of the Michelson-Morley experiment the basis of a far-reaching principle: He asserted that no experiment whatever can tell us whether we are at rest or whether we are in a state of uniform motion. With this assumption, the Michelson-Morley experiment of course had to fail, and the measured velocity of light had to be independent of the motion of the observer.

Einstein's Principle of Special Relativity had other extremely important consequences: He soon saw that if his principle were to hold, then Newtonian mechanics would have to be modified. In fact, Einstein's Principle of Special Relativity required that *all* fundamental physical laws exhibit a symmetry between space and time. The three space dimensions, and a fourth dimension, ict , had to enter every fundamental physical law in a symmetrical way. (Here i is the square root of -1 , c is the velocity of light, and t is time.)

When this symmetry requirement is fulfilled, a physical law is said to be "Lorentz-invariant" (in honor of the Dutch physicist H.A. Lorentz, who anticipated some of Einstein's ideas). Today, we would express Einstein's principle by saying that every fundamental physical law must be Lorentz-invariant (i.e. symmetrical in the space and time

coordinates). The law will then be independent of the motion of the observer, provided that the observer is moving uniformly.

Einstein was able to show that, when properly expressed, Maxwell's equations are already Lorentz-invariant; but Newton's equations of motion have to be modified. When the needed modifications are made, Einstein found, then the mass of a moving particle appears to increase as it is accelerated. A particle can never be accelerated to a velocity greater than the velocity of light; it merely becomes heavier and heavier, the added energy being converted into mass.

From his 1905 theory, Einstein deduced his famous formula equating the energy of a system to its mass multiplied by the square of the velocity of light. As we shall see, his formula was soon used to explain the source of the energy produced by decaying uranium and radium; and eventually it led to the construction of the atomic bomb. Thus Einstein, a lifelong pacifist, who renounced his German citizenship as a protest against militarism, became instrumental in the construction of the most destructive weapon ever invented - a weapon which casts an ominous shadow over the future of humankind.

Just as Einstein was one of the first to take Planck's quantum hypothesis seriously, so Planck was one of the first physicists to take Einstein's relativity seriously. Another early enthusiast for relativity was Hermann Minkowski, Einstein's former professor of mathematics. Although he once had characterized Einstein as a "lazy dog", Minkowski now contributed importantly to the mathematical formalism of Einstein's theory; and in 1907, he published the first book on relativity. In honor of Minkowski's contributions to relativity, the 4-dimensional space-time continuum in which we live is sometimes called "Minkowski space".

In 1908, Minkowski began a lecture to the Eightieth Congress of German Scientists and Physicians with the following words:

"From now on, space by itself, and time by itself, are destined to sink completely into the shadows; and only a kind of union of both will retain an independent existence."

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.

1.3 General relativity

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.

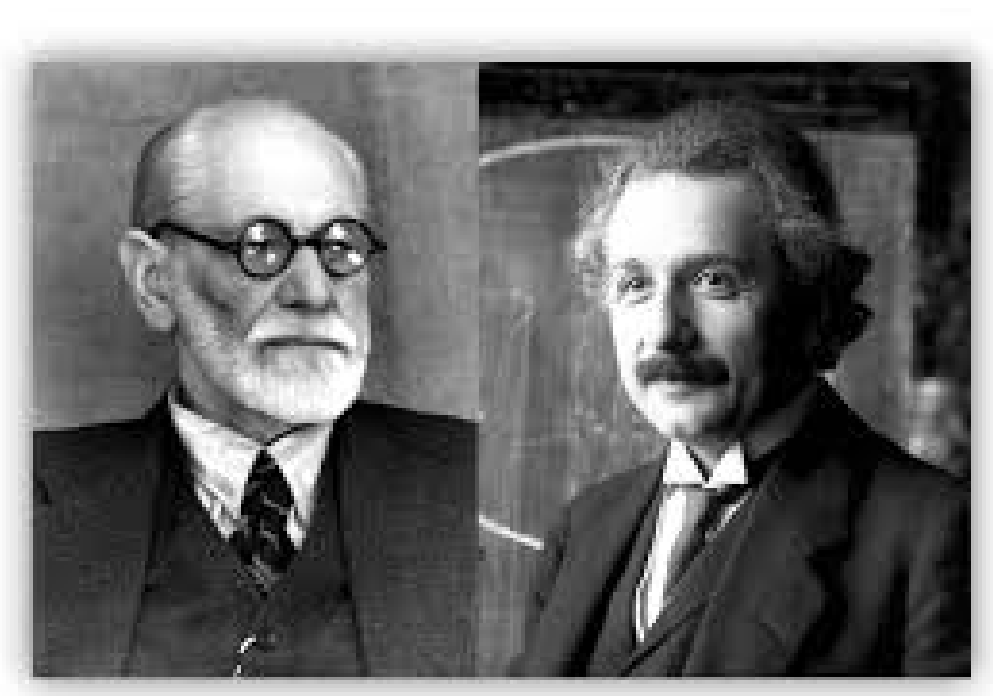


Figure 1.11: Sigmund Freud and Albert Einstein (public domain). Their exchange of letters entitled “Why War?” deserves to be read by everyone concerned with the human future.

1.4 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 the long letter that he wrote to Freud is as follows:

"Dear Professor Freud,

"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 and death for 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 thought 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 to bear 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. Each nation would undertake to abide by the orders issued by this legislative body, to invoke its decision in every dispute, to accept its judgments unreservedly and to carry out every measure the tribunal deems necessary for the execution of its decrees. 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 inadequate to enforce its verdicts, is all the more prone to suffer these to be deflected by extrajudicial pressure. This is a fact with which we have to reckon; law and might inevitably go hand in hand, and juridical decisions approach more nearly the ideal justice demanded by the community (in whose name and interests these verdicts are pronounced) in so far as the community has effective power to compel respect of its juridical ideal. But at present we are far from possessing any supranational organization competent to render verdicts of incontestable authority and enforce absolute submission to the execution of its verdicts. Thus I am led to my first axiom: the quest of international security involves the unconditional surrender by every nation, in a certain measure, of its liberty of action, its sovereignty that is to say, and it is clear beyond all doubt that no other road can lead to such security.

"The ill-success, despite their obvious sincerity, of all the efforts made during the last decade to reach this goal leaves us no room to doubt that strong psychological factors are at work, which paralyse these efforts. Some of these factors are not far to seek. The craving for power which characterizes the governing class in every nation is hostile to any limitation of the national sovereignty. This political power-hunger is wont to batten on the activities of another group, whose aspirations are on purely mercenary, economic lines. I have specially in mind that small but determined group, active in every nation, composed of individuals who, indifferent to social considerations and restraints, regard warfare, the manufacture and sale of arms, simply as an occasion to advance their personal interests and enlarge their personal authority.

"But recognition of this obvious fact is merely the first step towards an appreciation of the actual state of affairs. Another question follows hard upon it: how is it possible for this small clique to bend the will of the majority, who stand to lose and suffer by a state of war, to the service of their ambitions? (In speaking of the majority, I do not exclude soldiers of every rank who have chosen war as their profession, in the belief that they are serving to defend the highest interests of their race, and that attack is often the best method of defense.) An obvious answer to this question would seem to be that the

minority, the ruling class at present, has the schools and press, usually the Church as well, under its thumb. This enables it to organize and sway the emotions of the masses, and make its tool of them.

“Yet even this answer does not provide a complete solution. Another question arises from it: How is it these devices succeed so well in rousing men to such wild enthusiasm, even to sacrifice their lives? Only one answer is possible. Because man has within him a lust for hatred and destruction. In normal times this passion exists in a latent state, it emerges only in unusual circumstances; but it is a comparatively easy task to call it into play and raise it to the power of a collective psychosis. Here lies, perhaps, the crux of all the complex of factors we are considering, an enigma that only the expert in the lore of human instincts can resolve.

“And so we come to our last question. Is it possible to control man’s mental evolution so as to make him proof against the psychoses of hate and destructiveness? Here I am thinking by no means only of the so-called uncultured masses. Experience proves that it is rather the so-called ‘Intelligentzia’ that is most apt to yield to these disastrous collective suggestions, since the intellectual has no direct contact with life in the raw, but encounters it in its easiest, synthetic form upon the printed page.

“To conclude: I have so far been speaking only of wars between nations; what are known as international conflicts. But I am well aware that the aggressive instinct operates under other forms and in other circumstances. (I am thinking of civil wars, for instance, due in earlier days to religious zeal, but nowadays to social factors; or, again, the persecution of racial minorities). But my insistence on what is the most typical, most cruel and extravagant form of conflict between man and man was deliberate, for here we have the best occasion of discovering ways and means to render all armed conflicts impossible.

“Yours very sincerely,

“A. Einstein”

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.

1.5 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.

1.6 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.

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Chapter 2

TRIBALISM

2.1 Ethology

In the long run, because of the terrible weapons that have already been produced through the misuse of science, and because of the even more terrible weapons that are likely to be invented in the future, the only way in which we can ensure the survival of civilization is to abolish the institution of war. But is this possible? Or are the emotions that make war possible so much a part of human nature that we cannot stop humans from fighting any more than we can stop cats and dogs from fighting? 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.

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.

Behind Darwin's work in this field is the observation that instinctive behavior patterns are just as reliably inherited as morphological characteristics. Darwin was also impressed by the fact that within a given species, behavior patterns have some degree of uniformity, and the fact that the different species within a family are related by similarities of instinctive behavior, just as they are related by similarities of bodily form. For example, certain elements of cat-like behavior can be found among all members of the cat family; and certain elements of dog-like or wolf-like behavior can be found among all members of the dog family. On the other hand, there are small variations in instinct among the members of a given species. For example, not all domestic dogs behave in the same way.

"Let us look at the familiar case of breeds of dogs", Darwin wrote in *The Origin of Species*, "It cannot be doubted that young pointers will sometimes point and even back other dogs the very first time they are taken out; retrieving is certainly in some degree inherited by retrievers; and a tendency to run round, instead of at, a flock of sheep by

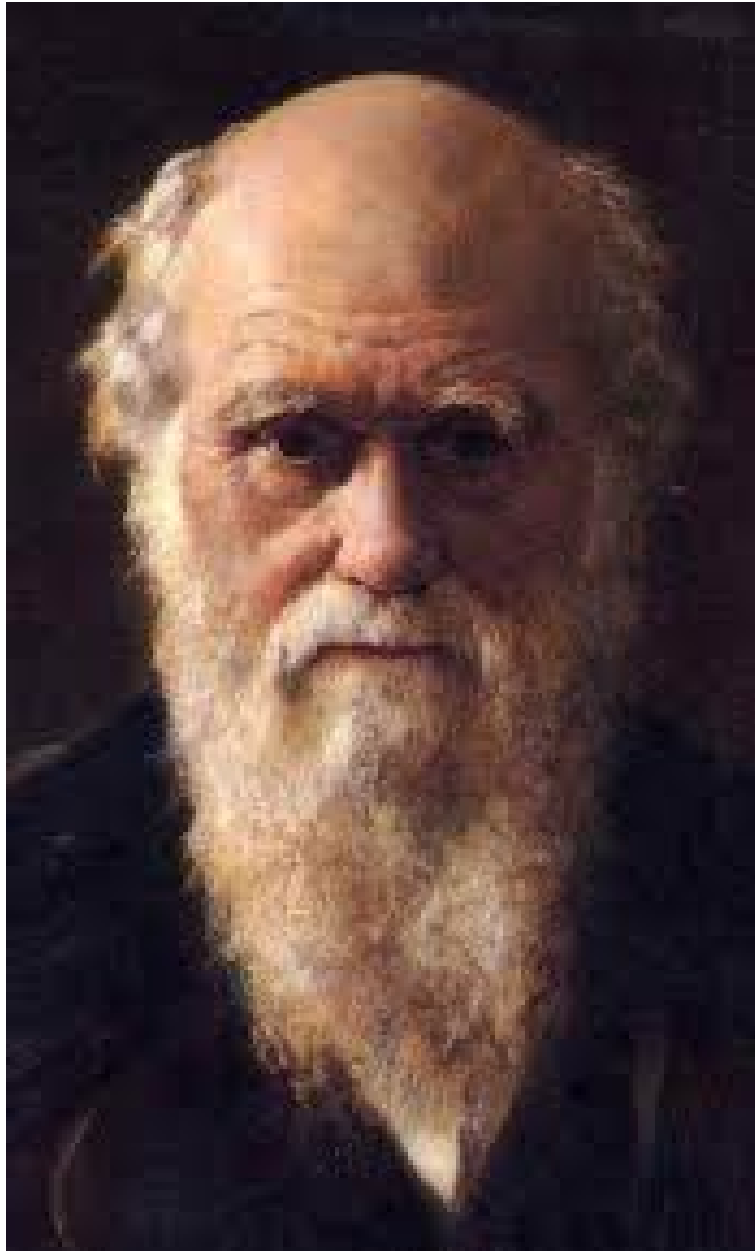


Figure 2.1: Because of Charles Darwin's book "The Expression of Emotions in Man and Animals", he is considered to be the founder of the field of Ethology, the study of inherited behavior patterns.

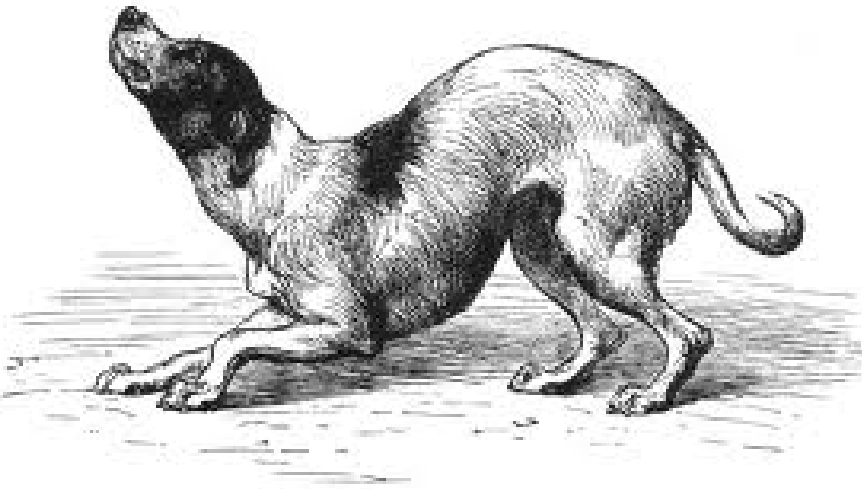


Figure 2.2: **A dog expressing affection towards its master.**

shepherd dogs. I cannot see that these actions, performed without experience by the young, and in nearly the same manner by each individual, and without the end being known - for the young pointer can no more know that he points to aid his master than the white butterfly knows why she lays her eggs on the leaf of the cabbage - I cannot see that these actions differ essentially from true instincts..."

"How strongly these domestic instincts habits and dispositions are inherited, and how curiously they become mingled, is well shown when different breeds of dogs are crossed. Thus it is known that a cross with a bulldog has affected for many generations the courage and obstinacy of greyhounds; and a cross with a greyhound has given to a whole family of shepherd dogs a tendency to hunt hares..."

Darwin believed that in nature, desirable variations of instinct are propagated by natural selection, just as in the domestication of animals, favorable variations of instinct are selected and propagated by kennelmen and stock breeders. In this way, according to Darwin, complex and highly developed instincts, such as the comb-making instinct of honey-bees, have evolved by natural selection from simpler instincts, such as the instinct by which bumble bees use their old cocoons to hold honey and sometimes add a short wax tube.

In the introduction of his book, *The Expression of the Emotions in Man and Animals*, Darwin says "I thought it very important to ascertain whether the same expressions and gestures prevail, as has often been asserted without much evidence, with all the races of mankind, especially with those who have associated but little with Europeans. Whenever the same movements of the features or body express the same emotions in several distinct races of man, we may infer with much probability, that such expressions are true ones, - that is, are innate or instinctive."

To gather evidence on this point, Darwin sent a printed questionnaire on the expression

of human emotions and sent it to missionaries and colonial administrators in many parts of the world. There were 16 questions to be answered:

1. *Is astonishment expressed by the eyes and mouth being opened wide, and by the eyebrows being raised?*
2. *Does shame excite a blush when the colour of the skin allows it to be visible? and especially how low down on the body does the blush extend?*
3. *When a man is indignant or defiant does he frown, hold his body and head erect, square his shoulders and clench his fists?*
4. *When considering deeply on any subject, or trying to understand any puzzle, does he frown, or wrinkle the skin beneath the lower eyelids?*

and so on.

Darwin received 36 replies to his questionnaire, many coming from people who were in contact with extremely distinct and isolated groups of humans. The results convinced him that our emotions and the means by which they are expressed are to a very large extent innate, rather than culturally determined, since the answers to his questionnaire were so uniform and so independent of both culture and race. In preparation for his book, he also closely observed the emotions and their expression in very young babies and children, hoping to see inherited characteristics in subjects too young to have been greatly influenced by culture. Darwin's observations convinced him that in humans, just as in other mammals, the emotions and their expression are to a very large extent inherited universal characteristics of the species.

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.

Karl von Frisch, the first of the three ethologists who shared the 1973 prize, is famous for his studies of the waggle-dance of honeybees. Bees guide each other to sources of food by a genetically programmed signaling method - the famous waggle dance, deciphered in 1945 by von Frisch. When a worker bee has found a promising food source, she returns to the hive and performs a complex dance, the pattern of which indicates both the direction and distance of the food. The dancer moves repeatedly in a pattern resembling the Greek letter Θ . If the food-discoverer is able to perform her dance on a horizontal flat surface in view of the sun, the line in the center of the pattern points in the direction of the food. However, if the dance is performed in the interior of the hive on a vertical surface, gravity takes the place of the sun, and the angle between the central line and the vertical represents the angle between the food source and the sun.

The central part of the dance is, in a way, a re-enactment of the excited forager's flight to the food. As she traverses the central portion of the pattern, she buzzes her wings and waggles her abdomen rapidly, the number of waggles indicating the approximate distance

to the food ¹. After this central portion of the dance, she turns alternately to the left or to the right, following one or the other of the semicircles, and repeats the performance. Studies of the accuracy with which her hive-mates follow these instructions show that the waggle dance is able to convey approximately 7 bits of information - 3 bits concerning distance and 4 bits concerning direction. After making his initial discovery of the meaning of the dance, von Frisch studied the waggle dance in many species of bees. He was able to distinguish species-specific dialects, and to establish a plausible explanation for the evolution of the dance.

Among the achievements for which Tinbergen is famous are his classic studies of instinct in herring gulls. He noticed that the newly-hatched chick of a herring gull pecks at the beak of its parent, and this signal causes the parent gull to regurgitate food into the gaping beak of the chick. Tinbergen wondered what signal causes the chick to initiate this response by pecking at the beak of the parent gull. Therefore he constructed a series of models of the parent in which certain features of the adult gull were realistically represented while other features were crudely represented or left out entirely. He found by trial and error that the essential signal to which the chick responds is the red spot on the tip of its parent's beak. Models which lacked the red spot produced almost no response from the young chick, although in other respects they were realistic models; and the red spot on an otherwise crude model would make the chick peck with great regularity.

In other experiments, Tinbergen explored the response of newly-hatched chicks of the common domestic hen to models representing a hawk. Since the chicks were able to recognize a hawk immediately after hatching, he knew that the response must be genetically programmed. Just as he had done in his experiments with herring gulls, Tinbergen experimented with various models, trying to determine the crucial characteristic that was recognized by the chicks, causing them to run for cover. He discovered that a crude model in the shape of the letter T invariable caused the response if pulled across the sky with the wings first and tail last. (Pulled backwards, the T shape caused no response.)

In the case of a newly-hatched herring gull chick pecking at the red spot on the beak of its parent, the program in the chick's brain must be entirely genetically determined, without any environmental component at all. Learning cannot play a part in this behavioral pattern, since the pattern is present in the young chick from the very moment when it breaks out of the egg. On the other hand (Tinbergen pointed out) many behavioral patterns in animals and in man have both an hereditary component and an environmental component. Learning is often very important, but learning seems to be built on a foundation of genetic predisposition.

To illustrate this point, Tinbergen called attention to the case of sheep-dogs, whose remote ancestors were wolves. These dogs, Tinbergen tells us, can easily be trained to drive a flock of sheep towards the shepherd. However, it is difficult to train them to drive the sheep away from their master. Tinbergen explained this by saying that the sheep-dogs regard the shepherd as their "pack leader"; and since driving the prey towards the pack

¹The number of waggles is largest when the source of food is near, and for extremely nearby food, the bees use another dance, the "round dance".



Figure 2.3: The red spot on the beak of the parent gull proved to be the crucial signal needed to activate the instinctive response of the chick.



Figure 2.4: Nikolaas Tinbergen (1907-1988) on the left, with Konrad Lorenz (1903-1989). Together with Karl von Frisch (1886-1982) they shared the 1973 Nobel Prize in Physiology and Medicine for their pioneering work in Ethology.



Figure 2.5: **Konrad Lorenz with geese who consider him to be their mother.**

leader is part of the hunting instinct of wolves, it is easy to teach the dogs this maneuver. However, driving the prey away from the pack leader would not make sense for wolves hunting in a pack; it is not part of the instinctive makeup of wolves, nor is it a natural pattern of behavior for their remote descendants, the sheep-dogs.

As a further example of the fact that learning is usually built on a foundation of genetic predisposition, Tinbergen mentions the ease with which human babies learn languages. The language learned is determined by the baby's environment; but the astonishing ease with which a human baby learns to speak and understand implies a large degree of genetic predisposition.

The third of the 1973 prizewinners, Konrad Lorenz, is more 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 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.

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.

Konrad Lorenz and his followers have been criticized for introducing a cathartic model of instincts. According to Lorenz, if an instinct is not used, a pressure for its use builds up over a period of time. In the case of human aggression, according to Lorenz, the nervous energy has to be dissipated in some way, either harmlessly through some substitute for aggression, or else through actual fighting. Thus, for example, Lorenz believed that violent team sports help to reduce the actual level of violence in a society. This conclusion has been challenged by the distinguished ethologist Prof. R.A. Hinde and by many others in his field who believe that there is no experimental evidence for the cathartic model of aggression.²

Professor Hinde points out that unused instincts tend to atrophy; and he concludes that violent team sports or violence shown on television tend to raise rather than lower the level of harmful violence in a society. Although the cathartic model of aggression is now widely considered to be incorrect (and on this point I certainly agree with Professor Hinde) it seems probable that the communal defense response discussed by Lorenz will prove to be a correct and useful concept. The communal defense mechanism can be thought of as the aspect of human emotions which makes it natural for soldiers to kill or be killed in defense of their countries. In the era before nuclear weapons made war prohibitively dangerous, such behavior was considered to be the greatest of virtues.

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,

²In a 1985 letter to the author, Professor Hinde wrote; “Dear Dr. Avery, I found your pamphlet ‘The World as it is and the World as it could be’ a very inspiring document, and I hope that it will be widely circulated. But just one comment - amongst the suggestions for further reading you include Konrad Lorenz’s ‘On Aggression’. The message that comes from this book is that human aggressiveness is inevitably part of our human nature, and we must seek harmless outlets for it. This rests on a cathartic model of human behavior that is outdated. A more appropriate message is that we must find ways of rearing our children so that their propensity to show aggression is reduced, and provide individuals with environments in which any aggressive propensities are not called forth. I’m sure you would agree with this. I hope that you will forgive this slight reservation about what seems to me to be a totally admirable and important statement. With best wishes, Yours sincerely, Robert A. Hinde.

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.

In an essay entitled *The Urge to Self-Destruction*³, 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.

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.

³in *The Place of Value in a World of Facts*, A. Tiselius and S. Nielsson editors, Wiley, New York, (1970)

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.”

There are some semantic difficulties connected with discussions of the parts of human nature that make war possible. In one of the passages quoted above, Konrad Lorenz speaks of “militant enthusiasm”, which he says is both a form of communal aggression and also a communal defense response. In their inspiring recent book *War No More*, Professor Robert Hinde and Sir Joseph Rotblat use the word “duty” in discussing the same human emotional tendencies. I will instead use the word “tribalism”.

I prefer the word “tribalism” because from an evolutionary point of view the human emotions involved in war grew out of the territorial competition between small tribes during the formative period when our ancestors were hunter-gatherers on the grasslands of Africa. Members of tribe-like groups are bound together by strong bonds of altruism and loyalty. Echos of these bonds can be seen in present-day family groups, in team sports, in the fellowship of religious congregations, and in the bonds that link soldiers to their army comrades and to their nation.

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 willingness 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.

2.2 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. Fischer, 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.



Figure 2.6: **Sir Ronald Aylmer Fisher (1890-1962).** Together with J.B.S Haldane he pioneered the theory of population genetics. Recent contributions to this theory have been made by W.D. Hamilton and E.O. Wilson.

2.3 Formation of group identity

Although humans originally lived in small, genetically homogeneous tribes, the social and political groups of the modern world are much larger, and are often multiracial and multiethnic.

There are a number of large countries that are remarkable for their diversity, for example Brazil, Argentina and the United States. Nevertheless it has been possible to establish social cohesion and group identity within each of these enormous nations. India and China too, are mosaics of diverse peoples, but nevertheless, they function as coherent societies. Thus we see that group identity is a social construction, in which artificial “tribal markings” define the boundaries of the group. These tribal markings will be discussed in more detail below.

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.

Since group identity is a social construction, it is not an impossible goal to think of enlarging the already-large groups of the modern world to include all of humanity.

2.4 Religion and ethnic identity

For the hominids that formed a bridge between present-day humans and the common ancestor of ourselves and the anthropoid apes, culture included not only rudimentary language, but also skills such as methods of tool-making and weapon making.

An acceleration of human cultural development seems to have begun approximately 70,000 years ago. The first art objects date from that period, as do migrations that ultimately took modern man across the Bering Strait to the western hemisphere. A land bridge extending from Siberia to Alaska is thought to have been formed approximately 70,000 years ago, disappearing again roughly 10,000 years before the present. Cultural and genetic studies indicate that migrations from Asia to North America took place during this period. Shamanism,⁴ which is found both in Asia and the new world, as well as among the Sami (Lapps) of northern Scandinavia, is an example of the cultural links between the hunting societies of these regions.

Before the acceleration of human cultural development just mentioned, genetic change and cultural change went hand in hand, but during the last 70,000 years, the constantly accelerating rate of information-accumulation and cultural evolution has increasingly out-distanced the rate of genetic change in humans. Genetically we are almost identical with

⁴A shaman is a special member of a hunting society who, while in a trance, is thought to be able pass between the upper world, the present world, and the lower world, to cure illnesses, and to insure the success of a hunt.

our hunter-gatherer ancestors of 70,000 years ago, but cultural evolution has changed our way of life beyond recognition.

Humans are capable of cultural evolution because it is so easy to overwrite and modify our instinctive behavior patterns with learned behavior. Within the animal kingdom, humans are undoubtedly the champions in this respect. No other species is so good at learning as we are. During the early stages of cultural evolution, the tendency of humans to be religious may have facilitated the overwriting of instinctive behavior with the culture of the tribe. Since religions, like languages, are closely associated with particular cultures, they serve as marks of ethnic identity.

2.5 Tribal markings; ethnicity; pseudospeciation

In biology, a species is defined to be a group of mutually fertile organisms. Thus all humans form a single species, since mixed marriages between all known races will produce children, and subsequent generations in mixed marriages are also fertile. However, although there is never a biological barrier to marriages across ethnic and racial boundaries, there are often very severe cultural barriers.

Irenäus Eibl-Eibesfeldt, a student of Konrad Lorenz, introduced the word *pseudospeciation* to denote cases where cultural barriers between two groups of humans are so strongly marked that marriages across the boundary are difficult and infrequent. In such cases, he pointed out, the two groups function as though they were separate species, although from a biological standpoint this is nonsense. When two such groups are competing for the same land, the same water, the same resources, and the same jobs, the conflicts between them can become very bitter indeed. Each group regards the other as being “not truly human”.

In his book *The Biology of War and Peace*, Eibl-Eibesfeldt discusses the “tribal markings” used by groups of humans to underline their own identity and to clearly mark the boundary between themselves and other groups. One of the illustrations in the book shows the marks left by ritual scarification on the faces of the members of certain African tribes. These scars would be hard to counterfeit, and they help to establish and strengthen tribal identity. Seeing a photograph of the marks left by ritual scarification on the faces of African tribesmen, it is impossible not to be reminded of the dueling scars that Prussian army officers once used to distinguish their caste from outsiders.

Surveying the human scene, one can find endless examples of signs that mark the bearer as a member of a particular group - signs that can be thought of as “tribal markings”: tattoos; piercing; bones through the nose or ears; elongated necks or ears; filed teeth; Chinese binding of feet; circumcision, both male and female; unique hair styles; decorations of the tongue, nose, or naval; peculiarities of dress, fashions, veils, chadors, and headdresses; caste markings in India; use or nonuse of perfumes; codes of honor and value systems; traditions of hospitality and manners; peculiarities of diet (certain foods forbidden, others preferred); giving traditional names to children; knowledge of dances and songs; knowledge of recipes; knowledge of common stories, literature, myths, poetry or common history;



Figure 2.7: Scars help to establish tribal identity

festivals, ceremonies, and rituals; burial customs, treatment of the dead and ancestor worship; methods of building and decorating homes; games and sports peculiar to a culture; relationship to animals, knowledge of horses and ability to ride; nonrational systems of belief. Even a baseball hat worn backwards or the professed ability to enjoy atonal music can mark a person as a member of a special “tribe”. Undoubtedly there many people in New York who would never think of marrying someone who could not appreciate the the paintings of Jasper Johns, and many in London who would consider anyone had not read all the books of Virginia Wolfe to be entirely outside the bounds of civilization.

By far the most important mark of ethnic identity is language, and within a particular language, dialect and accent. If the only purpose of language were communication, it would be logical for the people of a small country like Denmark to stop speaking Danish and go over to a more universally-understood international language such as English. However, language has another function in addition to communication: It is also a mark of identity. It establishes the boundary of the group.

Within a particular language, dialects and accents mark the boundaries of subgroups. For example, in England, great social significance is attached to accents and diction, a tendency that George Bernard Shaw satirized in his play, *Pygmalion*, which later gained greater fame as the musical comedy, *My Fair Lady*. This being the case, we can ask why all citizens of England do not follow the example of Eliza Doolittle in Shaw’s play, and improve their social positions by acquiring Oxford accents. However, to do so would be to run the risk of being laughed at by one’s peers and regarded as a traitor to one’s own local community and friends. School children everywhere can be very cruel to any child who does not fit into the local pattern. At Eton, an Oxford accent is compulsory; but in a Yorkshire school, a child with an Oxford accent would suffer for it.



Figure 2.8: An example of the dueling scars that Prussian army officers once used to distinguish their caste from outsiders.

Next after language, the most important “tribal marking” is religion. As mentioned above, it seems probable that in the early history of our hunter-gatherer ancestors, religion evolved as a mechanism for perpetuating tribal traditions and culture. Like language, and like the innate facial expressions studied by Darwin, religion is a universal characteristic of all human societies. All known races and cultures practice some sort of religion. Thus a tendency to be religious seems to be built into human nature, or at any rate, the needs that religion satisfies seem to be a part of our inherited makeup. Otherwise, religion would not be so universal as it is.

Religion is often strongly associated with ethnicity and nationalism, that is to say, it is associated with the demarcation of a particular group of people by its culture or race. For example, the Jewish religion is associated with Zionism and with Jewish nationalism. Similarly Islam is strongly associated with Arab nationalism. Christianity too has played an important role in many aggressive wars, for example in the Crusades, in the European conquest of the New World, in European colonial conquests in Africa and Asia, and in the wars between Catholics and Protestants within Europe. We shall see in a later chapter how the originators of the German nationalist movement (the precursors of the Nazis), used quasi-religious psychological methods.

Human history seems to be saturated with blood. It would be impossible to enumerate the conflicts with which the story of humankind is stained. Many of the atrocities of history have involved what Irenäus Eibl-Eibesfeldt called “pseudospeciation”, that is to say, they were committed in conflicts involving groups between which sharply marked cultural barriers have made intermarriage difficult and infrequent. Examples include the present conflict between Israelis and Palestinians; “racial cleansing” in Kosovo; the devastating wars between Catholics and Protestants in Europe; the Lebanese civil war; genocide committed against Jews and Gypsies during World War II; recent genocide in Rwanda; current intertribal massacres in the Ituri Province of Congo; use of poison gas against Kurdish civilians by Saddam Hussein’s regime in Iraq; the massacre of Armenians by Turks; massacres of Hindus by Muslims and of Muslims by Hindus in post-independence India; massacres of Native Americans by white conquerors and settlers in all parts of the New World; and massacres committed during the Crusades. The list seems almost endless.

Religion often contributes to conflicts by sharpening the boundaries between ethnic groups and by making marriage across those boundaries difficult and infrequent. However, this negative role is balanced by a positive one, whenever religion is the source of ethical principles, especially the principle of universal human brotherhood.

The religious leaders of today’s 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.

2.6 The mystery of self-sacrifice in war

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 willingness to kill.

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. Unfortunately these emotions make war possible; and today a Third World War might lead to the destruction of civilization.

At first sight, the willingness of humans to die defending their social groups seems hard to explain from the standpoint of Darwinian natural selection. After the heroic death of such a human, he or she will be unable to produce more children, or to care for those already born. Therefore one might at first suppose that natural selection would work strongly to eliminate the trait of self-sacrifice from human nature. However, the theory of population genetics and group selection can explain both the willingness of humans to sacrifice themselves for their own group, and also the terrible aggression that they sometimes exhibit towards competing groups. It can explain both intra-group altruism and inter-group aggression.

2.7 Fischer, Haldane, Hamilton and Wilson

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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 - 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.

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, suc-

cessful aggression against a neighboring group could 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.

2.8 Cooperation in groups of animals and human groups

The social behavior of groups of animals, flocks of birds and communities of social insects involves cooperation as well as rudimentary forms of language. Various forms of language, including chemical signals, postures and vocal signals, are important tools for orchestrating cooperative behavior.

The highly developed language of humans made possible an entirely new form of evolution. In cultural evolution (as opposed to genetic evolution), information is passed between generations not in the form of a genetic code, but in the form of linguistic symbols. With the invention of writing, and later the invention of printing, the speed of human cultural evolution greatly increased. Cooperation is central to this new form of evolution. Cultural advances can be shared by all humans.

2.9 Trading in primitive societies

Although primitive societies engaged in frequent wars, they also cooperated through trade. Peter Watson, an English historian of ideas, believes that long-distance trade took place as early as 150,000 before the present. There is evidence that extensive trade in obsidian and flint took place during the stone age. Evidence for wide ranging prehistoric obsidian and flint trading networks has been found in North America. Ancient burial sites in Southeast Asia show that there too, prehistoric trading took place across very large distances. Analysis of jade jewelry from the Philippines, Thailand, Malaysia and Vietnam shows that the jade originated in Taiwan.

The invention of writing was prompted by the necessities of trade. In prehistoric Mesopotamia, clay tokens marked with simple symbols were used for accounting as early as 8,000 BC. Often these tokens were kept in clay jars, and symbols on the outside of the jars indicated the contents. About 3,500 BC, the use of such tokens and markings led to the development of pictographic writing in Mesopotamia, and this was soon followed by the cuneiform script, still using soft clay as a medium. The clay tablets were later dried and baked to ensure permanency. The invention of writing led to a great acceleration of human cultural evolution. Since ideas could now be exchanged and preserved with great ease through writing, new advances in technique could be shared by an ever larger cooperating community of humans. Our species became more and more successful as its genius

for cooperation developed.

Early religions tended to be centered on particular tribes, and the ethics associated with them were usually tribal in nature. However, the more cosmopolitan societies that began to form after the Neolithic agricultural revolution required a more universal code of ethics. It is interesting to notice that many of the great ethical teachers of human history, for example Moses, Socrates, Plato, Aristotle, Lao-Tzu, Confucius, Buddha, and Jesus, lived at the time when the change to larger social units was taking place. Tribalism was no longer appropriate. A wider ethic was needed.

Today the size of the social unit is again being enlarged, this time enlarged to include the entire world. Narrow loyalties have become inappropriate and there is an urgent need for a new ethic - a global ethic. Loyalty to one's nation needs to be supplemented by a higher loyalty to humanity as a whole.

2.10 Interdependence in modern human society

The enormous success of humans as a species is due to their genius for cooperation. The success of humans is a success of cultural evolution, a new form of evolution in which information is passed between generations, not in the form of DNA sequences but in the form of speech, writing, printing and finally electronic signals. Cultural evolution is built on cooperation, and has reached great heights of success as the cooperating community has become larger and larger, ultimately including the entire world.

Without large-scale cooperation, modern science would never have evolved. It developed as a consequence of the invention of printing, which allowed painfully gained detailed knowledge to be widely shared. Science derives its great power from concentration. Attention and resources are brought to bear on a limited problem until all aspects of it are understood. It would make no sense to proceed in this way if knowledge were not permanent, and if the results of scientific research were not widely shared. But today the printed word and the electronic word spread the results of research freely to the entire world. The whole human community is the repository of shared knowledge.

The achievements of modern society are achievements of cooperation. We can fly, but no one builds an airplane alone. We can cure diseases, but only through the cooperative efforts of researchers, doctors and medicinal firms. We can photograph and understand distant galaxies, but the ability to do so is built on the efforts of many cooperating individuals. The comfort and well-being that we experience depends on far-away friendly hands and minds, since trade is global, and the exchange of ideas is also global.

2.11 Two sides of human nature

Looking at human nature, both from the standpoint of evolution and from that of everyday experience, we see the two faces of Janus; one face shines radiantly; the other is dark and menacing. Two souls occupy the human breast, one warm and friendly, the other

murderous. Humans have developed a genius for cooperation, the basis for culture and civilization; but they are also capable of genocide; they were capable of massacres during the Crusades, capable of genocidal wars against the Amerinds, capable of the Holocaust, of Hiroshima, of the killing-fields of Cambodia, of Rwanda, and of Darfur

As an example of the two sides of human nature, we can think of Scandinavia. The Vikings were once feared throughout Europe. The Book of Common Prayer in England contains the phrase “Protect us from the fury of the Northmen!”. Today the same people are so peaceful and law-abiding that they can be taken as an example for how we would like a future world to look. Human nature has the possibility for both kinds of behavior depending on the circumstances. This being so, there are strong reasons to enlist the help of education and religion to make the bright side of human nature win over the dark side. Today, the mass media are an important component of education, and thus the mass media have a great responsibility for encouraging the cooperative and constructive side of human nature rather than the dark and destructive side.

