

What follows is an analysis of Michael Crichton's attack on environmentalism as an irrational religion during an address he gave to the Commonwealth Club in San Francisco. I have placed my critical comments below the relevant part of Crichton's arguments, so that the reader may quickly and easily compare his arguments with reality. I have added to my original analysis additional information I have discovered about the relationship of Carson's criticism of indiscriminate use of DDT and malaria.

Gus diZerega

Remarks to the Commonwealth Club
by Michael Crichton
San Francisco
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I have been asked to talk about what I consider the most important challenge facing mankind, and I have a fundamental answer. The greatest challenge facing mankind is the challenge of distinguishing reality from fantasy, truth from propaganda. Perceiving the truth has always been a challenge to mankind, but in the information age (or as I think of it, the disinformation age) it takes on a special urgency and importance.

We must daily decide whether the threats we face are real, whether the solutions we are offered will do any good, whether the problems we're told exist are in fact real problems, or non-problems. Every one of us has a sense of the world, and we all know that this sense is in part given to us by what other people and society tell us; in part generated by our emotional state, which we project outward; and in part by our genuine perceptions of reality. In short, our struggle to determine what is true is the struggle to decide which of our perceptions are genuine, and which are false because they are handed down, or sold to us, or generated by our own hopes and fears.

As an example of this challenge, I want to talk today about environmentalism. And in order not to be misunderstood, I want it perfectly clear that I believe it is incumbent on us to conduct our lives in a way that takes into account all the consequences of our actions, including the consequences to other people, and the consequences to the environment. I believe it is important to act in ways that are sympathetic to the environment, and I believe this will always be a need, carrying into the future. I believe the world has genuine problems and I believe it can and

should be improved. But I also think that deciding what constitutes responsible action is immensely difficult, and the consequences of our actions are often difficult to know in advance. I think our past record of environmental action is discouraging, to put it mildly, because even our best intended efforts often go awry. But I think we do not recognize our past failures, and face them squarely. And I think I know why.

Crichton says here that it is important for us to "conduct our lives . . . [to take] into account all the consequences of our actions." This is impossible. My point is not merely the picky one that we can never know the full impact of our actions, but rather that this outlook encourages a view of knowledge that weighs what we know - or think we know - more heavily than what we may not. When dealing with complex emergent or self-organizing orders, such as markets and ecosystems, this attitude consistently leads to trouble. I link markets and ecosystems because the kind of mistake is the same when made by socialists about markets and certain technophiles about ecosystems.

A good example with regard to ecology is salmon hatcheries where, among much else, we have recently discovered that hatcheries select for smaller and more numerous eggs than do natural processes, thereby reducing the capacity of hatchery salmon to repopulate streams once conditions there have been restored to greater health. There are many such examples. When dealing with complex interrelated processes caution and humility fare better over the long run than do confidence and pride.

Analogous issues arise when government interferes with market processes to try and improve on market outcomes. This problem proved fatal to the socialist ideal of central planning replacing the market, but it also applies to corporate and bureaucratic ecological planning. Crichton appears unfamiliar with how complex orders work, be they social or ecological, even though he wrote *Jurassic Park*.

The answer is not to accept powerlessness, but to act differently than when we confront a simple technological or mechanical issue. I have written extensively on this as have a few other environmentalists. Among the best are Paul Hawken, Amory Lovins, William McDonough, and Michael Braungart. My stuff is damn good as well. Check out <http://blog.beliefnet.com/apagansblog/> and go to my "ecology" writings.

I studied anthropology in college, and one of the things I learned was that certain human social structures always reappear. They can't be eliminated from society. One of those structures is religion. Today it is said we live in a secular society in which many people---the best people, the most

enlightened people---do not believe in any religion. But I think that you cannot eliminate religion from the psyche of mankind. If you suppress it in one form, it merely re-emerges in another form. You can not believe in God, but you still have to believe in something that gives meaning to your life, and shapes your sense of the world. Such a belief is religious.

Crichton's modesty is amusing, for it is clear he considers himself among the most enlightened, whereas mankind as a whole is caught in the throes of superstition. His confidence that religion reduces to a simple psychological need is an example of philosophical and psychological hubris on a grand scale. But these matters are tangential to the issue at hand, so I will let them pass, other than bringing them to the reader's attention.

