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**ONCE UPON A TIME CAN BE NOW:
RESCUING PLANET EARTH AND RESTORING PARADISE**

By David Krieger

Fairy tales often begin with the words, "Once upon a time...." For example, "Once upon a time there was a beautiful princess...." In a fairy tale, the hero, perhaps a handsome prince, may kill the dragon and rescue the princess, and they "live happily ever after." I want to suggest a fairy tale in which there is a beautiful planet and the heroes and heroines who save it are us. So, here is a fairy tale about saving a planet in distress. Our challenge is to bring this fairy tale to life.

Once upon a time there was a beautiful and pristine planet. It was the third planet in a remote solar system in a vast galaxy of stars. While it might have seemed like an ordinary planet, if anything, rather on the small side, it was far from ordinary. It was, in fact, a very special planet, for it had just the right climate and temperature to support life. On this planet there were oceans and continents and mountains and rivers, and they teemed with life. There were broad plains with grasses that rippled in the winds; hillsides covered with wildflowers; trees that spread their branches and bore fruits. And there were animals of every shape and kind: fish that swam, birds that flew, and animals that hopped and jumped and ran. This planet had sunrises and sunsets and a night sky filled with twinkling stars. Compared with the harsh, lifeless planets that filled the solar system, it was a paradise.

And into this paradise came a featherless bi-ped capable of knowing. He called himself man, and he called the paradise he inhabited Earth. He devised stories about his own creation, stories that helped to explain the mystery of being -- the mystery of something emerging from nothing. Man was clever and he created tools that gave him power over other creatures, even though he was not as strong or fast or agile as they were. He created powerful gods in his own image and then had those imaginary creatures bestow upon him dominion over all that swam and flew and ran. Man took charge of the planet.

Man's most recent creation story, the science-based creation story, is that the universe grew from a "Big Bang" some 15 billion years ago, and it has been expanding ever since. Earth was created 4.5 billion years ago and a half-billion years later simple forms of life emerged on Earth. Early forms of man in this creation story came into existence only a few million years ago and more modern forms of man only some 50,000 years ago. Only in the past eight to ten thousand years have human civilizations emerged.

While the science-based creation story gives a skeletal outline of the development of the universe, its large numbers are difficult to grasp. It is helpful to think of them in terms of a very big 15,000-page book. Each page of the book represents a million years in the history of the universe. The "Big Bang" occurs at the top of page one. It is not until page 10,500 that the Earth is created and not until page 11,000 that life begins on

Earth. It is not until page 14,997 that primitive forms of man come into being. Assuming that each word on each page represents 1,000 years, it is only in the final ten words on the final page of the book that civilization begins. Civilization reflects a larger-scale ordering of society, characterized by agriculture, hierarchy and specialization. Civilization gives rise to larger and larger tribal loyalties, to competing social systems and to increasingly virulent warfare.

It is only within the last two or three words of the book that Isaiah, Lao Tzu, Confucius, Buddha, Socrates, Zoroaster, Jesus and other spiritual leaders walk the planet. But, despite their lives and the moral lessons they teach, warfare becomes more prominent within and among human societies. Man increases his skill in organizing to engage in the large-scale slaughter of other men. Over the millennia, man develops ever more powerful weapons with which to kill his fellow man. He advances in the technology of weaponry from stones to spears to arrows to swords to guns to modern artillery and bombs, and finally, to nuclear and then thermonuclear weapons.

In describing our time, the Argentine poet Jorge Luis Borges, writes, "The planet had been parceled out among various countries, each one provided with loyalties, cherished memories, with a past undoubtedly heroic, with rights, with wrongs, with a particular mythology, with bronze forefathers, with anniversaries, with demagogues and symbols. This arbitrary division was favorable for wars." Our time has been favorable for wars, but the development of our technologies of warfare and the resources we have devoted to war and its preparations have made wars unfavorable for us.

It is not until the final punctuation mark on the final page of the 15,000-page book that the Nuclear Age begins with three explosions: a test explosion at Alamogordo, New Mexico, followed by the destruction of Hiroshima and, three days later, Nagasaki. In only seven or eight more years, man had created thermonuclear weapons, and two of the many "arbitrary divisions" of the planet that man calls countries, the United States and the Soviet Union, were engaged in a mad nuclear arms race. It was in this period, the Nuclear Age, that man arrived at a new juncture in his history, one in which his weaponry had become powerful enough to destroy himself and most other forms of complex life on the planet. In doing so, man had made himself a godlike creature, a god of savagery and destruction. He now held his fate in his own hands.