2.12 Tribalism and agreed-upon lies

Members of tribelike groups throughout history have marked their identity by adhering to irrational systems of belief. Like the ritual scarification which is sometimes used by primitive tribes as a mark of identity, irrational systems of belief are also a mark of tribal identity. We parade these beliefs to demonstrate that we belong to a special group and that we are proud of it. The more irrational the belief is, the better it serves this purpose. When you and I tell each other that we believe the same nonsense, a bond is forged between us. The worse the nonsense is, the stronger the bond.

Sometimes motives of advantage are mixed in. As the Nobel Laureate biochemist Albert Szent-Györgyi observed, evolution designed the human mind, not for finding truth, but for finding advantage. Within the Orwellian framework of many modern nations, it is extremely disadvantageous to hold the wrong opinions. The wiretappers know what you are thinking.

Also, people often believe what will make them happy. How else can we explain the denial of climate change in the face of massive evidence to the contrary?

But truth has the great virtue that it allows us to accurately predict the future. If we ignore truth because it is unfashionable, or painful, or heretical, the future will catch us unprepared.

2.13 From tribalism to nationalism

70,000 years ago, our hunter-gatherer ancestors lived in tribes. Loyalty to the tribe was natural for our ancestors, as was collective work on tribal projects. Today, at the start of the 21st century, we live in nation-states to which we feel emotions of loyalty very similar to the tribal emotions of our ancestors.

The enlargement of the fundamental political and social unit has been made necessary and possible by improved transportation and communication, and by changes in the techniques of warfare. In Europe, for example, the introduction of canons in warfare made it possible to destroy castles, and thus the power of central monarchs was increased at the expense of feudal barons. At the same time, improved roads made merchants wish to trade freely over larger areas. Printing allowed larger groups of people to read the same books and newspapers, and thus to experience the same emotions. Therefore the size of the geographical unit over which it was possible to establish social and political cohesion became enlarged.

The tragedy of our present situation is that the same forces that made the nation-state replace the tribe as the fundamental political and social unit have continued to operate with constantly-increasing intensity. For this reason, the totally sovereign nation-state has become a dangerous anachronism. Although the world now functions as a single unit because of modern technology, its political structure is based on fragments, on absolutely-sovereign nation states - large compared to tribes, but too small for present-day technology, since they do not include all of mankind. Gross injustices mar today's global economic interdependence, and because of the development of thermonuclear weapons, the continued existence of civilization is threatened by the anarchy that exists today at the international level.

In this chapter, we will discuss nationalism in Europe, and especially the conflicts between absolutely sovereign nation-states that led to the two World Wars. However, it is important to remember that parallel to this story, run others, equally tragic - conflicts in the Middle East, the Vietnam War, the Cuban Missile Crisis, conflicts between India and Pakistan, the Korean War, the two Gulf Wars, and so on. In all of these tragedies, the root the trouble is that international interdependence exists in practice because of modern technology, but our political institutions, emotions and outlook are at the stunted level of the absolutely sovereign nation-state. Although we focus here on German nationalism as an example, and although historically it had terrible consequences, it is not a danger today. Germany is now one of the world's most peaceful and responsible countries, and the threats to world peace now come from nationalism outside Europe.

2.14 Nationalism in Europe

There is no doubt that the founders of nationalism in Europe were idealists; but the movement that they created has already killed more than sixty million people in two world wars, and today it contributes to the threat of a catastrophic third world war.

Nationalism in Europe is an outgrowth of the Enlightenment, the French Revolution, and the Romantic Movement. According to the philosophy of the Enlightenment and the ideas of the French Revolution, no government is legitimate unless it derives its power from the will of the people. Speaking to the Convention of 1792, Danton proclaimed that "by sending us here as deputies, the French Nation has brought into being a grand committee for the general insurrection of peoples."

Since all political power was now believed to be vested in the “nation”, the question of national identity suddenly became acutely important. France itself was a conglomeration of peoples - Normans, Bretons, Provencaux, Burgundians, Flemings, Germans, Basques, and Catalans - but these peoples had been united under a strong central government since the middle ages, and by the time of the French Revolution it was easy for them to think of themselves as a “nation”. However, what we now call Germany did not exist. There was only a collection of small feudal principalities, in some of which the most common language was German.

The early political unity of France enabled French culture to dominate Europe during the 17th and 18th centuries. Frederick the Great of Prussia and his court spoke and wrote in French. Frederick himself regarded German as a language of ignorant peasants, and on the rare occasions when he tried to speak or write in German, the result was almost incomprehensible. The same was true in the courts of Brandenburg, Saxony, Pomerania, etc. Each of them was a small-scale Versailles. Below the French-speaking aristocracy was a German-speaking middle class and a German or Slavic-speaking peasantry.

The creators of the nationalist movement in Germany were young middle-class German-speaking students and theologians who felt frustrated and stifled by the narrow *kleinstädtisch* provincial atmosphere of the small principalities in which they lived. They also felt frustrated because their talents were completely ignored by the French-speaking aristocracy. This was the situation when the armies of Napoleon marched across Europe, easily defeating and humiliating both Prussia and Austria. The young German-speaking students asked themselves what it was that the French had that they did not have.

The answer was not hard to find. What the French had was a sense of national identity. In fact, the French Revolution had unleashed long-dormant tribal instincts in the common people of France. It was the fanatical support of the Marseillaise-singing masses that made the French armies invincible. The founders of the German nationalist movement concluded that if they were ever to have a chance of defeating France, they would have to inspire the same fanaticism in their own peoples. They would have to touch the same almost-forgotten cord of human nature that the French Revolution had touched.

The common soldiers who fought in the wars of Europe in the first part of the 18th century were not emotionally involved. They were recruited from the lowest ranks of society, and they joined the army of a king or prince for the sake of money. All this was changed by the French Revolution. In June, 1792, the French Legislative Assembly decreed that a Fatherland Alter be erected in each commune with the inscription, “The citizen is born, lives and dies for *la patrie*.” The idea of a “Fatherland Alter” clearly demonstrates the quasi-religious nature of French nationalism.

The soldiers in Napoleon’s army were not fighting for the sake of money, but for an ideal that they felt to be larger and more important than themselves - Republicanism and the glory of France. The masses, who for so long had been outside of the politics of a larger world, and who had been emotionally involved only in the affairs of their own village, were now fully aroused to large-scale political action. The surge of nationalist feeling in France was tribalism on an enormous scale - tribalism amplified and orchestrated by new means of mass communication.



Figure 2.9: A portrait of Napoleon (as he liked to see himself).



Figure 2.10: **A romantic figure representing Germany**

This was the phenomenon with which the German nationalists felt they had to contend.

One of the founders of the German nationalist movement was Johan Gottlieb Fichte (1762-1814), a follower of the philosopher Immanuel Kant (1724-1804). Besides rejecting objective criteria for morality, Fichte denied the value of the individual. According to him, the individual is nothing and the state is everything. Denying the value of the individual, Fichte compared the state to an organism of which the individual is a part:

“In a product of nature”, Fichte wrote, “no part is what it is but through its relation to the whole, and it would absolutely not be what it is apart from this relation; more, if it had no organic relation at all, it would be absolutely nothing, since without reciprocity in action between organic forces maintaining one another in equilibrium, no form would subsist... Similarly, man obtains a determinate position in the scheme of things and a fixity in nature only through his civil association... Between the isolated man and the citizen there is the same relation as between raw and organized matter... In an organized body, each part continuously maintains the whole, and in maintaining it, maintains itself also. Similarly the citizen with regard to the State.”

Another post-Kantian, Adam Müller (1779-1829) wrote that “the state is the intimate association of all physical and spiritual needs of the whole nation into one great, energetic, infinitely active and living whole... the totality of human affairs... If we exclude for ever from this association even the most unimportant part of a human being, if we separate private life from public life even at one point, then we no longer perceive the State as a phenomenon of life and as an idea.”

The doctrine that Adam Müller sets forth in this passage is what we now call Totali-

tarianism, i.e. the belief that the state ought to encompass “the totality of human affairs”. This doctrine is the opposite of the Liberal belief that the individual is all-important and that the role of the state ought to be as small as possible.

Fichte maintains that “a State which constantly seeks to increase its internal strength is forced to desire the gradual abolition of all favoritisms, and the establishment of equal rights for all citizens, in order that it, the State itself, may enter upon its own true right - to apply the whole surplus power of all its citizens without exception to the furtherance of its own purposes... Internal peace, and the condition of affairs in which everyone may by diligence earn his daily bread... is only a means, a condition and framework for what love of Fatherland really wants to bring about, namely that the Eternal and the Divine may blossom in the world and never cease to become more pure, perfect and excellent.”

Fichte proposed a new system of education which would abolish the individual will and teach individuals to become subservient to the will of the state. “The new education must consist essentially in this”, Fichte wrote, “that it completely destroys the will in the soil that it undertakes to cultivate... If you want to influence a man at all, you must do more than merely talk to him; you must fashion him, and fashion him, and fashion him in such a way that he simply cannot will otherwise than you wish him to will.”

Fichte and Herder (1744-1803) developed the idea that language is the key to national identity. They believed that the German language is superior to French because it is an “original” language, not derived from Latin. In a poem that is obviously a protest against the French culture of Frederick’s court in Prussia, Herder wrote:

“Look at other nationalities!
Do they wander about
So that nowhere in the world they are strangers
Except to themselves?
They regard foreign countries with proud disdain.
And you, German, alone, returning from abroad,
Wouldst greet your mother in French?
Oh spew it out before your door!
Spew out the ugly slime of the Seine!
Speak German, O you German!

Another poem, “The German Fatherland”, by Ernst Moritz Arndt (1769-1860), expresses a similar sentiment:

“What is the Fatherland of the German?
 Name me the great country!
 Where the German tongue sounds
 And sings *Lieder* in God’s praise,
 That’s what it ought to be
 Call that thine, valiant German!
 That is the Fatherland of the German,
 Where anger roots out foreign nonsense,
 Where every Frenchman is called enemy,
 Where every German is called friend,
 That’s what it ought to be!
 It ought to be the whole of Germany!”

It must be remembered that when these poems were written, the German nation did not exist except in the minds of the nationalists. Groups of people speaking various dialects of German were scattered throughout central and eastern Europe. In many places, the German-speaking population was a minority. To bring together these scattered German-speaking groups would require, in many cases, the conquest and subjugation of Slavic majorities; but the quasi-religious fervor of the nationalists was such that aggression took on the appearance of a “holy war”. Fichte believed that war between states introduces “a living and progressive principle into history”. By war he did not mean a decorous limited war of the type fought in the 18th century, but “...a true and proper war - *a war of subjugation!*”

The German nationalist movement was not only quasi-religious in its tone; it also borrowed psychological techniques from religion. It aroused the emotions of the masses to large-scale political activity by the use of semi-religious political liturgy, involving myth, symbolism, and festivals. In his book “German Society” (1814), Arndt advocated the celebration of “holy festivals”. For example, he thought that the celebration of the pagan festival of the summer solstice could be combined with a celebration of the victory over Napoleon at the Battle of Leipzig.

Arndt believed that special attention should be given to commemoration of the “noble dead” of Germany’s wars for, as he said, “...here history enters life, and life becomes part of history”. Arndt advocated a combination of Christian and pagan symbolism. The festivals should begin with prayers and a church service; but in addition, the Oak leaves and the sacred flame of ancient pagan tradition were to play a part.

In 1815, many of Arndt’s suggestions were followed in the celebration of the anniversary of the Battle of Leipzig. This festival clearly exhibited a mixing of secular and Christian elements to form a national cult. Men and women decorated with oak leaves made pilgrimages to the tops of mountains, where they were addressed by priests speaking in front of alters on which burned “the sacred flame of Germany’s salvation”. This borrowing of psychological techniques from religion was deliberate, and it was retained by the Nazi Party when the latter adopted the methods of the early German nationalists. The Nazi mass rallies retained the order and form of Protestant liturgy, including hymns, confessions of



Figure 2.11: Celebration of the “German May” at Hambrach Castle

faith, and responses between the leader and the congregation.⁵

In 1832, the first mass meeting in German history took place, when 32,000 men and women gathered to celebrate the “German May”. Singing songs, wearing black, red, and gold emblems, and carrying flags, they marched to Hambrach Castle, where they were addressed by their leaders.

By the 1860’s the festivals celebrating the cult of nationalism had acquired a definite form. Processions through a town, involving elaborate national symbolism, were followed by unison singing by men’s choirs, patriotic plays, displays by gymnasts and sharpshooters, and sporting events. The male choirs, gymnasts and sharpshooters were required to wear uniforms; and the others attending the festivals wore oak leaves in their caps. The cohesion of the crowd was achieved not only by uniformity of dress, but also by the space in which the crowd was contained. Arndt advocated the use of a “sacred space” for mass meetings. The idea of the “sacred space” was taken from Stonehenge, which was seen by the nationalists as a typical ancient Germanic meeting place. The Nazi art historian Hubert Schrade wrote: “The space which urges us to join the community of the *Volk* is of greater importance than the figure which is meant to represent the Fatherland.”

Dramas were also used to promote a feeling of cohesion and national identity. An example of this type of propagandist drama is Kleist’s play, “Hermann’s Battle”, (1808). The play deals with a Germanic chieftain who, in order to rally the tribes against the Romans, sends his own men, disguised as Roman soldiers, to commit atrocities in the neighboring German villages. At one point in the play, Hermann is told of a Roman soldier

⁵ The Nazi sacred symbols and the concept of the swastika or “gamma cross”, the eagle, the red/black/white color scheme, the ancient Nordic runes (one of which became the symbol of the SS), were all adopted from esoteric traditions going back centuries, shared by Brahmins, Scottish Masons, Rosicrucians, the Knights Templars and other esoteric societies.

who risked his own life to save a German child in a burning house. Hearing this report, Hermann exclaims, “May he be cursed if he has done this! He has for a moment made my heart disloyal; he has made me for a moment betray the august cause of Germany!... I was counting, by all the gods of revenge, on fire, loot, violence, murder, and all the horrors of unbridled war! What need have I of Latins who use me well?”

At another point in the play, Hermann’s wife, Thusnelda, tempts a Roman Legate into a romantic meeting in a garden. Instead of finding Thusnelda, the Legate finds himself locked in the garden with a starved and savage she-bear. Standing outside the gate, Thusnelda urges the Legate to make love to the she-bear, and, as the bear tears him to pieces, she faints with pleasure.

Richard Wagner’s dramas were also part of the nationalist movement. They were designed to create “an unending dream of sacred *völkisch* revelation”. No applause was permitted, since this would disturb the reverential atmosphere of the cult. A new type of choral theater was developed which “...no longer represented the fate of the individual to the audience, but that which concerns the community, the *Volk*... Thus, in contrast to the bourgeois theater, private persons are no longer represented, but only types.”

We have primarily been discussing the growth of German nationalism, but very similar movements developed in other countries throughout Europe and throughout the world. Characteristic for all these movements was the growth of state power, and the development of a reverential, quasi-religious, attitude towards the state. Patriotism became “a sacred duty.” According to Georg Wilhelm Fredrich Hegel, “The existence of the State is the movement of God in the world. It is the ultimate power on earth; it is its own end and object. It is an ultimate end that has absolute rights against the individual.”

Nationalism in England (as in Germany) was to a large extent a defensive response against French nationalism. At the end of the 18th century, the liberal ideas of the Enlightenment were widespread in England. There was much sympathy in England with the aims of the French Revolution, and a similar revolution almost took place in England. However, when Napoleon landed an army in Ireland and threatened to invade England, there was a strong reaction towards national self-defense. The war against France gave impetus to nationalism in England, and military heroes like Wellington and Nelson became objects of quasi-religious worship. British nationalism later found an outlet in colonialism.

Italy, like Germany, had been a collection of small principalities, but as a reaction to the other nationalist movements sweeping across Europe, a movement for a united Italy developed. The conflicts between the various nationalist movements of Europe produced the frightful world wars of the 20th century. Indeed, the shot that signaled the outbreak of World War I was fired by a Serbian nationalist.

War did not seem especially evil to the 18th and 19th century nationalists because technology had not yet given humanity the terrible weapons of the 20th century. In the 19th century, the fatal combination of space-age science and stone-age politics still lay in the future. However, even in 1834, the German writer Heinrich Heine was perceptive enough to see the threat:

“There will be”, Heine wrote, “Kantians forthcoming who, in the world to come, will



Figure 2.12: Wagner's dramas were part of the quasi-religious cult of German nationalism-



Figure 2.13: A painting from Francisco de Goya's series on the *Disasters of War*.



Figure 2.14: *Y no hay remedio* (And it cannot be helped). Prisoners executed by firing squads, reminiscent of The Third of May 1808, from Goya's series on the *Disasters of War*.



Figure 2.15: Goya's *Enterrar y callar* (Bury them and keep quiet). Atrocities, starvation and human degradation.



Figure 2.16: 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.



Figure 2.17: Another anti-war print by Käthe Kollwitz.



Figure 2.18: *Never Again War* by Käthe Kollwitz.



Figure 2.19: *Never Again War* (poster) by Käthe Kollwitz.



Figure 2.20: *About Mothers and Children* by Käthe Kollwitz.

know nothing of reverence for aught, and who will ravage without mercy, and riot with sword and axe through the soil of all European life to dig out the last root of the past. There will be well-weaponed Fichtians upon the ground, who in the fanaticism of the Will are not restrained by fear or self-advantage, for they live in the Spirit.”

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Chapter 3

MALTHUS: POPULATION PRESSURE AND WAR

3.1 The education of Malthus

T.R. Malthus' *Essay on The Principle of Population*, the first edition of which was published in 1798, was one of the the first systematic studies of the problem of population in relation to resources. Earlier discussions of the problem had been published by Botero in Italy, Robert Wallace in England, and Benjamin Franklin in America. However Malthus' *Essay* was the first to stress the fact that, in general, powerful checks operate continuously to keep human populations from increasing beyond their available food supply. In a later edition, published in 1803, he buttressed this assertion with carefully collected demographic and sociological data from many societies at various periods of their histories.

The publication of Malthus' *Essay* coincided with a wave of disillusionment which followed the optimism of the Enlightenment. The utopian societies predicted by the philosophers of the Enlightenment were compared with reign of terror in Robespierre's France and with the miseries of industrial workers in England; and the discrepancy required an explanation. The optimism which preceded the French Revolution, and the disappointment which followed a few years later, closely paralleled the optimistic expectations of our own century, in the period after the Second World War, when it was thought that the transfer of technology to the less developed parts of the world would eliminate poverty, and the subsequent disappointment when poverty persisted. Science and technology developed rapidly in the second half of the twentieth century, but the benefits which they conferred were just as rapidly consumed by a global population which today is increasing at the rate of one billion people every decade. Because of the close parallel between the optimism and disappointments of Malthus' time and those of our own, much light can be thrown on our present situation by rereading the debate between Malthus and his contemporaries.

Thomas Robert Malthus (1766-1834) came from an intellectual family: His father, Daniel Malthus, was a moderately well-to-do English country gentleman, an enthusiastic believer in the optimistic ideas of the Enlightenment, and a friend of the philosophers Jean-



Figure 3.1: **The Rookery near Dorking in Surrey**

Jaques Rousseau, David Hume and William Godwin. The famous book on population by the younger Malthus grew out of conversations with his father.

Daniel Malthus attended Oxford, but left without obtaining a degree. He later built a country home near Dorking, which he called “The Rookery”. The house had Gothic battlements, and the land belonging to it contained a beech forest, an ice house, a corn mill, a large lake, and serpentine walks leading to “several romantic buildings with appropriate dedications”. Daniel Malthus was an ardent admirer of Rousseau; and when the French philosopher visited England with his mistress, Thérèse le Vasseur, Daniel Malthus entertained him at the Rookery. Rousseau and Thérèse undoubtedly saw Daniel’s baby son (who was always called Robert or Bob) and they must have noticed with pity that he had been born with a hare lip. This was later sutured, and apart from a slight scar which marked the operation, he became very handsome.

Robert Malthus was at first tutored at home; but in 1782, when he was 16 years old, he was sent to study at the famous Dissenting Academy at Warrington in Lancashire. Joseph Priestly had taught at Warrington, and he had completed his famous *History of Electricity* there, as well as his *Essay on Government*, which contains the phrase “the greatest good for the greatest number”.

Robert’s tutor at Warrington Academy was Gilbert Wakefield (who was later imprisoned for his radical ideas). When Robert was 18, Wakefield arranged for him to be admitted to Jesus College, Cambridge University, as a student of mathematics. Robert Malthus graduated from Cambridge in 1788 with a first-class degree in mathematics. He was Ninth Wrangler, which meant that he was the ninth-best mathematician in his graduating class. He also won prizes in declamation, both in English and in Latin, which is surprising in view of the speech defect from which he suffered all his life.

3.2 Debate on the views of Godwin and Condorcet

In 1793, Robert Malthus was elected a fellow of Jesus College, and he also took orders in the Anglican Church. He was assigned as Curate to Okewood Chapel in Surrey. This small chapel stood in a woodland region, and Malthus' illiterate parishioners were so poor that the women and children went without shoes. They lived in low thatched huts made of woven branches plastered with mud. The floors of these huts were of dirt, and the only light came from tiny window openings. Malthus' parishioners diet consisted almost entirely of bread. The children of these cottagers developed late, and were stunted in growth. Nevertheless, in spite of the harsh conditions of his parishioners' lives, Malthus noticed that the number of births which he recorded in the parish register greatly exceeded the number of deaths. It was probably this fact which first turned his attention to the problem of population.

By this time, Daniel Malthus had sold the Rookery; and after a period of travel, he had settled with his family at Albury, about nine miles from Okewood Chapel. Robert Malthus lived with his parents at Albury, and it was here that the famous debates between father and son took place. 1793, the year when Robert Malthus took up his position at Okewood, was also the year in which Daniel Malthus friend, William Godwin, published his enormously optimistic book, *Political Justice*. In this book, Godwin predicted a future society where scientific progress would liberate humans from material want. Godwin predicted that in the future, with the institution of war abolished, with a more equal distribution of property, and with the help of scientific improvements in agriculture and industry, much less labour would be needed to support life. Luxuries are at present used to maintain artificial distinctions between the classes of society, Godwin wrote, but in the future values will change; humans will live more simply, and their efforts will be devoted to self-fulfillment and to intellectual and moral improvement, rather than to material possessions. With the help of automated agriculture, the citizens of a future society will need only a few hours a day to earn their bread.

Godwin went on to say, "The spirit of oppression, the spirit of servility and the spirit of fraud - these are the immediate growth of the established administration of property. They are alike hostile to intellectual improvement. The other vices of envy, malice, and revenge are their inseparable companions. In a state of society where men lived in the midst of plenty, and where all shared alike the bounties of nature, these sentiments would inevitably expire. The narrow principle of selfishness would vanish. No man being obliged to guard his little store, or provide with anxiety and pain for his restless wants, each would lose his own individual existence in the thought of the general good. No man would be the enemy of his neighbor, for they would have nothing to contend; and of consequence philanthropy would resume the empire which reason assigns her. Mind would be delivered from her perpetual anxiety about corporal support, and free to expatiate in the field of thought which is congenial to her. Each man would assist the inquiries of all."

Godwin insisted that there is an indissoluble link between politics, ethics and knowledge. *Political Justice* is an enthusiastic vision of what humans could be like at some future period when the trend towards moral and intellectual improvement has lifted men



Figure 3.2: **William Godwin (1756-1836).**

and women above their their present state of ignorance and vice. Much of the savage structure of the penal system would then be unnecessary, Godwin believed. (At the time when he was writing, there were more than a hundred capital offenses in England, and this number had soon increased to almost two hundred. The theft of any object of greater value than ten shillings was punishable by hanging.) In its present state, Godwin wrote, society decrees that the majority of its citizens “should be kept in abject penury, rendered stupid with ignorance and disgusting with vice, perpetuated in nakedness and hunger, goaded to the commission of crimes, and made victims to the merciless laws which the rich have instituted to oppress them”. But human behavior is produced by environment and education, Godwin pointed out. If the conditions of upbringing were improved, behavior would also improve. In fact, Godwin believed that men and women are subject to natural laws no less than the planets of Newton’s solar system. “In the life of every human”, Godwin wrote, “there is a chain of causes, generated in that eternity which preceded his birth, and going on in regular procession through the whole period of his existence, in consequence of which it was impossible for him to act in any instance otherwise than he has acted.”

The chain of causality in human affairs implies that vice and crime should be regarded with the same attitude with which we regard disease. The causes of poverty, ignorance, vice and crime should be removed. Human failings should be cured rather than punished. With this in mind, Godwin wrote, “our disapprobation of vice will be of the same nature as our disapprobation of an infectious distemper.”

In France the Marquis de Condorcet had written an equally optimistic book, *Esquisse d’un Tableau Historique des Progrès de l’Esprit Humain*. Condorcet’s optimism was unaffected even by the fact that at the time when he was writing he was in hiding, under sentence of death by Robespierre’s government. Besides enthusiastically extolling Godwin’s ideas to his son, Daniel Malthus also told him of the views of Condorcet.

Condorcet’s *Esquisse*, is an enthusiastic endorsement of the idea of infinite human perfectibility which was current among the philosophers of the 18th century, and in this book, Condorcet anticipated many of the evolutionary ideas of Charles Darwin. He compared humans with animals, and found many common traits. Condorcet believed that animals are able to think, and even to think rationally, although their thoughts are extremely simple compared with those of humans. He also asserted that humans historically began their existence on the same level as animals and gradually developed to their present state. Since this evolution took place historically, he reasoned, it is probable, or even inevitable, that a similar evolution in the future will bring mankind to a level of physical, mental and moral development which will be as superior to our own present state as we are now superior to animals. In his *Esquisse*, Condorcet called attention to the unusually long period of dependency which characterizes the growth and education of human offspring. This prolonged childhood is unique among living beings. It is needed for the high level of mental development of the human species; but it requires a stable family structure to protect the young during their long upbringing.

Thus, according to Condorcet, biological evolution brought into existence a moral precept, the sanctity of the family.

Similarly, Condorcet maintained, larger associations of humans would have been impos-



Figure 3.3: Thomas Robert Malthus (1766-1834).



Figure 3.4: **The Marquis de Condorcet (1743-1794).**

sible without some degree of altruism and sensitivity to the suffering of others incorporated into human behavior, either as instincts or as moral precepts or both; and thus the evolution of organized society entailed the development of sensibility and morality.

Condorcet believed that ignorance and error are responsible for vice; and he listed what he regarded as the main mistakes of civilization: hereditary transmission of power, inequality between men and women, religious bigotry, disease, war, slavery, economic inequality, and the division of humanity into mutually exclusive linguistic groups.

Condorcet believed the hereditary transmission of power to be the source of much of the tyranny under which humans suffer; and he looked forward to an era when republican governments would be established throughout the world. Turning to the inequality between men and women, Condorcet wrote that he could see no moral, physical or intellectual basis for it. He called for complete social, legal, and educational equality between the sexes.

Condorcet predicted that the progress of medical science would free humans from the worst ravages of disease. Furthermore, he maintained that since perfectibility (i.e. evolution) operates throughout the biological world, there is no reason why mankind's physical

structure might not gradually improve, with the result that human life in the remote future could be greatly prolonged. Condorcet believed that the intellectual and moral facilities of man are capable of continuous and steady improvement; and he thought that one of the most important results of this improvement will be the abolition of war.

As Daniel Malthus talked warmly about Godwin, Condorcet, and the idea of human progress, the mind of his son, Robert, turned to the unbalance between births and deaths which he had noticed among his parishioners at Okewood Chapel. He pointed out to his father that no matter what benefits science might be able to confer, they would soon be eaten up by population growth. Regardless of technical progress, the condition of the lowest social class would remain exactly the same: The poor would continue to live, as they always had, on the exact borderline between survival and famine, clinging desperately to the lower edge of existence. For them, change for the worse was impossible since it would loosen their precarious hold on life; their children would die and their numbers would diminish until they balanced the supply of food. But any change for the better was equally impossible, because if more nourishment should become available, more of the children of the poor would survive, and the share of food for each of them would again be reduced to the precise minimum required for life.

Observation of his parishioners at Okewood had convinced Robert Malthus that this sombre picture was a realistic description of the condition of the poor in England at the end of the 18th century. Techniques of agriculture and industry were indeed improving rapidly; but among the very poor, population was increasing equally fast, and the misery of society's lowest class remained unaltered.

Daniel Malthus was so impressed with his son's arguments that he urged him to develop them into a small book. Robert Malthus' first essay on population, written in response to his father's urging, was only 50,000 words in length. It was published anonymously in 1798, and its full title was *An Essay on the Principle of Population, as it affects the future improvement of society, with remarks on the speculations of Mr. Godwin, M. Condorcet, and other writers*. Robert Malthus' Essay explored the consequences of his basic thesis: that "the power of population is indefinitely greater than the power in the earth to produce subsistence for man".

3.3 Publication of the first essay in 1798

"That population cannot increase without the means of subsistence", Robert Malthus wrote, "is a proposition so evident that it needs no illustration. That population does invariably increase, where there are means of subsistence, the history of every people who have ever existed will abundantly prove. And that the superior power cannot be checked without producing misery and vice, the ample portion of these two bitter ingredients in the cup of human life, and the continuance of the physical causes that seem to have produced them, bear too convincing a testimony."

In order to illustrate the power of human populations to grow quickly to enormous numbers if left completely unchecked, Malthus turned to statistics from the United States,

where the population had doubled every 25 years for a century and a half. Malthus called this type of growth “geometrical” (today we would call it “exponential”); and, drawing on his mathematical education, he illustrated it by the progression 1,2,4,8,16,32,64,128,256,...etc. In order to show that, in the long run, no improvement in agriculture could possibly keep pace with unchecked population growth, Malthus allowed that, in England, agricultural output might with great effort be doubled during the next quarter century; but during a subsequent 25-year period it could not again be doubled. The growth of agricultural output could at the very most follow an arithmetic (linear) progression, 1,2,3,4,5,6,...etc.

Because of the overpoweringly greater numbers which can potentially be generated by exponential population growth, as contrasted to the slow linear progression of sustenance, Malthus was convinced that at almost all stages of human history, population has not expanded freely, but has instead pressed painfully against the limits of its food supply. He maintained that human numbers are normally held in check either by “vice or misery”. (Malthus classified both war and birth control as a forms of vice.) Occasionally the food supply increases through some improvement in agriculture, or through the opening of new lands; but population then grows very rapidly, and soon a new equilibrium is established, with misery and vice once more holding the population in check.

Like Godwin’s *Political Justice*, Malthus’ *Essay on the Principle of Population* was published at exactly the right moment to capture the prevailing mood of England. In 1793, the mood had been optimistic; but by 1798, hopes for reform had been replaced by reaction and pessimism. Public opinion had been changed by Robespierre’s Reign of Terror and by the threat of a French invasion. Malthus’ clear and powerfully written essay caught the attention of readers not only because it appeared at the right moment, but also because his two contrasting mathematical laws of growth were so striking.

One of Malthus’ readers was William Godwin, who recognized the essay as the strongest challenge to his utopian ideas that had yet been published. Godwin several times invited Malthus to breakfast at his home to discuss social and economic problems. (After some years, however, the friendship between Godwin and Malthus cooled, the debate between them having become more acrimonious.)

In 1801, Godwin published a reply to his critics, among them his former friends James Mackintosh and Samuel Parr, by whom he recently had been attacked. His *Reply to Parr* also contained a reply to Malthus: Godwin granted that the problem of overpopulation raised by Malthus was an extremely serious one. However, Godwin wrote, all that is needed to solve the problem is a change of the attitudes of society. For example we need to abandon the belief “that it is the first duty of princes to watch for (i.e. encourage) the multiplication of their subjects, and that a man or woman who passes the term of life in a condition of celibacy is to be considered as having failed to discharge the principal obligations owed to the community”. “On the contrary”, Godwin continued, “it now appears to be rather the man who rears a numerous family that has to some degree transgressed the consideration he owes to the public welfare”. Godwin suggested that each marriage should be allowed only two or three children or whatever number might be needed to balance the current rates of mortality and celibacy. This duty to society, Godwin wrote, would surely not be too great a hardship to be endured, once the reasons for it were thoroughly understood.

3.4 The second essay published in 1803

Malthus' small essay had captured public attention in England, and he was anxious to expand it with empirical data which would show his principle of population to be valid not only in England in his own day, but in all societies and all periods. He therefore traveled widely, collecting data. He also made use of the books of explorers, such as Cook and Vancouver.

Malthus second edition - more than three times the length of his original essay on population - was ready in 1803. Book I and Book II of the 1803 edition of Malthus' *Essay* are devoted to a study of the checks to population growth which have operated throughout history in all the countries of the world for which he possessed facts.

In his first chapter, Malthus stressed the potentially enormous power of population growth contrasted the slow growth of the food supply. He concluded that strong checks to the increase of population must almost always be operating to keep human numbers within the bounds of sustenance. He classified the checks as either preventive or positive, the preventive checks being those which reduce fertility, while the positive checks are those which increase mortality. Among the positive checks, Malthus listed "unwholesome occupations, severe labour and exposure to the seasons, extreme poverty, bad nursing of children, great towns, excesses of all kinds, the whole train of common diseases and epidemics, wars, plague, and famine".

In the following chapters of Books I, Malthus showed in detail the mechanisms by which population is held at the level of sustenance in various cultures. He first discussed primitive hunter-gatherer societies, such as the inhabitants of Tierra del Fuego, Van Diemens Land and New Holland, and those tribes of North American Indians living predominantly by hunting. In hunting societies, he pointed out, the population is inevitably very sparse: "The great extent of territory required for the support of the hunter has been repeatedly stated and acknowledged", Malthus wrote, "...The tribes of hunters, like beasts of prey, whom they resemble in their mode of subsistence, will consequently be thinly scattered over the surface of the earth."

"Like beasts of prey, they must either drive away or fly from every rival, and be engaged in perpetual contests with each other...The neighboring nations live in a perpetual state of hostility with each other. The very act of increasing in one tribe must be an act of aggression against its neighbors, as a larger range of territory will be necessary to support its increased numbers.

"The contest will in this case continue, either till the equilibrium is restored by mutual losses, or till the weaker party is exterminated or driven from its country... Their object in battle is not conquest but destruction. The life of the victor depends on the death of the enemy". Malthus concluded that among the American Indians of his time, war was the predominant check to population growth, although famine, disease and infanticide each played a part.

In the next chapter, Malthus quoted Captain Cook's description of the natives of the region near Queen Charlotte's Sound in New Zealand, whose way of life involved perpetual war. "If I had followed the advice of all our pretended friends", Cook wrote, "I might have

extirpated the whole race; for the people of each hamlet or village, by turns, applied to me to destroy the other". According to Cook, the New Zealanders practiced both ceaseless war and cannibalism; and population pressure provided a motive for both practices.

In later chapters on nomadic societies of the Near East and Asia, war again appears, not only as a consequence of the growth of human numbers, but also as one of the major mechanisms by which these numbers are reduced to the level of their food supply. The studies quoted by Malthus make it seem likely that the nomadic Tartar tribes of central Asia made no use of the preventive checks to population growth. In fact the Tartar tribes may have regarded growth of their own populations as useful in their wars with neighboring tribes.

Malthus also described the Germanic tribes of Northern Europe, whose population growth led them to the attacks which destroyed the Roman Empire.

He quoted the following passage from Machiavelli's *History of Florence*: "The people who inhabit the northern parts that lie between the Rhine and the Danube, living in a healthful and prolific climate, often increase to such a degree that vast numbers of them are forced to leave their native country and go in search of new habitations. When any of those provinces begins to grow too populous and wants to disburden itself, the following method is observed. In the first place, it is divided into three parts, in each of which there is an equal portion of the nobility and commonality, the rich and the poor. After this they cast lots; and that division on which the lot falls quits the country and goes to seek its fortune, leaving the other two more room and liberty to enjoy their possessions at home. These emigrations proved the destruction of the Roman Empire". Regarding the Scandinavians in the early middle ages, Malthus wrote: "Mallet relates, what is probably true, that it was their common custom to hold an assembly every spring for the purpose of considering in what quarter they should make war".

In many of the societies which Malthus described, a causal link can be seen, not only between population pressure and poverty, but also between population pressure and war. As one reads his *Essay*, it becomes clear why both these terrible sources of human anguish saturate so much of history, and why efforts to eradicate them have so often met with failure: The only possible way to eliminate poverty and war is to reduce the pressure of population by preventive checks, since the increased food supply produced by occasional cultural advances can give only very temporary relief.

In Book II, Malthus turned to the nations of Europe, as they appeared at the end of the 18th century, and here he presents us with a different picture. Although in these societies poverty, unsanitary housing, child labour, malnutrition and disease all took a heavy toll, war produced far less mortality than in hunting and pastoral societies, and the preventive checks, which lower fertility, played a much larger roll.

Malthus had visited Scandinavia during the summer of 1799, and he had made particularly detailed notes on Norway. He was thus able to present a description of Norwegian economics and demography based on his own studies. Norway was remarkable for having the lowest reliably-recorded death rate of any nation at that time: Only 1 person in 48 died each year in Norway. (By comparison, 1 person in 20 died each year in London.) The rate of marriage was also remarkably low, with only 1 marriage each year for every 130



Figure 3.5: Captain James Cook, FRS (1728-1779). According to Cook, the native New Zealanders practiced both ceaseless war and cannibalism; and population pressure provided a motive for both practices. Malthus based his description of hunter-gatherer societies on the writings of explorers such as Cook and Vancouver.

inhabitants; and thus in spite of the low death rate, Norway's population had increased only slightly from the 723,141 inhabitants recorded in 1769.

There were two reasons for late marriage in Norway: Firstly, every man born of a farmer or a labourer was compelled by law to be a soldier in the reserve army for a period of ten years; and during his military service, he could not marry without the permission of both his commanding officer and the parish priest. These permissions were granted only to those who were clearly in an economic position to support a family. Men could be inducted into the army at any age between 20 and 30, and since commanding officers preferred older recruits, Norwegian men were often in their 40's before they were free to marry. At the time when Malthus was writing, these rules had just been made less restrictive; but priests still refused to unite couples whose economic foundations they judged to be insufficient.

The second reason for late marriages was the structure of the farming community. In general, Norwegian farms were large; and the owner's household employed many young unmarried men and women as servants. These young people had no chance to marry unless a smaller house on the property became vacant, with its attached small parcel of land for the use of the "houseman"; but because of the low death rate, such vacancies were infrequent.

