Scenarios of Disaster: Crying Wolf, Scaring Away the Elephants, and Heading 'Em off at the Pass

Patrick D. Murphy

ABSTRACT

This essay reviews predictions of disasters, and literature and films about such disasters as population growth, nuclear war, famine, and global warming, and evaluates them in comparison with novbelist Michael Crichton's recent attacks on global warming science. It concludes that literary scenarios of human-induced disasters serve as valuable warnings and cautionary tales that may help stave off the very disasters they envision, thus playing a valuable role in cultural and environmental change.

KEY WORDS

disaster, population growth, famine, nuclear war, global warming, science fiction, horror, cautionary tales

Let me start with a little story. A young woman walking in Central Park in New York City came upon an older man tearing up newspapers and scattering the pieces around the bench on which he was sitting. Concerned about this obvious act of littering, she accosted him and demanded to know what he was doing. He answered politely, "I'm scaring away the elephants." "But there are no elephants here in Central Park," she responded. "That's right," he said. "See how well it works." Some people believe that environmental writers and activists these days and in decades past are just as crazy as this old man; taking and calling for unnecessary actions that may do more harm than good. The President of the United States, for instance, who does not believe in evolution, thinks that taking action against global warming will unnecessarily harm the U.S. economy and rejects the widespread consensus of scientists.

Someone who probably is deemed more trustworthy than the President, the popular novelist Michael Crichton, who has produced his own cautionary tales of environmental disaster in such books as *Jurassic Park* and *Prey*, recently warned Americans against scaring ourselves to death, claiming that many predicted disasters have not come to pass ("Let's Stop"). The people who warned us about them were all wrong, he says, creating unnecessary anxiety, and calling for dangerous, counterproductive measures.

Crichton claims that the dire predictions he singles out, such as those about population, pollution, resource scarcity, and even causes of cancer, by scientists and others were false alarms, a matter of "Crying Wolf," but were they? Here I want to look at a variety of scenarios of disaster in nonfiction, fiction, and film to consider whether or not those

works were (1) meant to be predictive or cautionary; and (2) did their dire assessments constitute shrill over reactions or rather warning beacons that contributed to the aversion of crises looming on the horizon? Then, I want to consider various recent novels, movies, and nonfiction works on global warming in the same vein to assess their function.

On the population front, we can think of novels such as John Brunner's *Stand on Zanzibar*, nonfiction books such as Paul Ehrlich's *The Population Bomb*, and various movie and television shows, such as *Soylent Green*, and the original *Star Trek* episode, "The Mark of Gideon." Writing in the 1960s Paul Ehrlich was convinced that global population was increasing so rapidly that famine was inevitable by the 1970s. Since that time the United Nations, the Club of Rome, and other organizations have made various predictions about global population both in terms of rates of growth and absolute numbers. According to Crichton, no disasters associated with population growth have come to pass because of declining fertility rates and expanded food production. Since we are actually not likely to hit the worst case scenario figure of 14 billion people by 2030, but rather *only* about 9 billion by 2050, and have *only* "6 billion today," according to Crichton, then everything is just fine ("Let's Stop" 6). Actually the current estimate is a little over 6.3 billion, but apparently Crichton doesn't think an extra 300 million people make any difference. But if we are talking about 300 million people living like Americans, then they make a huge difference when we look at rates of consumption. In contrast to Crichton, James Gustave Speth observes that "The fourfold expansion in human numbers in the twentieth century, from one and a half billion to six billion, has been a huge driver of environmental decline" (120). He further notes that the recently revised lower population projections of under 9 billion people by 2050, which is still a nearly 50% increase over the present number of people, are based on estimates of potential declines in fertility rates that are in part dependent on "international population programs, which could either get stronger or weaker depending on political decisions" (153). In fact, if current fertility rates do not decline, then the global population will actually double by 2050 (153).

