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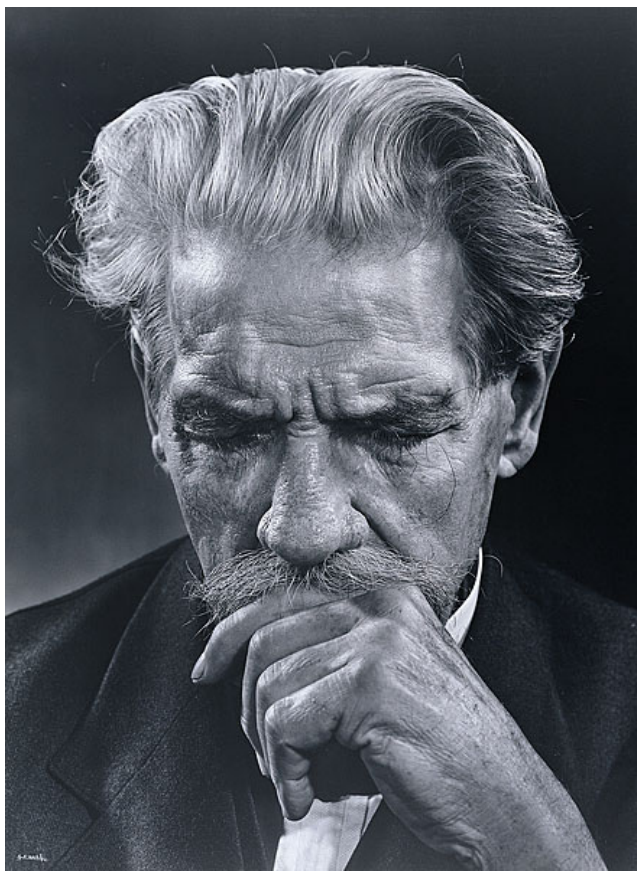


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Excerpted Chapter

Nuclear Weapons and Reverence for Life
By Jonathan Granoff

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Nuclear Weapons and Reverence for Life

Jonathan Granoff

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Albert Schweitzer places our lives in clear context:

Man can hardly recognize the devils of his own creation. Let me give you a definition of ethics: It is good to maintain and further life. It is bad to damage and destroy life. By having reverence for life, we enter into a spiritual relation with the world. By practicing reverence for life, we become good, deep, and alive.

This sense of values is universally threatened by the practices of only several states. Our sense of the unity of the human family and our obligation to this and future generations is thus threatened as never before in human history. Dr. Schweitzer knew this risk well and committed himself deeply to the abolition of nuclear weapons.

There are now over 27,000 nuclear weapons in the world. Russia and the United States possess over ninety percent of them. The US has about 10,000 nuclear weapons—some as battlefield "tactical" nukes, some in storage, and several thousand mounted on fueled, hair-trigger-to-launch ICBMs. The Russians have over 15,000 nuclear weapons – again, several thousand of them on fueled, hair-trigger-alert missiles. From the moment the early-warning systems cry danger (real or cyber-glitch), the US government allows itself less than 23 minutes before launch keys are turned in retaliation; the Russian government allows itself less than ten. Launch on warning continues as if the Cold War had not ended.

As Dr. Schweitzer: *Man is a clever animal who behaves like an imbecile.*

The nuclear weapons exploded in Hiroshima and Nagasaki were the equivalent of 15,000 and 12,000 tons of TNT (trinitrotoluene), respectively. Bombs in the megaton (equivalent to a million tons of TNT) and multiple megaton range are now in the arsenals, some in excess of 20 megatons (equivalent to 20,000,000 tons of TNT). A 5-megaton

weapon would represent more explosive power than all the bombs used in World War II and a 20-megaton bomb more than all the explosives used in all wars in the history of the world.

Over time, through accident or design, human fallibility will cause the unacceptable use of these weapons. Additionally, the possession by some states is the strongest stimulant to others to acquire them. The willingness to use them represents an affront to any minimum sense of the reverence for life.

In a stunning assertion of militarism and US unilateralism over international cooperation and the rule of law, the Bush Administration promotes funding steps toward the development of new nuclear weapons. Some of these weapons are called “mini-nukes” and are ready to be integrated into conventional war fighting plans while others are modifications of existing weapons designed for new targets. This aspiration represents an enormous shift in the basic rationale for the weapons.