Thus Norway's remarkably low death rate was balanced by a low birth rate. Other chapters in Book II are devoted to the checks to population growth in Sweden, Russia, Central Europe, Switzerland, France, England, Scotland and Ireland.

Malthus painted a very dark panorama of population pressure and its consequences in human societies throughout the world and throughout history: At the lowest stage of cultural development are the hunter-gatherer societies, where the density of population is extremely low. Nevertheless, the area required to support the hunters is so enormous that even their sparse and thinly scattered numbers press hard against the limits of sustenance. The resulting competition for territory produces merciless intertribal wars.

The domestication of animals makes higher population densities possible; and wherever this new mode of food production is adopted, human numbers rapidly increase; but very soon a new equilibrium is established, with the population of pastoral societies once more pressing painfully against the limits of the food supply, growing a little in good years, and being cut back in bad years by famine, disease and war.

Finally, agricultural societies can maintain extremely high densities of population; but the time required to achieve a new equilibrium is very short. After a brief period of unrestricted growth, human numbers are once more crushed against the barrier of limited resources; and if excess lives are produced by overbreeding, they are soon extinguished by deaths among the children of the poor.

Malthus was conscious that he had drawn an extremely dark picture of the human condition. He excused himself by saying that he has not done it gratuitously, but because he was convinced that the dark shades really are there, and that they form an important part of the picture. He did allow one ray of light, however: By 1803, his own studies of Norway, together with personal conversations with Godwin and the arguments in Godwin's *Reply to Parr*, had convinced Malthus that "moral restraint" should be included among the possible checks to population growth. Thus he concluded Book II of his 1803 edition by

saying that the checks which keep population down to the level of the means of subsistence can all be classified under the headings of “moral restraint, vice and misery”. (In his first edition he had maintained that vice and misery are the only possibilities).

3.5 Systems of equality

In the 1803 edition of Malthus’ *Essay*, Books III and IV form a second volume.

The ideas which he put forward in this second volume are much more open to dispute than are the solidly empirical demographic studies of Books I and II. Malthus excused himself at the beginning of the second volume, saying that he realized that the ideas which he was about to put forward were less solidly based than those in his first volume. However, he said that he wished to explore all the consequences of his principle of population: “..Even the errors into which I may have fallen”, he wrote, “by according a handle to argument, and an additional excitement to examination, may be subservient to the important end of bringing a subject so nearly connected with the happiness of society into more general notice”.

Malthus began Book III by discussing the systems of equality proposed by Condorcet and Godwin; and he tried to show that such utopian societies would prove impossible in practice, because they would rapidly drown in a flood of excess population. Condorcet himself had recognized this difficulty. He realized that improved living conditions for the poor would lead to a rapid growth of population. “Must not a period then arrive”, Condorcet had written, “... when the increase of the number of men surpassing their means of subsistence, the necessary result must be either a continual diminution of happiness and population... or at least a kind of oscillation between good and evil?”

Condorcet believed the serious consequences of population pressure to be far in the future, but Malthus disagreed with him on exactly that point: “M. Condorcet’s picture of what may be expected to happen when the number of men shall surpass subsistence is justly drawn... The only point in which I differ from M. Condorcet in this description is with regard to the period when it may be applied to the human race... This constantly subsisting cause of periodical misery has existed in most countries ever since we have had any histories of mankind, and continues to exist at the present moment.”

“M. Condorcet, however, goes on to say”, Malthus continued, “that should the period, which he conceives to be so distant, ever arrive, the human race, and the advocates of the perfectibility of man, need not be alarmed at it. He then proceeds to remove the difficulty in a manner which I profess not to understand. Having observed that the ridiculous prejudices of superstition would by that time have ceased to throw over morals a corrupt and degrading austerity, he alludes either to a promiscuous concubinage, which would prevent breeding, or to something else as unnatural. To remove the difficulty in this way will surely, in the opinion of most men, be to destroy that virtue and purity of manners which the advocates of equality and of the perfectibility of man profess to be the end and object of their views.”

When Malthus referred to “something else as unnatural”, he of course meant birth

control, some forms of which existed at the time when he was writing; and in this passage we see that he was opposed to the practice. He preferred late marriage or “moral restraint” as a means of limiting excessive population growth.

After his arguments against Condorcet, Malthus discussed William Godwin’s egalitarian utopia, which, he said, would be extremely attractive if only it could be achieved: “The system of equality which Mr. Godwin proposes”, Malthus wrote, “is, on the first view of it, the most beautiful and engaging which has yet appeared. A melioration of society to be produced merely by reason and conviction gives more promise of permanence than than any change effected and maintained by force. The unlimited exercise of private judgement is a doctrine grand and captivating, and has a vast superiority over those systems where every individual is in a manner the slave of the public.”

“The substitution of benevolence, as a master-spring and moving principle of society, instead of self-love, appears at first sight to be a consummation devoutly to be wished. In short, it is impossible to contemplate the whole of this fair picture without emotions of delight and admiration, accompanied with an ardent longing for the period of its accomplishment.”

“But alas!” Malthus continued, “That moment can never arrive.... The great error under which Mr. Godwin labours throughout his whole work is the attributing of almost all the vices and misery that prevail in civil society to human institutions. Political regulations and the established administration of property are, with him, the fruitful sources of all evil, the hotbeds of all the crimes that degrade mankind. Were this really a true state of the case, it would not seem a completely hopeless task to remove evil completely from the world; and reason seems to be the proper and adequate instrument for effecting so great a purpose. But the truth is, that though human institutions appear to be, and indeed often are, the obvious and obtrusive causes of much misery in society, they are, in reality, light and superficial in comparison with those deeper-seated causes of evil which result from the laws of nature and the passions of mankind.”

The passions of mankind drive humans to reproduce, while the laws of nature set limits to the carrying capacity of the environment. Godwin’s utopia, if established, would be very favorable to the growth of population; and very soon the shortage of food would lead to its downfall: Because of the overpowering force of population growth, “Man cannot live in the midst of plenty. All cannot share alike the bounties of nature. Were there no established administration of property, every man would be obliged to guard with his force his little store. Selfishness would be triumphant. The subjects of contention would be perpetual. Every individual would be under constant anxiety about corporal support, and not a single intellect would be left free to expatiate in the field of thought.”

Malthus believed that all systems of equality are doomed to failure, not only because of the powerful pressure of population growth, but also because differences between the upper, middle, and lower classes serve the useful purpose of providing humans with an incentive for hard work. He thought that fear of falling to a lower social status, and hope of rising to a higher one, provide a strong incentive for constructive activity. However, he believed that happiness is most often found in the middle ranks of society, and that therefore the highest and lowest classes ought not to be large. Malthus advocated universal

education and security of property as means by which the lowest classes of society could be induced to adopt more virtuous and prudent patterns of behavior.

3.6 The Poor Laws

Among the most controversial chapters of Malthus' second volume are those dealing with the Poor Laws. During the reign of Queen Elisabeth I, a law had been enacted according to which justices were authorized to collect taxes in order to set to work "...the children of all such, whose parents shall not by the said persons be thought able to keep and maintain their children; and also such persons, married or unmarried, as, having no means to maintain them, use no ordinary or daily trade to get their living by..". Malthus commented:

"What is this but saying that the funds for the maintenance of labour in this country may be increased without limit by a fiat of government...? Strictly speaking, this clause is as arrogant and absurd as if it had enacted that two ears of wheat should in the future grow where one had grown before. Canute, when he commanded the waves not to wet his princely foot, did not assume a greater power over the laws of nature." Malthus pointed out that if we believe that every person has a right to have as many children as he or she wishes, and if we enact a law, according to which every person born has a right to sustenance, then we implicitly assume that the supply of food can be increased without limit, which of course is impossible.

During the first few years of the nineteenth century there was a severe shortage of food in England, partly because of war with France, and partly because of harvest failures. As a result, the price of wheat tripled, causing great distress among the poor. By 1803, 3,000,000 pounds sterling were being distributed to make up the difference between the wages of poor workers and the amount which they needed to pay for food. Malthus regarded the supply of grain as constant, i.e. independent of the price; and he therefore believed that distribution of money under the Poor Laws merely raised the price of grain still further in relation to wages, forcing a larger number of independent workers to seek help. He thought that the distributed money helped to relieve suffering in some cases, but that it spread the suffering over a wider area.

In some parishes, the amount of money distributed under the Poor Laws was proportional to the number of children in a family, and Malthus believed that this encouraged the growth of population, further aggravating the shortage of food. "A poor man may marry with little or no prospect of being able to support a family in independence", he wrote, "...and the Poor Laws may be said therefore in some measure to create the poor which they maintain; and as the provisions of the country must, in consequence of the increased population, be distributed to every man in smaller proportions, it is evident that the labour of those who are not supported by parish assistance, will purchase a smaller quantity of provisions than before, and consequently more of them must be driven to ask for support." Malthus advocated a very gradual abolition of the Poor Laws, and he believed that while this change was being brought about, the laws ought to be administered in such a way that the position of least well-off independent workers should not be worse than the position of

those supported by parish assistance.

3.7 Replies to Malthus

The second edition of Malthus' *Essay* was published in 1803. It provoked a storm of controversy, and a flood of rebuttals. In 1803 England's political situation was sensitive. Revolutions had recently occurred both in America and in France; and in England there was much agitation for radical change, against which Malthus provided counter-arguments. Pitt and his government had taken Malthus' first edition seriously, and had abandoned their plans for extending the Poor Laws. Also, as a consequence of Malthus' ideas, England's first census was taken in 1801. This census, and subsequent ones, taken in 1811, 1821 and 1831, showed that England's population was indeed increasing rapidly, just as Malthus had feared. (The population of England and Wales more than doubled in 80 years, from an estimated 6.6 million in 1750 to almost 14 million in 1831.) In 1803, the issues of poverty and population were at the center of the political arena, and articles refuting Malthus began to stream from the pens of England's authors.

William Coleridge planned to write an article against Malthus, and he made extensive notes in the margins of his copy of the *Essay*. In one place he wrote: "Are Lust and Hunger both alike Passions of physical Necessity, and the one equally with the other independent of the Reason and the Will? Shame upon our race that there lives an individual who dares to ask the Question." In another place Coleridge wrote: "Vice and Virtue subsist in the agreement of the habits of a man with his Reason and Conscience, and these can have but one moral guide, Utility, or the virtue and Happiness of Rational Beings". Although Coleridge never wrote his planned article, his close friend Robert Southey did so, using Coleridge's notes almost verbatim. Some years later Coleridge remarked: "Is it not lamentable - is it not even marvelous - that the monstrous practical sophism of Malthus should now have gained complete possession of the leading men of the kingdom! Such an essential lie in morals - such a practical lie in fact it is too! I solemnly declare that I do not believe that all the heresies and sects and factions which ignorance and the weakness and wickedness of man have ever given birth to, were altogether so disgraceful to man as a Christian, a philosopher, a statesman or citizen, as this abominable tenet."

In 1812, Percy Bysshe Shelley, who was later to become William Godwin's son-in-law, wrote: "Many well-meaning persons... would tell me not to make people happy for fear of over-stocking the world... War, vice and misery are undoubtedly bad; they embrace all that we can conceive of temporal and eternal evil. Are we to be told that these are remediless, because the earth would in case of their remedy, be overstocked?" A year later, Shelley called Malthus a "priest, eunuch, and tyrant", and accused him, in a pamphlet, of proposing that "... after the poor have been stript naked by the taxgatherer and reduced to bread and tea and fourteen hours of hard labour by their masters.. the last tie by which Nature holds them to benignant earth (whose plenty is garnered up in the strongholds of their tyrants) is to be divided... They are required to abstain from marrying under penalty of starvation... whilst the rich are permitted to add as many mouths to consume



Figure 3.6: Coleridge’s notes on Malthus: “I do not believe that all the heresies and sects and factions which ignorance and the weakness and wickedness of man have ever given birth to, were altogether so disgraceful to man as a Christian, a philosopher, a statesman or citizen, as this abominable tenet.”

the products of the poor as they please”.

Godwin himself wrote a long book (which was published in 1820) entitled *Of Population, An Enquiry Concerning the Power and Increase in the Number of Mankind, being an answer to Mr. Malthus*. One can also view many of the books of Charles Dickens as protests against Malthus’ point of view. For example, *Oliver Twist* gives us a picture of a workhouse “administered in such a way that the position of least well-off independent workers should not be worse than the position of those supported by parish assistance.”

Among the authors defending Malthus was Harriet Martineau, who wrote: “The desire of his heart and the aim of his work were that domestic virtue and happiness should be placed within the reach of all... He found that a portion of the people were underfed, and that one consequence of this was a fearful mortality among infants; and another consequence the growth of a recklessness among the destitute which caused infanticide,



Figure 3.7: Shelley: “.. after the poor have been stript naked by the taxgatherer and reduced to bread and tea and fourteen hours of hard labour by their masters.. the last tie by which Nature holds them to benignant earth (whose plenty is garnered up in the strongholds of their tyrants) is to be divided...They are required to abstain from marrying under penalty of starvation...”



Figure 3.8: Tiny Tim, from Charles Dickens' *A Christmas Carol*. When he is informed that Tiny Tim will die unless he receives medical treatment, Scrooge remarks, "Then he had better die and reduce the surplus population!". Many of the events in Dickens' books can be viewed as protests against the ideas of Malthus.



Figure 3.9: Charles Dickens' *Oliver Twist* asks for a second portion of gruel, provoking a storm of outrage. As a boy, Dickens himself spent some time in a workhouse.



Figure 3.10: A portrait of the British political economist, author and social theorist Harriet Martineau (1802-1876). She was a very close friend of Charles Darwin's older brother, Erasmus. Commenting on the ideas of Malthus, she wrote: "Prudence as to time of marriage and making due provision for it was, one would think, a harmless recommendation enough, under the circumstances." Martineau's books were highly successful, sometimes outselling those of Charles Dickens.

corruption of morals, and at best, marriage between pauper boys and girls; while multitudes of respectable men and women, who paid rates instead of consuming them, were unmarried at forty or never married at all. Prudence as to time of marriage and for making due provision for it was, one would think, a harmless recommendation enough, under the circumstances.”

3.8 Ricardo's Iron Law of Wages; the Corn Laws

Malthus continued a life of quiet scholarship, unperturbed by the heated public debate which he had caused. At the age of 38, he married a second cousin. The marriage produced only three children, which at that time was considered to be a very small number. Thus he practiced the pattern of late marriage which he advocated. Although he was appointed rector of a church in Lincolnshire, he never preached there, hiring a curate to do this in his place. Instead of preaching, Malthus accepted an appointment as Professor of History and Political Economy at the East India Company's College at Haileybury. This appointment made him the first professor of economics in England, and probably also the first in the world. Among the important books which he wrote while he held this post was *Principles of Political Economy, Considered with a View to their Practical Application*. Malthus also published numerous revised and expanded editions of his *Essay on the Principle of Population*. The third edition was published in 1806, the fourth in 1807, the fifth in 1817, and the sixth in 1826.

Malthus became a close friend of the wealthy financier and economic theorist, David Ricardo (1772-1823). He and Ricardo met frequently to discuss economic problems, and when circumstances prevented them from meeting, they exchanged endless letters. Ricardo and Malthus differed on the subject of the Corn Laws, but they never allowed this difference of opinion to affect their friendship.

Although shortages of food had produced drastic increases in the price of grain, the import of cheap foreign grain was effectively prevented by the Corn Laws. These laws had been introduced by the large landowners, who controlled Parliament, but they were opposed by the manufacturers, who wished to make less expensive food available to their workers. On this issue, Malthus sided with the landowners, arguing that if England became dependent on imports of foreign grain, the country would be insecure: What if England's ability to export manufactured goods in exchange for the grain should later be undermined by foreign competition? Malthus pointed out that the country would then face starvation. Ricardo, on the other hand, sided with the rising class of manufacturers. In 1832 the Reform Bill gave the manufacturers control of Parliament, the Corn Laws were repealed, and England's rapidly-growing population became dependent on imports of foreign grain.

Ricardo accepted Malthus' principle of population, and from it he deduced what came to be called his "Iron Law of Wages". According to Ricardo, labor is a commodity, and wages are determined by the law of supply and demand: When wages fall below the starvation level, the workers' children die. Labor then becomes a scarce commodity, and wages rise. On the other hand, when wages rise above the starvation level, the working population



Figure 3.11: The economist David Ricardo (1772-1823), a close friend of Malthus. The joint pessimism of Ricardo and Malthus caused Carlyle to call economics “the dismal science”.

multiplies rapidly, labor becomes a plentiful commodity, and wages fall again.

Thus, according to Ricardo, there is an Iron Law which holds wages at the minimum level at which life can be supported. The combined pessimism of Malthus and Ricardo caused Carlyle to call economics “the dismal science”.

3.9 The Irish Potato Famine of 1845

Meanwhile, in Ireland, a dramatic series of events had occurred, confirming the ideas of Malthus. Anti-Catholic laws prevented the Irish cottagers from improving their social position; and instead they produced large families, fed almost exclusively on a diet of milk and potatoes. The potato and milk diet allowed a higher density of population to be supported in Ireland than would have been the case if the Irish diet had consisted primarily of wheat. As a result, the population of Ireland grew rapidly: In 1695 it had been approximately one million, but by 1821 it had reached 6,801,827. By 1845, the population of Ireland was more than eight million; and in that year the potato harvest failed because of blight. All who were able to do so fled from the country, many emigrating to the United States; but two million people died of starvation. As the result of this shock, Irish marriage habits changed, and late marriage became the norm, just as Malthus would have wished. After the Potato Famine of 1845, Ireland maintained a stable population of roughly four million.



Figure 3.12: The Irish Potato Famine.



Figure 3.13: The Irish Potato Famine.

3.10 The impact of Malthus on biology

The impact of Malthus' *Essay* was great, not only in demography and political economics, but also in biology. In 1836, Charles Darwin returned from his voyage on the *Beagle* with a mass of facts and ideas on species out of which he was struggling to construct a coherent picture; and Malthus gave him the clue he needed. "In October, 1838", Darwin wrote later in his *Autobiography*, "that is, fifteen months after I had begun my systematic enquiry, I happened to read for amusement 'Malthus on Population', and being well prepared to appreciate the struggle for existence which everywhere goes on from long-continued observation of the habits of animals and plants, it at once struck me that under these circumstances favorable variations would tend to be preserved, and unfavorable ones to be destroyed. The result of this would be the formation of new species. Here then I had at last got a theory by which to work..."

Darwin wrote a sketch of his theory of evolution through natural selection; but he did not publish it, probably because he had a premonition of the furious opposition which his heretical ideas would provoke. In 1854 he returned to his work on species, but he was writing on a scale which would have developed into an enormous multi-volume work, whose completion might have taken the remainder of his life. Meanwhile, a young English biologist named Alfred Russell Wallace, working in the jungles of Malaysia, arrived at exactly the same theory as Darwin's, and in exactly the same way - by reading Malthus! Wallace wrote a short paper describing his theory and sent it to Darwin, asking the older scientist's opinion. Darwin was at first inclined to burn all his own work on the subject out of fairness to Wallace, but his friends persuaded him to instead write a short paper describing his views, which could be presented together with Wallace's article. The two papers were read together to a meeting of the Linnean Society, which listened in stunned silence. Posterity has given both Darwin and Wallace credit for their joint discovery of the theory of evolution through natural selection.

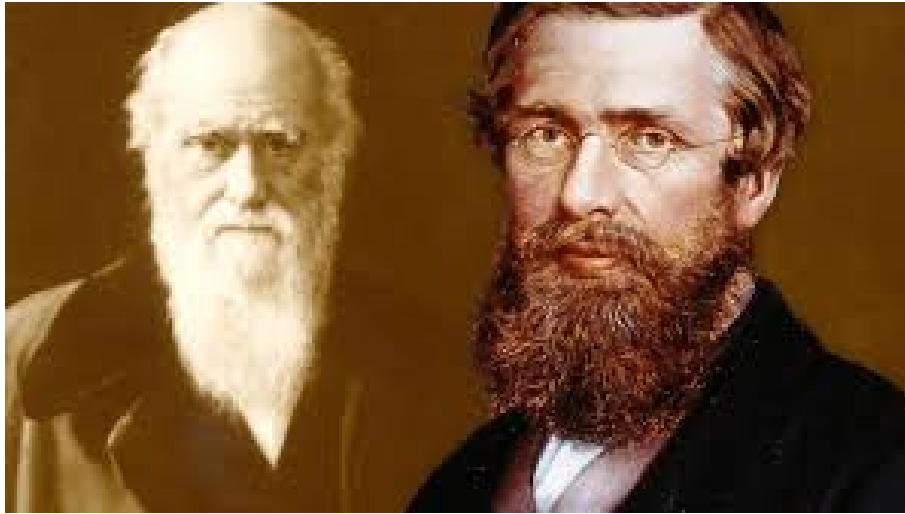


Figure 3.14: Both Charles Darwin and Alfred Russel Wallace arrived at their theories of natural selection in evolution as a result of reading Malthus.

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Chapter 4

RESOURCE WARS

4.1 Adam Smith's invisible hand is at our throats

As everyone knows, Adam Smith invented the theory that individual self-interest is, and ought to be, the main motivating force of human economic activity, and that this, in effect, serves the wider social interest. He put forward a detailed description of this concept in an immense book, "The Wealth of Nations" (1776).

Adam Smith (1723-1790) had been Professor of Logic at the University of Glasgow, but in 1764 he withdrew from his position at the university to become the tutor of the young Duke of Buccleuch. In those days a Grand Tour of Europe was considered to be an important part of the education of a young nobleman, and Smith accompanied Buccleuch to the Continent. To while away the occasional dull intervals of the tour, Adam Smith began to write an enormous book on economics which he finally completed twelve years later. He began his "Inquiry into the Nature and Causes of the Wealth of Nations" by praising division of labor. As an example of its benefits, he cited a pin factory, where ten men, each a specialist in his own set of operations, could produce 48,000 pins in a day. In the most complex civilizations, Smith stated, division of labor has the greatest utility.

The second factor in prosperity, Adam Smith maintained, is a competitive market, free from monopolies and entirely free from governmental interference. In such a system, he tells us, the natural forces of competition are able to organize even the most complex economic operations, and are able also to maximize productivity. He expressed this idea in the following words:

"As every individual, therefore, endeavors as much as he can, both to employ his capital in support of domestic industry, and so to direct that industry that its produce may be of greatest value, each individual necessarily labours to render the annual revenue of the Society as great as he can."

"He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of greatest value, he intends only his own gain; and he is in this, as in

many other cases, led by an invisible hand to promote an end that was no part of his intention. Nor is it always the worse for Society that it was no part of it. By pursuing his own interest, he frequently promotes that of Society more effectively than when he really intends to promote it.”

In other words, Smith maintained that self-interest (even greed) is a sufficient guide to human economic actions. The passage of time has shown that he was right in many respects. The free market, which he advocated, has turned out to be the optimum prescription for economic growth. However, history has also shown that there is something horribly wrong or incomplete about the idea that individual self-interest alone, uninfluenced by ethical and ecological considerations, and totally free from governmental intervention, can be the main motivating force of a happy and just society. There has also proved to be something terribly wrong with the concept of unlimited economic growth. Here is what actually happened:

In pre-industrial Europe, peasant farmers held a low but nevertheless secure position, protected by a web of traditional rights and duties. Their low dirt-floored and thatched cottages were humble but safe refuges. If a peasant owned a cow, it could be pastured on common land.

With the invention of the steam engine and the introduction of spinning and weaving machines towards the end of the 18th Century, the pattern changed, at first in England, and afterwards in other European countries. Land-owners in Scotland and Northern England realized that sheep were more profitable to have on the land than “crofters” (i.e., small tenant farmers), and families that had farmed land for generations were violently driven from their homes with almost no warning. The cottages were afterwards burned to prevent the return of their owners.

The following account of the Highland Clearances has been left by Donald McLeod, a crofter in the district of Sutherland: “The consternation and confusion were extreme. Little or no time was given for the removal of persons or property; the people striving to remove the sick or helpless before the fire should reach them; next struggling to save the most valuable of their effects. The cries of the women and children; the roaring of the affrighted cattle, hunted at the same time by the yelling dogs of the shepherds amid the smoke and fire, altogether presented a scene that completely baffles description - it required to be seen to be believed... The conflagration lasted for six days, until the whole of the dwellings were reduced to ashes and smoking ruins.”

Between 1750 and 1860, the English Parliament passed a large number of “Enclosure Acts”, abolishing the rights of small farmers to pasture their animals on common land that was not under cultivation. The fabric of traditional rights and duties that once had protected the lives of small tenant farmers was torn to pieces. Driven from the land, poor families flocked to the towns and cities, hoping for employment in the textile mills that seemed to be springing up everywhere.

According to the new rules by which industrial society began to be governed, traditions were forgotten and replaced by purely economic laws. Labor was viewed as a commodity, like coal or grain, and wages were paid according to the laws of supply and demand, without regard for the needs of the workers. Wages fell to starvation levels, hours of work increased,



Figure 4.1: A watercolor painting by Vincent van Gogh showing wives of Belgian miners carrying bags of coal.



Figure 4.2: London during the industrial revolution

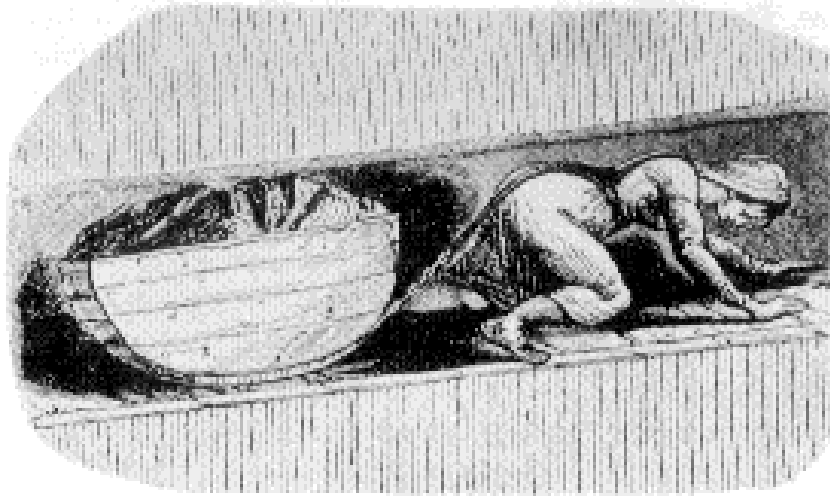


Figure 4.3: A girl pulling a coaltub through the narrow space left by removal of coal from a seam.

and working conditions deteriorated.

John Fielden's book, "The Curse of the Factory System" was written in 1836, and it describes the condition of young children working in the cotton mills. "The small nimble fingers of children being by far the most in request, the custom instantly sprang up of procuring 'apprentices' from the different parish workhouses of London, Birmingham and elsewhere... Overseers were appointed to see to the works, whose interest it was to work the children to the utmost, because their pay was in proportion to the quantity of pay that they could exact."

"Cruelty was, of course, the consequence; and there is abundant evidence on record to show that in many of the manufacturing districts, the most heart-rending cruelties were practiced on the unoffending and friendless creatures... that they were flogged, fettered and tortured in the most exquisite refinements of cruelty, that they were in many cases starved to the bone while flogged to their work, and that they were even in some instances driven to commit suicide... The profits of manufacture were enormous, but this only whetted the appetite that it should have satisfied."

Dr. Peter Gaskell, writing in 1833, described the condition of the English mill workers as follows: "The vast deterioration in personal form which has been brought about in the manufacturing population during the last thirty years... is singularly impressive, and fills the mind with contemplations of a very painful character... Their complexion is sallow and pallid, with a peculiar flatness of feature caused by the want of a proper quantity of adipose substance to cushion out the cheeks. Their stature is low - the average height of men being five feet, six inches... Great numbers of the girls and women walk lamely or awkwardly... Many of the men have but little beard, and that in patches of a few hairs... (They have) a spiritless and dejected air, a sprawling and wide action of the legs..."

"Rising at or before daybreak, between four and five o'clock the year round, they



Figure 4.4: **Child laborers during the early Industrial Revolution**

swallow a hasty meal or hurry to the mill without taking any food whatever... At twelve o'clock the engine stops, and an hour is given for dinner... Again they are closely immured from one o'clock till eight or nine, with the exception of twenty minutes, this being allowed for tea. During the whole of this long period, they are actively and unremittingly engaged in a crowded room at an elevated temperature."

Dr. Gaskell described the housing of the workers as follows: "One of the circumstances in which they are especially defective is that of drainage and water-closets. Whole ranges of these houses are either totally undrained, or very partially... The whole of the washings and filth from these consequently are thrown into the front or back street, which, often being unpaved and cut into deep ruts, allows them to collect into stinking and stagnant pools; while fifty, or even more than that number, having only a single convenience common

to them all, it is in a very short time choked with excrementous matter. No alternative is left to the inhabitants but adding this to the already defiled street.”

“It frequently happens that one tenement is held by several families... The demoralizing effects of this utter absence of domestic privacy must be seen before they can be thoroughly appreciated. By laying bare all the wants and actions of the sexes, it strips them of outward regard for decency - modesty is annihilated - the father and the mother, the brother and the sister, the male and female lodger, do not scruple to commit acts in front of each other which even the savage keeps hid from his fellows.”

The landowners of Scotland were unquestionably following self-interest as they burned the cottages of their crofters; and self-interest motivated overseers as they whipped half-starved child workers in England's mills. Adam Smith's "invisible hand" no doubt guided their actions in such a way as to maximize production. But whether a happy and just society was created in this way is questionable. Certainly it was a society with large areas of unhappiness and injustice. Self-interest alone was not enough. A society following purely economic laws - a society where selfishness is exalted as the mainspring for action - lacks both the ethical and ecological dimensions needed for social justice, widespread happiness, and sustainability.

4.2 Our greed-based economic system today

Today our greed-based, war addicted, and growth-obsessed economic system poses even greater threats than it did during the early phases of the Industrial Revolution. Today it threatens to destroy human civilization and much of the biosphere.

According to a recently-published study by Oxfam, just 1 percent of the world's population controls nearly half of the planet's wealth. The study says that this tiny slice of humanity controls 110 trillion US dollars, or 65 times the total wealth of the poorest 3.5 billion people. The world's 85 richest people own as much as the poorest 50 percent of humanity. 70 percent of the world's people live in a country where income inequality has increased in the past three decades.

This shocking disparity in wealth has led to the decay of democracy in many countries, because the very rich have used their money to control governments, and also to control the mass media and hence to control public opinion. The actions of many governments today tend not to reflect what is good for the people (or more crucially, what is good for the future of our planet), but rather what is good for special interest groups, for example, the fossil fuel industry and the military-industrial complex.

Today the world spends roughly 1,700,000,000,000 US dollars on armaments, almost 2 trillion. This vast river of money, almost too great to be imagined, flows into the pockets of arms manufacturers, and is used by them to control governments, which in turn vote for bloated military budgets and aggressive foreign policies which provoke the endless crises and conflicts that are necessary to justify the diversion of such vast sums of money from urgently-needed social goals into the bottomless pit of war.

The reelection of the slave-like politicians is ensured by the huge sums made available



Figure 4.5: **An oxymoron: The vultures of greed never protect the dove of peace.**

for their campaigns by the military-industrial complex. This pernicious circular flow of money, driving endless crises, has sometimes been called “The Devil’s Dynamo”. Thus the world is continually driven to the brink of thermonuclear war by highly dangerous interventions such as the recent ones in North Africa, the Middle East, Ukraine, South and Central America, and the Korean Peninsula.

It is doubtful that any of the political or military figures involved with this arrogant risking of human lives and the human future have any imaginative idea of what a thermonuclear war would be like. In fact it would be an ecological catastrophe of huge proportions, making large areas of the world permanently uninhabitable through long-lived radioactive contamination. The damage to global agriculture would be so great as to produce famine leading to a billion or more deaths from starvation. All the nations of the earth would suffer, neutrals as well as belligerents.

Besides supporting the appalling war machine, our bought-and-paid-for politicians also fail to take the actions that would be needed to prevent the worst effects of climate change. The owners of the fossil fuel industries have even mounted advertising campaigns to convince the public that the threat of anthropogenic climate change is not real. Sadly, the threat of catastrophic climate change is all too real, as 99 percent the worlds climate scientists have warned.

The world has recently passed a dangerous landmark in atmospheric CO₂ concentration, 400 ppm. The last time that the earth experienced such high concentrations of this

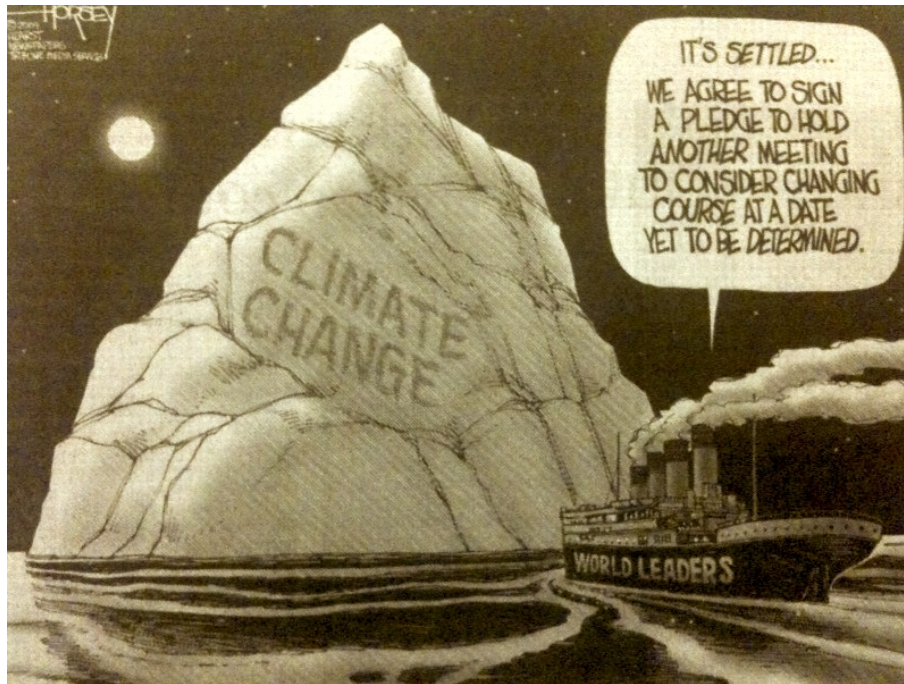


Figure 4.6: The ship in the cartoon is drawn so as to resemble the Titanic.

greenhouse gas were several million years ago. At that time the Arctic was free from ice, and sea levels were 40 meters higher than they are today. Global warming is a slow and long-term effect, so such high sea levels will be slow in arriving, but ultimately we must expect that coastal cities and much of the world's low-lying land will be under water. We must also expect many tropical regions of the world to become uninhabitable because of high temperatures. Finally there is a threat of famine because agriculture will be hit by high temperatures and aridity.

There are several very dangerous feedback loops that may cause the earth's temperatures to rise much faster than has been predicted by the International Panel on Climate Change. By far the most dangerous of these comes from the melting of methane hydrate crystals that are currently trapped in frozen tundra and on the floor of seabeds.

At high pressures, methane combines with water to form crystals called hydrates or clathrates. These crystals are stable at the temperatures currently existing on ocean floors, but whenever the water temperature rises sufficiently, the crystals become unstable and methane gas bubbles to the surface. This effect has already been observed in the Arctic seas north of Russia. The total amount of methane clathrates on ocean floors is not precisely known, but it is estimated to be very large indeed, corresponding to between 3,000 and 11,000 gigatons of carbon. The release of even a small fraction of this amount of methane into our atmosphere would greatly accelerate rising temperatures, leading to the release of still more methane, in a highly dangerous feedback loop. We must at all costs avoid global temperatures which will cause this feedback loop to trigger in earnest.

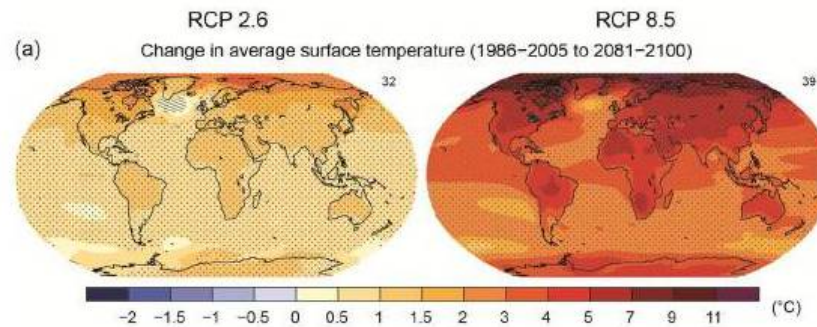


Figure 4.7: Temperature changes will be greatest in the polar regions. Far greater changes in global temperatures are to be expected in the 22nd and 23rd centuries and in subsequent centuries, because the thermal inertia of the oceans makes climate change a very slow and long-term effect.

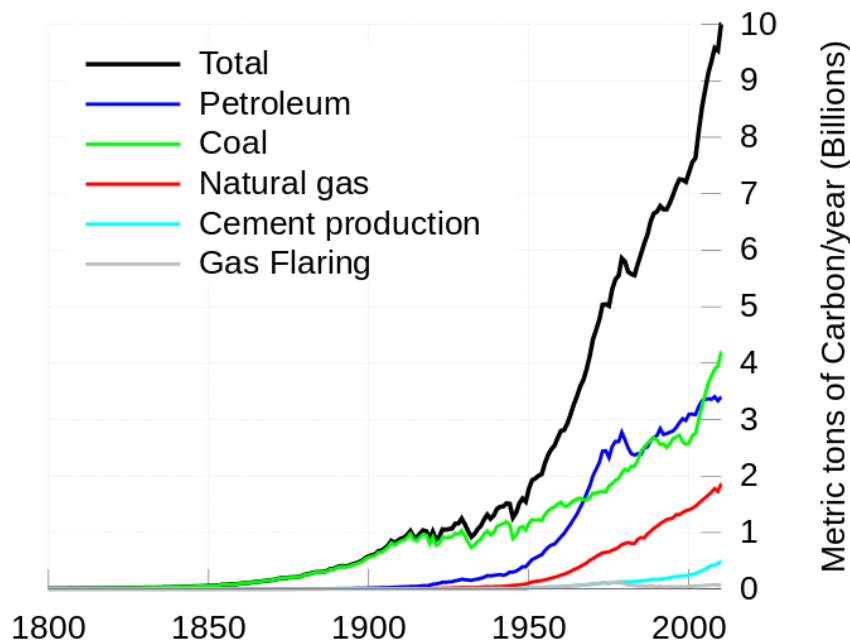


Figure 4.8: The isotope ratios in ice cores from the Greenland ice sheet allow us to see the close correlation between atmospheric CO₂ concentration and temperatures over a very long period of time. Thus regardless of questions of cause and effect, we can expect rising concentrations of CO₂ to be accompanied by rising temperatures. As we can see from the graphs, the rate of increase in carbon emissions has shown no sign of slowing in recent years.