The final punctuation mark in the 15,000-page book is now being determined. It may be thought of as a question mark, and the question is: will man be able to summon the will and strength to control his most dangerous technologies and continue his own history, along with that of the remarkable planet on which he lives, on page 15,001? It may instead be a dramatic exclamation point, another "Big Bang," this one created by man himself, bringing a cataclysmic end to human life on the planet.

In many ways, man has taken the beautiful and pristine planet that he inherited from the cosmos and undermined its sustainability. Man's powerful technologies combined with his greed threaten the climate and health of the planet. His waste and pollution are poisoning the planet and its creatures. Disparities in wealth have turned the

planet into a hell for many of the poorest among us. Man has not been a good trustee of the planet for future generations. But the most urgent issue of sustainability confronting man is the threat posed by the nuclear arsenals he has created, an issue that has received very little public attention, particularly since the end of the Cold War some two decades ago.

The principal points that I want to make are these: first, we are destroying our paradise by our own actions; second, nuclear weapons are incompatible with a sustainable future; and third, the future is in our collective hands. We must abolish nuclear weapons before they abolish us. We must also abolish war as a means of settling our conflicts. By doing so, we would release vast amounts of capital and human creativity.

At the height of the nuclear arms race in the mid-1980s, there were over 70,000 nuclear weapons in the world, primarily in the arsenals of the United States and Soviet Union. These weapons were capable of destroying complex life on Earth many times over. On many occasions, man has come close to a nuclear war – by accident, miscalculation or design – that could have ended the human future on the planet. Perhaps the most serious of these occasions was the 1962 Cuban Missile Crisis, in which the US and former Soviet Union almost stumbled over the precipice. The Nuclear Age has been characterized by its policies of Mutually Assured Destruction (MAD), with opposing sides locked in a life-and-death struggle that would be both suicidal (death of self) and omnicidal (death of all).

Although the world's nuclear arsenals have been reduced by over 50,000 nuclear weapons in the past 25 years, there are still slightly under 20,000 nuclear weapons in the world. These remain largely in the arsenals of the US and Russia, but also in those of seven other countries: the UK, France, China, Israel, India, Pakistan and North Korea. Two decades after the end of the Cold War, large numbers of nuclear weapons remain on high alert 24 hours a day, and there has been an unfortunate lack of political leadership for ending the nuclear weapons threat to humanity.

Most of us are aware of the direct effects of nuclear weapons that result from blast, fire and radiation. At Hiroshima, some 90,000 people died immediately from the US atomic bombing on August 6, 1945, some being vaporized and leaving shadows etched into stone walls behind where they had been at the time of the explosion. By the end of 1945, the death toll in Hiroshima had risen to 145,000. For the survivors of the atomic bombings, the suffering and trauma continues even until today. Soon the survivors will all be gone, and there will be no first-hand witnesses to the horror of nuclear weapons.

The indirect effects of nuclear weapons use, we now know from the studies of atmospheric scientists, would be even worse than the direct effects. A regional war between India and Pakistan, for example, in which each side used 50 Hiroshima-size nuclear weapons on the other side's cities and industrial areas, would have devastating global effects. The smoke from burning fires would rise into the stratosphere, blocking

warming sunlight, lowering global temperatures to the lowest experienced in the last 1,000 years, and shortening growing seasons. Hundreds of millions of people would likely perish in the resulting global famine.

These consequences, as horrendous as they are, would pale in comparison to those in a nuclear exchange between the US and Russia, whose launch-ready, operational nuclear arsenals have a combined explosive power more than 500 times greater than those of India and Pakistan. Such an exchange would result in global temperatures becoming colder than those experienced in the last Ice Age, some 18,000 years ago. This radical climate change, along with the destruction of the ozone layer, would create conditions on Earth that would likely result in the extinction of most or all complex forms of life on the planet.

This is the threat that we live with every moment of each day. Could it happen? Of course, it could. We ignore it at our peril. We cannot be naïve enough to believe that humans can create fool-proof systems. To understand this, we need only recall the accidents at Three Mile Island, Chernobyl and Fukushima, or the many close calls we have had with nuclear weapons, including accidents and false warnings of nuclear attacks.