Historically, nuclear weapons have been maintained to ensure that nuclear weapons would not be used. If each nuclear-equipped party has enough to inflict unacceptable damage to the other, even after being hit with a nuclear attack, then neither would use their arsenal. Now, the US wants to develop weapons to be used with no reference to preventing threats from nuclear weapons states. It is a repudiation of a taboo regarding the use of unimaginably horrific devices and an undermining of treaty commitments under the Nuclear Nonproliferation Treaty (NPT), with 188-member States, to negotiate the elimination of nuclear weapons.

The reality of such contemplated use of nuclear weapons has yet to adequately dent the public debate. Like the response to the banality of evil that made possible the holocaust's Final Solution, today's world remains numb to the banality of nuclear weapons.

Until now, there has been an international consensus that the proliferation of nuclear weapons posed a paramount threat to the security of the world. President Bush has changed this presumption. In his 2003 State of the Union address he said, “*The gravest danger facing America and the world is outlaw regimes that seek and possess nuclear, chemical and biological weapons.*” The emphasis has shifted from the weapons themselves to concern for regimes. The policies that arise from this shift are dramatic.

The focus has shifted from control and elimination of the weapons through international law to regime changes based on US unilateral decision making. This is very hazardous to international order. Its consequences have been seen in the war in Iraq.

Encouraging nuclear development in India, which refuses to join the Nuclear Nonproliferation Treaty (NPT), while denying such development to Iran replaces setting universal legal standards with an ad hoc regime based on who is seasonally friendly to the US. Iran might have a terrible government with antiquated ideas about the role of religion and the state and deeply offensive attitudes toward the rest of the world. But, with respect to nuclear weapons, it promotes creating a nuclear-free zone in the Middle East, is a member of the NPT, and publicly renounces the weapons. It has stated it is willing to allow intrusive inspections if they are based on universal norms. We must prevent Iran from getting nuclear weapons. But this will be difficult to achieve without a moral foundation. The issue remains that the weapons themselves are horrific regardless of whether the nation which has them is a friend or foe. If we return to our legal commitments we can enforce legal duties upon others with far greater effectiveness.

If the US and Russia demonstrated active fulfillment of disarmament commitments they would have the strongest argument for stopping any new proliferators. Such commitment could easily be achieved by simply de-alerting the weapons, removing the war heads from the delivery vehicles and taking them off launch on warning. Additionally, we could make the agreements of cuts in the arsenals, the Moscow Treaty verifiable and irreversible. We should also legally strengthen the International Atomic Energy Agency's capacity to inspect and negotiate a treaty banning the creation of new fissile material for weapons purposes. These steps would give tremendous credence to efforts to stem proliferation.

Tragically, rather than working to fulfill treaty commitments for nonproliferation and disarmament, the U.S. Nuclear Posture Review of 2002 calls for proliferation:

The need is clear for a revitalized nuclear weapons complex that will... be able ... to design, develop, manufacture, and certify new warheads in response to new national requirements; and maintain readiness to resume underground nuclear testing if required.

The U.S. National Security Strategy emphasizes that the US will take anticipatory preemptive action. Since the Nuclear Posture Review calls for incorporating nuclear weapons into conventional war fighting capabilities, we now have a doctrine that can rationalize a pre-emptive use of a nuclear weapon.

It is easy to understand why the rest of the world is so afraid. North Korea's response should come as no surprise. Iran's response should come as no surprise. We should all be afraid of the situation.

Mohammed ElBaradei, Director of the International Atomic Energy Agency (IAEA), and winner of this year's Nobel Peace Prize, stated the situation clearly: *These are double standards. On the one hand, the US says that the proliferation of nuclear weapons must be fought. On the other, it perfects its own arsenal. This is not acceptable... The US Administration demands from other states not to have any nuclear weapons, while it fills its own arsenals... If we do not give up such double standards, we will have even more nuclear powers. We are at a turning point now.*

The steady, albeit slow, progress in building peaceful relations based on the rule of law has been stopped. Fear and uncertainty have been emphasized. Various arguments are used to rationalize this intentional process: fighting terrorism in the wake of 911, eliminating despotic rulers, demonstrating commitments to stop the proliferation of weapons of mass destruction. But, actions, such as instituting a war without clear U.N. Security Council authorization, speak louder than doctrines.

The extent of the hazard has not been grasped and political arguments have not swayed the hearts of the people nor the decision makers. Worse, the irrationality of the quest to address the problem by building more weapons of mass destruction remains inadequately challenged. What must we do?