Today, one of the most powerful religions in the Western World is environmentalism. Environmentalism seems to be the religion of choice for urban atheists. Why do I say it's a religion? Well, just look at the beliefs. If you look carefully, you see that environmentalism is in fact a perfect 21st century remapping of traditional Judeo-Christian beliefs and myths.

There's an initial Eden, a paradise, a state of grace and unity with nature, there's a fall from grace into a state of pollution as a result of eating from the tree of knowledge, and as a result of our actions there is a judgment day coming for us all. We are all energy sinners, doomed to die, unless we seek salvation, which is now called sustainability. Sustainability is salvation in the church of the environment. Just as organic food is its communion, that pesticide-free wafer that the right people with the right beliefs, imbibe.

The previous paragraphs describe some un-named people concerned with environmental issues, who embrace some form of the Judeo-Christian mythic framework. The question Crichton does not even attempt to answer is how representative they are either in absolute numbers or among the leading lights. Yet, for a truly informed analysis of the issue, these should be among the most obvious and basic issues to cover.

There are a great many who do not resemble Crichton's portrait. Here is a list of MAJOR environmental thinkers who certainly do not:
H. D. Thoreau, John Muir, Aldo Leopold, Holmes Rolston, J. Baird Callicott, Gary Snyder, Paul Hawken, Amory Lovins, David Brower, Arne Naess, Sigurd Olson, Jane Goodall, Murray Bookchin, Joanna Macy, Adolph Murie, Edward O. Wilson, Peter Barnes, and a host of others.

This is just off the top of my head. The list could be enlarged upon immensely. The ones now dead played a major role in the rise of the environmental movement. The living ones still do. I like the ideas of some of these thinkers, some I don't. None resembles Crichton's imagined "environmentalist."

My point is not that his version of an environmentalist does not exist. They do. The key question is how influential are they and how representative are they of people concerned with the environment as a whole?

Eden, the fall of man, the loss of grace, the coming doomsday---these are deeply held mythic structures. They are profoundly conservative beliefs. They may even be hard-wired in the brain, for all I know. I certainly don't want to talk anybody out of them, as I don't want to talk anybody out of a belief that Jesus Christ is the son of God who rose from the dead. But the reason I don't want to talk anybody out of these beliefs is that I know that I can't talk anybody out of them. These are not facts that can be argued. These are issues of faith.

Yes again, some environmentalists do sort of accept an 'eden' myth and see much that has happened since as a decline. Probably the most sophisticated among these people is Paul Shepard, and his reasons are completely unconnected to Crichton's analysis. Shepard argues we evolved in certain kinds of Pleistocene ecosystems, and are psychologically best suited for living as hunter/gatherers in them. Shepard's argument relies plenty of biology, history, and psychology, and not at all on faith or resentment of civilization.

Of course there are some folks who do closely resemble Crichton's portrait. Some Earth First! members would come pretty close to Crichton's model - but they are a tiny minority of those of us who consider ourselves environmentalists. Equating environmentalists with Earth First!, or rather, some in Earth First!, is absurd, ignorant, or dishonest.

And so it is, sadly, with environmentalism. Increasingly it seems facts aren't necessary, because the tenets of environmentalism are all about belief. It's about whether you are going to be a sinner, or saved. Whether you are going to be one of the people on the side of salvation, or on the side of doom. Whether you are going to be one of us, or one of them.

Crichton has now defined environmentalism so as to eliminate science and the great many who refer to themselves by this name but do not share the beliefs Crichton describes above. There are environmentalists who are cautious towards science. There are some who think that science has its place, but cannot deal with all crucial issues. I am one of these. There are those who see

science as the answer to everything (E. O. Wilson for example). Among those who see limits to science, some do so for religious reasons, some for philosophical reasons, some for mixed reasons. Most of my acquaintance do not distrust science for the reasons Crichton describes. Crichton sees a false unity in what is in fact an enormous diversity of viewpoints united only by a concern that our society is treating the natural world and its processes unbearably badly.