Let's stop for a moment and ask: were those predictions in the 1960s and 1970s just a matter of crying wolf or attempting to scare away nonexistent elephants, or were they a matter of heading 'em off at the pass? Invariably, cautionary tales tend toward the extreme. In "The Mark of Gideon," Captain Kirk is lured to a planet so overpopulated as a result of scientific advances and hygiene breakthroughs that they must kidnap him in order to have him infect one of their people to spread disease across the planet to reduce the population to supportable numbers. In *Soylent Green*, population growth coupled with increasing levels of pollution is causing the death of vegetation and, as finally recognized, the death of the oceans, the last major source of food. In response, the government tries to cover up not only the information about pollution and dwindling food supplies, but also to disguise the fact that they have begun providing a new type of food called "soylent green." With a name that makes it sound vegetable rather than animal based, it is only at film's end that people learn that the new food is made by processing human bodies. The message is clear: overpopulation will lead to cannibalism as the only means of short-term survival. While Ehrlich did not predict the end of the species in his nonfiction study, he did predict widespread famine.

None of these terrible predictions/warnings have come to pass, and in part they have not become reality precisely because cautionary tales helped raise global consciousness about the dangers of runaway population growth. These books and films contributed to an international dialogue about population that contributed to widespread, vigorous family planning campaigns worldwide, most noticeably and most extreme in mainland China–with the one family, one child program–and in India with all sorts of public actions, both normative and coercive, including free vasectomies. In the United States, Zero Population Growth became a prominent nationally recognized organization that sponsored debates, forums, and educational programs, and remains active today as the Population Connection. Claims that population growth spontaneously and naturally abated as a result of industrialization, education, and prosperity ignore the significant role that consciousness raising played internationally in persuading many

individuals to forego having children or to rethink their ideas about the "ideal" number of children in a family. Stephanie Mills, author among other works of *In Service of the Wild: Restoring and Reinhabiting Damaged Land*, for example, made headlines in 1969 when she announced at Mills College in her commencement speech that she would give up the personal opportunity to have children because of the environmental impact of human overpopulation.

A strong argument against the spontaneity explanation for population growth rate declines can be based on the observation that such trends are today being reversed by the conscious political and social efforts of large national and international institutions, such as the Roman Catholic Church, Islamic Fundamentalism, and the Bush Administration, which has seriously undercut U.N. family planning work by withholding funding due to its opposition to abortion. Yet, between now and 2050, the U.N. expects eight countries to contribute to half the world's increase in population: India, Pakistan, Nigeria, Congo, Bangladesh, Uganda, the United States, Ethiopia, and China (Associate Press, "Earth Crowded Now?"). Significantly, with several of these countries the absolute numbers are not nearly as important as the rates of consumption relative to population. Each new American will consume many times more global resources than individuals in such countries as Ethiopia and Uganda. Likewise, India, Pakistan, and China have rapidly escalating standards of living, particularly in the area of energy consumption, that mean a far greater impact for their population increases today than increases of twenty years ago. Particularly problematic beyond the increased competition for energy resources is the need for vast additional quantities of clean, fresh water. And while significant, although far too meager, efforts are being made in the field of alternative energy and new energy efficient technologies, precious little is being done to increase the availability of clean water to people in rich and poor countries alike.

Further, this recognition about the problem of potable water in relation to existing populations and a far more intense crisis for additional populations reminds us that the majority of world population increase in the next forty years will occur in "less developed

countries." We should recognize and admit that world population has risen more slowly than feared in recent decades in part because mortality rates have remained so high due to water pollution and waterborne diseases. For the past decade and continuing today the USAID has noted that at least 31 countries with 8% of the world's population face "chronic water shortages"; by 2025 the number is expected to rise to 48 countries and 35% of the world's population, or 2.8 billion people ("When the Well Runs Dry").