The first step toward a solution is a sober acknowledgement of the problem and a profound commitment to change. It is imperative that our goal of obtaining the universal elimination of nuclear weapons be founded on strong moral positions. Since fear can cloud reason, we must awaken an activism based on an equally strong motivation. That is why spirit matters.

Dr. Schweitzer stated: *One truth stands firm. All that happens in world history rests on something spiritual. If the spiritual is strong, it creates world history. If it is weak, it suffers world history.*

Without a strong inner capacity I do not believe one can soberly even evaluate the seriousness of nuclear weapons. It is simply too frightening for the everyday mind. Neither reason nor imagination is sufficient to grasp the magnitude of what we have created. The International Court of Justice, in its landmark opinion in 1996 on the Legality of the Threat or Use of Nuclear Weapons 1996 stated: *"The destructive power of nuclear weapons cannot be contained in either space or time. They have the potential to destroy all civilization and the entire eco-system of the planet."* The Court unanimously concluded that there is a legal duty to negotiate the global elimination of nuclear weapons.

Nuclear weapons exemplify a thoroughly modern dilemma where the means of pursuing security undermine the end of obtaining security. As Thoreau said, "Improved means to unimproved ends."

The Mayor of Nagasaki pleads with us to understand the human dimensions of one relatively small atomic bomb:

The explosion of the atomic bomb generated an enormous fireball, 200 meters in radius, almost as though a small sun had appeared in the sky. The next instant, a ferocious blast and wave of heat assailed the ground with a thunderous roar. The surface temperature of the fireball was about 7,000 degrees C, and the heat rays that reached the ground were over 3,000 degrees C. The explosion instantly killed or injured people within a two-kilometer radius of the hypocenter, leaving innumerable corpses charred like clumps of charcoal and scattered in the ruins near the hypocenter. In some cases, not even a trace of the person's remains could be found. A wind (over 680 miles per hour) slapped down trees and demolished most buildings. Even iron-reinforced concrete structures were so badly damaged that they seemed to have been smashed by a giant hammer. The fierce flash of heat meanwhile melted glass and left metal objects contorted like strands of taffy, and the subsequent fires burned the ruins of the city to ashes. Nagasaki became a city of death where not even the sound of insects could be heard.

After a while, countless men, women and children began to gather for a drink of water at the banks of the nearby Urakami River, their hair and clothing scorched and their burnt skin hanging off in sheets like rags. Begging for help, they died one after another in the water or in heaps on the banks. Then radiation began to take its toll, killing people like a scourge (of) death expanding in concentric

circles from the hypocenter. Four months after the atomic bombing, 74,000 people were dead and 75,000 had suffered injuries, that is, two thirds of the city population had fallen victim to this calamity that came upon Nagasaki like a preview of the Apocalypse.

When Mahatma Gandhi heard of this horror he pondered: *What has happened to the soul of the destroying nation is yet too early to see.*

The psychologist Robert Jay Lifton has described part of the cost to the small handful of nuclear weapons states as “a collective form of psychic numbing.” Our readiness to unleash, in short order, devices that will rapidly transform cities into concentration camp-like ovens numbs our moral sensitivities. These weapons are ovens with wings. Even George Kennan, the distinguished American diplomat who originated the Cold War containment policy toward the Soviet Union, not associated with moral admonitions, warns us:

The readiness to use nuclear weapons against other human beings – against people we do not know, whom we have never seen, and whose guilt or innocence is not for us to establish – and, in doing so, to place in jeopardy the natural structure upon which all civilization rests, as though the safety and perceived interests of our own generation were more important than everything that has taken place or could take place in civilization: this is nothing less than a presumption, a blasphemy, an indignity – an indignity of monstrous dimensions – offered to God!

This expression of human arrogance hides a fundamental weakness, a failure of respect for the power of love, God’s greatest gift to us. That power is denied by this threatening violence. This ultimate violence is idolatry without boundary, exalting human ideas and force above the creator’s gift and the very life of the creation.