I suspect Crichton hasn't looked very hard at what environmentalists actually say, and has, instead, picked and chosen from anti-environmental screeds the parts that support his thesis. Let's look at one hot issue: salmon. Jim Lichatowich's *Salmon Without Rivers* is a very factual and deeply researched analysis of salmon on the West Coast by a leading fisheries biologist. He is also an environmentalist, and the book carries a strong environmental message. It does not come close to resembling Crichton's description. Then, on the same issue, there is Freeman House's *Totem Salmon*. The book is far more "touchy feely" than Lichatowich's, and describes local folks in far Northern California's efforts to bring back salmon runs into the degraded Mattole River. The book is optimistic in tone, and does not create a false dichotomy between the good and the bad, the saved and the damned, or whatever the image Crichton is selling. In fact, on the issue of salmon, I know of no significant environmental book that meets Crichton's description of what "environmentalists" believe. Maybe no environmentalists are involved with salmon issues – but then, what do we call the people who are?

Am I exaggerating to make a point? I am afraid not. Because we know a lot more about the world than we did forty or fifty years ago. And what we know now is not so supportive of certain core environmental myths, yet the myths do not die. Let's examine some of those beliefs.

the key word here is "certain" and it applies only to some beliefs/myths/whatever.

There is no Eden. There never was. What was that Eden of the wonderful mythic past? Is it the time when infant mortality was 80%, when four children in five died of disease before the age of five? When one woman in six died in childbirth? When the average lifespan was 40, as it was in America a century ago. When plagues swept across the planet, killing millions in a stroke. Was it when millions starved to death? Is that when it was Eden?

And what about indigenous peoples, living in a state of harmony with the Eden-like environment? Well, they never did. On this continent, the newly arrived people who crossed the land bridge almost immediately set about wiping out hundreds of species of large animals, and they did this several

thousand years before the white man showed up, to accelerate the process. And what was the condition of life? Loving, peaceful, harmonious? Hardly: the early peoples of the New World lived in a state of constant warfare. Generations of hatred, tribal hatreds, constant battles. The warlike tribes of this continent are famous: the Comanche, Sioux, Apache, Mohawk, Aztecs, Toltec, Incas. Some of them practiced infanticide, and human sacrifice. And those tribes that were not fiercely warlike were exterminated, or learned to build their villages high in the cliffs to attain some measure of safety.

Crichton is a pretty selective anthropologist. Some indigenous people did live in long run harmony with their environment. One good example would be the tribes of the north Pacific coast from SF Bay and up. Pity the Commonwealth Club members didn't know this or they could have skewered him on this point, since the rebuttal was in their own back yard. Others did not, such as the Anasazi or, most spectacularly, Easter Island.

The key is not being tribal but rather whether successful or unsuccessful **cultural learning appropriate to the area** took place. When we are aware that some peoples succeeded and others failed, we can ask what are the conditions for success and how might we learn from them? These questions are utterly absent from Crichton's paper but are central to any serious discussion of the relationship of human societies, tribal or otherwise, to the natural world.

For a man who claims to speak with the authority of science - because he writes "hard" science fiction about nanotechnology and dinosaurs and such - Crichton seems uninterested in or ignorant of the tentativeness that accompanies a great deal of scientific investigation. I guess it gets in the way of the plot.

While I agree that hunting *probably* did play a role in the Pleistocene extinctions, there is considerable evidence of other important causes. For example, the declining size of horses and such on the arctic steppe, indicated habitat was changing for the worse as grasslands turned into tundra. In Australia many extinctions were apparently the unintended result of fire - that is, humans set fires there, as they did everywhere, thereby altering Australian vegetation and dooming animals which depended on a relatively fire free environment. This is human caused - but as an indirect rather than direct result of their actions. He is certainly correct that human hunting caused the extinction of many animal species on islands, but I suspect continents are a more complex matter.

Crichton conveniently ignores the fact that native peoples of America often had technologies to destroy far more species than they perhaps did 10,000 years ago - and lived in relative harmony for thousands of years since with the species we encounter today in North America. People who could bring down mammoths

could bring down deer and elk. And they did. But they never exterminated these animals. North Pacific coast Indians had the technologies to extirpate salmon from most rivers. They also traded widely in dried salmon, and so had an economic motive. That they did not destroy salmon populations, and may even have enhanced them, suggests successful cultural learning.

Let us grant the possibility that thousands of years ago these peoples did exterminate the Pleistocene megafauna. What is particularly interesting is that the extinctions did not continue, and the peoples living here in many instances entered into long run relations with the natural world that led to no further extinctions and the impression on early European explorers that they had entered a veritable garden.

Crichton's one dimensional "we all failed" is bad history, bad anthropology, and bad science. Of course he is giving a talk - but he is claiming the mantle of science as he does so. He should do a better job of describing it.