Not long ago, I was arrested for protesting the launch of a US Minuteman III missile from Vandenberg Air Force Base, not far from where I live in California. The Minuteman III is a land-based, nuclear-armed missile. There are 450 of them in silos in Montana, Wyoming and North Dakota. They are launch-ready, first-strike weapons. If there is a warning – including a false warning – of attack against the United States, there will be pressure for the US to use these weapons before they are destroyed in their silos. The same is true of the Russian land-based, nuclear-armed missiles. They will have the same pressure to use them before incoming missiles could destroy them in their silos. The land-based, nuclear-armed missile forces of both sides should be thought of as Nuclear Doomsday Machines. They are triggers for World War III, what would undoubtedly be a short and cataclysmic war.

The US and Russian presidents would have only a few minutes, perhaps 12 minutes at the most, to evaluate a warning of attack and decide whether or not to launch their own missiles and initiate World War III. This is an intolerable situation. President Mikhail Gorbachev recognized this when he said, “It is my firm belief that the infinite and uncontrollable fury of nuclear weapons should never be held in the hands of any mere mortal ever again, for any reason.” This is sound advice. We mortals, all of us, are not gods, and none of us should be trusted with nuclear weapons when the future of our planet, our species and other forms of life are in our hands. All of us are threatened by the power of our nuclear arsenals and the all-too-real possibilities of nuclear proliferation, nuclear war and nuclear famine.

When I began, I spoke about the paradise of our Earth, the only place we know of in the universe where there is life. Our minimum responsibility, in return for living on this planet, is to pass the planet on intact and sustainable to the next generation. Our

technologies of warfare have made this far more challenging than in the past, but we must not fail in confronting the threats posed by nuclear weapons and war.

To end the urgent threats of nuclear proliferation, nuclear war and nuclear famine, we must abolish nuclear weapons. This will require leadership from great states and from great individuals within those states. Nuclear weapons are illegal under international law, immoral and costly. Rather than being considered a source of prestige, they should be taboo, like cannibalism and slavery. We should demand that all states begin negotiations immediately on a new treaty, a Nuclear Weapons Convention, for the phased, verifiable, irreversible and transparent elimination of nuclear weapons. In the meantime, while this treaty is being negotiated, we should demand that all nuclear weapon states adopt policies of No Use of these weapons against non-nuclear weapon states and No First Use against other nuclear weapon states. To support such policies and give them credence, nuclear weapon states should separate their warheads from delivery vehicles on land-based missiles, so there will not be temptation to use them first in the event of a false warning. Finally, before the US proceeds with further deployment of missile defense installations in Europe, it should take seriously Russian security concerns and conduct a joint threat assessment with Russia.

The abolition of nuclear weapons is our responsibility. We should take care of it promptly, with the urgency it demands, and not allow this global threat to be passed on to our children and grandchildren. Then we should dedicate ourselves to doing more than this minimum for survival and take steps to assure the restoration of Earth to being the paradise it was and could be again. An international appeal for the 2012 RIO + 20 conference, initiated by the International Peace Bureau and the International Network of Engineers and Scientists for Global Responsibility, points out these important linkages: “Without disarmament, there will be no adequate development; without development, there will be no justice, equality and peace. We must give sustainability a chance.”

In 1955, a group of scientists, led by Bertrand Russell and Albert Einstein, issued the Russell-Einstein Manifesto, which stated, “There lies before us, if we choose, continued progress in happiness, knowledge, and wisdom. Shall we, instead, choose death, because we cannot forget our quarrels? We appeal as human beings to human beings: Remember your humanity, and forget the rest. If you can do so, the way lies open to a new Paradise; if you cannot, there lies before you the risk of universal death.”

It is up to us to choose. Let us choose peace and hope and a sustainable future. May we show by our actions that we take seriously our roles as trustees of the Earth for our children and their children and all children of the future – that they may enjoy a peaceful and harmonious life on our planetary home.

David Krieger is president of the Nuclear Age Peace Foundation (www.wagingpeace.org). He is a councilor on the World Future Council and chair of the Executive Committee of the International Network of Engineers and Scientists for Global Responsibility.