The violence of threatening to unleash the Apocalypse represents an immorality of vast proportion and calls us to an affirmation of faith of vaster proportion. We cannot be passive in pursuing this capacity. Dr. Martin Luther King’s words burn through the haze of today’s daily news reports:

The fact that most of the time human beings put the truth about the nature and risks of nuclear war out of their minds because it is too painful and therefore not ‘acceptable,’ does not alter the nature and risks of such war... (i)f modern man continues to flirt unhesitatingly with war, he will transform his earthly habitat into an inferno such that even the mind of Dante could not imagine...I do not wish to minimize the complexity of the problems that need to be faced in achieving disarmament and peace. But I think it is a fact that we shall not have the will, the courage, and insight to deal with such matters unless in this field we are prepared to undergo a mental and spiritual reevaluation – a change of focus which will

enable us to see that the things which seem most real and powerful are indeed now unreal and have come under the sentence of death..It is not enough to say "We must not wage war.' It is necessary to love peace and sacrifice for it...we have inherited a big house, a great 'world house' in which we have to live together – black and white. Easterner and Westerners, Gentiles and Jews, Catholics and Protestants, Moslems and Hindu, a family unduly separated in ideas, culture, and interests who, because we can never again live without each other, must learn somehow, in this one big world, to live with each other... This means that more and more our loyalties must become ecumenical rather than sectional. We must now give an overriding loyalty to mankind as a whole in order to preserve the best in our individual societies. This call for a worldwide fellowship that lifts neighborly concern beyond one's tribe, race, class, and nation is in reality a call for an all embracing and unconditional love for all."

Developing this love is not only a personal path to salvation but a necessity for human fulfillment and survival. As King said, *"When I speak of love I am not speaking of some sentimental and weak response which is little more than emotional bosh. I am speaking of that force which all the great religions have seen as the supreme unifying principle of life. Love is somehow the key that unlocks the door which leads to ultimate reality."* Our choice is Dante's hell or a door to ultimate reality.

The mystery that placed the power of destruction in the binding forces of the atom has placed the healing power of love in our hearts and further gifted us with both the courage and wisdom to use that power effectively. King's stand is correct: *"I refuse to accept the cynical notion that nation after nation must spiral down a militaristic stairway into the hell of nuclear annihilation."* With faith that we can be guided by and have confidence in our love of life, should we not commit to cause our country to disavow its unlawful, immoral policy of failing to negotiate the elimination of nuclear weapons. Will you join this call from the conscience of humanity?

We have the choice to respond to this call of conscience. With the help of each, which is a gift in our hands to choose, and the help of God, which is a gift surely granted, we can and will become the change we want to see. We can change our government's conduct to reflect our human values. The policies that diminish the threat to use nuclear weapons and lead to their elimination have actually already been painstakingly negotiated in the NPT. They include a Comprehensive Test Ban Treaty, deep cuts in the arsenals, reduction of the operational status of the weapons, diminished role of the weapons in

policy planning, and negotiations leading to elimination. We don't need to reinvent a treaty.

The commitments under the NPT are an excellent foundation, but they are certainly not enough. For example, the entire budget for all inspections under the IAEA is less than \$90 million per year for the whole world, while the US alone spends more than \$97 million per day on our nuclear arsenal. The need for changing economic allocations is obvious.

Compared to what might arise in the future, addressing nuclear weapons is now relatively manageable. Only three countries – Israel, Pakistan and India – are not in the NPT, and only five countries are nuclear weapons States under the treaty – US, UK, China, France, and Russia. Additionally, nuclear materials leave a footprint that can be found and because everyone is afraid of terrorists the public could be mobilized to support steps toward elimination. If we do not move quickly to curtail this capacity for self destruction that science has given humanity with this obviously hazardous technology, how do we intend to constrain and control the next generation of weapons of mass destruction? It is time that this technology be subject to law and morality. Nothing less than our humanity and future is at stake.

We need to further awaken the public and generate the political will to fulfill our existing commitments. We need to compel our political leaders to take clear morally coherent positions and commit to work for abolition. At a minimum, we must demand that every candidate for national office describe their aspirations and plans to reduce and eliminate the possession and threat to use nuclear weapons in every other country in the world.

And we cannot ignore that there are numerous threats to humanity which require a new level of cooperation to address effectively. This new understanding must comprehend the world as a living whole where every life is understood to be part of the web. Dr. Schweitzer stated: *Until he extends his circle of compassion to include all living things, man will not himself find peace.* This spiritual admonition now converges with the practical necessity of working in a new spirit of global cooperation. This is the first time in human history where the spiritual guidance of the wise fully reinforces the practical analysis of the worldly realists.