How about the human condition in the rest of the world? The Maori of New Zealand committed massacres regularly. The dyaks of Borneo were headhunters. The Polynesians, living in an environment as close to paradise as one can imagine, fought constantly, and created a society so hideously restrictive that you could lose your life if you stepped in the footprint of a chief. It was the Polynesians who gave us the very concept of taboo, as well as the word itself. The noble savage is a fantasy, and it was never true. That anyone still believes it, 200 years after Rousseau, shows the tenacity of religious myths, their ability to hang on in the face of centuries of factual contradiction.

There was even an academic movement, during the latter 20th century, that claimed that cannibalism was a white man's invention to demonize the indigenous peoples. (Only academics could fight such a battle.) It was some thirty years before professors finally agreed that yes, cannibalism does indeed occur among human beings. Meanwhile, all during this time New Guinea highlanders in the 20th century continued to eat the brains of their enemies until they were finally made to understand that they risked kuru, a fatal neurological disease, when they did so.

More recently still the gentle Tasaday of the Philippines turned out to be a publicity stunt, a nonexistent tribe. And African pygmies have one of the highest murder rates on the planet.

All this stuff about war and violence is utterly irrelevant. It gives a specious

exactitude to Crichton's analysis. I doubt whether Crichton can name 3 major environmental thinkers who argue otherwise. (I can't name one - but I'm leaving myself an out.) The same tribes that sustained Pacific Northwest salmon populations over thousands of years also often waged fierce war with one another, kept slaves, and did other unsavory things. That seems to me irrelevant to the point of whether a people can learn to live sustainably with their environment.

In short, the romantic view of the natural world as a blissful Eden is only held by people who have no actual experience of nature. People who live in nature are not romantic about it at all. They may hold spiritual beliefs about the world around them, they may have a sense of the unity of nature or the aliveness of all things, but they still kill the animals and uproot the plants in order to eat, to live. If they don't, they will die.

This passage is utterly confused. I have *never* met a person with the beliefs he attacks here - and I know a lot of environmentalists. Maybe he is thinking of the animal rights crowd - which comes from a perspective quite different than any of the environmental thinkers I mentioned above. Often they oppose environmental restoration because restoring a degraded ecosystem might involve killing over abundant deer, goats, rabbits, or what-have-you. Consequently these people can only with some trepidation be called environmentalists at all, and can in no wise be equated with environmentalists in general. Possibly Crichton's knowledge of environmental thought comes from reading Gary Larson's *There's a Hair in My Dirt*.

The Deep Ecologists are probably the strongest in their beliefs about the intrinsic value of nature. None are animal rights advocates. Some even hunt. The best defense of hunting I have ever read was by a confirmed environmentalist: Richard Nelson, *The Island Within*. A truly beautiful book. I recommend it.

And if you, even now, put yourself in nature even for a matter of days, you will quickly be disabused of all your romantic fantasies. Take a trek through the jungles of Borneo, and in short order you will have festering sores on your skin, you'll have bugs all over your body, biting in your hair, crawling up your nose and into your ears, you'll have infections and sickness and if you're not with somebody who knows what they're doing, you'll quickly starve to death. But chances are that even in the jungles of Borneo you won't experience nature so directly, because you will have covered your entire body with DEET and you will be doing everything you can to keep those bugs off you.

As a matter of fact rather than opinion, an enormous number of environmental leaders spent extensive time in the wild, often alone where a misstep would mean death. Jane Goodall spent years alone in a tropical jungle hanging out with chimpanzees and reported that they fought wars with one another. Goodall is a very fervent environmentalist. From John Muir to David Brower to Dave Foreman leading environmental activists have often spent extensive time out in nature in potentially life threatening situations, and come back even more in love with the wild world than before.

The truth is, almost nobody wants to experience real nature. What people want is to spend a week or two in a cabin in the woods, with screens on the windows. They want a simplified life for a while, without all their stuff. Or a nice river rafting trip for a few days, with somebody else doing the cooking. Nobody wants to go back to nature in any real way, and nobody does. It's all talk-and as the years go on, and the world population grows increasingly urban, it's uninformed talk. Farmers know what they're talking about. City people don't. It's all fantasy.

see above. Crichton in the most literal sense, has no idea what he is talking about.