4.3 Human motivations were not always so selfish

For the reasons mentioned above, we can see that an economic system where selfishness and greed are exalted as the mainspring for human actions lacks both a social conscience and an ecological conscience. Both these dimensions are needed for the long-term survival of human civilization and the biosphere.

We must remember, however, that the worship of the free market and the exaltation of selfishness are relatively recent developments in human history. During most of their million-year history, humans lived in small groups, not in great cities or nations, and sharing was part of their lifestyle. Perhaps that lifestyle is the one to which we should return if we wish the human future to stretch out for another million years.

4.4 Neocolonialism

In his book, "Neocolonialism, The Last Stage of Imperialism" (Thomas Nielsen, London, 1965), Kwamai Nkrumah defined neocolonialism with the following words: "The essence of neocolonialism is that the State which is subject to it is, in theory, independent, and has all the outward trappings of international sovereignty. In reality its economic system and thus its political policy is directed from the outside. The methods and form of this direction can take various shapes. For example, in an extreme case, the troops of the imperial power may garrison the territory of the neocolonial State and control the government of it. More often, however, neocolonial control is exercised through monetary means..."

"The struggle against neocolonialism is not aimed at excluding the capital of the developed world from operating in less developed countries. It is aimed at preventing the financial power of the developed countries from being used in such a way as to impoverish the less developed."

4.5 The resource curse

The way in which the industrialized countries maintain their control over less developed nations can be illustrated by the "resource curse", i.e. the fact that resource-rich developing countries are no better off economically than those that lack resources, but are cursed with corrupt and undemocratic governments. This is because foreign corporations extracting local resources under unfair agreements exist in a symbiotic relationship with corrupt local officials.

One might think that taxation of foreign resource-extracting firms would provide developing countries with large incomes. However, there is at present no international law governing multinational tax arrangements. These are usually agreed to on a bilateral basis, and the industrialized countries have stronger bargaining powers in arranging the bilateral agreements.

4.6 Confessions of an economic hit-man

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A book by John Perkins, “Confessions of an Economic Hit-Man”, can give us an idea of the way in which our economic system operates to further enrich wealthy nations and impoverish poor ones. Here are some excerpts:

“Economic hit men (EHMs) are highly paid professionals who cheat countries around the globe out of trillions of dollars. They funnel money from the World Bank, the U.S. Agency for International Development (USAID), and other foreign ‘aid’ organizations into the coffers of huge corporations and the pockets of a few wealthy families who control the planet’s natural resources.”

“Their tools included fraudulent financial reports, rigged elections, payoffs, extortion, sex, and murder. They play a game as old as empire, but one that has taken on new and terrifying dimensions during this time of globalization. I was initially recruited while I was in business school back in the late sixties by the National Security Agency, the nation’s largest and least understood spy organization; but ultimately I worked for private corporations.”

“The first real economic hit man was back in the early 1950s, Kermit Roosevelt, Jr., the grandson of Teddy, who overthrew the government of Iran, a democratically elected government, Mossadegh’s government, who was Time magazine’s person of the year; and he was so successful at doing this without any bloodshed, well, there was a little bloodshed, but no military intervention, just spending millions of dollars and replaced Mossadegh with the Shah of Iran.”

“At that point understood that this idea of economic hit man was an extremely good one. We didn’t have to worry about the threat of war with Russia when we did it this way. The problem with that was that Roosevelt was a C.I.A. agent. He was a government employee. Had he been caught, we would have been in a lot of trouble. It would have been very embarrassing. So, at that point, the decision was made to use organizations like the C.I.A. and the N.S.A. to recruit potential economic hit men like me and then send us to work for private consulting companies, engineering firms, construction companies, so that if we were caught, there would be no connection with the government.”

¹<http://tehrig.blogspot.dk/2013/11/confessions-of-economic-hit-man.html>
<https://www.youtube.com/watch?v=yTbdnNgqfs8>
<https://en.wikipedia.org/wiki/Corporatocracy>



4.7 Debt slavery

At the moment, the issue of debt slavery is in the news because of the predicament of Greece and the intended fate of Ukraine, but the problem is a very general one.

If any quantity, for example indebtedness, is growing at the rate of 7% per year, the doubling time is only 9.9 years. At higher rates of interest, the doubling time is still less. If a debt remains unpaid for so long that it more than doubles, most of the repayments will go for interest, rather than for reducing the amount of the debt.

In the case of the debts of third world countries to private banks in the industrialized parts of the world and to the IMF, many of the debts were incurred in the 1970's for purposes which were of no benefit to local populations, for example purchase of military hardware. Today the debts remain, although the amount paid over the years by the developing countries is very many times the amount originally borrowed.

Third world debt can be regarded as a means by which the industrialized nations extract raw materials from developing countries without any repayment whatever. In fact, besides extracting raw materials, they extract money. The injustice of this arrangement was emphasized recently by Pope Francis in his wonderful encyclical *Laudato Si'*.²

Dr. Michael Klare holds the post of Five Colleges Professor of Peace and World Security Studies at Hampshire College, Amherst College, Smith College, Mount Holyoke College, and the University of Massachusetts Amherst. He has written 16 books exploring the relationship between natural resources and war.³

Like Naomi Klein, Prof. Klare believes that the peace movement and the climate movement ought to join forces.⁴

4.8 Blood for oil

There is a close relationship between petroleum and war. James A. Paul, Executive Director of the Global Policy Forum, has described this relationship very clearly in the following words:

“Modern warfare particularly depends on oil, because virtually all weapons systems rely on oil-based fuel - tanks, trucks, armored vehicles, self-propelled artillery pieces, airplanes, and naval ships. For this reason, the governments and general staffs of powerful nations seek to ensure a steady supply of oil during wartime, to fuel oil-hungry military forces in far-flung operational theaters.”

²<http://dissidentvoice.org/2015/07/a-revolutionary-pope-calls-for-rethinking-the-outdated-criteria-that-rule-the-world/>

<http://www.globalissues.org/issue/28/third-world-debt-undermines-development>

³<https://www.youtube.com/watch?v=PCXgnbTdhNo>

<https://www.youtube.com/watch?v=S-cdHIGFrF0>

<https://www.youtube.com/watch?v=LIdlm4ywAlc>

<https://www.youtube.com/watch?v=PCXgnbTdhNo>

<https://www.youtube.com/watch?v=S-cdHIGFrF0>

⁴<https://www.youtube.com/watch?v=LIdlm4ywAlc>

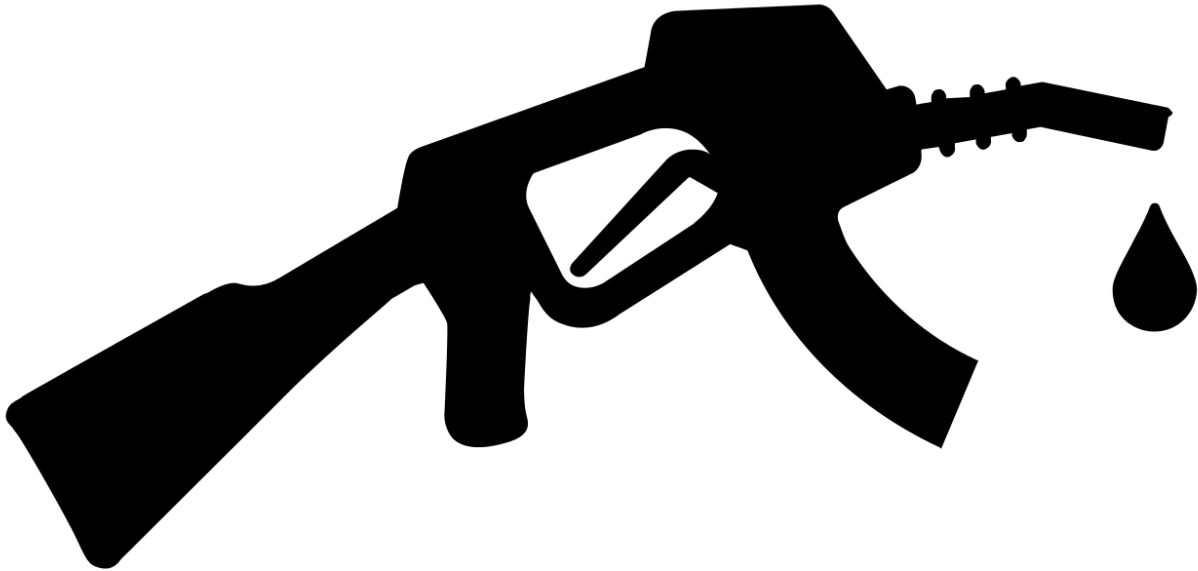


Figure 4.9: **Blood for oil.**

“Just as governments like the US and UK need oil companies to secure fuel for their global war-making capacity, so the oil companies need their governments to secure control over global oilfields and transportation routes. It is no accident, then, that the world’s largest oil companies are located in the world’s most powerful countries.”

“Almost all of the world’s oil-producing countries have suffered abusive, corrupt and undemocratic governments and an absence of durable development. Indonesia, Saudi Arabia, Libya, Iraq, Iran, Angola, Colombia, Venezuela, Kuwait, Mexico, Algeria - these and many other oil producers have a sad record, which includes dictatorships installed from abroad, bloody coups engineered by foreign intelligence services, militarization of government and intolerant right-wing nationalism.”

Iraq, in particular, has been the scene of a number of wars motivated by the West’s thirst for oil. During World War I, 1914-1918, the British captured the area (then known as Mesopotamia) from the Ottoman Empire after four years of bloody fighting. Although Lord Curzon denied that the British conquest of Mesopotamia was motivated by oil, there

is ample evidence that British policy was indeed motivated by a desire for control of the region's petroleum. For example, Curzon's Cabinet colleague Sir Maurice Hankey stated in a private letter that oil was "a first-class war aim". Furthermore, British forces continued to fight after the signing of the Mudros Armistice. In this way, they seized Mosul, the capital of a major oil-producing region, thus frustrating the plans of the French, who had been promised the area earlier in the secret Sykes-Picot Agreement.

Lord Curzon was well aware of the military importance of oil, and following the end of the First World War he remarked: "The Allied cause has floated to victory on a wave of oil".

During the period between 1918 and 1930, fierce Iraqi resistance to the occupation was crushed by the British, who used poison gas, airplanes, incendiary bombs, and mobile armored cars, together with forces drawn from the Indian Army. Winston Churchill, who was Colonial Secretary at the time, regarded the conflict in Iraq as an important test of modern military-colonial methods.

In 1932, Britain granted nominal independence to Iraq, but kept large military forces in the country and maintained control of it through indirect methods. In 1941, however, it seemed likely that Germany might try to capture the Iraqi oilfields, and therefore the British again seized direct political power in Iraq by means of military force. It was not only Germany that Britain feared, but also US attempts to gain access to Iraqi oil.

The British fear of US interest in Iraqi oil was soon confirmed by events. In 1963 the US secretly backed a military coup in Iraq that brought Saddam Hussein's Ba'ath Party to power. In 1979 the western-backed Shah of Iran was overthrown, and the United States regarded the fundamentalist Shi'ite regime that replaced him as a threat to supplies of oil from Saudi Arabia. Washington saw Saddam's Iraq as a bulwark against the militant Shi'ite extremism of Iran that was threatening oil supplies from pro-American states such as Kuwait and Saudi Arabia.

In 1980, encouraged to do so by the fact that Iran had lost its US backing, Saddam Hussein's government attacked Iran. This was the start of a extremely bloody and destructive war that lasted for eight years, inflicting almost a million casualties on the two nations. Iraq used both mustard gas and the nerve gases Tabun and Sarin against Iran, in violation of the Geneva Protocol.

Both the United States and Britain helped Saddam Hussein's government to obtain chemical weapons. A chemical plant, called Falluja 2, was built by Britain in 1985, and this plant was used to produce mustard gas and nerve gas. Also, according to the Riegel Report to the US Senate, May 25, (1994), the Reagan Administration turned a blind eye to the export of chemical weapon precursors to Iraq, as well as anthrax and plague cultures that could be used as the basis for biological weapons. According to the Riegel Report, "records available from the supplier for the period 1985 until the present show that during this time, pathogenic (meaning disease producing) and toxigenic (meaning poisonous), and other biological research materials were exported to Iraq pursuant to application and licensing by the US Department of Commerce."

In 1984, Donald Rumsfeld, Reagan's newly appointed Middle East Envoy, visited Saddam Hussein to assure him of America's continuing friendship, despite Iraqi use of poison



gas. When (in 1988) Hussein went so far as to use poison gas against civilian citizens of his own country in the Kurdish village of Halabja, the United States worked to prevent international condemnation of the act. Indeed US support for Saddam was so unconditional that he obtained the false impression that he had a free hand to do whatever he liked in the region.

On July 25, 1990, US Ambassador April Glaspie met with Saddam Hussein to discuss oil prices and how to improve US-Iraq relations. According to the transcript of the meeting, Ms Glaspie assured Saddam that the US “had no opinion on the Arab-Arab conflicts, like your border disagreement with Kuwait.” She then left on vacation. Mistaking this conversation for a green light, Saddam invaded Kuwait eight days later.

By invading Kuwait, Hussein severely worried western oil companies and governments, since Saudi Arabia might be next in line. As George Bush senior said in 1990, at the time of the Gulf War, “Our jobs, our way of life, our own freedom and the freedom of friendly countries around the world would all suffer if control of the world’s great oil reserves fell into the hands of Saddam Hussein.”

On August 6, 1990, the UN Security Council imposed comprehensive economic sanctions against Iraq with the aim of forcing Iraq to withdraw from Kuwait. Meanwhile, US Secretary of State James A. Baker III used arm-twisting methods in the Security Council to line up votes for UN military action against Iraq. In Baker’s own words, he undertook the process of “cajoling, extracting, threatening and occasionally buying votes”.

On November 29, 1990, the Council passed Resolution 678, authorizing the use of “all necessary means” (by implication also military means) to force Iraq to withdraw from Kuwait. There was nothing at all wrong with this, since the Security Council had been set up by the UN Charter to prevent states from invading their neighbors. However, one can ask whether the response to Saddam Hussein’s invasion of Kuwait would have been so wholehearted if oil had not been involved.

There is much that can be criticized in the way that the Gulf War of 1990-1991 was carried out. Besides military targets, the US and its allies bombed electrical generation facilities with the aim of creating postwar leverage over Iraq. The electrical generating plants would have to be rebuilt with the help of foreign technical assistance, and this help could be traded for postwar compliance. In the meantime, hospitals and water-purification

plants were without electricity. Also, during the Gulf War, a large number of projectiles made of depleted uranium were fired by allied planes and tanks. The result was a sharp increase in cancer in Iraq. Finally, both Shi'ites and Kurds were encouraged by the Allies to rebel against Saddam Hussein's government, but were later abandoned by the allies and slaughtered by Saddam.

The most terrible misuse of power, however, was the US and UK insistence the sanctions against Iraq should remain in place after the end of the Gulf War. These two countries used their veto power in the Security Council to prevent the removal of the sanctions. Their motive seems to have been the hope that the economic and psychological impact would provoke the Iraqi people to revolt against Saddam. However that brutal dictator remained firmly in place, supported by universal fear of his police and by massive propaganda. The effect of the sanctions was to produce more than half a million deaths of children under five years of age, as is documented by UNICEF data. The total number of deaths that the sanctions produced among Iraqi civilians probably exceeded a million, if older children and adults are included.

Ramsey Clark, who studied the effects of the sanctions in Iraq from 1991 onwards, wrote to the Security Council that most of the deaths "are from the effects of malnutrition including marasmas and kwashiorkor, wasting or emaciation which has reached twelve per cent of all children, stunted growth which affects twenty-eight per cent, diarrhea, dehydration from bad water or food, which is ordinarily easily controlled and cured, common communicable diseases preventable by vaccinations, and epidemics from deteriorating sanitary conditions. There are no deaths crueller than these. They are suffering slowly, helplessly, without simple remedial medication, without simple sedation to relieve pain, without mercy."

On the morning of September 11, 2001, two hijacked airliners were deliberately crashed into New York's World Trade Center, causing the collapse of three skyscrapers and the deaths of more than three thousand people. Almost simultaneously, another hijacked airliner was driven into the Pentagon in Washington DC, and a fourth hijacked plane crashed in a field in Pennsylvania. The fourth plane probably was to have made a suicide attack on the White House or the Capitol, but passengers on the airliner became aware what was happening through their mobile telephones, and they overpowered the hijackers.

Blame for the September 11 attacks soon centered on the wealthy Saudi Arabian Islamic extremist, Osama bin Laden, and on his terrorist organization, al-Qaeda. In a later statement acknowledging responsibility for the terrorist attacks, bin Laden gave as his main reasons firstly the massive US support for Israel, a country that, in his view, was committing atrocities against the Palestinians, and secondly the presence of US troops in Saudi Arabia.

Like Saddam Hussein, Osama bin Laden was an ex-protegé of the CIA, by whom he had previously been armed, trained, and supported. The history of bin Laden's relationship with the CIA began in 1979, when the CIA, acting through Pakistan's Inter-Services Intelligence Agency, began to train and arm the Mujaheddin, an international force of Islamic fundamentalists who were encouraged to attack Afghanistan's secular socialist government.

US National Security Advisor Zbigniew Bryzinski anticipated that the Soviets would respond by sending troops to protect the socialist government of Afghanistan, and he believed that the resulting war would be the Soviet Union's version of Viet Nam: It would be a war that would fatally weaken the Soviet Union. Thus he saw the war that he was provoking in Afghanistan as an important step in the liberation of Eastern Europe. "What is most important in the history of the world?", Polish-born Bryzinski asked in a 1998 interview, "The Taliban, or the collapse of the Soviet empire? Some stirred-up Muslims, or the liberation of central Europe...?" It was, in fact, these same "stirred-up Muslims" who guided two hijacked aircraft into the Twin Towers on September 11, 2001.

During the spring of 2003, our television and newspapers presented us with the spectacle of an attack by two technologically superior powers on a much less industrialized nation, a nation with an ancient and beautiful culture. The ensuing war was one-sided. Missiles guided by laser beams and signals from space satellites were more than a match for less sophisticated weapons.

Speeches were made to justify the attack. It was said to be needed because of weapons of mass destruction (some countries are allowed to have them, others not). It was said to be necessary to get rid of a cruel dictator (whom the attacking powers had previously supported and armed). But the suspicion remained that the attack was resource-motivated. It was about oil.

Looking at the present and threatened conflicts in the Middle East against the background of this history, must we not ask: To what extent are they too about oil?

**"Whatever happens, we have got
The Maxim gun, and they have not."**

Hilaire Beloc

4.9 Excessive inequality maintained by military force

The excessive inequality that we can see today, both within countries and between countries, has many harmful effects, and these are experienced by both poor and rich. For example, crime, drug use, and mental illness are much more common in very unequal societies.

On a global scale, the vast chasm of economic inequality between countries blocks efforts to make the United Nations more effective, since rich countries fear that a more effective UN will rob them of their privileged position.

We must also remember that inequality between nations is often maintained by means of military force, regime-change, and interference by powerful nations in the internal affairs of weaker ones.

4.10 Oxfam's report on inequality

A recent report by Oxfam⁵ has revealed that the wealth of the poorest half of the world's population has fallen by a trillion dollars since 2010, a drop of 38%. Meanwhile, the wealth of the richest 62 people in the world has increased to 1.76 trillion dollars. In fact, the wealthiest 62 individuals now own more than the poorest half of the world's population. Enormous contrasts exist today, not only between nations, but also within nations.

Winnie Byanyima, Oxfam's International Executive Director stated that "It is simply unacceptable that the poorest half of the world's population owns no more than a few dozen super-rich people who could fit onto one bus. World leaders' concern about the escalating inequality has so far not translated into concrete action; the world has become a much more unequal place, and the trend is accelerating. We cannot continue to allow hundreds of millions of people to go hungry while resources that could be used to help them are sucked up by those at the top."

Speaking at the Davos Forum in Switzerland, she continued: "I challenge the governments and elites at Davos to play their part in ending the era of tax havens, which is fueling economic inequality and preventing hundreds of millions of people from lifting themselves out of poverty. Multinational companies and wealthy elites are playing by different rules than everyone else, refusing to pay the taxes that society needs to function. The fact that 188 of 201 leading companies have a presence in at least one tax haven shows that it is time to act."

Oxfam estimates that globally, 7.6 trillion dollars of individual's wealth sits offshore, and this includes as much as 38% of African financial wealth.

⁵<https://www.oxfam.org/en/research/economy-1>

4.11 Persistent effects of colonialism

Part of the extreme economic inequality that exists in today's world is due to colonial and neocolonial wars.

The Industrial Revolution opened up an enormous gap in military strength between the industrialized nations and the rest of the world. Taking advantage of their superior weaponry, Europe, the United States and Japan rapidly carved up the remainder of the world into colonies, which acted as sources of raw materials and food, and as markets for manufactured goods. Between 1800 and 1914, the percentage of the earth under the domination of colonial powers increased to 85 percent, if former colonies are included.

The English economist and Fabian, John Atkinson Hobson (1858-1940), offered a famous explanation of the colonial era in his book "Imperialism: A Study" (1902). According to Hobson, the basic problem that led to colonial expansion was an excessively unequal distribution of incomes in the industrialized countries. The result of this unequal distribution was that neither the rich nor the poor could buy back the total output of their society. The incomes of the poor were insufficient, and rich were too few in number. The rich had finite needs, and tended to reinvest their money. As Hobson pointed out, reinvestment in new factories only made the situation worse by increasing output.

Hobson had been sent as a reporter by the Manchester Guardian to cover the Second Boer War. His experiences had convinced him that colonial wars have an economic motive. Such wars are fought, he believed, to facilitate investment of the excess money of the rich in African or Asian plantations and mines, and to make possible the overseas sale of excess manufactured goods. Hobson believed imperialism to be immoral, since it entails suffering both among colonial peoples and among the poor of the industrial nations. The cure that he recommended was a more equal distribution of incomes in the manufacturing countries.

Neocolonialism?

In his book, *Neocolonialism, The Last Stage of Imperialism* (Thomas Nielsen, London, 1965), Kwami Nkrumah defined neocolonialism with the following words: "The essence of neocolonialism is that the State which is subject to it is, in theory independent, and has all the outward trappings of international sovereignty. In reality its economic system and thus its political policy is directed from the outside. The methods and form of this direction can take various shapes. For example, in an extreme case, the troops of the imperial power may garrison the territory of the neocolonial State and control the government of it. More often, however, neocolonial control is exercised through monetary means... The struggle against neocolonialism is not aimed at excluding the capital of the developed world from operating in less developed countries. It is aimed at preventing the financial power of the developed countries from being used in such a way as to impoverish the less developed."



Figure 4.10: A late 19th century French cartoon showing England, Germany, Russia, France and Japan slicing up the pie of China. (Public domain)



Figure 4.11: A cartoon showing Cecil Rhodes' colonial ambitions for Africa. The thread in his hands represents a proposed Cape-Town-to-Cairo telegraph line. He wanted to "paint the map British red", and declared, "If I could, I would annex other planets." (Public domain)

4.12 Historical conflicts related to water

Here are some excerpts from a very large list given on the following website:

<http://www.worldwater.org/conflict/list/>

- **1938, China floods Yellow River to defend from Japan:** Chiang Kai-shek orders the destruction of flood-control dikes of the Huayuankou, Henan section of the Huang He (Yellow) River, in order to flood areas threatened by the Japanese army. West of Kaifeng, dikes are destroyed with dynamite, spilling water across the flat plain. Even though the flood destroys part of the invading army and mires its equipment in mud, Wuhan, the headquarters of the Nationalist government is taken by the Japanese in October. Floodwaters cover an area variously estimated as between 3,000 and 50,000 square kilometers, and kill Chinese estimated in numbers between “tens of thousands” and “one million.”
- **1941-1943, WWII damages Soviet’s hydroelectric dams:** World War II inflicts enormous harm to hydroelectricity systems in the Soviet Union. Over two-thirds of the hydroelectric power stations are lost.
- **1947-1960s, Indus divided between India and Pakistan:** Partition leaves Indus basin divided between India and Pakistan; disputes over irrigation water ensue, during which India stems flow of water into irrigation canals in Pakistan. Indus Waters Agreement reached in 1960 after 12 years of World Bank-led negotiations.
- **1951, Israel and Syria fight over Yarmouk River:** Jordan makes public its plans to irrigate the Jordan Valley by tapping the Yarmouk River; Israel responds by commencing drainage of the Huleh swamps located in the demilitarized zone between Israel and Syria; border skirmishes ensue between Israel and Syria.
- **1962-1967, Brazil and Paraguay clash over Paraná River:** Negotiations between Brazil and Paraguay over the development of the Paraná River are interrupted by a unilateral show of military force by Brazil in 1962, which invades the area and claims control over the Guadalupe Falls site. Military forces are withdrawn in 1967 following an agreement for a joint commission to examine development in the region.
- **1975, Iraq, Syria mobilize troops over drought tensions:** As upstream dams are filled during a low-flow year on the Euphrates, Iraqis claim that flow reaching its territory is “intolerable” and asks the Arab League to intervene. Syrians claim they are receiving less than half the river’s normal flow and pull out of an Arab League technical committee formed



to mediate the conflict. In May Syria closes its airspace to Iraqi flights and both Syrian and Iraq reportedly transfer troops to their mutual border. Saudi Arabia successfully mediates the conflict.

- 1978 onwards, Egypt threatens Ethiopia over Nile plans: Long standing tensions over the Nile, especially the Blue Nile, originate in Ethiopia. Ethiopia's proposed construction of dams on the headwaters of the Blue Nile leads Egypt to repeatedly declare the vital importance of water. "The only matter that could take Egypt to war again is water" (Anwar Sadat, 1979). "The next war in our region will be over the waters of the Nile, not politics" (Boutros Boutros-Ghali, 1988).
- 1990-1991, Attacks on energy systems in Iraq leaves cities without water: During the Gulf War, targeted attacks on transformers and turbines at water treatment plants leave whole cities, such as Basra, without water or wastewater treatment. And due to embargos, parts needed to fix the plants are not available. It is estimated that at least 25% of water treatment plants in Iraq do not have backup power supply and are inoperable after electrical grids are damaged. Human Rights Watch 1991
- 1991-2001, US sanctions against Iraq target water systems: United States deliberately pursues policy of destroying Iraq's water systems through sanctions and withholding contracts.



**WATER
WARS**





4.13 Conflicts over water in the Middle East

Here are some quotations from an article by Sagatom Saha entitled *How climate change could exacerbate conflicts in the Middle East*⁶

“Global warming will do the Middle East no favors. Evidence abounds it will be the region that climate change will hit hardest. Summer temperatures across the region are expected to increase more than twice the global average. Prolonged heat waves, desertification, and droughts will make parts of the Middle East and North Africa uninhabitable. Where Middle Easterners will still be able to live, climate change may fuel violent competition over diminishing resources. Even though some degree of warming is inevitable, governments in the region and their international partners have done little to integrate climate change to their strategies to mitigate instability and conflict. Instead, they should brace themselves for a Middle East in which warming intensifies unrest, weakens state capacity, and provokes resource conflicts.

“For an early example of warming’s damaging power, look no further than Syria. Climate change caused the generational drought that preceded the ongoing civil war there. That drought drove rural farmers into urban centers like Damascus and Aleppo, priming the populace for concentrated, large-scale political unrest. From 2002 to 2010, the country’s total urban population increased by 50 percent. While climate change certainly did not compel Bashar Al-Assad to brutally crack down on his own people, it did prompt a confrontation that might not have occurred. Climate-induced economic despair and migration worked to reinforce other salient conflict drivers including Assad’s “privatization” efforts and concentration of power that exaggerated inequality and severed the dictator’s connection to rural, recently migrated communities. As climate change causes rapid temperature increases, food shortages, and economic pain elsewhere, more Middle Eastern countries might tip over into bloodshed.

“Climate-induced water shortages will be another source of conflict. When the Islamic State controlled large swathes of territory across Iraq and Syria, it wrested control of dams that provided drinking water, electricity, and irrigation to millions along the Tigris and Euphrates rivers. Ensuing clashes with Kurdish and Iraqi forces left Shiite holy cities like Karbala and Najaf without water. More than 23 million live in the river basin, and experts predict that, because of global warming, the Tigris and Euphrates will “disappear this century,” making conflict over what remains even more tempting if contested political control returns to the Fertile Crescent.

“Further, climate change will likely make Middle Eastern governments less

⁶<https://www.atlanticcouncil.org/blogs/menasource/how-climate-change-could-exacerbate-conflict-in-the-middle-east/>

capable of handling unrest. First, more frequent weather events will surely put a drag on resource delivery and create new emergency relief needs. In the Middle East where foreign assistance is often critical, donors may have to work double time to continue to fund stabilization and governance projects while also providing more humanitarian disaster aid.

“Second, oil producers will have fewer resources as oil receipts contract amid the inevitable global clean energy transition that will accompany climate action. Take the fact that worsening climate change is already driving a global transition toward clean energy. In November 2018, even while pursuing close cooperation with the Organization of Petroleum Exporting Countries (OPEC), Russian President Vladimir Putin openly declared that “\$70 suits us completely,” referring to an ideal oil price for his country. Unlike his Middle Eastern partners, Putin seems to acknowledge that OPEC oil will face market competition from renewables and US shale if it reaches too high a price.

“In countries where the social contract rests upon limited political freedom in exchange for subsidies and extravagant public works, there will be less money to go around, and it cannot be expected to go as far. Such is the case in Algeria, where street demonstrations have forced the country’s ailing leader, Abdelaziz Bouteflika, to step down. Protesters’ grievances are, in part, tied to the oil, which funded social benefits that buoyed youth employment until prices crashed.

“While countries like Saudi Arabia have the financial capacity to likely weather the storm, worry should be aimed squarely at unstable oil producers like Iraq and Libya, which require extraordinarily oil prices to fund budgets. It is true that oil is a valuable, concentrated resource that factions compete for in the region, but it may be a necessary source of reconstruction funding once conflict abates. In the best case, foreign assistance continues to come from western governments like the United States that still rely on the global flow of oil to some degree. In the worst case, donor governments abdicate their support as the mass deployment of wind turbines, solar panels, and electric vehicles become more feasible and affordable. The consequences could be locking in the fragility of the region’s current conflict zones: Even though Libyan militias fight to control oil infrastructure now, it is hard to imagine the country funding its own reconstruction in the future unless oil returns to a higher price.

“Climate change might also have the Middle East’s governments warier of their neighbors. Resource scarcity within a country can provoke nationwide unrest, but competition over transboundary resources can elevate even higher to bellicose levels. Knowing that water will become scarcer, it is instructive to understand how Middle Eastern neighbors are already handling disputes over water needed for irrigation, drinking, and hydropower production.

“The Nile River Basin provides one worrying example. Since 2011, Ethiopia has been constructing its Grand Renaissance Dam in a bid to become a regional

electricity exporter. However, the dam will slash downstream flow to Egypt by 25 percent. Cairo alleges that the dam will interrupt water supplies to its nearly 100 million people. While Ethiopia and Egypt are currently in negotiations, Egyptian officials have been caught considering military action over the dispute as recently as 2013. The current Egyptian president Abdel Fattah el-Sisi has openly declared the dam “a matter of life and death,” highlighting its continued importance. Climate change, which threatens to disrupt the Nile’s flows, stands to make an already tense situation worse.

“Admittedly, direct conflict between Middle Eastern countries has become rarer, but proxy wars are common, featuring in nearly all the region’s civil wars. Water has already featured in at least one of them: Historically, Damascus has leveraged support for the Kurdistan Workers Party (PKK), a group loathed by Istanbul, to force Turkey to share Euphrates waters to Syria. Nearly every country in the Middle East from Morocco to Iran share water resources with a neighbor, and some have little freshwater of their own. What has played out between Egypt and Sudan and between Turkey and Syria could become a frequent feature of Middle Eastern politics as water becomes even more scarce.”

4.14 Concluding remarks

From the discussion presented above, we can see that our present economic system produces an endless series of resource-motivated wars. In addition to the enormous suffering, waste, injustice and ecological destruction produced by modern wars, we must recognize that in an era of thermonuclear weapons, war has become prohibitively dangerous. Therefore we need a new economic system.

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Chapter 5

ECOLOGY AND THE VIETNAM WAR

5.1 McNamara's Evil Lives On

Here are some quotations from an article by Robert Sheer entitled *McNamara's Evil Lives On*, published in *The Nation* on July 8, 2008.¹

Why not speak ill of the dead?

Robert McNamara, who died this week, was a complex man - charming even, in a blustery way, and someone I found quite thoughtful when I interviewed him. In the third act of his life he was often an advocate for enlightened positions on world poverty and the dangers of the nuclear arms race. But whatever his better nature, it was the stark evil he perpetrated as secretary of defense that must indelibly frame our memory of him.

To not speak out fully because of respect for the deceased would be to mock the memory of the millions of innocent people McNamara caused to be maimed and killed in a war that he later freely admitted never made any sense. Much has been made of the fact that he recanted his support for the war, but that came 20 years after the holocaust he visited upon Vietnam was over.

Is holocaust too emotionally charged a word? How many millions of dead innocent civilians does it take to qualify labels like holocaust, genocide or terrorism? How many of the limbless victims of his fragmentation bombs and land mines whom I saw in Vietnam during and after the war? Or are America's leaders always to be exempted from such questions? Perhaps if McNamara had been held legally accountable for his actions, the architects of the Iraq debacle might have paused.

Instead, McNamara was honored with the Medal of Freedom by President Lyndon Johnson, to whom he had written a private memo nine months earlier

¹<https://www.thenation.com/article/archive/mcnamaras-evil-lives/>

offering this assessment of their Vietnam carnage: 'The picture of the world's greatest superpower killing or seriously injuring 1,000 noncombatants a week, while trying to pound a tiny backward nation into submission on an issue whose merits are hotly disputed, is not a pretty one.'

He knew it then, and, give him this, the dimensions of that horror never left him. When I interviewed him for the Los Angeles Times in 1995, after the publication of his confessional memoir, his assessment of the madness he had unleashed was all too clear:

'Look, we dropped three to four times the tonnage on that tiny little area as were dropped by the Allies in all of the theaters in World War II over a period of five years. It was unbelievable. We killed - there were killed - 3,200,000 Vietnamese, excluding the South Vietnamese military. My God! The killing, the tonnage - it was fantastic. The problem was that we were trying to do something that was militarily impossible - we were trying to break the will; I don't think we can break the will by bombing short of genocide.'

We - no, he - couldn't break their will because their fight was for national independence. They had defeated the French and would defeat the Americans who took over when French colonialists gave up the ghost. The war was a lie from the first. It never had anything to do with the freedom of the Vietnamese (we installed one tyrant after another in power), but instead had to do with our irrational cold war obsession with 'international communism.' Irrational, as President Richard Nixon acknowledged when he embraced detente with the Soviet communists, toasted China's fierce communist Mao Tse-tung and then escalated the war against 'communist' Vietnam and neutral Cambodia.

It was always a lie and our leaders knew it, but that did not give them pause. Both Johnson and Nixon make it quite clear on their White House tapes that the mindless killing, McNamara's infamous body count, was about domestic politics and never security.

The lies are clearly revealed in the Pentagon Papers study that McNamara commissioned, but they were made public only through the bravery of Daniel Ellsberg. Yet when Ellsberg, a former Marine who had worked for McNamara in the Pentagon, was in the docket facing the full wrath of Nixon's Justice Department, McNamara would lift not a finger in his defense. Worse, as Ellsberg reminded me this week, McNamara threatened that if subpoenaed to testify at the trial by Ellsberg's defense team, 'I would hurt your client badly.'

Not as badly as those he killed or severely wounded. Not as badly as the almost 59,000 American soldiers killed and the many more horribly hurt. One of them was the writer and activist Ron Kovic, who as a kid from Long Island was seduced by McNamara's lies into volunteering for two tours in Vietnam. Eventually, struggling with his mostly paralyzed body, he spoke out against the war in the hope that others would not have to suffer as he did (and still does). Meanwhile, McNamara maintained his golden silence, even as Richard Nixon managed to kill and maim millions more. What McNamara did was evil

- deeply so.

5.2 The Pentagon Papers

Wikipedia states that:

The Pentagon Papers, officially titled *Report of the Office of the Secretary of Defense Vietnam Task Force*, is a United States Department of Defense history of the United States' political and military involvement in Vietnam from 1945 to 1967. The papers were released by Daniel Ellsberg, who had worked on the study; they were first brought to the attention of the public on the front page of *The New York Times* in 1971. A 1996 article in *The New York Times* said that the Pentagon Papers had demonstrated, among other things, that the Johnson Administration 'systematically lied, not only to the public but also to Congress.'

More specifically, the papers revealed that the U.S. had secretly enlarged the scope of its actions in the Vietnam War with the bombings of nearby Cambodia and Laos, coastal raids on North Vietnam, as well as Marine Corps attacks, none of which were reported in the mainstream media. For his disclosure of the Pentagon Papers, Ellsberg was initially charged with conspiracy, espionage, and theft of government property, but the charges were later dismissed after prosecutors investigating the Watergate scandal discovered that the staff members in the Nixon White House had ordered the so-called White House Plumbers to engage in unlawful efforts to discredit Ellsberg...

To ensure the possibility of public debate about the papers' content, on June 29, US Senator Mike Gravel, an Alaska Democrat, entered 4,100 pages of the papers into the record of his Subcommittee on Public Buildings and Grounds. These portions of the papers, which were edited for Gravel by Howard Zinn and Noam Chomsky, were subsequently published by Beacon Press, the publishing arm of the Unitarian Universalist Association of Congregations. A federal grand jury was subsequently empaneled to investigate possible violations of federal law in the release of the report. Leonard Rodberg, a Gravel aide, was subpoenaed to testify about his role in obtaining and arranging for publication of the Pentagon Papers. Gravel asked the court (in *Gravel v. United States*) to quash the subpoena on the basis of the Speech or Debate Clause in Article I, Section 6 of the United States Constitution.