As long as several countries claim a right to excesses in weapons and the right to threaten everyone else with annihilation, the necessary cooperation for a sustainable future will not be obtained. Nuclear weapons threaten all life and for that reason they are an excellent place to begin working together. Working to abolish this unacceptable risk enhances our common humanity, our sense of solidarity with others, and thus builds the framework for addressing so many threats whether relating to religious differences, environmental destruction, poverty, or human rights.

Realizing that our destiny is common or not at all is new. We are the first generation that must decide whether to be ancestors or not. Let us revere the mystery that placed us here to learn. Let our work exemplify our reverence for life. As Dr. Schweitzer stated: *I don't know what your destiny will be, but one thing I know: the only ones among you who will be really happy are those who will have sought and found how to serve.*

Let us be amongst those who know the secret of service. Life's blessings abound upon those who serve life's blessings. May we be so blessed.

Appendix:

Below are several issues that require a new level of global cooperation. This sense of human solidarity informed Dr. Schweitzer spiritual comprehension; it now informs our most practical.

Poverty

*In 1999, some 2.8 billion people—two in every five humans on the planet—lived on less than \$2 a dayⁱ

*There are 1.1 billion people in the world living on less than one dollar per day (PPP US\$).ⁱⁱ

*In 2000, one in five people in the developing world—1.1 billion total—did not have “reasonable access” to safe drinking waterⁱⁱⁱ

*2.4 billion people worldwide—two out of every five—live without basic sanitation.^{iv}

*In 46 countries people are poorer today than in 1990.^v

*11 million children under the age of 5 die every year^{vi}

*The global economy has grown sevenfold since 1950. Meanwhile, the disparity in per capita gross domestic product between the 20 richest and 20 poorest nations more than doubled between 1960 and 1995. Of all high-income nations, the United States has the

most unequal distribution of income, with over 30 percent of income in the hands of the richest 10 percent and only 1.8 percent going to the poorest 10 percent.^{vii}

*104 million children are not in school, 59 million of them girls.^{viii}

*44 million primary-aged children in sub-Saharan Africa are not in school, 23 million are girls.^{ix}

*At current rates of progress, Sub-Saharan Africa would not achieve universal primary education until 2129 – another 125 years.^x

*In 25 countries more people go to bed hungry today than a decade ago.^{xi}

*There are 831 million people that go to bed hungry across the world today.^{xii}

*Rich countries' aid budgets are half what they were in 1960 and poor countries are paying back a staggering \$100 million a day in debt repayments.^{xiii}

*Oxfam calculates that 97 million more children will be out of school by 2015 unless urgent action is taken.^{xiv}

Religion & Terrorism

*One in five (13 of 65) groups in 2003 engaged in terrorism could be identified as seeking religious domination or ethnic cleansing.^{xv}

*Over 3,000 people died in the 9/11 attacks on the United States. This loss of human lives is tragic. When evaluating the threat posed by terrorism, however, one must keep in mind that more than 1.2 million people are killed on the road annually (more than 3,000 people per day). Millions more are injured or disabled. In some low and middle-income countries, road crash victims occupy up to 10% of hospital beds. Deaths from all types of injuries are projected to rise from 5.1 million in 1990 to 8.4 million in 2020 - with road traffic injuries as a major cause for this increase.^{xvi}

*Globally, estimates suggest that the economic costs of road traffic injuries amount to US\$518 billion per year. In developing countries, the costs are estimated to be US\$100 billion, twice the annual amount of development assistance to developing countries.^{xvii}

Military Spending

*World military expenditures in 2001 were conservatively estimated at \$839 billion—almost \$100 million every hour or \$2.3 billion each day.^{xviii}

*The United States is now the world's sole military colossus, accounting for 36 percent of all military spending, or \$302 billion. U.S. spending is now projected to rise to \$414 billion (in 2001 dollars) by 2009.^{xix}

* Every hour, the world spends more than \$100 million on soldiers, weapons, and ammunition^{xx}

*Expenditures for United Nations peacekeeping operations from July 2002 to July 2003 equaled roughly \$2.6 billion. As of late December 2002, U.N. members still owed the organization \$1.34 billion for peacekeeping operations. The United States accounted for 40 percent of unpaid dues, or \$536 million.^{xxi}

*High-income countries, home to only 16 percent of the world's people, account for \$662 billion, or 75 percent, of global military expenditures.^{xxii}

*Military budgets of high-income countries are roughly 10 times larger than their combined development assistance.^{xxiii}