One way to measure the prevalence of fantasy is to note the number of people who die because they haven't the least knowledge of how nature really is. They stand beside wild animals, like buffalo, for a picture and get trampled to death; they climb a mountain in dicey weather without proper gear, and freeze to death. They drown in the surf on holiday because they can't conceive the real power of what we blithely call "the force of nature." They have seen the ocean. But they haven't been in it.

How many are environmentalists? Any figures? I have written about why city people tend to favor the environment and the article more than answers the simplistic twaddle Crichton confuses with analysis. It's on my personal website under the title (gasp) "Nature Religion and the Modern World." The title would appear to support Crichton's argument - but actually reading it would not. Go to <http://blog.beliefnet.com/apagansblog/>, click on my writings on spirituality, and scroll down to the article if you want an intelligent discussion of these issues.

The television generation expects nature to act the way they want it to be. They think all life experiences can be tivo-ed. The notion that the natural world obeys its own rules and doesn't give a damn about your expectations comes as a massive shock. Well-to-do, educated people in an urban

environment experience the ability to fashion their daily lives as they wish. They buy clothes that suit their taste, and decorate their apartments as they wish. Within limits, they can contrive a daily urban world that pleases them.

More comments giving his talk a specious weightiness but having little to do with environmentalism.

But the natural world is not so malleable. On the contrary, it will demand that you adapt to it-and if you don't, you die. It is a harsh, powerful, and unforgiving world that most urban westerners have never experienced.

And a disproportionate number who did experience wild nature as children are now environmentalists. This suggests the falsity of Crichton's analysis.

Many years ago I was trekking in the Karakorum mountains of northern Pakistan, when my group came to a river that we had to cross. It was a glacial river, freezing cold, and it was running very fast, but it wasn't deep---maybe three feet at most. My guide set out ropes for people to hold as they crossed the river, and everybody proceeded, one at a time, with extreme care. I asked the guide what was the big deal about crossing a three-foot river. He said, well, supposing you fell and suffered a compound fracture. We were now four days trek from the last big town, where there was a radio. Even if the guide went back double time to get help, it'd still be at least three days before he could return with a helicopter. If a helicopter were available at all. And in three days, I'd probably be dead from my injuries. So that was why everybody was crossing carefully. Because out in nature a little slip could be deadly.

So? I've been in similar situations - without guides or access to helicopters even if they are late. Sometimes I was utterly alone. One time in particular it was simple good fortune that I survived at all. The experience was scary, but did nothing to change my love of nature or commitment to environmental values.

I think twice about hiking alone in the Canadian Rockies. I am not the top of the food chain there, and I know it. I still have hiked there alone - but cautiously. Knowing that there can be serious danger from a misstep is hardly denied by leading environmental thinkers, and many of them have personal experience of such dangers.

Crichton may have had a bad time in the wild because he didn't know how to take care of himself. He should keep his mud flinging to himself. Those of us who

have hiked and climbed alone where a misstep was death are deeply unimpressed with his supposed expertise on the matter. He evidences mostly ignorance and trying to give the appearance of being a risk taker without knowing what he is talking about.

It is time to notice, by the way, that while Crichton delights in bringing specific rebuttals in to attack "environmentalists" (like his adventures in pricey guided tours) he fails to mention even one such person by name, or to give any half-detailed account of an actual environmental argument. This is an easy, and lazy, way to appear to know what you are talking about when you don't. It is a rhetorical trick - it is also bad science and bad ethics.

But let's return to religion. If Eden is a fantasy that never existed, and mankind wasn't ever noble and kind and loving, if we didn't fall from grace, then what about the rest of the religious tenets? What about salvation, sustainability, and judgment day? What about the coming environmental doom from fossil fuels and global warming, if we all don't get down on our knees and conserve every day?

Well, it's interesting. You may have noticed that something has been left off the doomsday list, lately. Although the preachers of environmentalism have been yelling about population for fifty years, over the last decade world population seems to be taking an unexpected turn. Fertility rates are falling almost everywhere. As a result, over the course of my lifetime the thoughtful predictions for total world population have gone from a high of 20 billion, to 15 billion, to 11 billion (which was the UN estimate around 1990) to now 9 billion, and soon, perhaps less. There are some who think that world population will peak in 2050 and then start to decline. There are some who predict we will have fewer people in 2100 than we do today. Is this a reason to rejoice, to say halleluiah? Certainly not. Without a pause, we now hear about the coming crisis of world economy from a shrinking population. We hear about the impending crisis of an aging population. Nobody anywhere will say that the core fears expressed for most of my life have turned out not to be true. As we have moved into the future, these doomsday visions vanished, like a mirage in the desert. They were never there---though they still appear, in the future. As mirages do.