Daniel Ellsberg believed that when U.S. citizens discovered that the Vietnam War was based on lies, the war would end. However, it continued for many more years.



Figure 5.1: Victims of the Mai Lai Massacre.



Figure 5.2: Napalm burn victims during the war being treated at the 67th Combat Support Hospital. 1967-1968 Innocent children become burn victims in the Vietnam War.



Figure 5.3: Frightened children flee from an air attack in Vietnam.

5.3 Effects of Agent Orange

Wikipedia states that:

“Up to four million people in Vietnam were exposed to the defoliant. The government of Vietnam says as many as three million people have suffered illness because of Agent Orange,[4] and the Red Cross of Vietnam estimates that up to one million people are disabled or have health problems as a result of Agent Orange contamination. The United States government has described these figures as unreliable, while documenting higher cases of leukemia, Hodgkin’s lymphoma, and various kinds of cancer in exposed US military veterans. An epidemiological study done by the Centers for Disease Control and Prevention showed that there was an increase in the rate of birth defects of the children of military personnel as a result of Agent Orange. Agent Orange has also caused enormous environmental damage in Vietnam. Over 3,100,000 hectares (31,000 km² or 11,969 mi²) of forest were defoliated. Defoliants eroded tree cover and seedling forest stock, making reforestation difficult in numerous areas. Animal species diversity sharply reduced in contrast with unsprayed areas.”



Figure 5.4: Nguyen Xuan Minh lies in a crib at the Tu Du Hospital May 2, 2005 in Ho Chi Minh City, Vietnam.



Figure 5.5: A disabled and malformed victim of foliant Agent Orange, begs on the streets of Saigon to make a living, 1996.

5.4 Bombing of Cambodia and Laos

According to an article by Jessica Pearce Rotondi entitled *Why Laos Has Been Bombed More Than Any Other Country*²,

“The U.S. bombing of Laos (1964-1973) was part of a covert attempt by the CIA to wrest power from the communist Pathet Lao, a group allied with North Vietnam and the Soviet Union during the Vietnam War.

“The officially neutral country became a battleground in the Cold War between the United States and Soviet Union, with American bombers dropping over two million tons of cluster bombs over Laos - more than all the bombs dropped during WWII combined. Today, Laos is the most heavily bombed nation in history. Here are facts about the so-called secret war in Laos.

“Laos is a landlocked country bordered by China and Myanmar to the North, Vietnam to the East, Cambodia to the South and Thailand and the Mekong River to the West.

“Its proximity to Mao Zedong’s China made it critical to Dwight D. Eisenhower’s Domino Theory of keeping communism at bay. ‘If Laos were lost, the rest of Southeast Asia would follow,’ Eisenhower told his National Security Council. On the day of his farewell address in 1961, President Eisenhower approved the CIA’s training of anti-communist forces in the mountains of Laos. Their mission: To disrupt communist supply routes across the Ho Chi Minh Trail to Vietnam.

“Eisenhower’s successors in the White House: John F. Kennedy, Lyndon B. Johnson and Richard Nixon, all approved escalating air support for the guerrilla fighters, but not publicly. The 1962 International Agreement on the Neutrality of Laos, signed by China, the Soviet Union, Vietnam, the United States and 10 other countries, forbid signers from directly invading Laos or establishing military bases there. The secret war in Laos had begun...

“In Laos, the legacy of U.S. bombs continues to wreak havoc. Since 1964, more than 50,000 Lao have been killed or injured by U.S. bombs, 98 percent of them civilians. An estimated 30 percent of the bombs dropped on Laos failed to explode upon impact, and in the years since the bombing ended, 20,000 people have been killed or maimed by the estimated 80 million bombs left behind.”

By 1975, one tenth of the population of Laos had been killed by the bombs, and a quarter of the population were refugees.

²<https://www.history.com/news/laos-most-bombed-country-vietnam-war>

Cambodia

Here are some quotations from an article by Maximilian Wechsler entitled *America's 'Secret War' and the Bombing of Southeast Asia*³:

“On March 18, 1969, USAF Strategic Air Command (SAC) B-52 bombers began carpet bombing Cambodia on the order of President Nixon. The overall covert operation was code-named ‘Operation Menu’, with various phases named ‘Breakfast’, ‘Lunch’, ‘Dinner’, ‘Snack’, ‘Supper’ and ‘Dessert’.

“President Nixon ordered the campaign without consulting Congress and even kept it secret from top military officials. Five members of Congress were informed several months after the start of Operation Menu, but it was kept secret from the American people until The New York Times broke the story in May 1969. Henry Kissinger, President Nixon’s National Security Adviser, was reportedly outraged over the leaked information in the story and ordered the FBI to wiretap the phones of top White House aides and reporters to find the source.

“More reports of the secret bombing campaign surfaced in the press and records of Congressional proceedings, but it was not until 2000 that official the USAF records of US bombing activity over Indochina from 1964 to 1973 were declassified by President Bill Clinton.

“Some sources say that during the first phase of the bombings lasting until April 1970, ‘Operation Breakfast’, the SAC conducted 3,630 sorties and dropped 110,000 tons of bombs and that in the entire four-year campaign the US dropped about 540,000 tons of bombs. In the book *Bombs Over Cambodia*, historians Ben Kiernan and Taylor Owen state that, based on their analysis of the declassified documents, 2,756,941 tons of ordnance was dropped during Operation Menu, more than the US dropped on Japan during World War II.

“The authors also say that US planes flew 230,516 sorties over 113,716 sites. Estimates of casualties vary widely as well, but it is believed that somewhere between 100,000 and 600,000 civilians died in the bombing and two million became homeless. Some sources say that hundreds of thousands more Cambodians died from the effects of displacement, illness or starvation as a direct result of the bombings.

“The carpet bombing of Cambodia lasted until August 1973. It devastated the countryside and the chaos and upheaval it unleashed played a big part in the installation of the genocidal Khmer Rouge regime led by Pol Pot. The Khmer Rouge was responsible for the deaths of up to two million Cambodians through executions, forced labour and starvation.”

³<https://www.thebigchilli.com/feature-stories/americas-secret-war-and-the-bombing-of-southeast-asia>



President Nixon



What is Air War?

From a handbook published under the name of Project Air War and the Indochina Resources Center in 1972: "Air war, by its very nature, means destroying everything below: homes, schools, gardens, pagodas, rice fields, forests, animal life, and of course, any people caught in the open."

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Chapter 6

THE THREATS AND COSTS OF WAR

6.1 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, 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 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 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.

6.2 Killing civilians

Between 2 September and 5 September, 1807, the civilian population of Copenhagen was subjected to a bombardment by British military forces, without any declaration of war. The purpose of the bombardment was to induce terror in the population, and to thereby force the surrender of the Danish fleet, which the British feared might otherwise fall into the hands of Napoleon. It was one of the first occasions on which civilians were deliberately targeted in this manner.

Copenhagen was almost undefended, since the Danish army was positioned at the southern boundary of the country, ready to repel a possible attack by Napoleon’s army. British troops and artillery were thus easily able to surround the city, while the British fleet occupied the harbor. On the first night of the bombardment, 5000 rounds were fired into the city, on the second night 2000, and on the third night 7000. New incendiary rockets developed by William Congreve were also used. More than 2000 civilians were killed by the bombardment, and about 30 percent of Copenhagen’s buildings were destroyed. The bicentenary of this barbaric event might be an appropriate time to think about state-sponsored terror, in which innocent civilians are deliberately targeted.



Figure 6.1: Contemporary Danish painting of the bombardment at night.



Figure 6.2: An illustration by Eckersberg of the Church of Our Lady being bombed.



Figure 6.3: *The Most Terrible Night*. View of Kongens Nytorv in Copenhagen During the English Bombardment of Copenhagen at Night between 4 and 5 September 1807.

The erosion of ethical principles during World War II

When Hitler invaded Poland in September, 1939, US President Franklin Delano Roosevelt appealed to Great Britain, France, and Germany to spare innocent civilians from terror bombing. "The ruthless bombing from the air of civilians in unfortified centers of population during the course of the hostilities", Roosevelt said (referring to the use of air bombardment during World War I) "...has sickened the hearts of every civilized man and woman, and has profoundly shocked the conscience of humanity." He urged "every Government which may be engaged in hostilities publicly to affirm its determination that its armed forces shall in no event, and under no circumstances, undertake the bombardment from the air of civilian populations or of unfortified cities."

Two weeks later, British Prime Minister Neville Chamberlain responded to Roosevelt's appeal with the words: "Whatever the lengths to which others may go, His Majesty's Government will never resort to the deliberate attack on women and children and other civilians for purposes of mere terrorism."

Much was destroyed during World War II, and among the casualties of the war were the ethical principles that Roosevelt and Chamberlain announced at its outset. At the time of Roosevelt and Chamberlain's declarations, terror bombing of civilians had already begun in the Far East. On 22 and 23 September, 1937, Japanese bombers attacked civilian populations in Nanjing and Canton. The attacks provoked widespread protests. The British Under Secretary of State for Foreign Affairs, Lord Cranborne, wrote: "Words cannot express the feelings of profound horror with which the news of these raids has been received by the whole civilized world. They are often directed against places far from the actual area of hostilities. The military objective, where it exists, seems to take a completely second place. The main object seems to be to inspire terror by the indiscriminate slaughter of civilians..."

On the 25th of September, 1939, Hitler's air force began a series of intense attacks on Warsaw. Civilian areas of the city, hospitals marked with the Red Cross symbol, and fleeing refugees all were targeted in a effort to force the surrender of the city through terror. On the 14th of May, 1940, Rotterdam was also devastated. Between the 7th of September 1940 and the 10th of May 1941, the German Luftwaffe carried out massive air attacks on targets in Britain. By May, 1941, 43,000 British civilians were killed and more than a million houses destroyed.

Although they were not the first to start it, by the end of the war the United States and Great Britain were bombing of civilians on a far greater scale than Japan and Germany had ever done. For example, on July 24-28, 1943, British and American bombers attacked Hamburg with an enormous incendiary raid whose official intention "the total destruction" of the city.

The result was a firestorm that did, if fact, lead to the total destruction of the city. One airman recalled, that "As far as I could see was one mass of fire. 'A sea of flame' has been the description, and that's an understatement. It was so bright that I could read the target maps and adjust the bomb-sight." Another pilot was "...amazed at the awe-inspiring sight of the target area. It seemed as though the whole of Hamburg was on fire from one



Figure 6.4: Picasso's famous painting *Guernica* was a protest following the Nazi bombing of civilians in a Basque town,

end to the other and a huge column of smoke was towering well above us - and we were on 20,000 feet! It all seemed almost incredible and, when I realized that I was looking at a city with a population of two millions, or about that, it became almost frightening to think of what must be going on down there in Hamburg."

Below, in the burning city, temperatures reached 1400 degrees Fahrenheit, a temperature at which lead and aluminum have long since liquefied. Powerful winds sucked new air into the firestorm. There were reports of babies being torn by the high winds from their mothers' arms and sucked into the flames. Of the 45,000 people killed, it has been estimated that 50 percent were women and children and many of the men killed were elderly, above military age. For weeks after the raids, survivors were plagued by "...droves of vicious rats, grown strong by feeding on the corpses that were left unburied within the rubble as well as the potatoes and other food supplies lost beneath the broken buildings."

The German cities Kassel, Pforzheim, Mainz, Dresden and Berlin were similarly destroyed, and in Japan, US bombing created firestorms in many cities, for example Tokyo, Kobe and Yokohama. In Tokyo alone, incendiary bombing caused more than 100,000 civilian casualties.

Hiroshima and Nagasaki

On August 6, 1945, at 8.15 in the morning, a nuclear fission bomb was exploded in the air over the civilian population of Hiroshima in an already virtually defeated Japan. The force of the explosion was equivalent to fifteen thousand tons of TNT. Out of a city of two hundred and fifty thousand, one hundred thousand were killed immediately, and another





hundred thousand were hurt. Many of the injured died later from radiation sickness. A few days later, Nagasaki was similarly destroyed.

The tragic destruction of the two Japanese cities was horrible enough in itself, but it also marked the start of a nuclear arms race that continues to cast a very dark shadow over the future of civilization. Not long afterwards, the Soviet Union exploded its own atomic bomb, creating feelings of panic in the United States. President Truman authorized an all-out effort to build superbombs based on thermonuclear reactions, the reactions that heat the sun and stars.

In March, 1954, the US tested a thermonuclear bomb at Bikini Atoll in the Pacific Ocean. It was 1000 times more powerful than the Hiroshima bomb. The Japanese fishing boat, Lucky Dragon, was 135 kilometers from the Bikini explosion, but radioactive fallout

from the explosion killed one crew member and made all the others seriously ill. The distance to the Marshall Islands was equally large, but even today, islanders continue to suffer from the effects of fallout from the test, for example frequent birth defects.

Driven by the paranoia of the Cold War, the number of nuclear weapons on both sides reached truly insane heights. At the worst point, there were 50,000 nuclear weapons in the world, with a total explosive power roughly a million times the power of the Hiroshima bomb. This was equivalent to 4 tons of TNT for every person on the planet - enough to destroy human civilization many times over - enough to threaten the existence of all life on earth.

At the end of the Cold War, most people heaved a sigh of relief and pushed the problem of nuclear weapons away from their minds. It was a threat to life too horrible to think about. People felt that they could do nothing in any case, and they hoped that the problem had finally disappeared.

Today, however, many thoughtful people realize that the problem of nuclear weapons has by no means disappeared, and in some ways it is even more serious now than it was during the Cold War. There are still over 15,000 nuclear weapons in the world, many of them hydrogen bombs, many on hair-trigger alert, ready to be fired with only a few minutes warning. The world has frequently come extremely close to accidental nuclear war. If nuclear weapons are allowed to exist for a long period of time, the probability for such a catastrophic accident to happen will grow into a certainty.

Current dangers also come from proliferation. Recently, more and more nations have come to possess nuclear weapons, and thus the danger that they will be used increases. For example, if Pakistan's less-than-stable government should fall, its nuclear weapons might find their way into the hands of terrorists, and against terrorism deterrence has no effect.

Thus we live at a special time in history - a time of crisis for civilization. We did not ask to be born at a moment of crisis, but such is our fate. Every person now alive has a special responsibility: We owe it, both to our ancestors and to future generations, to build a stable and cooperative future world. It must be a war-free world, from which nuclear weapons have been completely abolished. No person can achieve these changes alone, but together we can build the world that we desire. This will not happen through inaction, but it can happen through the dedicated work of large numbers of citizens.

Civilians have for too long played the role of passive targets, hostages in the power struggles of politicians. It is time for civil society to make its will felt. If our leaders continue to enthusiastically support the institution of war, if they will not abolish nuclear weapons, then let us have new leaders.

6.3 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 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.

6.4 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, normal supplies of food, safe water and medicine are interrupted, so that populations become vulnerable to famine and epidemics.¹

6.5 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.²

6.6 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

¹<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>

²<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2080482/>

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.³

6.7 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.⁴

6.8 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

³<https://www.hrw.org/topic/refugees>

⁴<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>
<http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/00157630-EN-ERP-48.PDF>

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 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 Vietnam⁵

6.9 Links between poverty and war

There are several relationships between intolerable economic inequality and war. Today 2.7 billion people live on less than 2 dollars a day - 1.1 billion on less than 1 dollar per day. 18 million of our fellow humans die each year from poverty-related causes. In 2006, 1.1 billion people lacked safe drinking water, and waterborne diseases killed an estimated 1.8 million people. The developing countries are also the scene of a resurgence of other infectious diseases, such as malaria, drug-resistant tuberculosis and HIV/AIDS.

Meanwhile, in 2011, world military budgets reached 1,700,000,000,000 dollars (i.e. 1.7 million million dollars). This amount of money is almost too large to be imagined. The fact that it is being spent means that many people are making a living from the institution of war. Wealthy and powerful lobbies from the military-industrial complex are able to influence mass media and governments. Thus the institution of war persists, although we know very well that it is a threat to civilization and that it responsible for much of the suffering that humans experience.

Today’s military spending of almost two trillion US dollars per year would be more than enough to finance safe drinking water for the entire world, and to bring primary health care and family planning advice to all. If used constructively, the money now wasted (or worse

⁵<http://www.dailymail.co.uk/news/article-2401378/Agent-Orange-Vietnamese-children-suffering-effects-herbicide-sprayed-US-Army-40-years-ago.html>

than wasted) on the institution of war could also help the world to make the transition from fossil fuel use to renewable energy systems.

Military might is used by powerful industrialized nations to maintain economic hegemony over less developed countries. This is true today, even though the colonial era is supposed to be over (as has been amply documented by Professor Michael Klare in his books on “Resource Wars”).

The way in which the industrialized countries maintain their control over less developed nations can be illustrated by the “resource curse”, i.e. the fact that resource-rich developing countries are no better off economically than those that lack resources, but are cursed with corrupt and undemocratic governments. This is because foreign corporations extracting local resources under unfair agreements exist in a symbiotic relationship with corrupt local officials.

One might think that taxation of foreign resource-extracting firms would provide developing countries with large incomes. However, there is at present no international law governing multinational tax arrangements. These are usually agreed to on a bilateral basis, and the industrialized countries have stronger bargaining powers in arranging the bilateral agreements.

Another important poverty-generating factor in the developing countries is war - often civil war. The five permanent members of the U.N. Security Council are, ironically, the five largest exporters of small arms. Small arms have a long life. The weapons poured into Africa by both sides during the Cold War are still there, and they contribute to political chaos and civil wars that block development and cause enormous human suffering.

The United Nations website on Peace and Security through Disarmament states that “Small arms and light weapons destabilize regions; spark, fuel and prolong conflicts; obstruct relief programmes; undermine peace initiatives; exacerbate human rights abuses; hamper development; and foster a ‘culture of violence’.”

An estimated 639 million small arms and light weapons are in circulation worldwide, one for every ten people. Approximately 300,000 people are killed every year by these weapons, many of them women and children.

There is also another, less obvious, link between intolerable economic inequality war: Abolition of the institution of war will require the replacement of “might makes right” by the rule international law. It will require development of effective global governance. But reform and strengthening of the United Nations is blocked by wealthy countries because they are afraid of losing their privileged positions. If global economic inequality were less enormous, the problem of unifying the world would be simplified.

Let us work to break the links between poverty and war! To do that, we must work for laws that will restrict the international sale of small arms; we must work for a fair relationship between developing countries and multinational corporations; and above all, we must question the need for colossal military budgets. By following this path we can free the world from the intolerable suffering caused by poverty and from the equally intolerable suffering caused by war.

6.10 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 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 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 as 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.”⁶

⁶<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>
<http://www.countercurrents.org/avery300713.htm>
<https://www.wagingpeace.org/author/john-avery/>
<http://www.commondreams.org/news/2015/08/06/70-years-after-bombing-hiroshima-calls-abolish-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>
<http://human-wrongs-watch.net/2015/07/22/israel-iran-and-the-nuclear-non-proliferation-treaty/>



Figure 6.5: U.N. Secretary General Antonio Guterres addressed the Human Rights Council at the United Nations in Geneva, Switzerland February 26, 2018.

Speaking to the Conference on Disarmament at the U.N. complex in Geneva, Guterres said many states still wrongly thought that nuclear weapons made the world safer.

“There is great and justified anxiety around the world about the threat of nuclear war,” he said.

“Countries persist in clinging to the fallacious idea that nuclear arms make the world safer ... At the global level, we must work towards forging a new momentum on eliminating nuclear weapons.”

<http://human-wrongs-watch.net/2015/06/25/militarisms-hostages/>
<http://human-wrongs-watch.net/2015/05/24/the-path-to-zero-dialogues-on-nuclear-dangers-by-richard-falk-and-david-krieger/>
<http://human-wrongs-watch.net/2015/03/30/europe-must-not-be-forced-into-a-nuclear-war-with-russia/>
<http://www.truth-out.org/opinion/item/32073-the-us-should-eliminate-its-nuclear-arsenal-not-modernize-it>
<http://www.cadmusjournal.org/article/issue-4/flaws-concept-nuclear-deterrance>
<http://www.cadmusjournal.org/article/issue-6/arms-trade-treaty-opens-new-possibilities-u>
<http://eruditio.worldacademy.org/issue-6/article/remember-your-humanity>
<http://www.informationclearinghouse.info/article42568.htm>
<https://firstlook.org/theintercept/2014/09/23/nobel-peace-prize-fact-day-syria-7th-country-bombed-obama/>
<http://www.informationclearinghouse.info/article42577.htm>
<http://www.informationclearinghouse.info/article42580.htm>
<http://human-wrongs-watch.net/2015/08/06/us-unleashing-of-atomic-weapons-against-civilian-populations-was-a-criminal-act-of-the-first-order/>
<http://human-wrongs-watch.net/2015/08/06/hiroshima-and-nagasaki-remembering-the-power-of-peace/>
<http://human-wrongs-watch.net/2015/08/04/atomic-bombing-hear-the-story-setsuko-thurlow/>
<http://human-wrongs-watch.net/2015/08/04/atomic-bombing-hear-the-story-yasuaki-yamashita/>
<http://human-wrongs-watch.net/2015/08/03/why-nuclear-weapons/>

Two World War I poems by Wilfred Owen

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 our 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.*

We condemn human sacrifice in primitive cultures, but does not our modern industrial society also practice this abominable custom? We sacrifice countless young men and women in endless and unnecessary wars.

World War II: a continuation of World War I

In the Second World War, the number of soldiers killed was roughly the same as in World War I, but the numbers of civilian deaths was much larger. In the USSR alone, about 20 million people are thought to have been killed, directly or indirectly, by World War II, and of these only 7.5 million were battle deaths. Many of the USSR's civilian deaths were caused by starvation, disease or exposure. Civilian populations also suffered greatly in the devastating bombings of cities such as London, Coventry, Rotterdam, Warsaw, Dresden, Cologne, Berlin, Tokyo, Hiroshima and Nagasaki. In World War II, the total number of deaths, civilian and military, is estimated to have been between 62 and 78 million.

Do Benjamin Netanyahu and Ehud Barak, who are contemplating starting what might develop into World War III, have any imaginative concept of what it would be like? Netanyahu has told the Israeli people that only 500 of their citizens would be killed, and that the conflict would be over in a month. One is reminded of the Austrian leaders in 1914, who started a what they thought would be a small action to punish the Serbian nation-

alists for their Pan-Slavic ambitions. When the result was a world-destroying war, they said “That is not what we intended.” Of course it is not what they intended, but nobody can control the escalation of conflicts. The astonishing unrealism of the Netanyahu-Barak statements also reminds one of Kaiser Wilhelm’s monumentally unrealistic words to his departing troops: “You will be home before the leaves are off the trees.”

The planned attack on Iran would not only violate international law, but would also violate common sense and the wishes of the people of Israel. The probable result would be a massive Iranian missile attack on Tel Aviv, and Iran would probably also close the Straits of Hormuz. If the United States responded by bombing Iranian targets, Iran would probably use missiles to sink one or more of the US ships in the Persian Gulf. One can easily imagine other steps in the escalation of the conflict: a revolution in Pakistan; the entry of nuclear-armed Pakistan into the war on the side of Iran; a preemptive nuclear strike by Israel against Pakistan’s nuclear weapons; and Chinese-Russian support of Iran. In the tense atmosphere of such a war, the danger of a major nuclear exchange, due to accident or miscalculation, would be very great.

Today, because the technology of killing has continued to develop, the danger of a catastrophic war with hydrogen bombs hangs like a dark cloud over the future of human civilization. The total explosive power of today’s weapons is equivalent to roughly half a million Hiroshima bombs. To multiply the tragedy of Hiroshima and Nagasaki by a factor of half a million changes the danger qualitatively. What is threatened today is the complete breakdown of human society.

There are more than 15,000 nuclear weapons in the world today, about 4,000 of them on hair-trigger alert. The phrase “hair trigger alert” means that the person in charge has only 15 minutes to decide whether the warning from the radar system was true or false, and to decide whether or not to launch a counterattack. The danger of accidental nuclear war continues to be high. Technical failures and human failures have many times brought the world close to a catastrophic nuclear war. Those who know the system of “deterrence” best describe it as “an accident waiting to happen”.

No one can win a nuclear war, just as no one can win a natural catastrophe like an earthquake or a tsunami. The effects of a nuclear war would be global, and all the nations of the world would suffer - also neutral nations.

Recent studies by atmospheric scientists have shown that the smoke from burning cities produced by even a limited nuclear war would have a devastating effect on global agriculture. The studies show that the smoke would rise to the stratosphere, where it would spread globally and remain for a decade, blocking sunlight, blocking the hydrological cycle and destroying the ozone layer. Because of the devastating effect on global agriculture, darkness from even a small nuclear war could result in an estimated billion deaths from famine. This number corresponds to the fact that today, a billion people are chronically undernourished. If global agriculture were sufficiently damaged by a nuclear war, these vulnerable people might not survive. A large-scale nuclear war would be an even greater global catastrophe, completely destroying all agriculture for a period of ten years.

The tragedies of Chernobyl and Fukushima remind us that a nuclear war would make large areas of the world permanently uninhabitable because of long-lasting radioactive



contamination.

The First World War was a colossal mistake. Today, the world stands on the threshold of an equally enormous disaster. Must we again be lead into a world-destroying war by a few blind individuals who do not have the slightest idea of what such a war would be like?

6.11 Atoms for peace?

“Atoms for Peace”, the title of U.S. President Dwight D. Eisenhower’s 1953 speech to the U.N. General Assembly, may be regarded by future generations as being tragically self-contradictory. Nuclear power generation has led not only to dangerous proliferation of nuclear weapons, but also to disasters which have made large areas of the world permanently uninhabitable because of long-lived radioactive contamination.

According to Wikipedia, “...Under Atoms for Peace related programs, the US exported 25 tons of highly enriched uranium to 30 countries, mostly to fuel research reactors....The Soviet Union also exported 11 tons of HEU under a similar program.” This enormous quantity of loose weapons-usable highly enriched uranium, is now regarded as very worrying because of proliferation and terrorism risks.

A recent article in “The Examiner” (<http://www.examiner.com/article/nuclear-security-u-s-fails-to-protect-its-nuclear-materials-overseas>) pointed out that “...NRC and DOE could not account for the current location and disposition of U.S. HEW overseas in response to a 1992 congressional mandate. U.S. agencies, in a 1993 report produced in response to the mandate, were able to verify the location of only 1.160 kilograms out of 17,500 kilograms of U.S. HEW estimated to have been exported.”

The dangers of nuclear power generation are exemplified by the Chernobyl disaster: On the 26th of April, 1986, during the small hours of the morning, the staff of the Chernobyl nuclear reactor in Ukraine turned off several safety systems in order to perform a test. The result was a core meltdown in Reactor 4, causing a chemical explosion that blew off the reactor’s 1,000-ton steel and concrete lid. 190 tons of highly radioactive uranium and graphite were hurled into the atmosphere.

The resulting radioactive fallout was 200 times greater than that caused by the nuclear bombs that destroyed Hiroshima and Nagasaki. The radioactive cloud spread over Belarus, Ukraine, Russia, Finland, Sweden and Eastern Europe, exposing the populations of these regions to levels of radiation 100 times the normal background. Ultimately, the radioactive cloud reached as far as Greenland and parts of Asia.

The exact number of casualties resulting from the Chernobyl meltdown is a matter of controversy, but according to a United Nations report, as many as 9 million people have been adversely affected by the disaster. Since 1986, the rate of thyroid cancer in affected areas has increased ten-fold. An area of 155,000 square kilometers (almost half the size of Italy) in Belarus, Ukraine and Russia is still severely contaminated. Even as far away as Wales, hundreds of farms are still under restrictions because of sheep eating radioactive grass.

The more recent disaster of 11 March, 2011, may prove to be very much worse than Chernobyl. According to an article by Harvey Wasserman (<http://www.commondreams.org/view/2014/02/03-3>), the ongoing fallout from the Fukushima catastrophe is already far in excess of that from Chernobyl. Ecosystems of the entire Pacific ocean are being contaminated by the 300 tons of radioactive water from Fukushima that continue to pour into the Pacific every day.

Meanwhile, the increasingly militaristic government of Japan’s Prime Minister Shinzo Abe has passed a State Secrets Act that makes it an offense punishable by 5 year’s imprisonment for journalists to report on the situation. Under this cloak of secrecy, attempts are being made to remove highly radioactive used fuel rods balanced precariously in a partially destroyed container hanging in the air above the stricken Unit Four. If an accident should occur, the released radioactivity could dwarf previous disasters.

Public opinion turned against nuclear power generation as a result of the Chernobyl and Fukushima catastrophes. Nevertheless, many governments insist on pushing forward their plans for opening new nuclear power plants, despite popular opposition. Nuclear power could never compete in price with solar energy or wind energy if it were not heavily subsidized by governments. Furthermore, if a careful accounting is made of the CO₂ released in the construction of nuclear power plants, the mining, refining and transportation of uranium ore, and the final decommissioning of the plants, the amount of CO₂ released



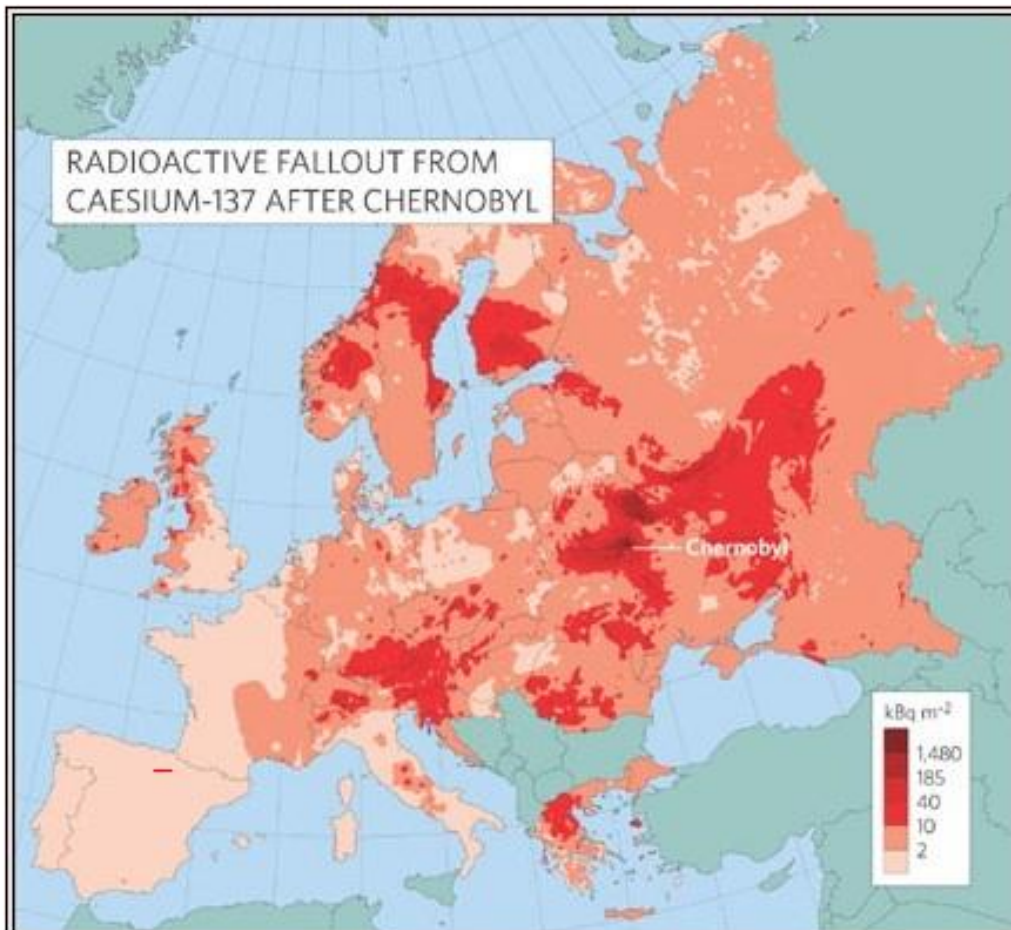
is seen to be similar to that of coal-fired plants.

There are three basic reasons why nuclear power generation is one of the worst ideas ever conceived: First is the danger of proliferation of nuclear weapons, which will be discussed in detail below. Secondly, there is the danger of catastrophic accidents, such as the ones that occurred at Chernobyl and Fukushima. Finally, the problem of how to safely dispose of or store used fuel rods has not been solved.

In thinking about the dangers posed by radioactive waste, we should remember that many of the dangerous radioisotopes involved have half-lives of hundreds of thousands of years. Thus, it is not sufficient to seal them in containers that will last for a century, or even a millennium. We must find containers that will last for a hundred thousand years or more, longer than any human structure has ever lasted.

Of the two bombs that destroyed Hiroshima and Nagasaki, one made use of the rare isotope of uranium, U-235, while the other used plutonium. Both of these materials can be made by a nation with a nuclear power generation program.

Uranium has atomic number 92, i.e., a neutral uranium atom has a nucleus containing 92 positively-charged protons, around which 92 negatively-charged electrons circle. All of the isotopes of uranium have the same number of protons and electrons, and hence the same chemical properties, but they differ in the number of neutrons in their nuclei. For example, the nucleus of U-235 has 143 neutrons, while that of U-238 has 146. Notice that $92+143=235$, while $92+146=238$. The number written after the name of an element to specify a particular isotope is the number of neutrons plus the number of protons. This is called the "nucleon number", and the weight of an isotope is roughly proportional to it. This means that U-238 is slightly heavier than U-235. If the two isotopes are to be separated, difficult physical methods dependent on mass must be used, since their chemical properties are identical. In natural uranium, the amount of the rare isotope U-235 is only



J. SMITH & N. A. BERESFORD *CHERNOBYL: CATASTROPHE AND CONSEQUENCES* (PRAXIS, CHICHESTER, 2005)



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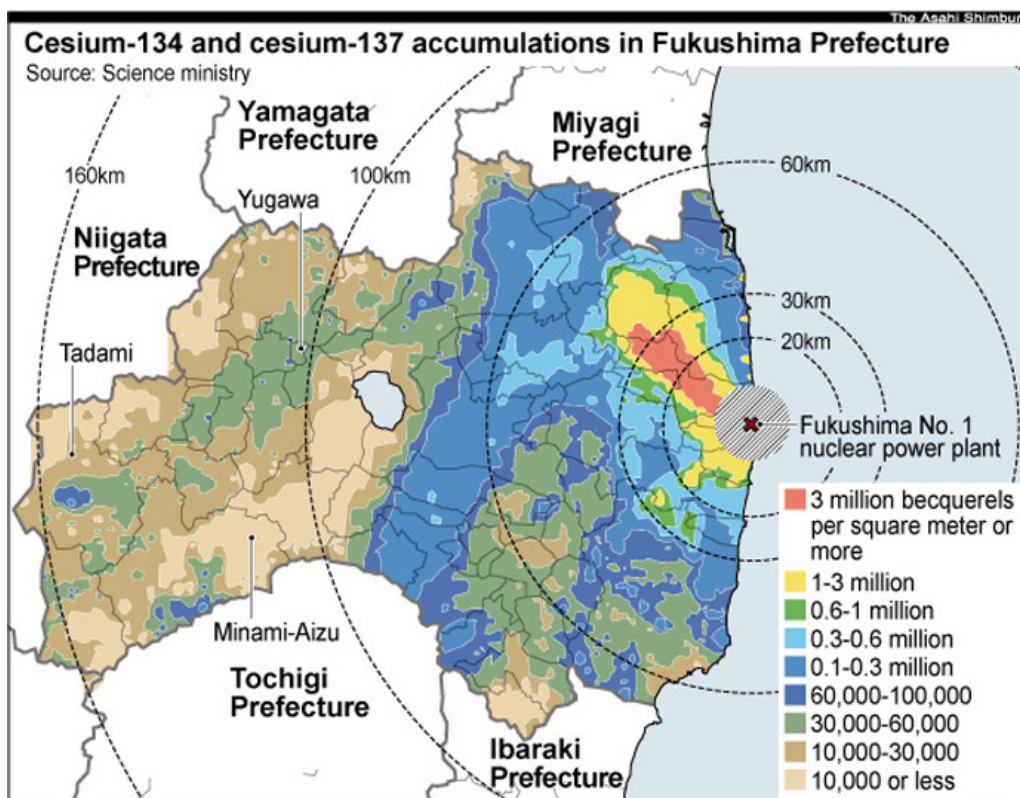


Figure 6.6: People evacuated from the region near to Fukushima wonder when they will be able to return to their homes. The honest answer is “never”.

0.7 percent.

A paper published in 1939 by Niels Bohr and John A. Wheeler indicated that it was the rare isotope of uranium, U-235, that undergoes fission. A bomb could be constructed, they pointed out, if enough highly enriched U-235 could be isolated from the more common isotope, U-238. Calculations later performed in England by Otto Frisch and Rudolf Peierls showed that the “critical mass” of highly enriched uranium needed is quite small: only a few kilograms.

The Bohr-Wheeler theory also predicted that an isotope of plutonium, Pu-239, should be just as fissionable as U-235. Both U-235 and Pu-239 have odd nucleon numbers. When U-235 absorbs a neutron, it becomes U-236, while when Pu-239 absorbs a neutron it becomes Pu-240. In other words, absorption of a neutron converts both these species to nuclei with even nucleon numbers.

According to the Bohr-Wheeler theory, nuclei with even nucleon numbers are especially tightly-bound. Thus absorption of a neutron converts U-235 to a highly-excited state of U-236, while Pu-239 is similarly converted to a highly excited state of Pu-240. The excitation energy distorts the nuclei to such an extent that fission becomes possible. Instead of trying to separate the rare isotope, U-235, from the common isotope, U-238, physicists could just operate a nuclear reactor until a sufficient amount of Pu-239 accumulated, and then separate it out by ordinary chemical means.

Thus in 1942, when Enrico Fermi and his coworkers at the University of Chicago produced the world’s first controlled chain reaction within a pile of cans containing ordinary (nonenriched) uranium powder, separated by blocks of very pure graphite, the chain-reacting pile had a double significance: It represented a new source of energy, but it also had a sinister meaning. It represented an easy path to nuclear weapons, since one of the by-products of the reaction was a fissionable isotope of plutonium, Pu-239. The bomb dropped on Hiroshima in 1945 used U-235, while the Nagasaki bomb used Pu-239.