*Traditional military deployments abroad dwarf peacekeeping efforts. Some 530,000 soldiers (70 percent of them from the U.S.) in military operations overshadow the 125,000 peacekeepers worldwide.^{xxiv}

*James Wolfensohn, President of the World Bank said on May 23, 2004 at his commencement address at Brandeis University: "You young people should understand that the way the world is spending its money today. We are spending \$900 billion a year on military expenditures, \$350 billion a year on agricultural subsidies, which affect developing countries adversely, and maybe \$50 to \$60 billion a year on development. We should be spending \$900 billion on development, and then we would only need \$50 billion on military expenditures."^{xxv}

*Of the roughly \$148 billion America spends a year on new weapons, almost 20% is hidden from public view, in the classified "black budget."^{xxvi}

*Research and development spending on new weapons in America rose 77% between 2000-2005, to \$69 billion / yr. The price of buying new weapons is scheduled to rise nearly 50%, to almost \$118 billion annually, in 2011, from \$78 billion today.^{xxvii}

Resource Wars

*Resource-related conflicts during the 1990s killed more than 5 million people and displaced 17 to 21 million.

*Roughly one-quarter of the world's 50 wars and armed conflicts of recent years have involved a struggle for control of natural resources like gemstones, timber, and oil—all of which are highly valued by wealthy consumers in the developed world. Virtually all of these conflicts have occurred in poor countries where a particular ethnic group or economic elite has gained control of resources at the expense of the poor majority.^{xxviii}

* The U.N. Environment Programme projects 50 million environmental refugees worldwide by 2010 ^{xxix}

Death by Preventable Causes (For Perspective)

*Almost 11 million children die every year from preventable and treatable causes, according to the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF). ^{xxx}

*A report from international agency Oxfam today reveals that 45 million more children will die needlessly by 2015, because rich countries are failing to provide the necessary resources they promised to overcome poverty. ^{xxxi}

*Chronic hunger plagues 852 million people worldwide. Hunger and malnutrition cause tremendous human suffering, kill more than five million children every year, and cost developing countries billions of dollars in lost productivity and national income. ^{xxxii}

*More than 20 million low birth-weight babies are born in the developing world every year. These babies faced increased risk of dying in infancy, while those who survive often suffer lifelong physical and cognitive disabilities. ^{xxxiii}

*The report says that without the direct costs of dealing with the damage caused by hunger, more funds would be available to combat other social problems. "A very rough estimate suggests that these direct costs add up to around \$30 billion per year - over five times the amount committed so far to the Global Fund to Fight AIDS, Tuberculosis and Malaria." ^{xxxiv}

*Tolerating the current levels of child malnutrition will result in productivity and income losses over their lifetimes of between \$500 billion to \$1 trillion at present value. ^{xxxv}

*The resources needed to deal with the problem of hunger are small in comparison to the potential benefits. Every dollar invested in reducing hunger can yield from five, to over 20 times as much in benefits. ^{xxxvi}

* Between 2001 and 2020, some 590 thousand people a year in China are projected to suffer premature deaths due to urban air pollution—nearly one third of the projected world total. ^{xxxvii}

* Programs to provide clean water and sewage systems would cost roughly \$37 billion annually ^{xxxviii}

*Programs to provide immunization for every child in the developing world would cost roughly \$3 billion annually ^{xxxix}

* A 2000 World Bank study projected that on average 1.8 million people would die prematurely each year between 2001 and 2020 because of air pollution.^{xi}

HIV / AIDS Epidemic

*The number of people living with HIV/AIDS rose to 42 million at the end of 2002. Five million people became infected with HIV in 2002, and another 3.1 million died of AIDS-related causes.

*For the first time, women account for half the people living with HIV/AIDS. Heterosexual transmission, particularly in Africa and the Caribbean, is the primary cause of infection among women, who are two to four times more likely than men to become infected during unprotected vaginal sex.^{xli}

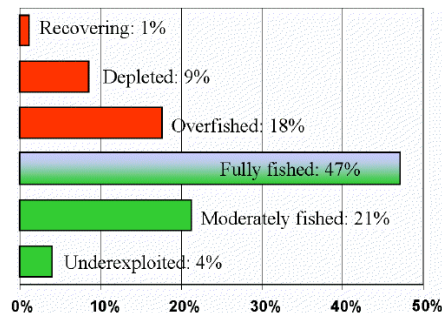
* The number of people living with HIV in East Asia jumped nearly 50 percent between 2002 and 2004, to 1.1 million^{xlii}