In addition, part of the allaying of the surge of global population has also resulted from death and destruction due to warfare and the creation of the greatest number of refugees the world has ever known. And let us add to this counterbalancing factor, the wide array of plagues chipping away at population growth, most prominently AIDS and Ebola, but also numerous others. AIDS alone, for instance, has reduced life expectancy in southern Africa from 62 years in 1995 to 48 years today, and it is expected to decrease further (Associate Press, "Earth Crowded Now?").

The population crisis, then, remains a real crisis. The dire warnings of the 1960s and 1970s were not predictions so much as scenarios that formed a web of cautionary tales that contributed to efforts to avert the most stunning and overwhelming rapid manifestations of the problem. Because the world is in few ways a better place than it was thirty years ago and in many areas of the world a far worse place to live and die, world populations have not had the necessary conditions to reproduce or survive as rapidly and successfully as they might have done under more salutary conditions. But because the growth is slower than feared and the world limps along letting millions of infants and children die each year of preventable diseases worldwide, some would have us imagine that the Ehrlichs of the world are just crying wolf.

But those who are suffering know better. A 2002 study, for instance, by Manuel Gallego III, notes that for the Philippines to have the possibility of an annual individual Gross Domestic Product by 2050 that matches the world's current individual GDP that country would need to implement immediately a Zero Population Growth family

planning model. The absolute number of people in the world might not be too high in relation to resources, but that would only be the case if those resources were equitably distributed. But even as millions of American children face an escalation of chronic illnesses connected with rising rates of obesity, 170,000 Ethiopian children are facing imminent starvation in the summer of 2005 without an immediate increase in U.N. food aid ("170,000").

Apparently, there is famine in various parts of the world, even though food production has increased. But production and consumption don't line up. Also, part of the expansion of food production in many areas has resulted from a decrease in agricultural production for nonfood goods, such as flaxseed for linoleum, soybeans for ink and glues, cotton and wool for clothing, and so on. Synthetic products have increasingly taken the place of organic products. If David Goodstein and other scientists are right about Hubbert's Peak in relation to oil stocks and consumption rates, such synthetic substitutions will not be able to continue, since so many of them rely on oil for their building blocks. As the gap between rising demand and falling supplies of oil intensifies over the next four or five decades, less and less oil will be available for nonfuel purposes, and a segment of the global agricultural sector will have to be returned to growing crops for nonfood commodities. Pressure will be placed on developing nations to intensify the growing of crops for export rather than for local subsistence. It is highly likely, then, that outbreaks of famine will continue to occur, and may even intensify, but nature will have little to do with it. Rather, as they are today, famines in the rest of the century will result from the unnatural disasters of a badly skewed global marketplace.

To date there has been no war involving more than one side using nuclear weapons. The use of such weapons by the United States in 1945 almost immediately initiated a campaign against their future use. That campaign expanded internationally even as other states acquired the technology and began building nuclear arsenals. In 2005, as the world approaches the anniversaries of the only wartime uses of nuclear weapons, nuclear proliferation continues, and the danger of someone

acquiring a nuclear weapon on the black market and using it, or making a dirty conventional bomb to spread radioactive materials, is taken very seriously. Does sixty years without a third nuclear strike mean that all of the novelists and essayists writing alongside of all of those activists were just crying wolf and trying to scare away elephants? Hardly anyone would say so, especially given that the U.S. developed an entire series of bombs referred to as "tactical nuclear weapons," deployed them in Europe and considered deploying neutron bombs alongside of them. Thus we need to think about the role of novels such as Mordecai Roshwald's *Level 7*, written against the strategy of MAD–Mutual Assured Destruction; Gunter Grass's *The Rat*, specifically written against deployment of the neutron bomb; Australian Nevil Shute's *On the Beach*, made into a powerful movie with a host of American actors aimed specifically at an American audience; and Pat Frank's *Alas, Babylon*, published in 1959 about American survivors of a U.S.-U.S.S.R nuclear war.