This is one of the most deeply dishonest or incompetent passages in the essay. First, yes, many environmentalists were wrong about population predictions. So was everyone else, by the way. I have known this fact - and even written about it - for many many years.

But here Crichton makes an incompetent or dishonest move. A move that should lead any half informed person on these matters of any point of view to cease taking the man seriously. The people who warn about a depopulation crisis are **not** environmentalists.

I am personally delighted by the prospect of a smaller population, even though it will create problems for us. The doom and gloomers on this issue are generally conservative commentators who are, like Crichton, critical of environmental concerns. Crichton makes it appear as if environmentalists are simply switching gears to find something else to complain about. This is simply not true.

Okay, so, the preachers made a mistake. They got one prediction wrong; they're human. So what. Unfortunately, it's not just one prediction. It's a whole slew of them. We are running out of oil. We are running out of all natural resources. Paul Ehrlich: 60 million Americans will die of starvation in the 1980s. Forty thousand species become extinct every year. Half of all species on the planet will be extinct by 2000. And on and on and on.

Environmental organizations tend to lie as much as many others - perhaps even as much as many corporations, though that would be a stretch. It is reprehensible, and I teach about it explicitly in my environmental politics class. Ehrlich has a powerful record of being wrong on his environmental predictions. To say that these exaggerations have taken place - and are continuing to take place - is not to say that there is not a problem, or that the business and political world will address the problem in the absence of environmental pressures.

Big organizations are notoriously dishonest, be they political, religious, economic, governmental or what have you. I have also written on that and it is also on my web site, under Politics scroll down to "Why Organizations Lie."

With so many past failures, you might think that environmental predictions would become more cautious. But not if it's a religion. Remember, the nut on the sidewalk carrying the placard that predicts the end of the world doesn't quit when the world doesn't end on the day he expects. He just changes his placard, sets a new doomsday date, and goes back to walking the streets. One of the defining features of religion is that your beliefs are not troubled by facts, because they have nothing to do with facts.

As a matter of fact there have also been successes. Radically reducing ozone depletion is one. Maybe Crichton believes that lying gas bag Rush Limbaugh, but the treaty that reduced ozone production, while a response to environmental pressures, was accomplished under that irrational green activist, Ronald Reagan.

Ol' Rush never mentions that now, does he? Neither does Crichton.

The Endangered Species Act, with all its faults, and they are legion, has kept some species from dying out that otherwise would have. Sometimes a flawed law is better than none at all.

Crichton is so one sided that I see no reason to deal with some of the cases that follow, about which I am not deeply informed. Based on what he has claimed that is in my realm of expertise, Crichton's accounts are almost certainly unreliable, mixing truths, half-truths, distortions, and falsehoods together in a goulash it would take several articles and a lot of research to do justice to. If the Commonwealth Club will pay me half of what it paid Crichton, I'd be happy to.

So I can tell you some facts. I know you haven't read any of what I am about to tell you in the newspaper, because newspapers literally don't report them. I can tell you that DDT is not a carcinogen and did not cause birds to die and should never have been banned. I can tell you that the people who banned it knew that it wasn't carcinogenic and banned it anyway. I can tell you that the DDT ban has caused the deaths of tens of millions of poor people, mostly children, whose deaths are directly attributable to a callous, technologically advanced western society that promoted the new cause of environmentalism by pushing a fantasy about a pesticide, and thus irrevocably harmed the third world. Banning DDT is one of the most disgraceful episodes in the twentieth century history of America. We knew better, and we did it anyway, and we let people around the world die and didn't give a damn.

When I first wrote this critique, I knew little about the issue, so I wrote:

To repeat, given the abject dishonesty or incompetence of what I have read and demonstrated above, this paragraph makes me doubtful whether the same selective examples and distortions are not in use yet again.