* Without adequate prevention programs, as many as 650,000 Russians could be dying from HIV/AIDS annually by 2010—more people than have died of AIDS in the U.S. since 1981.^{xliii}

Over-Fishing & Species Extinction

*Nearly 75% of the world's fisheries are classified as overexploited, depleted or in a state of collapse

Fishery Statistics: State of stocks in 1999^{xliv}



*China alone harvested 46 million tons of fish in 2002, more than one third of the global total^{xlvi}

*The world's fishers harvested a record 133 million tons of fish and shellfish from streams, oceans, and other water bodies in 2002—nearly seven times the global harvest in 1950^{xlvi}

* Nearly one in four mammal species is in serious decline, mainly due to human activities.^{xlvi}

Global Warming

*Since the late 1970s, an ozone hole has formed over Antarctica each austral spring (September / October), in which up to 66 percent of the total ozone is depleted.^{xlvi}

*Scientists have linked the warming trend that accelerated in the twentieth century to the buildup of carbon dioxide and other heat-trapping gasses. By burning fossil fuels, people released some 6.44 billion tons of carbon into the atmosphere in 2002. With less than five percent of the world's population, the United States is the single largest source of carbon from fossil fuels—emitting 24 percent of the world's total.^{xli}

*With less than five percent of the world's population, the United States is responsible for a large share of the world's fossil fuel burden, accounting for 26 percent of global oil use, 25 percent of coal consumption, and 27 percent of natural gas use. U.S. automobiles—totaling more than 128 million, or one quarter of the world's cars—emit roughly as much carbon as the entire Japanese economy, the world's fourth largest carbon emitter.¹

*The United States produces almost 40% of the world's ozone layer-depleting chemicals.^{li}

*23 percent of the world's Carbon Dioxide Emissions come from the United States alone. Per capita that's 19.8 metric tons.^{lii}

* Carbon emissions from U.S. motor gasoline use in 2002—at 1,139 million tons—surpassed those of the entire Japanese economy.^{liii}

*The average carbon dioxide concentration has increased more than 19 percent since measurements began in Hawaii in 1959—and has gone up 35 percent since the dawn of the industrial age.^{liv}

*By one estimate, the world's glaciers lose at least 90 cubic kilometers of ice annually—as much water as all U.S. homes, factories, and farms use every four months. Scientists suspect that the enhanced melting is related to the unprecedented release of greenhouse gases by humans during the past century.^{lv}

*Desertification puts some 135 million people worldwide at risk of being driven from their lands. As climate change translates into more intense storms, flooding, heat waves, and droughts, more and more communities will likely be affected.^{lvi}

Deforestation

*Overall rates of flora and fauna extinction are now estimated to be between 1,000 and 10,000 times greater than in the recent past.^{lvii}

*Tropical forests are being destroyed at the rate of 0.8% to 2.0% per year.^{lviii}

*Rainforests cover 6 % of all the earth's land but contain 40% of its plant and animal species.^{lix}

* Global forest cover stands at approximately half the original extent of 8,000 years ago.^{lx}

Resource Consumption

*China increased its oil consumption by 11 percent in 2004, cementing its position as the world's number two user (after the U.S.) at 6.6 million barrels per day.^{lxi}

*World oil consumption surged by 3.4 percent in 2004, the fastest rate of increase in 16 years.^{lxii}

*Production is falling in 33 of the 48 largest oil-producing countries, including 6 of 11 OPEC members.^{lxiii}

*In the continental U.S., oil production peaked at 8 million barrels per day in 1970 and fell to just 2.9 million barrels a day in 2004.^{lxiv}

Endnotes

ⁱ *State of the World 2004: Consumption By the Numbers*. World Watch Institute. January 7, 2004.
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The Global Security Institute is dedicated to strengthening international cooperation and security based on the rule of law, with a particular focus on nuclear arms control, non-proliferation and disarmament. GSI was founded by Senator Alan Cranston whose insight that nuclear weapons are impractical, unacceptably risky, and unworthy of civilization continues to inspire GSI's efforts to contribute to a safer world. GSI has developed an exceptional team that includes former heads of state and government, distinguished diplomats, effective politicians, committed celebrities, religious leaders, Nobel Peace Laureates, disarmament and legal experts, and concerned citizens.

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