On the Beach and *Alas, Babylon* are worth comparing. Already in 1957, Shute projected that there would be no human survivors of a strategic nuclear war due to radioactivity gradually making its way around the globe, eradicating the entire human population. Two years later, along with numerous other writers to follow, Frank projected an America in which some people do survive and work to build a new, different, and better society than the one that preceded a clearly pointless war. Frank at least projected that it wouldn't matter who won, since MAD would in fact occur and both states would be decimated beyond the ability to function. Reviewers at the time did not write about the terrible costs of winning a nuclear war but rather followed the line of the *Chicago Tribune* in referring to the novel as depicting "nuclear catastrophe." And yet, while pro-nuke and anti-nuke sides debated the winnability of a nuclear war, scientists gradually improved their computer simulations and modeling projects to develop the theory of nuclear winter, which indicates quite clearly that radiation doesn't have to kill everyone, as Shute had speculated, but rather that the attendant disruption of ecological systems would decimate all life, and lead to an extinction scenario for nearly all mega fauna. The nuclear

induced environmental catastrophe would eradicate species even if the weaponry did not.

These distinctions in scenarios that comprised the efforts of writers to help head off nuclear war at the pass, and which have contributed and continue to contribute to a general resistance on the part of the majority of Americans to first strike use of nuclear weapons–despite the refusal of their government to make such a renunciation–are important beyond just the threat of war. Some Americans, for instance, inside and outside of the government promoted the use of tactical nuclear weapons during the first Gulf War, and there was a strong undercurrent of racist desire for retribution that led various groups to promote the use of nuclear weapons in the second Gulf War, specifically the use of tactical neutron bombs in order to be able to kill people and still be able to access oil. At any rate, it can be said that in the United States, particularly after the near disaster of Three Mile Island and then the actual disaster at the Chernobyl nuclear energy facility, many Americans are wary of expansion of even the peaceful nuclear energy industry, despite the successes of such programs as those of the French and the Japanese. Writers and film makers have continued to remind us of the possibly disastrous effects of the so-called "peaceful atom," both in terms of its threat to human safety and its long term threats to the rest of the biotic community.

While the fifties films about irradiated giant insects served to warn people that experiments can not always be confined to the laboratory, but have a way of leaking out, no one really expected something as dramatic as a horde of 30 meter locusts to eat Chicago. People understood the very real and appropriate warning about the irresponsibility of unbridled experimentation and its unintended consequences on the natural world. This message has continued to be reinforced at a variety of levels, not only about nuclear power, but also about biotechnology, nanotechnology, genetic research, cloning, and so on, with Michael Crichton being one of the novelists penning such warnings. And while it may be the case that occasionally the specific danger is a matter of crying wolf–the very reason why zombie films such as *Resident Evil* are classified as horror rather than science

fiction–most adult viewers know very well that cautionary tales serve a vital purpose in curbing the most reckless of human behaviors, behaviors that are most often attributed to the government and its agencies rather than independent scientists and home grown villains. Nevertheless, increasingly, even movies such as *Resident Evil* and *Resident Evil: Apocalypse* warn their viewers that the dangers facing humanity from continuous biotechnological, chemical, and nuclear manipulations cannot be vanquished by a few heroes within the space of two hours; catharsis is increasingly only partial and clearly limited in scope.

Perhaps what was most startling to me about Michael Crichton's recent lashing out against the alleged cult of fear in the U.S. is his effort to dismiss global warming as an invention of fearmongers, who, according to the libertarian Cato Institute, are just seeking new ways to get grant money (see Michaels). With nuclear war, either you prevent it or you don't, and as long as nuclear weapons exist nuclear war must be prevented. Right now, relatively few people fear a strategic nuclear war, but there is rising fear that a nuclear device will be detonated by terrorists within the decade and the level and the kind of U.S. military response remains entirely unknown.