By reprocessing spent nuclear fuel rods, using ordinary chemical means, a nation with a power reactor can obtain weapons-usable Pu-239. Even when such reprocessing is performed under international control, the uncertainty as to the amount of Pu-239 obtained is large enough so that the operation might superficially seem to conform to regulations while still supplying enough Pu-239 to make many bombs.

The enrichment of uranium, i.e. production of uranium with a higher percentage of U-235 than is found in natural uranium is also linked to reactor use. Many reactors of modern design make use of low enriched uranium (LEU) as a fuel. Nations operating such a reactor may claim that they need a program for uranium enrichment in order to produce LEU for fuel rods. However, by operating their ultracentrifuges a little longer, they can easily produce highly enriched uranium (HEU), i.e. uranium containing a high percentage of the rare isotope U-235, and therefore usable in weapons.

Nuclear power generation is not a solution to the problem of obtaining energy without producing dangerous climate change: Known reserves of uranium are only sufficient for the generation of about 25 terawatt-years of electrical energy (Craig, J.R., Vaugn, D.J. and Skinner, B.J., “Resources of the Earth: Origin, Use and Environmental Impact, Third Edition”, page 210). This can be compared with the world’s current rate of energy use of

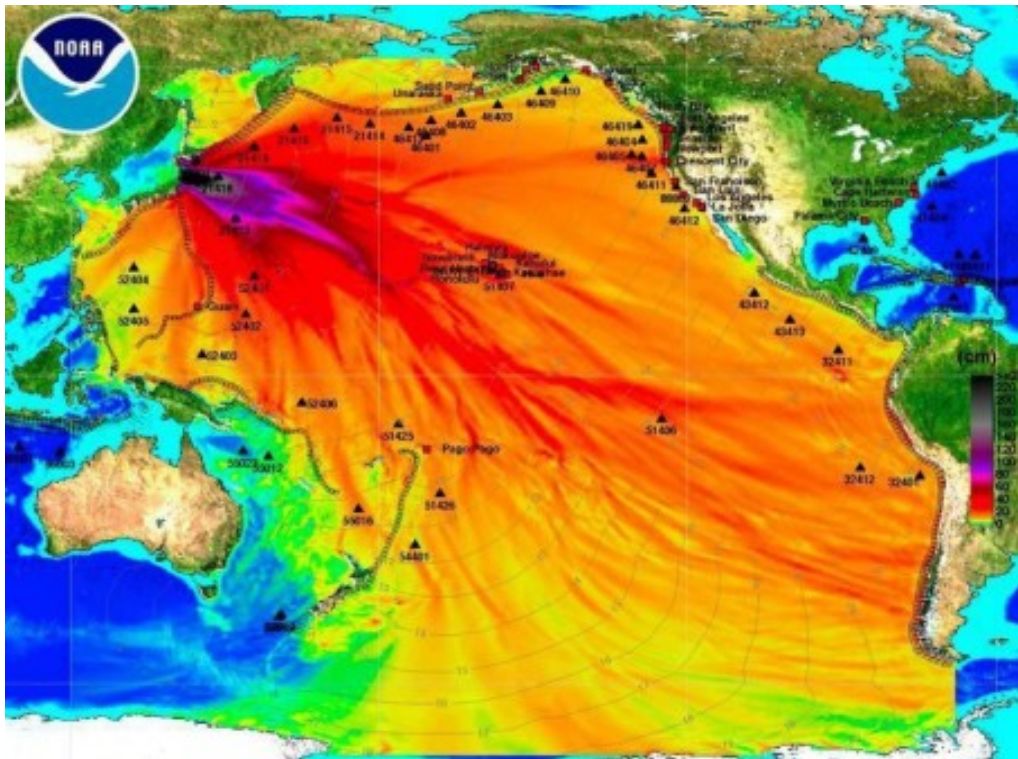


Figure 6.7: **Radioactive contamination from the Fukushima disaster is spreading through the food chain of marine life throughout the Pacific region.**

over 14 terrawatts. Thus, if all of our energy were obtained from nuclear power, existing reserves of uranium would only be sufficient for about 2 years.

It is sometimes argued that a larger amount of electricity could be obtained from the same amount of uranium through the use of fast breeder reactors, but this would involve totally unacceptable proliferation risks. In fast breeder reactors, the fuel rods consist of highly enriched uranium. Around the core, is an envelope of natural uranium. The flux of fast neutrons from the core is sufficient to convert a part of the U-238 in the envelope into Pu-239, a fissionable isotope of plutonium.

Fast breeder reactors are prohibitively dangerous from the standpoint of nuclear proliferation because both the highly enriched uranium from the fuel rods and the Pu-239 from the envelope are directly weapons-usable. It would be impossible, from the standpoint of equity, to maintain that some nations have the right to use fast breeder reactors, while others do not. If all nations used fast breeder reactors, the number of nuclear weapons states would increase drastically.

It is interesting to review the way in which Israel, South Africa, Pakistan, India and North Korea obtained their nuclear weapons, since in all these cases the weapons were constructed under the guise of “atoms for peace”, a phrase that future generations may someday regard as being tragically self-contradictory.

Israel began producing nuclear weapons in the late 1960’s (with the help of a “peaceful”



Figure 6.8: The Israeli nuclear technician and whistleblower Mordechai Vanunu called public attention to Israel's nuclear weapons while on a trip to England. He was lured to Italy by a Mossad "honey trap", where he was drugged, kidnapped and transported to Israel by Mossad.



Figure 6.9: Vanunu was imprisoned for 18 years, during 11 of which he was held in solitary confinement and subjected to psychological torture, such as not being allowed to sleep for long periods.

nuclear reactor provided by France, and with the tacit approval of the United States) and the country is now believed to possess 100-150 of them, including neutron bombs. Israel's policy is one of visibly possessing nuclear weapons while denying their existence.

South Africa, with the help of Israel and France, also weaponized its civil nuclear program, and it tested nuclear weapons in the Indian Ocean in 1979. In 1991 however, South Africa destroyed its nuclear weapons and signed the Nuclear Non-Proliferation Treaty.

India produced what it described as a "peaceful nuclear explosion" in 1974. By 1989 Indian scientists were making efforts to purify the lithium-6 isotope, a key component of the much more powerful thermonuclear bombs. In 1998, India conducted underground tests of nuclear weapons, and is now believed to have roughly 60 warheads, constructed from Pu-239 produced in "peaceful" reactors.

Pakistan's efforts to obtain nuclear weapons were spurred by India's 1974 "peaceful nuclear explosion". As early as 1970, the laboratory of Dr. Abdul Qadeer Khan, (a metallurgist who was to become Pakistan's leading nuclear bomb maker) had been able to obtain from a Dutch firm the high-speed ultracentrifuges needed for uranium enrichment. With unlimited financial support and freedom from auditing requirements, Dr. Khan purchased restricted items needed for nuclear weapon construction from companies in Europe and the United States. In the process, Dr. Khan became an extremely wealthy man. With additional help from China, Pakistan was ready to test five nuclear weapons in 1998.

The Indian and Pakistani nuclear bomb tests, conducted in rapid succession, presented the world with the danger that these devastating weapons would be used in the conflict over Kashmir. Indeed, Pakistan announced that if a war broke out using conventional weapons, Pakistan's nuclear weapons would be used "at an early stage".

In Pakistan, Dr. A.Q. Khan became a great national hero. He was presented as the person who had saved Pakistan from attack by India by creating Pakistan's own nuclear weapons. In a Washington Post article (1 February, 2004) Pervez Hoodbhoy wrote: "Nuclear nationalism was the order of the day as governments vigorously promoted the bomb as the symbol of Pakistan's high scientific achievement and self-respect..." Similar manifestations of nuclear nationalism could also be seen in India after India's 1998 bomb tests.

Early in 2004, it was revealed that Dr. Khan had for years been selling nuclear secrets and equipment to Libya, Iran and North Korea, and that he had contacts with Al Qaeda. However, observers considered that it was unlikely that Khan would be tried, since a trial might implicate Pakistan's army as well as two of its former prime ministers.

There is a danger that Pakistan's unpopular government may be overthrown, and that the revolutionists might give Pakistan's nuclear weapons to a subnational organization. This type of danger is a general one associated with nuclear proliferation. As more and more countries obtain nuclear weapons, it becomes increasingly likely that one of them will undergo a revolution, during the course of which nuclear weapons will fall into the hands of criminals or terrorists.

There is also a possibility that poorly-guarded fissionable material could fall into the hands of subnational groups, who would then succeed in constructing their own nuclear weapons. Given a critical mass of highly-enriched uranium, a terrorist group, or an or-

ganized criminal (Mafia) group, could easily construct a crude gun-type nuclear explosive device. Pu-239 is more difficult to use since it is highly radioactive, but the physicist Frank Barnaby believes that a subnational group could nevertheless construct a crude nuclear bomb (of the Nagasaki type) from this material.

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

Finally we must remember that if the number of nations possessing nuclear weapons becomes very large, there will be a greatly increased chance that these weapons will be used in conflicts between nations, either by accident or through irresponsible political decisions.

The slogan "Atoms for Peace" has proved to be such a misnomer that it would be laughable if it were not so tragic. Nuclear power generation has been a terrible mistake. We must stop before we turn our beautiful earth into a radioactive wasteland.

6.12 Cancer threat from radioactive leaks at Hanford

On August 9, 1945, a nuclear bomb was dropped on the Japanese city of Nagasaki. Within a radius of one mile, destruction was total. People were vaporized so that the only shadows on concrete pavements were left to show where they had been. Many people outside the radius of total destruction were trapped in their collapsed houses, and were burned alive by the fire that followed. By the end of 1945, an estimated 80,000 men, women, young children, babies and old people had died as a result of the bombing. As the years passed more people continued to die from radiation sickness.

Plutonium for the bomb that destroyed Nagasaki had been made at an enormous nuclear reactor station located at Hanford in the state of Washington. During the Cold War, the reactors at Hanford produced enough weapons-usable plutonium for 60,000 nuclear weapons. The continued existence of plutonium and highly-enriched uranium-235 in the stockpiles of nuclear weapons states hangs like a dark cloud over the future of humanity. A full scale thermonuclear war would be the ultimate ecological catastrophe, threatening to make the world permanently uninhabitable.

Besides playing a large role in the tragedy of Nagasaki, the reactor complex at Hanford has damaged the health of many thousands of Americans. The prospects for the future are even worse. Many millions of gallons of radioactive waste are held in Hanford's aging

storage tanks, the majority of which have exceeded their planned lifetimes. The following quotations are taken from a Wikipedia article on Hanford, especially the section devoted to ecological concerns:

“A huge volume of water from the Columbia River was required to dissipate the heat produced by Hanford’s nuclear reactors. From 1944 to 1971, pump systems drew cooling water from the river and, after treating this water for use by the reactors, returned it to the river. Before being released back into the river, the used water was held in large tanks known as retention basins for up to six hours. Longer-lived isotopes were not affected by this retention, and several tetrabecquerels entered the river every day. These releases were kept secret by the federal government. Radiation was later measured downstream as far west as the Washington and Oregon coasts.”

“The plutonium separation process also resulted in the release of radioactive isotopes into the air, which were carried by the wind throughout southeastern Washington and into parts of Idaho, Montana, Oregon and British Columbia. Downwinders were exposed to radionuclides, particularly Iodine 131... These radionuclides filtered into the food chain via contaminated fields where dairy cows grazed; hazardous fallout was ingested by communities who consumed the radioactive food and drank the milk. Most of these airborne releases were a part of Hanford’s routine operations, while a few of the larger releases occurred in isolated incidents.”

“In response to an article in the Spokane Spokesman Review in September 1985, the Department of Energy announced its intent to declassify environmental records and in February, 1986 released to the public 19,000 pages of previously unavailable historical documents about Hanford’s operations. The Washington State Department of Health collaborated with the citizen-led Hanford Health Information Network (HHIN) to publicize data about the health effects of Hanford’s operations. HHIN reports concluded that residents who lived downwind from Hanford or who used the Columbia River downstream were exposed to elevated doses of radiation that placed them at increased risk for various cancers and other diseases.”

“The most significant challenge at Hanford is stabilizing the 53 million U.S. Gallons (204,000 m³) of high-level radioactive waste stored in 177 underground tanks. About a third of these tanks have leaked waste into the soil and groundwater. As of 2008, most of the liquid waste has been transferred to more secure double-shelled tanks; however, 2.8 million U.S. Gallons (10,600 m³) of liquid waste, together with 27 million U.S. gallons (100,000 m³) of salt cake and sludge, remains in the single-shelled tanks. That waste was originally scheduled to be removed by 2018. The revised deadline is 2040. Nearby aquifers contain an estimated 270 billion U.S. Gallons (1 billion m³) of contaminated groundwater as a result of the leaks. As of 2008, 1 million U.S. Gallons (4,000 m³) of highly radioactive waste is traveling through the groundwater toward the Columbia River.”

The documents made public in 1986 revealed that radiation was intentionally and secretly released by the plant and that people living near to it acted as unknowing guinea pigs in experiments testing radiation dangers. Thousands of people who live in the vicinity of the Hanford Site have suffered an array of health problems including thyroid cancers, autoimmune diseases and reproductive disorders that they feel are the direct result of these

releases and experiments.

In thinking about the dangers posed by leakage of radioactive waste, we should remember that many of the dangerous radioisotopes involved have half-lives of hundreds of thousands of years. Thus, it is not sufficient to seal them into containers that will last for a century or even a millennium. We must find containers that will last for a hundred thousand years or more, longer than any human structure has ever lasted. This logic has led Finland to deposit its radioactive waste in a complex of underground tunnels carved out of solid rock. But looking ahead for a hundred thousand years involves other problems: If humans survive for that long, what language will they speak? Certainly not the languages of today. How can we warn them that the complex of tunnels containing radioactive waste is a death trap? The reader is urged to see a film exploring these problems, “Into Eternity”, by the young Danish film-maker Michael Madsen. Here is the link: <http://dotsub.com/view/8e40ebda-5966-4212-9b96-6abbce3c6577>.

We have already gone a long way towards turning our beautiful planet earth into a nuclear wasteland. In the future, let us be more careful, as guardians of a precious heritage, the natural world and the lives of all future generations.

6.13 An accident waiting to happen

In Stanley Kubrick’s film, “Dr. Strangelove”, a paranoid ultra-nationalist brigadier general, Jack D. Ripper, orders a nuclear attack on the Soviet Union because he believes that the Soviets are using water fluoridation as a means to rob Americans of their “precious bodily fluids”. Efforts are made to recall the US bombers, but this proves to be impossible, and the attack triggers the Soviet “Doomsday Machine”. The world is destroyed.

Kubrick’s film is a black comedy, and we all laugh at it, especially because of the brilliant performance of Peter Sellers in multiple roles. Unfortunately, however, the film comes uncomfortably close to reality. An all-destroying nuclear war could very easily be started by an insane or incompetent person whose hand happens to be on the red button.

This possibility (or probability) has recently come to public attention through newspaper articles revealing that 11 of the officers responsible for launching US nuclear missiles have been fired because of drug addiction. Furthermore, a larger number of missile launch officers were found to be cheating on competence examinations. Three dozen officers were involved in the cheating ring, and some reports state that an equal number of others may have known about it., and remained silent. Finally, it was shown that safety rules were being deliberately ignored. The men involved, were said to be “burned out”.

According to an article in *The Guardian* (Wednesday, 15 January, 2014), “Revelations of misconduct and incompetence in the nuclear missile program go back at least to 2007, when six nuclear-tipped cruise missiles were accidentally loaded onto a B-52 bomber in Minot, North Dakota, and flown to a base in Louisiana.”

“Last March, military inspectors gave officers at the ICBM base in Minot the equivalent of a ‘D’ grade for launch mastery. A month later, 17 officers were stripped of their



Figure 6.10: Peter Sellers (left) listens while Brigadier General Jack D. Ripper tells him about the Soviet conspiracy to steal his “precious bodily fluids”.

authority to launch the missiles.”

“In October, a senior air force officer in charge of 450 ICBM’s, major general Michael Carey, was fired after accusations of drunken misconduct during a summer trip to Moscow. An internal investigation found that Carey drank heavily, cavorted with two foreign women and visited a nightclub called La Cantina, where Maj. Gen. Carey had alcohol and kept trying to get the band to let him play with them.”

The possibility that a catastrophic nuclear war could be triggered by a madman gains force from the recent statements of Benjamin Netanyahu, who has said repeatedly that, with or without US help, Israel intends to attack Iran. Such an attack, besides being a war crime, would be literally insane.

If Netanyahu believes that a war with Iran would be short or limited, he is ignoring several very obvious dangers. Such a war would most probably escalate into a widespread general war in the Middle East. It could cause a revolution in Pakistan, and the new revolutionary government of Pakistan would be likely to enter the war on the side of Iran, bringing with it Pakistan’s nuclear weapons. Russia and China, both staunch allies of Iran, might be drawn into the conflict. There is a danger that the conflict could escalate into a Third World War, where nuclear weapons might easily be used, either by accident or intentionally.

China could do grave economic damage to the United States through its large dollar holdings. Much of the world’s supply of petroleum passes through the Straits of Hormuz, and a war in the region could greatly raise the price of oil, triggering a depression that might rival or surpass the Great Depression of the 1920’s and 1930’s.

The probability of a catastrophic nuclear war occurring by accident is made greater



Figure 6.11: Peter Sellers as Dr. Strangelove. He has to restrain his black-gloved crippled hand, which keeps trying to give a Nazi salute.



Figure 6.12: General Buck Turgidson (George C. Scott) struggles with the Russian Ambassador. Peter Sellers (right) playing the US President, rebukes them for fighting in the War Room.



Figure 6.13: Major T. “King” Kong rides a nuclear bomb on its way down, where it will trigger the Soviet Doomsday Machine and ultimately destroy the world.

by the fact that several thousand nuclear weapons are 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 an error in evaluating a signal on a radar screen.



Figure 6.14: Benjamin Netanyahu has stated repeatedly that, with or without US support, Israel will attack Iran, an action that could escalate uncontrollably into World War III.



6.14 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 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 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 been 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.⁷

⁷Of 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

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. Grey⁸ 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.” General Curtis E. LeMay⁹ 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. Blair¹⁰ 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

acceptance.

⁸Chairman, National Institute for Public Policy

⁹Founder and former Commander in Chief of the United States Strategic Air Command

¹⁰Brookings Institute

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.

Will we use the discoveries of modern science constructively, and thus choose the path leading towards life? Or will we use science to produce more and more lethal weapons, which sooner or later, through a technical or human failure, will result in a catastrophic nuclear war? Will we thoughtlessly destroy our beautiful planet through unlimited growth of population and industry? The choice among these alternatives is ours to make. We live at a critical moment of history, a moment of crisis for civilization.

No one alive today asked to be born at a time of crisis, but history has given each of us an enormous responsibility. Of course we have our ordinary jobs, which we need to do in order to stay alive; but besides that, each of us has a second job, the duty to devote both time and effort to solving the serious problems that face civilization during the 21st century. We cannot rely on our politicians to do this for us. Many politicians are under the influence of powerful lobbies. Others are waiting for a clear expression of popular will. It is the people of the world themselves who must choose their own future and work hard to build it.

No single person can achieve the changes that we need, but together we can do it. The problem of building a stable, just, and war-free world is difficult, but it is not impossible. The large regions of our present-day world within which war has been eliminated can serve as models. There are a number of large countries with heterogeneous populations within which it has been possible to achieve internal peace and social cohesion, and if this is possible within such extremely large regions, it must also be possible globally.

We must replace the old world of international anarchy, chronic war, and institutionalized injustice by a new world of law. The United Nations Charter, the Universal Declaration of Human Rights and the International Criminal Court are steps in the right direction. These institutions need to be greatly strengthened and reformed. We also need a new global ethic, where loyalty to one’s family and nation will be supplemented by a higher loyalty to humanity as a whole. Tipping points in public opinion can occur suddenly. We can think, for example, of the Civil Rights Movement, or the rapid fall of the Berlin Wall, or the sudden change that turned public opinion against smoking, or the sudden movement for freedom and democracy in the Arab world. A similar sudden change can occur soon regarding war and nuclear weapons.

We know that war is madness. We know that it is responsible for much of the suffering that humans experience. We know that war pollutes our planet and that the almost unimaginable sums wasted on war prevent the happiness and prosperity of mankind. We know that nuclear weapons are insane, and that the precariously balanced deterrence system can break down at any time through human error or computer errors or through terrorist actions, and that it definitely will break down within our lifetimes unless we abolish it. We know that nuclear war threatens to destroy civilization and much of the biosphere.

The logic is there. We must translate into popular action which will put an end to the undemocratic, money-driven, power-lust-driven war machine. The peoples of the world must say very clearly that nuclear weapons are an absolute evil; that their possession does not increase anyone's security; that their continued existence is a threat to the life of every person on the planet; and that these genocidal and potentially omnicidal weapons have no place in a civilized society.

Modern science has abolished time and distance as factors separating nations. On our shrunken globe today, there is room for one group only: the family of humankind. We must embrace all other humans as our brothers and sisters. More than that, we must feel that all of nature is part of the same sacred family; meadow flowers, blowing winds, rocks, trees, birds, animals, and other humans, all these are our brothers and sisters, deserving our care and protection. Only in this way can we survive together. Only in this way can we build a happy future.

"But nobody can predict that the fatal accident or unauthorized act will never happen", Fred Ikle of the Rand Corporation has written, "Given the huge and far-flung missile forces, ready to be launched from land and sea on on both sides, the scope for disaster by accident is immense... In a matter of seconds - through technical accident or human failure - mutual deterrence might thus collapse."

Another serious failure of the concept of nuclear deterrence is that it does not take into account the possibility that atomic bombs may be used by terrorists. Indeed, the threat of nuclear terrorism has today become one of the most pressing dangers that the world faces, a danger that is particularly acute in the United States.

Since 1945, more than 3,000 metric tons (3,000,000 kilograms) of highly enriched uranium and plutonium have been produced - enough for several hundred thousand nuclear weapons. Of this, roughly a million kilograms are in Russia, inadequately guarded, in establishments where the technicians are poorly paid and vulnerable to the temptations of bribery. There is a continuing danger that these fissile materials will fall into the hands of terrorists, or organized criminals, or irresponsible governments. Also, an extensive black market for fissile materials, nuclear weapons components etc. has recently been revealed in connection with the confessions of Pakistan's bomb-maker, Dr. A.Q. Khan. Furthermore, if Pakistan's less-than-stable government should be overthrown, complete nuclear weapons could fall into the hands of terrorists.

On November 3, 2003, Mohamed ElBaradei, Director General of the International Atomic Energy Agency, made a speech to the United Nations in which he called for "limiting the processing of weapons-usable material (separated plutonium and high enriched uranium) in civilian nuclear programmes - as well as the production of new material through reprocessing and enrichment - by agreeing to restrict these operations to facilities exclusively under international control." It is almost incredible, considering the dangers of nuclear proliferation and nuclear terrorism, that such restrictions were not imposed long ago. Nuclear reactors used for "peaceful" purposes unfortunately also generate fissionable isotopes of plutonium, neptunium and americium. Thus all nuclear reactors must be regarded as ambiguous in function, and all must be put under strict international control. One might ask, in fact, whether globally widespread use of nuclear energy is worth the

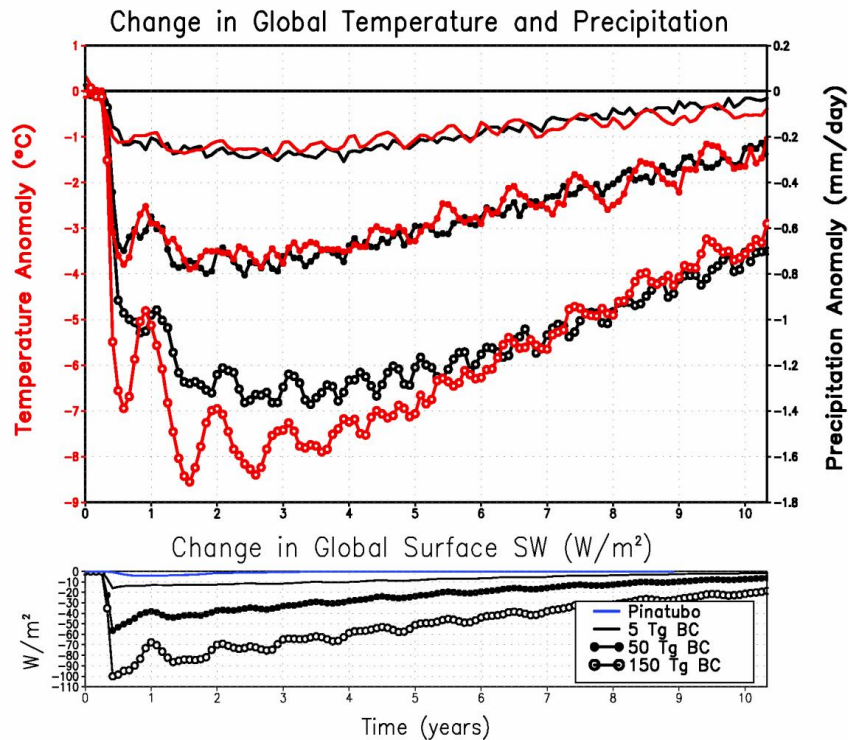


Figure 6.15: *Recent studies by atmospheric scientists have shown that the smoke from burning cities produced by even a limited nuclear war would have a devastating effect on global agriculture. The studies show that the smoke would rise to the stratosphere, where it would spread globally and remain for a decade, blocking sunlight and destroying the ozone layer. Because of the devastating effect on global agriculture, darkness from even a small nuclear war (e.g. between India and Pakistan) would result in an estimated billion deaths from famine. (O. Toon, A. Robock and R. Turco, “The Environmental Consequences of Nuclear War”, Physics Today, vol. 61, No. 12, 2008, p. 37-42)*

danger that it entails.

The Italian nuclear physicist Francesco Calogero, who has studied the matter closely, believes that terrorists could easily construct a simple gun-type nuclear bomb if they were in possession of a critical mass of highly enriched uranium. In such a simple atomic bomb, two grapefruit-sized subcritical portions of HEU are placed at opposite ends of the barrel of an artillery piece and are driven together by means of a conventional explosive. Prof. Calogero estimates that the fatalities produced by the explosion of such a device in the center of a large city could exceed 100,000.

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

In this dangerous situation, the only logical thing for the world to do is to get rid of both fissile materials and nuclear weapons as rapidly as possible. We must acknowledge that the idea of nuclear deterrence is a dangerous fallacy, and acknowledge that the development of military systems based on nuclear weapons has been a terrible mistake, a false step that needs to be reversed. If the most prestigious of the nuclear weapons states can sincerely acknowledge their mistakes and begin to reverse them, nuclear weapons will seem less glamorous to countries like India, Pakistan, North Korea and Iran, where they now are symbols of national pride and modernism.

Civilians have for too long played the role of passive targets, hostages in the power struggles of politicians. It is time for civil society to make its will felt. If our leaders continue to enthusiastically support the institution of war, if they will not abolish nuclear weapons, then let us have new leaders.

6.15 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.

Today, war is not only insane, but also a violation of international law. Both the United Nations Charter and the Nuremberg Principles make it a crime to launch an aggressive war. According to the Nuremberg Principles, every soldier is responsible for the crimes that he or she commits, even while acting under the orders of a superior officer.

Nuclear weapons are not only insane, immoral and potentially omnicidal, but also criminal under international law. In response to questions put to it by WHO and the UN General Assembly, the International Court of Justice ruled in 1996 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 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 and effective international control.”

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

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Chapter 7

MUST WE HAVE PERPETUAL WAR?

7.1 War as a political, economic and social institution

Because the world spends roughly two trillion 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, political and economic institution, and also one of the main reasons why war persists, although everyone realizes that it is the cause of much of the suffering of humanity.

We know that war is madness, but it persists. We know that it threatens the 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.

7.2 Eisenhower's farewell address

In his farewell address, US President Dwight D. Eisenhower warned his nation against the excessive power that had been acquired during World War II by the military-industrial complex: "We have been compelled to create an armaments industry of vast proportions," Eisenhower said, "...Now this conjunction of an immense military establishment and a large arms industry is new in American experience. The total influence - economic, political, even spiritual - is felt in every city, every state house, every office in the federal government. ... We must not fail to comprehend its grave implications. Our toil, resources and livelihood are all involved; so is the very structure of our society. ... We must stand guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists and will persist. We must never let the weight of this combination endanger our democratic

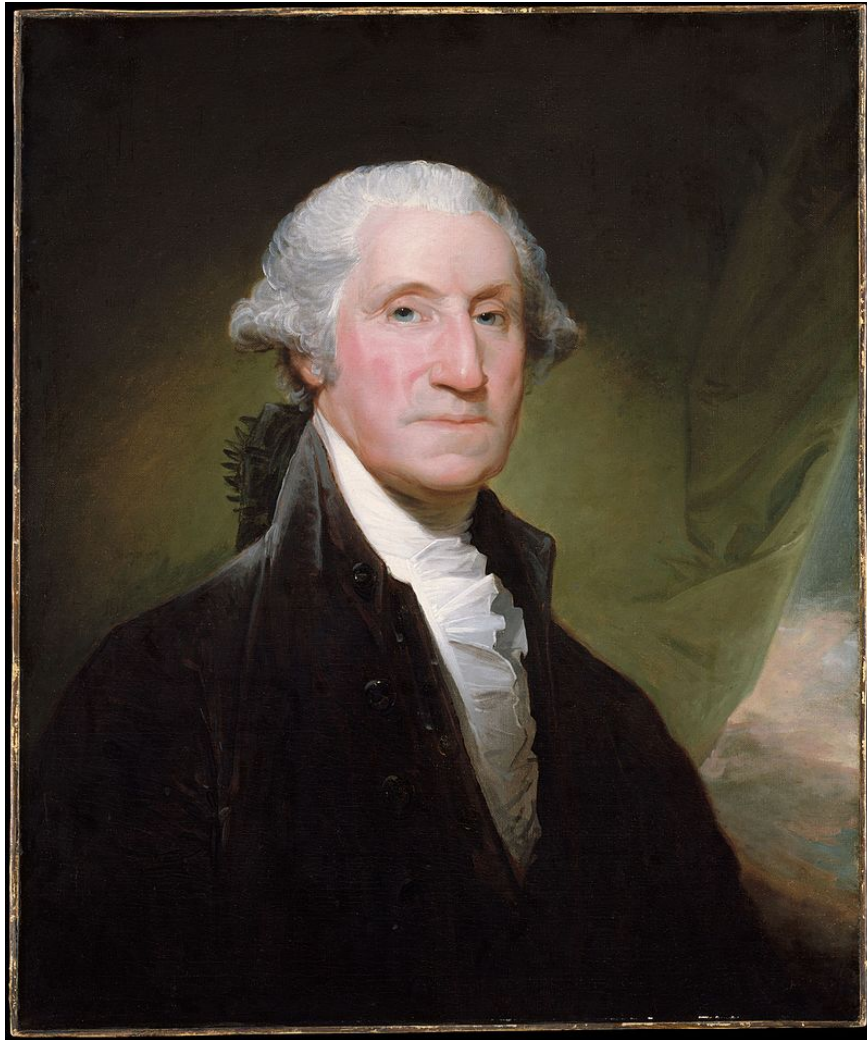


Figure 7.1: George Washington, the first U.S. president, warned against “Overgrown Military Establishments”.

processes. We should take nothing for granted.”

Eisenhower’s words echoed those of another US President, George Washington, who warned against “overgrown Military Establishments which, under any form of government, are inauspicious to liberty, and which are regarded as particularly hostile to Republican Liberty.”



Figure 7.2: An official portrait of Dwight D. Eisenhower. In his famous farewell address, he warned against the misplaced power of a military-industrial complex.

7.3 The “War on Terror”

The military-industrial complex needs enemies. Without them it would wither. Thus at the end of the Second World War, this vast power complex was faced with a crisis, but it was saved by the discovery of a new enemy: Communism. However, at the end of the Cold War there was another terrible crisis for the military establishment, the arms manufacturers and their supporters in research, government and the mass media. People spoke of the “peace dividend”, i.e., constructive use of the trillion dollars that the world wastes each year on armaments. However, just in time, the military-industrial complex was saved from the nightmare of the “peace dividend” by the September 11 attacks on New York and Washington.

No matter that the attacks were crimes committed by individuals rather than acts of war, crimes against which police action rather than military action would have been appropriate. The Bush Administration (and CNN, Fox, etc.) quickly proclaimed that a state of war existed, and that the rules of war were in effect. The Cold War was replaced with the “War on Terror”.

To a large extent, this over-reaction to the events of 9/11/2001 can be interpreted in terms of the needs of the military-industrial complex against which Eisenhower had warned. Without a state of war and without enemies, this vast conglomerate of organizations and pressure groups would have languished.

If the aim of the “War on Terror” had been to rid the world of the threat of terrorism, acts like illegal assassination using drones would have been counterproductive, since they create many more terrorists than they destroy. But since the real aim is to produce a state of perpetual war, thus increasing the profits of the military-industrial complex, such methods are the best imaginable. Urinating on Afghan corpses or burning the Koran or murderous night-time raids on civilian homes also help to promote the real goal: perpetual war.

Even the events that initiated the “War on Terror”, seem to have been made worse than they otherwise might have been, in order to give a better excuse for invading Iraq, attacking Afghanistan, and attacking civil liberties. There is evidence that a number of highly placed officials in the US government knew as early as April 2001 that the World Trade Center might soon be attacked. The testimony given by CIA insider Susan Lindauer is very explicit about this point. There is also evidence that charges of thermite were placed on steel structures of several buildings, to melt the steel and ensure their collapse. Molten steel and traces of thermite were found in the ruins before these were sealed off from public scrutiny by the FBI.

The collapse of Building 7 (which was not hit by the aircraft) is particularly suspicious. Larry Silverstein, the leaseholder of the World Trade Center, said shortly afterwards in a PBS interview: “I remember getting a call from the fire department commander telling me that they were not sure that they would be able to contain the fire...” (and he said that) “I think that the smartest thing to do is to pull it.” The phrase “pull it” is one used to speak of controlled demolition, and the subsequent free-falling collapse of Building 7 had all the earmarks of this process.



Figure 7.3: Melted steel pouring from the burning World Trade Center. An ordinary fire is not hot enough to melt steel.



Figure 7.4: Building 7 was not hit by any aircraft, and yet it collapsed many hours later, during the afternoon, in a manner that looked exactly like a controlled demolition.

For those who belong to the military-industrial complex, perpetual war is a blessing, but for the majority of the people of the world it is a curse. Since we who oppose war are the vast majority, can we not make our wills felt?

7.4 We are militarism's hostages

Do our "Defense Departments" really defend us? Absolutely not! Their very title is a lie. The military-industrial complex sells itself by claiming to defend civilians. It justifies vast and crippling budgets by this claim; but it is a fraud. For the military-industrial complex, the only goal is money and power. Civilians like ourselves are just hostages. We are expendable. We are pawns in the power game, the money game.

Nations possessing nuclear weapons 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.

A thermonuclear war today would be not only genocidal but also omnicidal. It would kill people of all ages, babies, children, young people, mothers, fathers and grandparents, without any regard whatever for guilt or innocence. Such a war would be the ultimate ecological catastrophe, destroying not only human civilization but also much of the biosphere.

There is much worry today about climate change, but an ecological catastrophe of equal magnitude could be produced by a nuclear war. One can gain a small idea of what this would be like by thinking of the radioactive contamination that has made an area half the size of Italy near to Chernobyl permanently uninhabitable. It is too soon to know the full effects of the Fukushima disaster, but it appears that it will be comparable with Chernobyl.

The testing of hydrogen bombs in the Pacific half a century ago continues to cause cancer and birth defects in the Marshall Islands today. This too can give us a small idea of the environmental effects of a nuclear war.

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.

The environmental effects of a nuclear war would be catastrophic. A war fought with hydrogen bombs would produce radioactive contamination of the kind that we have already experienced in the areas around Chernobyl and Fukushima and in the Marshall Islands,

but on an enormously increased scale.

We have to remember that the total explosive power of the nuclear weapons in the world today is 500,000 times as great as the power of the bombs that destroyed Hiroshima and Nagasaki. What is threatened by a nuclear war today is the complete breakdown of human civilization.

Besides spreading deadly radioactivity throughout the world, a nuclear war would inflict catastrophic damage on global agriculture. Firestorms in burning cities would produce many millions of tons of black, thick, radioactive smoke.

The smoke would rise to the stratosphere where it would spread around the earth and remain for a decade. Prolonged cold, decreased sunlight and rainfall, and massive increases in harmful ultraviolet light would shorten or eliminate growing seasons, producing a nuclear famine.

Even a small nuclear war could endanger the lives of the billion people who today are chronically undernourished. A full-scale war fought with hydrogen bombs would mean that most humans would die from hunger. Many animal and plant species would also be threatened with extinction.

7.5 We have come within a hair's breadth of disaster

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, until the noise was deafening.

The computer showed that the Americans had launched a strike against Russia. Petrov's 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 brave and coolheaded decision and his 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.

Recently the United States has made provocative moves that seriously risk starting a war with Russia that might develop into a nuclear war.

At the same time, the United States is making aggressive moves in an attempt to "contain China".

What can be the reason for these actions, which seem to border on insanity? One reason can be found in the power-drunk thinking of the “Project for a New American Century”, one of whose members was US Under Secretary of Defense for Policy, Paul Wolfowitz.

The Wolfowitz Doctrine states that “Our first objective is to prevent the re-emergence of a new rival, either on the territory of the former Soviet Union or elsewhere, that poses a threat on the order of that posed formerly by the Soviet Union.”

In other words, the Wolfowitz Doctrine is a declaration that the United States intends to control the entire world through military power. No thought is given to the protection of civilian populations, either in the United States or elsewhere. Civilians are mere hostages in the power game.

The money game is important too. A great driving force behind militarism is the almost unimaginably enormous river of money that 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.

As long as tensions are maintained; as long as there is a threat of war, the military-industrial complex gets the money for which it lusts, and the politicians and journalists get their blood money. The safety of civilians plays no role in the money game. We are just hostages.

There is a danger that our world, with all the beauty and value that it contains, will be destroyed by this cynical game for power and money, in which civilians are militarism’s hostages. Will we let this happen?