With global warming, we have a significantly different situation. The only way to prove that scientists are right about global warming is to refuse to head it off at the pass and let it enter town and wreak havoc. If, instead, through consciousness raising and the pressure of a variety of non-governmental organizations worldwide, we succeed in getting the majority of states to take preventive measures, then we will never know for sure whether or not the most dire predictions regarding global warming would have come true. But who really wants to wait to see if the film *The Day After Tomorrow* is prophetic science or fear mongering horror? European states are taking all kinds of steps that could be taken by the United States, even while the Bush administration continues to drag its feet (Speth 157–58).

That is precisely what Kim Stanley Robinson seems to be predicting in the first installment of his trilogy on global warming, *Forty Signs of Rain*. After Washington, D. C. has been flooded by a

convergence of weather patterns that various characters ascribe to global warming, a U.S. Senator riding in a boat remains noncommittal about what Congress might do to address the problem. Clive Cussler has alerted his readers to the fact that the Gulf Stream and the North Atlantic Current if disrupted could cause a sudden northern hemispheric climate shift in *Trojan Odyssey*, along the lines of the depiction in *The Day After Tomorrow*. Unfortunately, however, he also leads them to believe that only terrorists or the Chinese Communists might undertake such a diversion for their own economic and political gains, and discounts the idea that the country likely to be most responsible for such a "natural" disaster would be the U.S. merely by continuing its course of inaction.

But what about the idea of invoking the precautionary principle? I was actually alerted to the issues raised by Crichton in *State of Fear*, shortly before reading his newspaper essay, by my mother's telling me that Crichton claims that deforestation, not global warming, is to blame for the melting of the icecap on Mt. Kilimanjaro. As I pointed out to her, a dispute about that specific detail is really beside the point, since reforestation is an ecological restoration activity that needs to happen in any case, with or without concern about global warming. Reforestation can reverse desertification, can increase rainfall and can reduce surface temperatures, which ought to help restore some of the ice and snow lost from Kilimanjaro. In turn, a reversal of melting or an increase in the amount of permanent ice on the planet would increase the amount of solar radiation reflected back out into space, thus helping to counteract global warming resulting from the buildup of anthropogenic greenhouse gases. There is no down side to reforestation in East Africa. Yet is Crichton's argument persuasive? Hardly, since ice cover is retreating generally over the entire planet, including areas where there has been no significant logging activity, or where there have never been any trees to log, such as Antarctica.

The greatest environmental disasters in the previous century were human initiated rather than naturally occurring, not only in terms of loss of human life but also in terms of loss of biodiversity. One of the two greatest threats after World War II to the natural world has clearly

come from the explosive growth in the human population worldwide and its devastating impact particularly on forests and everything living in them. Although absolute numbers are looking less deadly than they did a few decades ago, human population growth remains a major threat to human beings and to the rest of the natural world. The second of the two greatest threats has come from the arms race, specifically the production and proliferation of nuclear weapons, which follows an explosive growth curve similar to that of human population. Strategic nuclear war seems highly unlikely at this point in time, yet with tens of thousands of nuclear warheads still scattered around the globe the possibility of a major nuclear weapons disaster remains a distinct possibility, which could not only kill hundreds of thousands of human beings, but also wreak havoc on the ecosystems within its fallout radius. Even without the use of a nuclear warhead, U.S. warfare contaminates the world and increases human and animal cancer rates through all types of pollution, including the scattering of depleted uranium shell casings in war zones, such as Iraq, and artilley practice ranges from Puerto Rico to Okinawa.

The writers and activists who have addressed both of these concerns, population growth and nuclear warfare, have not been crying wolf, nor have they been scaring away nonexistent elephants; they have been trying to head human disasters off at the pass, and should be recognized for their contributions. Global warming is no less a possibility than either a human population crash due to excessive growth or a nuclear war due to nation state competition. Steps that could be taken to counteract global warming ought to be taken, and will benefit the planet regardless of whether any of the worst case scenarios come to pass or only the most benign effects are felt. Writers who address the problem of global warming and other potential anthropogenic natural disasters need to be supported and taught, not dismissed or ignored.

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