7.6 Biden’s aggressive foreign policy

We should praise Joe Biden for the good decisions that he had made during his first few months in office. He has filled positions in his cabinet with an administration with an ethnically diverse and gender balanced group of people. For example, we can think of his new Secretary of the Interior, Deb Haaland, who is a Native American. We can also think of his choice of Kamala Harris as his running mate. These decisions are to be applauded.

We must also praise President Biden for taking the climate emergency seriously and acting to support the replacement of fossil fuels by renewable energy, as well as for rejoining the Paris Agreement.

The Biden administration has been successful in its efforts to vaccinate a large number of US citizens against COVID-19. Thus, there are many reasons for praising Joe Biden’s actions during the months that he has been in office. But if we turn to foreign policy, the picture is different.

Joe Biden’s appointment of Antony Blinken as Secretary of State signaled that the aggressive foreign policy of the United States would remain unchanged. During the administrations of every US president, violence, war and murder have been exported to the remainder of the world, and the appointment of Blinken, who is known for advocating



Figure 7.5: **We should praise Joe Biden for his good decisions, but his aggressive foreign policy threatens the world with disaster.**

the invasion of Iraq, signaled that this would not change under Biden. Bombs would be dropped, and people would be murdered by drones or by the dirty tricks department of the CIA.

Insults instead of diplomacy in Alaska

A high-level meeting between diplomats from China and the United States took place in Alaska in March, 2021, but the meeting was decidedly undiplomatic. It degenerated to public name-calling by both sides, especially accusations of human rights violations. There is so much need for cooperation between the US and China on important issues, such as climate action, that one might have hoped for fewer insults and more diplomacy.

Military threats to China

In an era of all-destroying nuclear weapons, war is suicidal or perhaps omnicidal. War is unthinkable, but the profits made by arms manufacturers are so large and their political influence so great that war remains a threat. The arms manufacturers do not actually want war. They only want war to be threatened, in order to justify the obscenely large expenditures on armaments that are regularly endorsed by politicians whose votes have been bought by the arms industry.

Since the Biden administration owes its allegiance to the corporate oligarchy, it is not surprising that war with China is threatened, even though such a war would be suicidal.

A new cold war with Russia

Similarly, war with Russia is also threatened, and Russia is demonized by the United States under the Biden administration, just as it was under previous administrations.

Illegal bombing of Syria

According to the United Nations Charter, the use of military force, or even the threat of use of force, against a sovereign state is a violation of international law, although a nation being actively attacked has a right to defend itself until the Security Council has had time to act. Thus Biden's bombing of Syria was a violation of international law.

Sanctions are also illegal

Richard Nephew, the advisor on sanctions in Biden's State Department, is the author of a 2017 book entitled *The Art of Sanctions: A View of the Field*. He brags of the pain and suffering caused by US sanctions imposed on Iran, Venezuela and other countries. But according to international law, sanctions may not be imposed by individual countries, but only by the Security Council. They are also a violation of international laws that forbid collective punishment.

An illegal new nuclear weapons program

As mentioned above, the Biden administration owes its allegiance to the corporate oligarchy, of which the arms industry is a large part. This probably explains Biden's endorsement of a program to spend hundreds of billions of dollars on new nuclear weapons and their delivery systems. This is a violation of the Nuclear Nonproliferation Treaty's Article VI, which requires the nuclear weapons states to quickly and effectively rid themselves of their nuclear weapons. It is also a violation of the Treaty on the Prohibition of Nuclear Weapons (TPNW), which recently came into force. More importantly, it is a violation of common humanity and common sense.





7.7 Biden and Putin meet on June 16, 2021, in Geneva

After meeting in Geneva, Vladimir Putin and Joseph R. Biden issued the following joint statement:

“We, President of the United States of America Joseph R. Biden and President of the Russian Federation Vladimir Putin, note the United States and Russia have demonstrated that, even in periods of tension, they are able to make progress on our shared goals of ensuring predictability in the strategic sphere, reducing the risk of armed conflicts and the threat of nuclear war.

“The recent extension of the New START Treaty exemplifies our commitment to nuclear arms control. Today, we reaffirm the principle that a nuclear war cannot be won and must never be fought.

“Consistent with these goals, the United States and Russia will embark together on an integrated bilateral Strategic Stability Dialogue in the near future that will be deliberate and robust. Through this Dialogue, we seek to lay the groundwork for future arms control and risk reduction measures.”

An open letter to presidents Putin and Biden

Here is the text of a letter signed by a very large number of activists in the peace movement:

“We write to you , world leaders whom we know fully understand the catastrophic humanitarian consequences of any use of nuclear weapons, and the cataclysmic effects on humanity of a nuclear war: the possible end of civilization as we know it.

“We are participants of a growing international campaign for a commitment by nuclear-armed states to a policy of no first use of nuclear weapons. We have just completed a number of successful global events, including a two-day conference preparatory to launching this campaign, which have included over 700 participants from Asia, Africa, Europe, Middle East, South America, North America, and the Pacific. Arising from these events is an appeal to you to use your summit to make a mutual bilateral commitment on No First Use (NFU) as a first step to adoption of such a commitment by other nuclear weapon states and to the elimination of all nuclear weapons.

“We are mindful that decades ago your predecessors declared ‘A nuclear war cannot be won and must never be fought’. A few years ago, Mr. Biden, you declared in an eloquent speech about the threat of nuclear war, ‘If we want a world free of nuclear weapons, the United States must take the initiative to lead us there.’ Similarly, Mr. Putin, you have said ‘The understanding that a third world war could be the end of civilization should restrain us from taking extreme steps on the international arena that are highly dangerous for modern

civilization.’ The United Nations set the goal to eliminate nuclear weapons in its very first resolution, adopted unanimously, and reaffirmed this in 2013 by establishing September 26th as the annual *International Day for the Total Elimination of Nuclear Weapons*.

“Now is the perfect time for you to declare a joint commitment that your nations will not use nuclear weapons first under any circumstances, and to make this a key step toward fulfilling the UN goal to totally eliminate nuclear weapons from the planet. We pledge to you - as legislators, former political/military leaders and representatives of multiple civil movements endorsing this goal - to mobilize civil and political support for your effort.

“You should know that such a measure will be supported by most of the other 189 States Parties of the Non-Proliferation Treaty who unanimously agreed in 2010 to support ‘policies that could prevent the use of nuclear weapons’ and ‘to establish the necessary framework to achieve and maintain a world without nuclear weapons’, and will be strongly supported by the 122 nations that in 2017 approved the Treaty on the Prohibition of Nuclear Weapons.

“We believe it is in your hearts to achieve this noble goal. We call on you to initiate this vital step at your summit and to lead us all to a planet free of nuclear weapons.”

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Chapter 8

INTERNATIONAL LAW AND GOVERNANCE

8.1 The future of international law

“With law shall our land be built up, but with lawlessness laid waste.” Njal’s Saga, Iceland, c 1270.

Introduction

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 enforceable system of international laws.

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.

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.



Figure 8.1: A portion of Hammurabi's Code, c. 1754 BC

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.

Magna Carta, 1215

2015 marks the 800th anniversary of the Magna Carta, which is considered to be the foundation of much of our modern legal system. It was drafted by the Archbishop of Canterbury to make peace between the unpopular Norman King John of England and a group of rebel barons. The document promised the protection of church rights, protection for the barons from illegal imprisonment, access to swift justice, and limitations feudal payments to the Crown. It was renewed by successive English sovereigns, and its protection against illegal imprisonment and provisions for swift justice were extended from the barons to ordinary citizens. It is considered to be the basis for British constitutional law, and in



Figure 8.2: King John is forced to sign the Magna Carta

1789, it influenced the drafting of the Constitution of the United States. Lord Denning described the Magna Carta as "the greatest constitutional document of all times: the foundation of the freedom of the individual against the arbitrary authority of the despot".

The English Bill of Rights, 1689

When James II was overthrown by the Glorious Revolution the Dutch stadholder William III of Orange-Nassau and his wife, Mary II of England were invited to be joint sovereigns of England. The Bill of Rights was originally part of the invitation, informing the couple regarding the limitations that would be imposed on their powers. Later the same year, it was incorporated into English law. The Bill of Rights guaranteed the supremacy of Parliament over the monarch. It forbid cruel and unusual punishments, excessive bail and excessive fines. Freedom of speech and free elections were also guaranteed, and a standing army in peacetime was forbidden without the explicit consent of Parliament. The Bill of Rights was influenced by the writings of the Liberal philosopher, John Locke (1632-1704).



Figure 8.3: Lord Denning described the Magna Carta as “the greatest constitutional document of all times: the foundation of the freedom of the individual against the arbitrary authority of the despot”.

The United States Constitution and Bill of Rights, 1789

The history of the Federal Constitution of the United States is an interesting one. It was preceded by the Articles of Confederation, which were written by the Second Continental Congress between 1776 and 1777, but it soon became clear that Confederation was too weak a form of union for a collection of states.

The essential difference between a confederation and a federation, both of them unions of states, is that a federation has the power to make and to enforce laws that act on individuals, rather than attempting to coerce states (in Hamilton’s words, “one of the maddest projects that was ever devised.”) The fact that a confederation of states was found to be far too weak a form of union is especially interesting because our present United Nations is a confederation. We are at present attempting to coerce states with sanctions that are “applied to people collectively and not individually.” The International Criminal Court, which we will discuss below, is a development of enormous importance, because it acts on individuals, rather than attempting to coerce states.

There are many historical examples of successful federations; but in general, unions of states based on the principle of confederation have proved to be too weak. Probably our best hope for the future lies in gradually reforming and strengthening the United Nations, until it becomes a federation.

In the case of the Federal Constitution of the United States, there were Anti-Federalists who opposed its ratification because they feared that it would be too powerful. Therefore, on June 8, 1789, James Madison introduced in the House of Representatives a series of 39 amendments to the constitution, which would limit the government’s power. Of these, only amendments 3 to 12 were adopted, and these have become known collectively as the Bill of Rights.

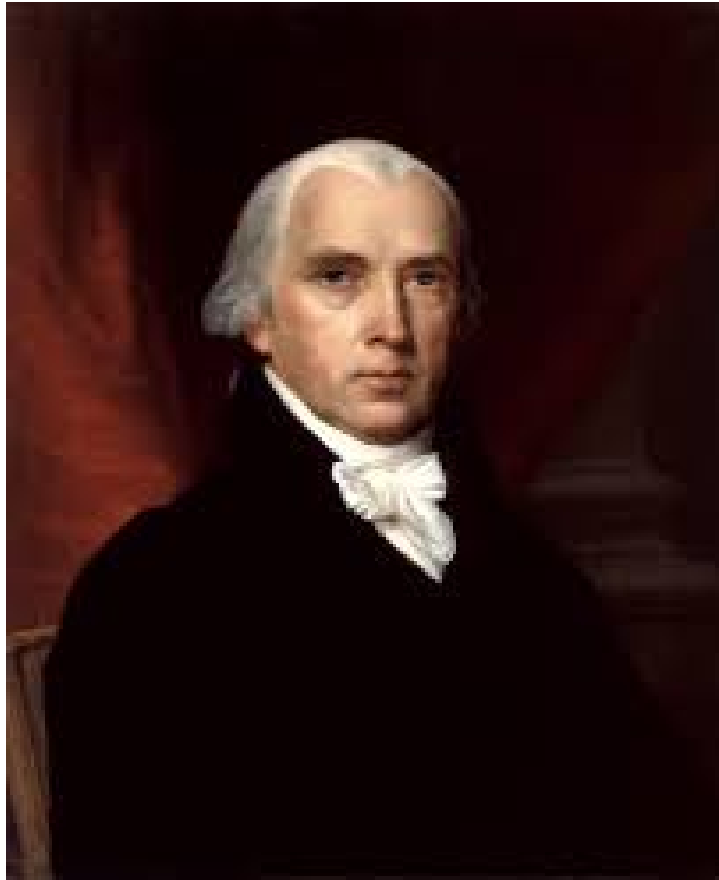


Figure 8.4: James Madison, wrote that the more he reflected on the use of force, the more he doubted “the practicality, the justice and the efficacy of it when applied to people collectively, and not individually.” He later introduced the Constitutional amendments that became the U.S. Bill of Rights.

Of the ten amendments that constitute the original Bill of Rights, we should take particular notice of the First, Fourth and Sixth, because they have been violated repeatedly and grossly by the present government of the United States.

The First Amendment requires that “Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.” The right to freedom of speech and freedom of the press has been violated by the punishment of whistleblowers. The right to assemble peaceably has also been violated repeatedly and brutally by the present government’s militarized police.

The Fourth Amendment states that “The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.” It is hardly necessary to elaborate on the U.S. Government’s massive violations of the Fourth Amendment. Edward Snowden’s testimony has revealed a huge secret industry carrying out illegal and unwarranted searches and seizures of private data, not only in the United States, but also throughout the world. This data can be used to gain power over citizens and leaders through blackmail. True democracy and dissent are thereby eliminated.

The Sixth Amendment requires that “In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defense.” This constitutional amendment has also been grossly violated.

In the context of federal unions of states, the Tenth Amendment is also interesting. This amendment states that “The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.” We mentioned above that historically, federations have been very successful. However, if we take the European Union as an example, it has had some problems connected with the principle of subsidiarity, according to which as few powers as possible should be decided centrally, and as many issues as possible should be decided locally. The European Union was originally designed as a free trade area, and because of its history commercial considerations have trumped environmental ones. The principle of subsidiarity has not been followed, and enlightened environmental laws of member states have been declared to be illegal by the EU because they conflicted with free trade. These are difficulties from which we can learn as we contemplate the conversion of the United Nations into a federation.

The United States Bill of Rights was influenced by John Locke and by the French philosophers of the Enlightenment. The French Declaration of the Rights of Man (August, 1789) was almost simultaneous with the U.S. Bill of Rights.

We can also see the influence of Enlightenment philosophy in the wording of the U.S. Declaration of independence (1776): “We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.—That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed...” Another criticism that can be leveled against the present government of the United States is that its actions seem to have nothing whatever to do with the consent of the governed, not to mention the violations of the rights to life, liberty and the pursuit of happiness implicit in extrajudicial killings.

Kellogg-Briand Pact, 1928

World War I was a catastrophe that still casts a dark shadow over the future of humanity. It produced enormous suffering, brutalization of values, irreparable cultural loss, and a total of more than 37 million casualties, military and civilian. Far from being the “war to end war”, the conflict prepared the way for World War II, during which nuclear weapons were developed; and these now threaten the existence of human species and much of the biosphere.

After the horrors of World War I, the League of Nations was set up in the hope of ending the institution of war forever. However, many powerful nations refused to join the League, and it withered. Another attempt to outlaw war was made in 1928. in the form of a pact named after its authors, U.S. Secretary of State, Frank B. Kellogg and French Foreign Minister Astrid Briand. The Kellogg-Briand Pact is formally called the General Treaty for the Renunciation of War as an Instrument of National Policy. It was ultimately ratified by 62 Nations, including the United States (by a Senate vote of 85 to 1). Although frequently violated, the Pact remains in force today, establishing a norm which legally outlaws war.

United Nations Charter, 1945

The Second World War was even more disastrous than the First. Estimates of the total number of people who died as a result of the war range between 50 million and 80 million. With the unspeakable suffering caused by the war fresh in their minds, representatives of the victorious allied countries assembled in San Francisco to draft the charter of a global organization which they hoped would end the institution of war once and for all.

The Preamble to the United Nations Charter starts with the words: “We, the peoples of the United Nations, determined to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind; and to unite our strength to maintain international peace and security; and to ensure, by the acceptance of principles and the institution of methods, that armed force shall not be used, save in the common interest; and to employ international machinery for the promotion of the economic and social advancement of all peoples, have resolved to combine our efforts to accomplish these aims.”

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 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.

Clearly, the United Nations Charter aims at abolishing the institution of war once and for all; but the present Charter has proved to be much too weak to accomplish this purpose, since it is a confederation of the member states rather than a federation. This does not mean that that our present United Nations is a failure. Far from it! The UN has achieved almost universal membership, which the League of Nations failed to do. The Preamble to the Charter speaks of “the promotion of the economic and social advancement of all peoples”, and UN agencies, such as the World Health Organization, the Food and Agricultural Organization and UNESCO, have worked very effectively to improve the lives of people throughout the world. Furthermore, the UN has served as a meeting place for diplomats from all countries, and many potentially serious conflicts have been resolved by informal conversations behind the scenes at the UN. Finally, although often unenforceable, resolutions of the UN General Assembly and declarations by the Secretary General have great normative value.

When we think of strengthening and reforming the UN, then besides giving it the power to make and enforce laws that are binding on individuals, we should also consider giving it an independent and reliable source of income. As it is, rich and powerful nations seek to control the UN by means of its purse strings: They give financial support only to those actions that are in their own interests.

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 percent. He believed that even this extremely low rate of taxation would have the beneficial 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 United Nations with between 100 billion and 300 billion dollars annually. By strengthening the activities of various UN agencies, 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. The budgets of UN agencies, such as the World Health Organization, the Food and Agricultural Organization, UNESCO and the UN Development Programme,

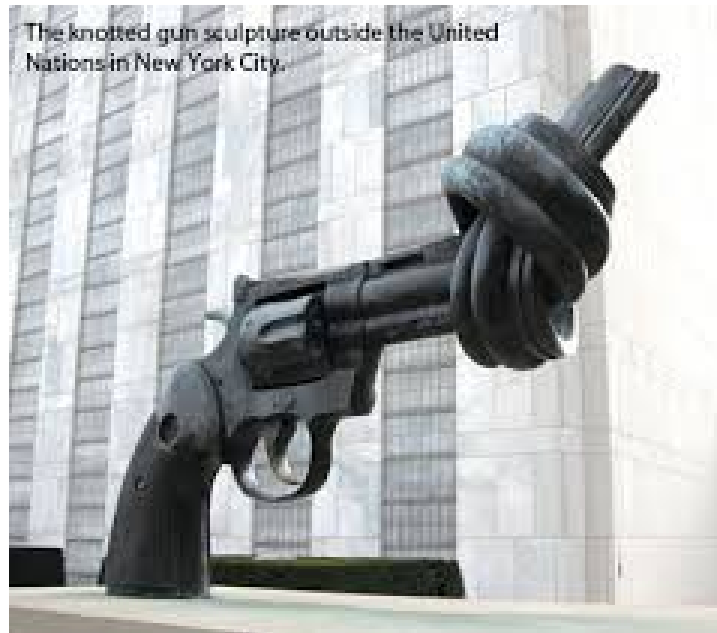


Figure 8.5: **Clearly, the United Nations Charter aims at abolishing the institution of war once and for all.**

should not just be doubled but should be multiplied by a factor of at least twenty.

With increased budgets the UN agencies could sponsor research and other actions aimed at solving the world's most pressing problems: AIDS, drug-resistant infections diseases, tropical diseases, food insufficiencies, pollution, climate change, alternative energy strategies, population stabilization, peace education, as well as combating poverty, malnutrition, illiteracy, lack of safe water and so on. Scientists would be less tempted to find jobs with arms-related industries if offered the chance to work on idealistic projects. The United Nations could be given its own television channel, with unbiased news programs, cultural programs, and "State of the World" addresses by the UN Secretary General.

In addition, the voting system of the United Nations General Assembly needs to be reformed, and the veto power in the Security Council needs to be abolished.

International Court of Justice, 1946

The International Court of Justice (ICJ) is the judicial arm of the United Nations. It was established by the UN Charter in 1945, and it began to function in 1946. The ICJ is housed in the Peace Palace in the Hague, a beautiful building constructed with funds donated by Andrew Carnegie. Since 1946, the ICJ has dealt with only 161 cases. The reason for this low number is that only disputes between nations are judged, and both the countries involved in a dispute have to agree to abide by the Court's jurisdiction before the case can be accepted.

Besides acting



Figure 8.6: 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.

Nuremberg Principles, 1947

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, which is particularly important in the context of the illegality of NATO:

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 accomplishment of any of the acts mentioned under (I).

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.” Furthermore, the Nuremberg principles state that “The fact that a person acted pursuant to order of his Government or of a superior does not relieve him from responsibility under international law, provided a moral choice was in fact possible to him.” The training of soldiers is designed to make the trainees into automatons, who have surrendered all powers of moral judgment to their superiors. The Nuremberg Principles put the the burden of moral responsibility squarely back where it

ought to be: on the shoulders of the individual.

The Universal Declaration of Human Rights, 1948

On December 10, 1948, the General Assembly of the United Nations adopted a Universal Declaration of Human Rights. 48 nations voted for adoption, while 8 nations abstained from voting. Not a single state voted against the Declaration. In addition, the General Assembly decided to continue work on the problem of implementing the Declaration. The Preamble to the document stated that it was intended “as a common standard of achievement for all peoples and nations, to the end that every individual and every organ of society, keeping this Declaration constantly in mind, shall strive by teaching and education to promote respect for these rights and freedoms.”

Articles 1 and 2 of the Declaration state that “all human beings are born free and equal in dignity and in rights”, and that everyone is entitled to the rights and freedoms mentioned in the Declaration without distinctions of any kind. Neither race, color, sex, language, religion, political or other opinion, national or social origin, property or social origin must make a difference. The Declaration states that everyone has a right to life, liberty and security of person and property. Slavery and the slave trade are prohibited, as well as torture and cruel, inhuman or degrading punishments. All people must be equal before the law, and no person must be subject to arbitrary arrest, detention or exile. In criminal proceedings an accused person must be presumed innocent until proven guilty by an impartial public hearing where all necessary provisions have been made for the defense of the accused.

No one shall be subjected to interference with his privacy, family, home or correspondence. Attacks on an individual’s honor are also forbidden. Everyone has the right of freedom of movement and residence within the borders of a state, the right to leave any country, including his own, as well as the right to return to his own country. Every person has the right to a nationality and cannot be arbitrarily deprived of his or her nationality.

All people of full age have a right to marry and to establish a family. Men and women have equal rights within a marriage and at its dissolution, if this takes place. Marriage must require the full consent of both parties.

The Declaration also guarantees freedom of religion, of conscience, and of opinion and expression, as well as freedom of peaceful assembly and association. Everyone is entitled to participate in his or her own government, either directly or through democratically chosen representatives. Governments must be based on the will of the people, expressed in periodic and genuine elections with universal and equal suffrage. Voting must be secret.

Everyone has the right to the economic, social and cultural conditions needed for dignity and free development of personality. The right to work is affirmed. The job shall be of a person’s own choosing, with favorable conditions of work, and remuneration consistent with human dignity, supplemented if necessary with social support. All workers have the right to form and to join trade unions.

Article 25 of the Declaration states that everyone has the right to an adequate standard of living, including food, clothing, housing and medical care, together with social services.

All people have the right to security in the event of unemployment, sickness, disability, widowhood or old age. Expectant mothers are promised special care and assistance, and children, whether born in or out of wedlock, shall enjoy the same social protection. Everyone has the right to education, which shall be free in the elementary stages. Higher education shall be accessible to all on the basis of merit. Education must be directed towards the full development of the human personality and to strengthening respect for human rights and fundamental freedoms. Education must promote understanding, tolerance, and friendship among all nations, racial and religious groups, and it must further the activities of the United Nations for the maintenance of peace.

A supplementary document, the Convention on the Rights of the Child, was adopted by the United Nations General Assembly on the 12th of December, 1989. Furthermore, in July 2010, the General Assembly passed a resolution affirming that everyone has the right to clean drinking water and proper sanitation.

Many provisions of the Universal Declaration of Human Rights, for example Article 25, might be accused of being wishful thinking. In fact, Jean Kirkpatrick, former US Ambassador to the UN, cynically called the Declaration “a letter to Santa Claus”. Nevertheless, like the Millennium Development Goals, the Universal Declaration of Human Rights has great value in defining the norms towards which the world ought to be striving.

It is easy to find many examples of gross violations of basic human rights that have taken place in recent years. Apart from human rights violations connected with interventions of powerful industrial states in the internal affairs of third world countries, there are many cases where governmental forces in the less developed countries have violated the human rights of their own citizens. Often minority groups have been killed or driven off their land by those who coveted the land, as was the case in Guatemala in 1979, when 1.5 million poor Indian farmers were forced to abandon their villages and farms and to flee to the mountains of Mexico in order to escape murderous attacks by government soldiers. The blockade of Gaza and extrajudicial killing by governments must also be regarded as blatant human rights violations, and there are many recent examples of genocide.

Wars in general, and in particular, the use of nuclear weapons, must be regarded as gross violations of human rights. The most basic human right is the right to life; but this is right routinely violated in wars. Most of the victims of recent wars have been civilians, very often children and women. The use of nuclear weapons must be regarded as a form of genocide, since they kill people indiscriminately, babies, children, young adults in their prime, and old people, without any regard for guilt or innocence.

Geneva Conventions, 1949

According to Wikipedia, “The Geneva Conventions comprise four treaties, and three additional protocols, that establish the standards of international law for the humanitarian treatment of war. The singular term, Geneva Convention, usually denotes the agreements of 1949, negotiated in the aftermath of the Second World War (1939-1945), which updated the terms of the first three treaties (1864, 1906, 1929) and added a fourth. The Geneva Conventions extensively defined the basic rights of wartime prisoners (civilians and mil-

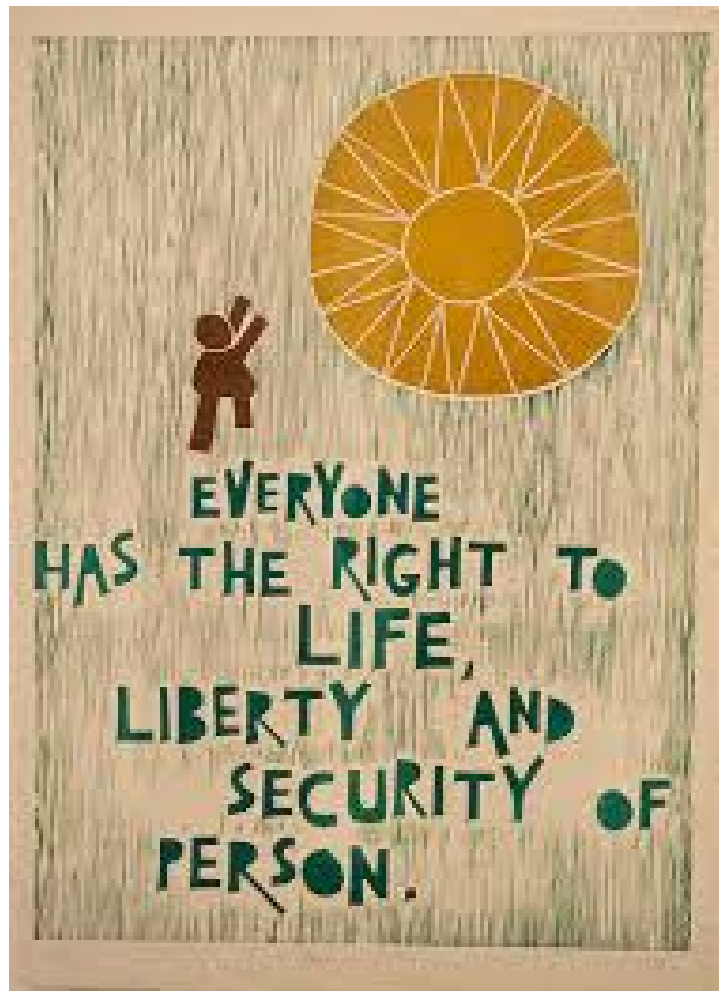


Figure 8.7: The Universal Declaration of Human Rights has great value in defining the norms towards which the world ought to be striving.

itary personnel); established protection for the wounded; and established protections for civilians in and around a war-zone. The treaties if 1949 were ratified, in whole or with reservations, by 196 countries.”

In a way, one might say that the Geneva Conventions are an admission of defeat by the international community. We tried to abolish war entirely through the UN Charter, but failed because the Charter was too weak.

Under the Fourth Geneva Convention, collective punishment is war crime. Article 33 states that “No protected person may be punished for an offense that he or she did not personally commit.” Articles 47-78 also impose substantial obligations on occupying powers, with numerous provisions for the general welfare of the inhabitants of an occupied territory. Thus Israel violated the Geneva Conventions by its collective punishment of the civilian population of Gaza in retaliation for largely ineffective Hamas rocket attacks. The larger issue, however, is the urgent need for lifting of Israel’s brutal blockade of Gaza, which has created what Noam Chomsky calls the “the world’s largest open-air prison”. This blockade violates the Geneva conventions because Israel, as an occupying power, has the duty of providing for the welfare of the people of Gaza.

Nuclear Non-Proliferation Treaty, 1968

In the 1960’s, negotiations were started between countries that possessed nuclear weapons, and others that did not possess them, to establish a treaty that would prevent the spread of these highly dangerous weapons, but which would at the same time encourage cooperation in the peaceful uses of nuclear energy. The resulting treaty has the formal title Treaty on the Non-Proliferation of Nuclear Weapons (abbreviated as the NPT). The treaty also aimed at achieving general and complete disarmament. It was opened for signature in 1968, and it entered into force on the 11th of May, 1970.

190 parties have joined the NPT, and more countries have ratified it than any other arms limitation agreement, an indication of the Treaty’s great importance. Four countries outside the NPT have nuclear weapons: India, Pakistan, North Korea and Israel. North Korea had originally joined the NPT, but it withdrew in 2003. The NPT has three main parts or “pillars”, 1) Non-Proliferation, 2) disarmament, and 3) the right to peaceful use of nuclear technology. The central bargain of the Treaty is that “the NPT non-nuclear weapon states agree never to acquire nuclear weapons and the NPT nuclear weapon states agree to share the benefits of peaceful use of nuclear technology and to pursue nuclear disarmament aimed at the ultimate elimination of their nuclear arsenals”.

Articles I and II of the NPT forbid states that have nuclear weapons to help other nations to acquire them. These Articles were violated, for example, by France, which helped Israel to acquire nuclear weapons, and by China, which helped Pakistan to do the same. They are also violated by the “nuclear sharing” agreements, through which US tactical nuclear weapons will be transferred to several countries in Europe in a crisis situation. It is sometimes argued that in the event of a crisis, the NPT would no longer be valid, but there is nothing in the NPT itself that indicates that it would not hold in all situations.

The most blatantly violated provision of the NPT is Article VI. It requires the member states to pursue “negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament”, and negotiations towards a “Treaty on general and complete disarmament”. In other words, the states that possess nuclear weapons agreed to get rid of them. However, during the 47 years that have passed since the NPT went into force, the nuclear weapon states have shown absolutely no sign of complying with Article VI. There is a danger that the NPT will break down entirely because of the majority of countries in the world are so dissatisfied with this long-continued non-compliance. Looking at the NPT with the benefit of hindsight, we can see the third “pillar”, the “right to peaceful use of nuclear technology” as a fatal flaw of the treaty. In practice, it has meant encouragement of nuclear power generation, with all the many dangers that go with it.

The enrichment of uranium is linked to reactor use. Many reactors of modern design make use of low enriched uranium as a fuel. Nations operating such a reactor may claim that they need a program for uranium enrichment in order to produce fuel rods. However, by operating their ultracentrifuges a little longer, they can easily produce highly enriched (weapons-usable) uranium.

The difficulty of distinguishing between a civilian nuclear power generation program and a military nuclear program is illustrated by the case of Iran. In discussing Iran, it should be mentioned that Iran is fully in compliance with the NPT. It is very strange to see states that are long-time blatant violators of the NPT threaten Iran because of a nuclear program that fully complies with the Treaty. I believe that civilian nuclear power generation is always a mistake because of the many dangers that it entails, and because of the problem of disposing of nuclear waste. However, a military attack on Iran would be both criminal and insane. Why criminal? Because such an attack would violate the UN Charter and the Nuremberg Principles. Why insane? Because it would initiate a conflict that might escalate uncontrollably into World War III.

Biological Weapons Convention, 1972

During World War II, British and American scientists investigated the possibility of using smallpox as a biological weapon. However, it was never used, and in 1969 President Nixon officially ended the American biological weapons program, bowing to the pressure of outraged public opinion. In 1972, the United States, the United Kingdom and the Soviet Union signed a Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction. Usually this treaty is known as the Biological Weapons Convention (BWC), and it has now been signed by virtually all of the countries of the world.

However, consider the case of smallpox: A World Health Organization team led by D.A. Henderson devised a strategy in which cases of smallpox were isolated and all their contacts vaccinated, so that the disease had no way of reaching new victims. Descriptions of the disease were circulated, and rewards offered for reporting cases. The strategy proved to be successful, and finally, in 1977, the last natural case of smallpox was isolated in

Somalia. After a two-year waiting period, during which no new cases were reported, WHO announced in 1979 that smallpox, one of the most frightful diseases of humankind, had been totally eliminated from the world. This was the first instance of the complete eradication of a disease, and it was a demonstration of what could be achieved by the enlightened use of science combined with international cooperation. The eradication of smallpox was a milestone in human history.

It seems that our species is not really completely wise and rational; we do not really deserve to be called “Homo sapiens”. Stone-age emotions and stone-age politics are alas still with us. Samples of smallpox virus were taken to “carefully controlled” laboratories in the United States and the Soviet Union. Why? Probably because these two Cold War opponents did not trust each other, although both had signed the Biological Weapons Convention. Each feared that the other side might intend to use smallpox as a biological weapon. There were also rumors that unofficial samples of the virus had been saved by a number of other countries, including North Korea, Iraq, China, Cuba, India, Iran, Israel, Pakistan and Yugoslavia.

Chemical Weapons Convention, 1997

On the 3rd of September, 1992, the Conference on Disarmament in Geneva adopted a Convention on the Prohibition of Development, Production, Stockpiling, and Use of Chemical Weapons and on their Destruction. This agreement, which is usually called the Chemical Weapons Convention (CWC), attempted to remedy some of the shortcomings of the Geneva Protocol of 1925. The CWC went into force in 1997, after Hungary deposited the 65th instrument of ratification.

The provisions of Article I of the CWC are as follows: 1. Each State Party to this convention undertakes never under any circumstances: (a) To develop, produce, otherwise acquire, stockpile or retain chemical weapons, or transfer, directly or indirectly, chemical weapons to anyone; (b) To use chemical weapons; (c) To engage in any military preparation to use chemical weapons; (d) To assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party in accordance with the provisions of this Convention. 2. Each State Party undertakes to destroy chemical weapons it owns or possesses, or that are located any place under its jurisdiction or control, in accordance with the provisions of this Convention. 3. Each State Party undertakes to destroy all chemical weapons it abandoned on the territory of another State Party, in accordance with the provisions of this Convention. 4. Each State Party undertakes to destroy any chemical weapons production facilities it owns or possesses, or that are located in any place under its jurisdiction or control, in accordance with the provisions of this Convention. 5. Each State Party undertakes not to use riot control agents as a method of warfare.

The CWC also makes provision for verification by teams of inspectors, and by 2004, 1,600 such inspections had been carried out in 59 countries. It also established an Organization for the Prevention of Chemical Warfare. All of the declared chemical weapons production facilities have now been inactivated, and all declared chemical weapons have been inventoried. However of the world’s declared stockpile of chemical warfare agents

(70,000 metric tons), only 12 percent have been destroyed. One hopes that in the future the CWC will be ratified by all the nations of the world and that the destruction of stockpiled chemical warfare agents will become complete.

Mine Ban Treaty, 1999

In 1991, six NGOs organized the International Campaign to Ban Landmines, and in 1996, the Canadian government launched the Ottawa process to ban landmines by hosting a meeting among like-minded anti-landmine states. A year later, in 1997, the Mine Ban Treaty was adopted and opened for signatures. In the same year, Jody Williams and the International Campaign to ban Landmines were jointly awarded the Nobel Peace Prize. After the 40th ratification of the Mine Ban Treaty in 1998, the treaty became binding international law on the 1st of March, 1999. The Ottawa Treaty functions imperfectly because of the opposition of several militarily powerful nations, but nevertheless it establishes a valuable norm, and it represents an important forward step in the development of international law.

International Criminal Court, 2002

In 1998, in Rome, representatives of 120 countries signed a statute establishing an International Criminal Court (ICC), with jurisdiction over the crime of genocide, crimes against humanity, war crimes and the crime of aggression.

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. It would be impossible to overstate the importance of the ICC. At last, international law acting on individuals has become a reality! The only effective and just way that international laws can act is to make individuals responsible and punishable, since (in the words of Alexander Hamilton) "To coerce states is one of the maddest projects that was ever devised."

At present, the ICC functions very imperfectly because of the bitter opposition of several powerful countries, notable the United States. U.S. President George W. Bush signed into law the American Servicemembers Protection Act of 2002, which is intended to intimidate countries that ratify the treaty for the ICC. The new law authorizes the use of military force to liberate any American or citizen of a U.S.-allied country being held by the court, which is located in The Hague. This provision, dubbed the "Hague invasion clause," has caused a strong reaction from U.S. allies around the world, particularly in the Netherlands.¹

Despite the fact that the ICC now functions so imperfectly, it is a great step forward in the development of international law. It is there and functioning. We have the opportunity to make it progressively more impartial and to expand its powers.

¹<http://www.hrw.org/news/2002/08/03/us-hague-invasion-act-becomes-law>

Arms Trade Treaty, 2013

On April 2, 2013, a historic victory was won at the United Nations, and the world achieved its first treaty limiting international trade in arms. Work towards the Arms Trade Treaty (ATT) began in the Conference on Disarmament in Geneva, which requires a consensus for the adoption of any measure. Over the years, the consensus requirement has meant that no real progress in arms control measures has been made in Geneva, since a consensus among 193 nations is impossible to achieve.

To get around the blockade, British U.N. Ambassador Mark Lyall Grant sent the draft treaty to Secretary-General Ban Ki-Moon and asked him on behalf of Mexico, Australia and a number of others to put the ATT to a swift vote in the General Assembly, and on Tuesday, April 3, 2013, it was adopted by a massive majority. Among the people who have worked hardest for the ATT is Anna Macdonald, Head of Arms Control at Oxfam. The reason why Oxfam works so hard on this issue is that trade in small arms is a major cause of poverty and famine in the developing countries. On April 9, Anna Macdonald wrote: “Thanks to the democratic process, international law will for the first time regulate the 70 billion dollar global arms trade. Had the process been launched in the consensus-bound Conference on Disarmament in Geneva, currently in its 12th year of meeting without even being able to agree on an agenda, chances are it would never have left the starting blocks...”

The passage of the Arms Trade Treaty by a majority vote in the UN General Assembly opens new possibilities for progress on other seemingly-intractable issues. In particular, it gives hope that a Nuclear Weapons Convention might be adopted by a direct vote on the floor of the General Assembly. The adoption of the NWC, even if achieved against the bitter opposition of the nuclear weapon states, would make it clear that the world’s peoples consider the threat of an all-destroying nuclear war to be completely unacceptable.

Racism, Colonialism and Exceptionalism

A just system of laws must apply equally and without exception to everyone. If a person, or, in the case of international law, a nation, claims to be outside the law, or above the law, then there is something fundamentally wrong. For example, when U.S. President Obama said in a 2013 speech, “What makes America different, what makes us exceptional, is that we are dedicated to act”, then thoughtful people could immediately see that something was terribly wrong with the system. If we look closely, we find that there is a link between racism, colonialism and exceptionalism. The racist and colonialist concept of “the white man’s burden” is linked to the Neo-Conservative self-image of benevolent (and violent) interference in the internal affairs of other countries. ²

²<http://www.countercurrents.org/avery101013.htm>
<https://www.youtube.com/watch?v=efI6T8lovqY>
<https://www.youtube.com/watch?v=IdBDRbjx9jo>

The Oslo Principles on Climate Change Obligation, 2015

The future of human civilization and the biosphere is not only threatened by thermonuclear war: It is also threatened by catastrophic climate change. If prompt action is not taken to curb the use of fossil fuels: if the presently known reserves of fossil fuels are not left in the ground, then there is a great danger that we will pass a tipping point beyond which human efforts to stop a catastrophic increase in global temperatures will be useless because feedback loops will have taken over. There is a danger of a human-initiated 6th geological extinction event, comparable with the Permian-Triassic event, during which 96 percent of marine species and 70 percent of terrestrial vertebrates became extinct.

Recently there have been a number of initiatives which aim at making the human obligation to avert threatened environmental mega-catastrophes a part of international law. One of these initiatives can be seen in the proposal of the Oslo Principles on Climate Change Obligations; another is the Universal Declaration of the Rights of Mother Earth; and a third can be found in the concept of Biocultural Rights. These are extremely important and hopeful initiatives, and they point to towards the future development of international law for which we must strive. ³

The nuclear ban treaty

The Treaty on the Prohibition of Nuclear Weapons has been passed by the UN General Assembly!

On July 7, 2017, the Treaty on the Prohibition of Nuclear Weapons was adopted by an overwhelming majority (122 to 1) at the United Nations General Assembly. Although opposed by all of the nuclear weapon states, the treaty is a great achievement. Here are the first two articles of the treaty: ⁴

Article 1: Prohibitions

1. Each State Party undertakes never under any circumstances to:
 - (a) Develop, test, produce, manufacture, otherwise acquire, possess or stockpile nuclear weapons or other nuclear explosive devices;
 - (b) Transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly or indirectly;

³<https://www.transcend.org/tms/2015/04/oslo-principles-on-global-climate-change-obligations/>
<https://www.transcend.org/tms/2015/04/climate-change-at-last-a-breakthrough-to-our-catastrophic-political-impasse/>
<http://www.commondreams.org/news/2015/04/14/lawsuit-out-love-unprecedented-legal-action-accuses-dutch-government-failing-climate>
<http://www.elgaronline.com/view/journals/jhre/6-1/jhre.2015.01.01.xml>
<http://therightsofnature.org/universal-declaration/>

⁴The remaining articles can be found on the following link: <http://undocs.org/A/CONF.229/2017/8>



Figure 8.8: **Recently there have been a number of initiatives which aim at making the human obligation to avert threatened environmental mega-catastrophes a part of international law.**

- (c) Receive the transfer of or control over nuclear weapons or other nuclear explosive devices directly or indirectly;
- (d) Use or threaten to use nuclear weapons or other nuclear explosive devices;
- (e) Assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Treaty;
- (f) Seek or receive any assistance, in any way, from anyone to engage in any activity prohibited to a State Party under this Treaty;
- (g) Allow any stationing, installation or deployment of any nuclear weapons or other nuclear explosive devices in its territory or at any place under its jurisdiction or control.

Article 2: Declarations

1. Each State Party shall submit to the Secretary - General of the United Nations, not later than 30 days after this Treaty enters into force for that State Party, a declaration in which it shall:
 - (a) Declare whether it owned, possessed or controlled nuclear weapons or nuclear explosive devices and eliminated its nuclear weapon programme, including the elimination or irreversible conversion of all nuclear weapons-related facilities, prior to the entry into force of this Treaty for that State Party;
 - (b) Notwithstanding Article 1 (a), declare whether it owns, possesses or controls any nuclear weapons or other nuclear explosive devices;
 - (c) Notwithstanding Article 1 (g), declare whether there are any nuclear weapons or other nuclear explosive devices in its territory or in any place under its jurisdiction or control that are owned, possessed or controlled by another State.
2. The Secretary-General of the United Nations shall transmit all such declarations received to the States Parties

Imperfect functioning of treaties

The adoption of a Nuclear Trade Treaty is a great step forward; the adoption of the ICC, although its operation is imperfect, is also a great step forward, and likewise the Antipersonnel Land-Mine Convention is a great step forward. In my opinion, the adoption of the Treaty on Prohibition of Nuclear Weapons, even in the face of powerful opposition, is also a great step forward. When the will of the majority of the world's peoples is clearly expressed in an international treaty, even if the treaty functions imperfectly, the question of legality is clear. Everyone can see which states are violating international law. In time, world public opinion will force the criminal states to conform with the law. In the case of a Nuclear Weapons Convention, world public opinion would have especially great force.

It is generally agreed that a full-scale nuclear war would have disastrous effects, not only on belligerent nations but also on neutral countries. Mr. Javier Pérez de Cuéllar, former Secretary-General of the United Nations, emphasized this point in one of his speeches:

“I feel”, he said, “that the question may justifiably be put to the leading nuclear powers: by what right do they decide the fate of humanity? From Scandinavia to Latin America, from Europe and Africa to the Far East, the destiny of every man and woman is affected by their actions. No one can expect to escape from the catastrophic consequences of a nuclear war on the fragile structure of this planet. ...”

“No ideological confrontation can be allowed to jeopardize the future of humanity. Nothing less is at stake: today’s decisions affect not only the present; they also put at risk succeeding generations. Like supreme arbiters, with our disputes of the moment, we threaten to cut off the future and to extinguish the lives of innocent millions yet unborn. There can be no greater arrogance. At the same time, the lives of all those who lived before us may be rendered meaningless; for we have the power to dissolve in a conflict of hours or minutes the entire work of civilization, with all the brilliant cultural heritage of humankind.”

“...In a nuclear age, decisions affecting war and peace cannot be left to military strategists or even to governments. They are indeed the responsibility of every man and woman. And it is therefore the responsibility of all of us... to break the cycle of mistrust and insecurity and to respond to humanity’s yearning for peace.”

The eloquent words of Javier Pérez de Cuéllar express the situation in which we now find ourselves: Accidental nuclear war, nuclear terrorism, insanity of a person in a position of power, or unintended escalation of a conflict, could at any moment plunge our beautiful world into a catastrophic thermonuclear war which might destroy not only human civilization but also much of the biosphere. We are reminded that such a disaster could occur at any moment by the threat of an attack by Israel on Iran and by the threat of an all-destroying nuclear war started by the conflict in the Korean Peninsula. It is clear that if the peoples of the world do not act quickly to abolish nuclear weapons, neither we nor our children nor our grandchildren have much chance of survival.

Hope for the future, and responsibility for the future

Can we abolish the institution of war? Can we hope and work for a time when the terrible suffering inflicted by wars will exist only as a dark memory fading into the past? I believe that this is really possible. 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, 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?

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.

We live at a critical time for human civilization, a time of crisis. Each of us must accept his or her individual responsibility for solving the problems that are facing the world today. We cannot leave this to the politicians. That is what we have been doing until now, and the results have been disastrous. Nor can we trust the mass media to give us adequate public discussion of the challenges that we are facing. We have a responsibility towards future generations to take matters into our own hands, to join hands and make our own alternative media, to work actively and fearlessly for better government and for a better society.

We, the people of the world, not only have the facts on our side; we also have numbers on our side. The vast majority of the world's peoples long for peace. The vast majority long for abolition of nuclear weapons, and for a world of kindness and cooperation, a world of respect for the environment. No one can make these changes alone, but together we can do it.

Together, we have the power to choose a future where international anarchy, chronic war and institutionalized injustice will be replaced by democratic and humane global governance, a future where the madness and immorality of war will be replaced by the rule of law.

We need a sense of the unity of all mankind to save the future, a new global ethic for a united world. We need politeness and kindness to save the future, politeness and kindness not only within nations but also between nations. To save the future, we need a just and democratic system of international law; for with law shall our land be built up, but with lawlessness laid waste.

8.2 Nuclear warfare as genocide

Sixty-five years ago, on December 9, 1948, the United Nations General Assembly adopted a convention prohibiting genocide. It seems appropriate to discuss nuclear warfare against the background of this important standard of international law.

Cannot nuclear warfare be seen as an example of genocide? It is capable of killing entire populations, including babies, young children, adults in their prime and old people, without any regard for guilt or innocence. The retention of nuclear weapons, with the intent to use them under some circumstances, must be seen as the intent to commit genocide. Is it not morally degrading to see our leaders announce their intention to commit the "crime of crimes" in our names?

The use of nuclear weapons potentially involves not only genocide, but also omnicide, the death of all, since a large-scale thermonuclear war would destroy human civilization

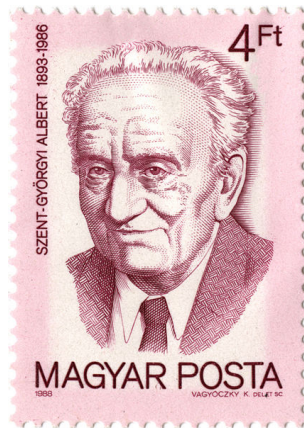


Figure 8.9: A stamp honoring the great Hungarian biochemist, Albert Szent-Györgyi, who once wrote: “...Modern science has abolished time and distance as factors separating nations. On our shrunken globe today, there is room for one group only: the family of man.”

and much of the biosphere.

If humanity is to survive in an era of all-destroying nuclear weapons, we must develop an advanced ethic to match our advanced technology. We must regard all humans as our brothers and sisters. More than that, we must actively feel our kinship with all living things, and accept and act upon our duty to protect both animate and inanimate nature.

Modern science has, for the first time in history, offered humankind the possibility of a life of comfort, free from hunger and cold, and free from the constant threat of death through infectious disease. At the same time, science has given humans the power to obliterate their civilization with nuclear weapons, or to make the earth uninhabitable through overpopulation and pollution. The question of which of these paths we choose is literally a matter of life or death for ourselves and our children.

Will we use the discoveries of modern science constructively, and thus choose the path leading towards life? Or will we use science to produce more and more lethal weapons, which sooner or later, through a technical or human failure, may result in a catastrophic nuclear war? Will we thoughtlessly destroy our beautiful planet through unlimited growth of population and industry? The choice among these alternatives is ours to make. We live at a critical moment of history - a moment of crisis for civilization.

No one living today asked to be born at such a moment, But history has given our generation an enormous responsibility, and two daunting tasks: We must stabilize global population, and, more importantly, we must abolish both nuclear weapons and the institution of war.

The human brain has shown itself to be capable of solving even the most profound and complex problems. The mind that has seen into the heart of the atom must not fail when confronted with paradoxes of the human heart.

The problem of building a stable, just, and war-free world is difficult, but it is not im-

possible. The large regions of our present-day world within which war has been eliminated can serve as models. There are a number of large countries with heterogeneous populations within which it has been possible to achieve internal peace and social cohesion, and if this is possible within such extremely large regions, it must also be possible globally. We must replace the old world of international anarchy, chronic war and institutionalized injustice, by a new world of law.

The Nobel laureate biochemist Albert Szent-Györgyi once wrote: “...Modern science has abolished time and distance as factors separating nations. On our shrunken globe today, there is room for one group only: the family of man.”

8.3 Protecting whistleblowers

The world urgently needs a system of international laws for protecting whistleblowers. There are many reasons for this, but among the most urgent is the need for saving civilization and the biosphere from the threat of a catastrophic nuclear war.

It is generally recognized that a war fought with nuclear weapons would be a humanitarian and environmental disaster, affecting neutral nations throughout the world, as well as combatants. For example, on 4-5 March 2013 the Norwegian Minister of Foreign Affairs, Mr. Espen Barth Eide hosted an international Conference on the Humanitarian Impact of Nuclear Weapons.

The Conference provided an arena for a fact-based discussion of the humanitarian and developmental consequences of a nuclear weapons detonation. Delegates from 127 countries as well as several UN organizations, the International Red Cross movement, representatives of civil society and other relevant stakeholders participated.

The Austrian representatives to the Oslo Conference commented that “Austria is convinced that it is necessary and overdue to put the humanitarian consequences of nuclear weapons at the center of our debate, including in the NPT. Nuclear weapons are not just a security policy issue for a few states but an issue of serious concern for the entire international community. The humanitarian, environmental, health, economic and developmental consequences of any nuclear weapons explosion would be devastating and global and any notion of adequate preparedness or response is an illusion.”

China stated that “China has always stood for the complete prohibition and thorough destruction of nuclear weapons, and [has] actively promoted the establishment of a world free of nuclear weapons. The complete prohibition and total elimination of nuclear weapons, getting rid of the danger of nuclear war and the attainment of a nuclear-weapon-free world, serve the common interests and benefits of humankind.”

Japan’s comment included the words: “As the only country to have suffered atomic bombings during wartime, Japan actively contributed to the Oslo Conference on the Humanitarian Impact of Nuclear Weapons in March. With strengthened resolve to seek a nuclear-weapons-free world, we continue to advance disarmament and Non-Proliferation education to inform the world and the next generation of the dreadful realities of nuclear devastation.” Many other nations represented at the Oslo Conference made similarly strong



statements advocating the complete abolition of nuclear weapons.

Recently UN Secretary General Ban Ki-Moon has introduced a 5-point Program for the abolition of nuclear weapons. In this program he mentioned the possibility of a Nuclear Weapons Convention, and urged the Security Council to convene a summit devoted to the nuclear abolition. He also urged all countries to ratify the Comprehensive Test-Ban Treaty.

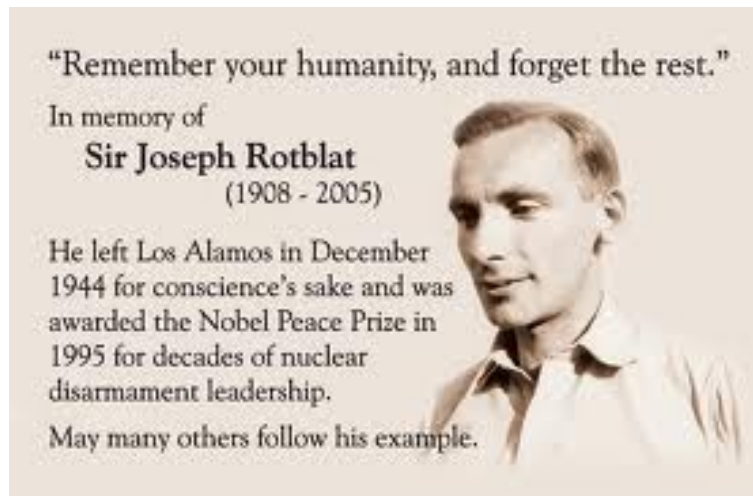
Three-quarters of all nations support UN Secretary-General Ban's proposal for a treaty to outlaw and eliminate nuclear weapons. The 146 nations that have declared their willingness to negotiate a new global disarmament pact include four nuclear weapon states: China, India, Pakistan and North Korea.

Nuclear disarmament has been one of the core aspirations of the international community since the first use of nuclear weapons in 1945. A nuclear war, even a limited one, would have global humanitarian and environmental consequences, and thus it is a responsibility of all governments, including those of non-nuclear countries, to protect their citizens and engage in processes leading to a world without nuclear weapons.

The Treaty on the Prohibition of Nuclear Weapons discussed above prohibits the production of weapons usable fissile material and requires delivery vehicles to be destroyed or converted to make them non-nuclear capable.

Verification will include declarations and reports from States, routine inspections, challenge inspections, on-site sensors, satellite photography, radionuclide sampling and other remote sensors, information sharing with other organizations, and citizen reporting. Persons reporting suspected violations of the convention will be provided protection through the Convention including the right of asylum.

Thus we can see that the protection of whistleblowers is an integral feature of the Treaty on the Prohibition of Nuclear Weapons. As Sir Joseph Rotblat (1908-2005, Nobel Laureate 1995) frequently emphasized in his speeches, societal verification must be an integral part



of the process of “going to zero” (i.e, the total elimination of nuclear weapons). This is because nuclear weapons are small enough to be easily hidden. How will we know whether a nation has destroyed all of its nuclear arsenal? We have to depend on information from insiders, whose loyalty to the whole of humanity prompts them to become whistleblowers. And for this to be possible, they need to be protected.

In general, if the world is ever to be free from the threat of complete destruction by modern weapons, we will need a new global ethic, an ethic as advanced as our technology. Of course we can continue to be loyal to our families, our localities and our countries. But this must be supplemented by a higher loyalty: a loyalty to humanity as a whole.

8.4 The illegality of NATO

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



Figure 8.10: **Former UN Assistant Secretary General Hans Christof von Sponeck has stated that he considers NATO’s present Charter to be illegal.**

and security.”

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

Violation of the Nuclear Nonproliferation Treaty

At present, NATO’s nuclear weapons policies violate both the spirit and the text of the Nuclear Nonproliferation Treaty in several respects: Today there are an estimated 200 US

THE FACT THAT A PERSON
 ACTED PURSUANT TO ORDER OF HIS GOVERNMENT
 OR OF A SUPERIOR DOES NOT RELIEVE HIM FROM
RESPONSIBILITY
 UNDER INTERNATIONAL LAW PROVIDED A
MORAL CHOICE WAS
 IN FACT POSSIBLE TO HIM.

(FOURTH NUREMBERG PRINCIPLE)

Figure 8.11: The Sixth Nuremberg Principle lists “Planning, preparation, initiation or waging of a war of aggression or a war in violation of international treaties, agreements or assurances” as a crime under international law. The Seventh Nuremberg Principle states that complicity in a crime against peace is also a crime.

nuclear weapons still in Europe The air forces of the nations in which they are based are regularly trained to deliver the US weapons. This “nuclear sharing”, as it is called, violates Articles I and II of the NPT, which forbid the transfer of nuclear weapons to non-nuclear-weapon states. It has been argued that the NPT would no longer be in force if a crisis arose, but there is nothing in the NPT saying that the treaty would not hold under all circumstances.

Article VI of the NPT requires states possessing nuclear weapon to get rid of them within a reasonable period of time. This article is violated by fact that NATO policy is guided by a Strategic Concept, which visualizes the continued use of nuclear weapons in the foreseeable future.

The principle of no-first-use of nuclear weapons has been an extremely important safeguard over the years, but it is violated by present NATO policy, which permits the first-use of nuclear weapons in a wide variety of circumstances.

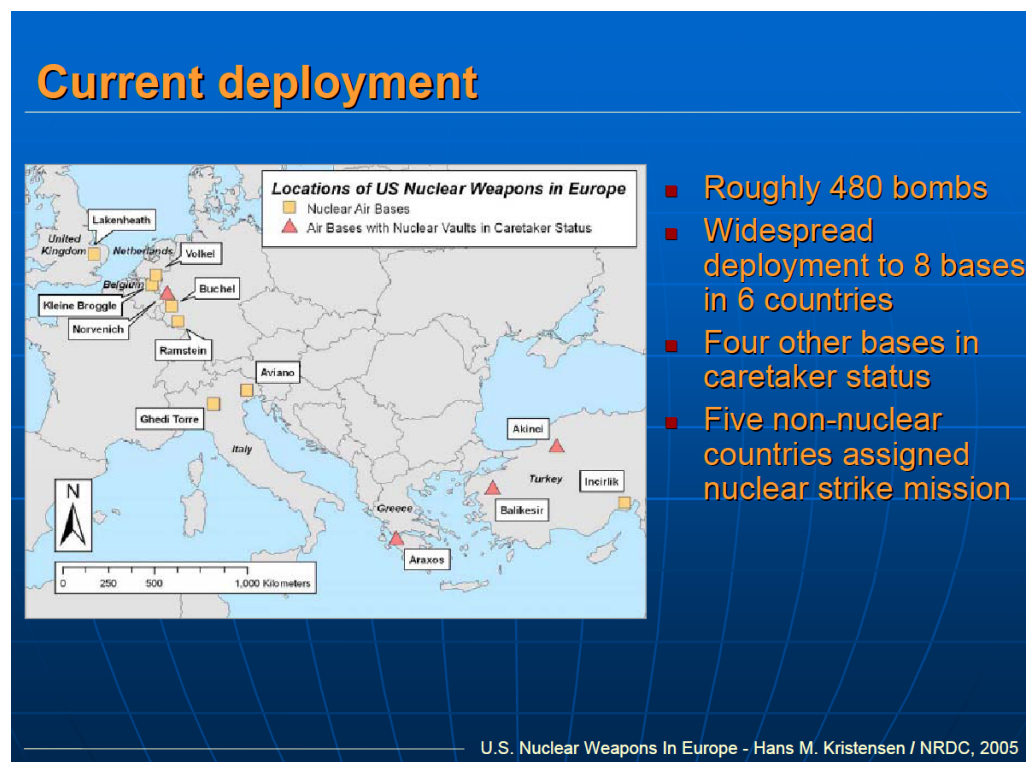


Figure 8.12: At present, NATO's nuclear weapons policies violate both the spirit and the text of the Nuclear Nonproliferation Treaty in several respects

The 1996 ICJ decision

Besides acting as an arbitrator in disputes between nations, the ICJ also gives advisory opinions to the United Nations and its agencies. An extremely important judgment of this kind was given in 1996: 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 been 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.”

8.5 Violations of Article VI: Marshall Islands

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) - the US, Russia (which inherited the Soviet arsenal), China, France and the UK - as well as the three countries outside the



Figure 8.13: **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.**

NPT who have declared nuclear arsenals - 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 - 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



Figure 8.14: Babies with severe birth defects are still being born on the Marshall Islands, 60 years after the Bikini test.



Figure 8.15: **A just system of international law is our only hope for the future.**

opportunity, the U.S. government is seeking dismissal without a full and fair hearing on the merits of the case.”

Our only hope for the future is to replace brutal rule by military power by a just system of international law.

8.6 Reform of the United Nations

It is becoming increasingly clear that the concept of the absolutely sovereign nation-state is a dangerous 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 that 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.

The Charter should not be thought of as cast in concrete for all time. It needs instead to

grow with the requirements of our increasingly interdependent global society. We should remember that the Charter was drafted and signed before the first nuclear bomb was dropped on Hiroshima; and it also could not anticipate the extraordinary development of international trade and communication which characterizes the world today.

Among the weaknesses of the present U.N. Charter is the fact that it does not give the United Nations the power to make laws which are binding on individuals. At present, in international law, we treat nations as though they were persons: We punish entire nations by sanctions when the law is broken, even when only the leaders are guilty, even though the burdens of the sanctions fall most heavily on the poorest 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. To be effective, the United Nations needs a legislature with the power to make laws which are binding on individuals, and the power to to arrest individual political leaders for flagrant violations of international law.

Another weakness of the present United Nations Charter is the principle of "one nation one vote" in the General Assembly. This principle seems to establish equality between nations, but in fact it is very unfair: For example it gives a citizen of China or India less than a thousandth the voting power of a citizen of Malta or Iceland. A reform of the voting system is clearly needed.

The present United Nations Charter contains guarantees of human rights, but there is no effective mechanism for enforcing these guarantees. In fact there is a conflict between the parts of the Charter protecting human rights and the concept of absolute national sovereignty. Recent history has given us many examples of atrocities committed against ethnic minorities by leaders of nation-states, who claim that sovereignty gives them the right to run their internal affairs as they wish, free from outside interference.

One feels that it ought to be the responsibility of the international community to prevent gross violations of human rights, such as the use of poison gas against civilians (to mention only one of the more recent political crimes); and if this is in conflict with the notion of absolute national sovereignty, then sovereignty must yield. In fact, the concept of the absolutely sovereign nation-state as the the supreme political entity is already being eroded by the overriding need for international law.

Today the development of technology has made global communication almost instantaneous. We sit in our living rooms and watch, via satellite, events taking place on the opposite side of the globe. Likewise the growth of world trade has brought distant countries into close economic contact with each other: Financial tremors in Tokyo can shake New York. The impact of contemporary science and technology on transportation and communication has effectively abolished distance in relations between nations. This close contact and interdependence will increasingly require effective international law to prevent conflicts. However, the need for international law must be balanced against the desirability of local self-government. Like biological diversity, the cultural diversity of humankind is a treasure to be carefully guarded. A balance or compromise between these two desirable goals could be achieved by granting only a few carefully chosen powers to a strengthened United Nations with sovereignty over all other issues retained by the member states.



Figure 8.16: The Hanseatic League was an example of a special-purpose federation. It aimed at controlling lucrative herring fishing in the Baltic. The map shows Northern Europe in the 1400s, illustrating the extent of the Hanseatic League.

8.7 Federations, past, present and future

A federation of states is, by definition, a limited union where the federal government has the power to make laws that 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 retained by the individual 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 the power to arrest individuals for violating those laws, then we would have a world federation in the area of narcotics control.

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 or fine individuals violating those laws, then we would have a world federation with even broader powers; but these powers would still be carefully defined and limited. In setting up a federation, the member states can decide which powers they wish to delegate



Figure 8.17: Logo of the Universal Postal Union, a special-purpose federation. Mail is delivered even between warring nations.



Figure 8.18: Logo of the International Tennis Federation, which organizes world-wide events in the sport. It is another example of a special-purpose federation.

to it; and all powers not expressly delegated are retained by the individual states.

Since the federal structure seems well suited to a world government with limited and carefully-defined powers that would preserve as much local autonomy as possible, it is worthwhile to look at the histories of a few of the federations. There is much that we can learn from their experiences.

In ancient Greece there were many federations, one example being the Amphictyonic League. This was originally a league of 12 tribes, and it was devoted to regulating religious matters and maintaining shrines. The League had meetings in the spring at the temple of Demeter near Thermopylae and in the autumn at Delphi. The Amphictyonic League is an example of a special-purpose federation. It had authority over certain religious matters, but all other decisions were taken locally by the members of its constituent tribes.

Another special-purpose federation was the Hanseatic League which flourished in Northern Europe during the 12th-17th centuries. The Hanseatic League began as an association of merchants who were interested in salting and selling the herring catch of the Baltic. This was a profitable business during the late Middle Ages because there were so many fast days on which it was forbidden to eat meat, but permissible to eat fish. At the height of its power, the Hansa included merchants from more than sixty cities, for example merchants from such cities as Bruges, Hamburg, Lubeck, Rostock, Danzig, Riga, Novgorod and Bergen. Each city had its own merchant association, but matters concerning intercity trade were organized by a loose federation, the Hanseatic Diet.

As a final example of a special-purpose federation, we can think of the Universal Postal Union. Prior to the UPU, countries that wished to cooperate with each other in postal matters did so through bilateral treaties. However, this was a clumsy solution, and in 1863 an international postal congress was held at the request of the United States. As a result of the congress, the Treaty of Berne was signed in 1874, creating the General Postal Union. In 1878 it was renamed, and it became the Universal Postal Union. The UPU introduced several innovations:- a more or less uniform flat rate to mail a letter anywhere in the world; equal treatment of foreign and domestic mail; and the retention by each country of the money collected for international postage. After the formation of the UPU, it was no longer necessary for a letter or package to bear the stamps of all the countries through which it would pass, as had previously been the case. The Universal Postal Union has proved to be incredibly robust, and it has usually continued to function well despite the political upheavals and animosities of its constituent members.

From these examples of special-purpose federations we can see that it is possible to limit the authority of a federation to a small domain of activities. However, we can notice in the evolution of the Hanseatic League, a gradual enlargement of federal powers: The League began as an organization of merchants, but it gradually acquired political and military powers, as can be seen from the Hansa's destruction of Copenhagen's castle in 1369.

Let us next turn to the history of nations that have been formed as federations of smaller units. Almost half of the countries of today's world are federations.

The Swiss Federation is an interesting example, because its regions speak three different languages: German, French and Italian. In 1291, citizens of Uri, Schwyz and Unterwalden, standing on the top of a small mountain called Rütli, swore allegiance to the first Swiss

federation with the words “we will be a one and only nation of brothers”. During the 14th century, Luzern, Zürich, Glarus, Zug and Bern also joined. Later additions during the 15th and 16th centuries included Fribourg, Solothurn, Basel, Schaffhausen and Appenzell. In 1648 Switzerland declared itself to be an independent nation, and in 1812, the Swiss Federation declared its neutrality. In 1815, the French-speaking regions Valais, Neuchatel and Genève were added, giving Switzerland its final boundaries.

The Federal Constitution of United States of America is one of the most important and influential constitutions in history. It later formed a model for many other governments, especially in South America. The example of the United States is especially interesting because the original union of states formed by the Articles of Confederation in 1777 proved to be too weak, and it had to be replaced eleven years later by a federal constitution. Additional lessons can be learned from the tragedy of the American Civil War.

During the revolutionary war against England the 13 former colonies sent representatives to a Continental Congress, and on May 10, 1776, the Congress authorized each of the colonies to form its own local provincial government. On July 4, 1776 it published a formal Declaration of Independence. The following year, the Congress adopted the Articles of Confederation defining a government of the new United States of America. The revolutionary war continued until 1783, when the Treaty of Paris was signed by the combatants, ending the war and giving independence to the United States. However, the Articles of Confederation soon proved to be too weak. The main problem with the Articles was that laws of the Union acted on its member states rather than on individual citizens.

In 1787, a Constitutional Convention was held in Philadelphia with the aim of drafting a new and stronger constitution. In the same year, Alexander Hamilton began to publish the *Federalist Papers*, a penetrating analysis of the problems of creating a workable government uniting a number of semi-independent states. The key idea of the *Federalist Papers* is that the coercion of states is neither just nor feasible, and that a government uniting several states must function by acting on individuals. This central idea was incorporated into the Federal Constitution of the United States, which was adopted in 1788. Another important feature of the new Constitution was that legislative power was divided between the Senate, where the states had equal representation regardless of their size, and the House of Representatives, where representation was proportional to the populations of the states. The functions of the executive, the legislature and the judiciary were separated in the Constitution, and in 1791 a Bill of Rights was added.

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 Articles of 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. The 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 has a charter analogous to the Articles of Confederation: 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 U.N.’s efforts are hampered because they are applied to people collectively and not one by one. 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.”

In looking at the history of the Articles of Confederation, it is important to remember that the present United Nations Charter is similar to this fatally weak union, that lasted only eleven years, from 1777 to 1788. Like it, the UN attempts to act by coercing states. Although the United Nations Charter has lasted almost sixty years and has been enormously valuable, its weaknesses are also apparent, like those of the Articles. One can conclude that the proper way to reform the United Nations is to make it into a full federation, with the power to make and enforce laws that are binding on individuals.

Because the states were initially distrustful of each other and jealous of their independence, the powers originally granted to the US federal government were minimal. However, as it evolved, the Federal Government of the United States gradually became stronger, and bit by bit it became involved in an increasingly wide range of activities. (We can recall that during the evolution of the Hanseatic League, the League also increased its range of activities.)

What is to be learned from the American Civil War? First we can learn that for a federation to function successfully it requires a very careful division of the powers that are granted to the federal government and those that are retained by the member states. In general, this division should be made by following the principle of subsidiarity, i.e., by the principle that a decision ought to be taken at the lowest level at which there are no important externalities. The American Civil War was caused by a disagreement between North and the South on the division of powers between the Federal Government and the states. A second aspect of the Civil War was that it marked a departure from the main principle of the US Constitution - the principle that coercion of states is neither just nor feasible and that therefore the federal government must act on private citizens. It might be claimed that during the American Civil War, the North successfully coerced the South, but the counterargument is that a conflict which produced a million casualties can hardly be characterized as a success. The lessons of the American Civil War should be borne in mind as we work to reform and improve the United Nations.

The successes and problems of the European Union provide invaluable experience as we consider the measures that will be needed to strengthen and reform the United Nations. On the whole, the EU has been an enormous success, demonstrating beyond question that it is possible to begin with a very limited special-purpose federation and to gradually

expand it, judging at each stage whether the cautiously taken steps have been successful. The European Union has today made war between its member states virtually impossible. This goal, now achieved, was in fact the vision that inspired the leaders who initiated the European Coal and Steel Community in 1950.

The European Union is by no means without its critics or without problems, but, as we try to think of what is needed for United Nations reform, these criticisms and problems are just as valuable to us as are the successes of the EU.

Countries that have advanced legislation protecting the rights of workers or protecting the environment complain that their enlightened laws will be nullified if everything is reduced to the lowest common denominator in the EU. This complaint is a valid one, and two things can be said about it: Firstly, diversity is valuable, and therefore it may be undesirable to homogenize legislation, even if uniform rules make trade easier. Secondly, if certain rules are to be made uniform, it is the most enlightened environmental laws or labor laws that ought to be made the standard, rather than the least enlightened ones. Similar considerations would hold for a reformed and strengthened United Nations.

Another frequently heard complaint about the EU is that it takes decision-making far away from the voters, to a remote site where direct political will of the people can hardly be felt. This criticism is also very valid. Often, in practice, the EU has ignored or misunderstood one of the basic ideas of federalism: A federation is a compromise between the desirability of local self-government, balanced against the necessity of making central decisions on a few carefully selected issues. As few issues as possible should be taken to Bruxelles, but there are certain issues that are so intrinsically transnational in their implications that they must be decided centrally. This is the principle of subsidiarity, so essential for the proper operation of federations - local government whenever possible, and only a few central decisions when absolutely necessary. In applying the principle of subsidiarity to a world government of the future, one should also remember that UN reform will take us into new and uncharted territory. Therefore it is prudent to grant only a few carefully chosen powers, one at a time, to a reformed and strengthened UN, to see how these work, and then to cautiously grant other powers, always bearing in mind that wherever possible, local decisions are the best.

We are faced with the challenge of constructing a world government 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?

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 prevent gross violations of human rights.

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 police action will be possible, incorporating all of the needed safeguards for lives and property of the innocent.

One can hope for a future world where public opinion will support international law to

such an extent that a new Hitler or Saddam Hussein or a future Milosevic 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.

8.8 The Tobin tax

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 percent. He believed that even this extremely low rate of taxation would have the beneficial 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 United Nations 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.

Besides the Tobin tax, other measure have been proposed to increase the income of the United Nations. For example, it has been proposed that income from resources of the sea bed be given to the UN, and that the UN be given the power to tax carbon dioxide emissions. All of the proposals for giving the United Nations an adequate income have been strongly opposed by a few nations⁵ that wish to control the UN through its purse strings. However, it is absolutely essential for the future development of the United Nations that the organization be given the power to impose taxes. No true government can exist without this power. It is just as essential as is the power to make and enforce laws that are binding on individuals.

8.9 An international police force?

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

⁵especially by the United States, which has threatened to withdraw from the UN if a Tobin tax is introduced

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."

8.10 A few concrete steps towards United Nations reform

1. Introduce a Tobin tax on all international currency transactions, the proceeds being used to support the United Nations. Other new sources of funds for the UN should also be introduced.

2. Strengthen UN agencies, such as the World Health Organization, the Food and Agricultural Organization, UNESCO and the UN Development Programme. The budgets of these agencies should not just be doubled but should be multiplied by a factor of at least twenty. With increased budgets the UN agencies could sponsor research and other actions aimed at solving the world's most pressing problems - AIDS, drug-resistant infections diseases, tropical diseases, food insufficiencies, pollution, climate change, alternative energy strategies, population stabilization, peace education, as well as combating poverty, malnutrition, illiteracy, lack of safe water and so on. Scientists would be less tempted to find jobs with arms-related industries if offered the chance to work on idealistic projects.
3. Give the United Nations its own television channel. Introduce unbiased news programs, cultural programs, and "State of the World" addresses by the UN Secretary General.
4. Give the United Nations a Legislature with a reformed voting system. The UN Legislature should have the power to make laws that are binding on individuals.
5. Expand the International Criminal Court and increase its range of jurisdiction.
6. Prohibit the export of arms and ammunition from industrialized countries to the developing countries.
7. Give the UN a very strong, permanent and highly mobile Emergency Force/UN Police Force composed of volunteers from all nations, under the direct command of the Secretary General, The General Assembly, and the International Criminal Court.
8. Get rid of the veto in the Security Council.
9. Address the problem of third world debt. Reform the World Bank and other UN financial institutions.
10. In connection with the problems of abolishing nuclear, chemical, and biological weapons, legislation should be introduced to protect whistleblowers, such as Mordechai Vanunu.

8.11 Governments of large nations and 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?

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.

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Chapter 9

ICAN AWARDED THE 2017 NOBEL PEACE PRIZE

9.1 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



Figure 9.1: *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.*

Beatrice Fihn, “only a tantrum away”.



Figure 9.2: *Celebrating the award.*

9.2 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 organisation 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 organisations 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 organisations 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.

9.3 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.

9.4 Treaty on the Prohibition of Nuclear Weapons

Wikipedia states that

"The Treaty on the Prohibition of Nuclear Weapons (TPNW), or the Nuclear Weapon Ban Treaty, is the first legally binding international agreement to comprehensively prohibit nuclear weapons with the ultimate goal being their total elimination. It was adopted on 7 July 2017, opened for signature on 20 September 2017, and entered into force on 22 January 2021.

“For those nations that are party to it, the treaty prohibits the development, testing, production, stockpiling, stationing, transfer, use and threat of use of nuclear weapons, as well as assistance and encouragement to the prohibited activities. For nuclear armed states joining the treaty, it provides for a time-bound framework for negotiations leading to the verified and irreversible elimination of its nuclear weapons programme.

“A mandate adopted by the United Nations General Assembly on 23 December 2016 scheduled two sessions for negotiations: 27 to 31 March and from 15 June to 7 July, 2017. The treaty passed on schedule on 7 July with 122 in favour, 1 against (Netherlands), and 1 official abstention (Singapore). 69 nations did not vote, among them all of the nuclear weapon states and all NATO members except the Netherlands.”

The Nobel Peace Prize was awarded to ICAN very largely because of ICAN’s successful campaign for adoption of the Treaty on the Prohibition of Nuclear Weapons.

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