Since then I have learned considerably more about the issue, and insert here two discussions taken from my blog:

Rachel Carson has never been forgiven by the chemical industry or the right wing for her efforts to educate the public on the downside of trying to solve pest problems with DDT. When I was invited to attend a meeting of the right wing (once Classical Liberal) Mt. Pelier Society a few years back I was surprised to hear not intelligent conversation about markets and ecologies, but rather utterings as to Carson being guilty of "genocide" because banning DDT in the US led to millions of deaths in Africa and elsewhere from malaria. The lunch table where I

encountered this imbecility was dominated by people associated with the Competitive Enterprise Institute, a think tank that has learned to make money from big corporations while posing as a classical liberal site. Michael Crichton is yet another right winger who has made money spreading this myth.

I was reading the excellent site science blogs and came across a post by Tim Lambert http://scienceblogs.com/deltoid/2007/06/rachel_carson_and_ddt.php discussing the real facts concerning DDT and malaria. Lambert discusses and links to an excellent piece in *Salon* by Kirsten Weir http://www.salon.com/news/feature/2007/06/29/rachel_carson/ that goes into greater depth on the truth behind DDT and malaria.

As a matter of fact, Carson did not oppose all use of DDT. She wrote ““No responsible person contends that insect-borne disease should be ignored,” she wrote. “It is not my contention that chemical insecticides must never be used. I contend . . . that we have allowed these chemicals to be used with little or no advance investigation of their effect on soil, water, wildlife, and man himself.”” Further, Weir’s article points out that “In fact, the decline in DDT use coincided with a drop in malaria rates.”

There is more to show Crichtn’s claims to expertise are about as well founded as a dog’s ability to fly.

Jim Easter at Someareboojums provides an interesting post on DDT and malaria, <http://www.someareboojums.org/blog/?p=62> concluding: “The 1972 DDT ban did nothing to restrict the chemical’s use against malaria, but had the effect of eliminating the single most intense source of selection pressure for insecticide resistance in mosquitos. As the rest of the world followed suit in restricting agricultural use of DDT, the spread of resistance was slowed dramatically or stopped.

“By this single action, William Ruckelshaus — and, credit where it’s due, Rachel Carson — may well have saved millions of lives.”

I can tell you that second hand smoke is not a health hazard to anyone and never was, and the EPA has always known it. I can tell you that the evidence for global warming is far weaker than its proponents would ever admit. I can tell you the percentage the US land area that is taken by urbanization, including cities and roads, is 5%. I can tell you that the Sahara desert is shrinking, and the total ice of Antarctica is increasing. I can tell you that a blue-ribbon panel in *Science* magazine concluded that there is no known technology that will enable us to halt the rise of carbon dioxide in the 21st century. Not wind, not solar, not even nuclear. The panel concluded a totally new technology-like nuclear fusion-was necessary, otherwise nothing could

be done and in the meantime all efforts would be a waste of time. They said that when the UN IPCC reports stated alternative technologies existed that could control greenhouse gases, the UN was wrong.

Given his combination of utter assurance and utter error on an issue as important as the above, there is no reason to believe he understands these statements any better than he did his words in DDT. But I have other things to do and leave most of these assertions to others to investigate.

But on some I know a little bit. For example, as Amory Lovins and others have shown, an enormous amount of energy can be saved simply by increasing building and machine efficiency. Hawken's and the Lovins' *Natural Capitalism* is excellent. Any person who likes both markets and nature would profit immensely from reading it. So would those who do not fall in that group.

I do not know the percentage of our land taken up by cities and roads. I do know that any percentage of the sort Crichton describes is meaningless unless all land is of the same quality, which it is not. For example, a tiny percentage of desert supports the vast majority of its mammal life there because that tiny percentage consists of seeps and water holes, and occasional streams. One could wipe out most desert mammalian life by influencing a good deal less than 5% of its area. Maybe less than 1%. Deserts make up a big chunk of the U.S.

Nutrients spread by predators eating salmon used to fertilize enormous areas of forest lands in the Northwest and northern California. Lack of such nutrients is now markedly slowing forest growth and impoverished biota. But the streams in which the salmon once swam make up a tiny percentage of the lands affected by the presence or lack of salmon derived nutrients. Probably under 1%. Numbers can appear impressive when used incompetently, but they are still incompetently used and they still mislead.

The number of scientists convinced that global warming is man made at least in part, and on balance not good for us, is growing. The number denying it is shrinking. Since I am not an atmospheric scientist, I take trends like this seriously. I am not qualified to read and evaluate the various studies, but I am qualified to keep an eye on the direction the debate is going, and on the reactions of those who are competent to evaluate the studies. That does not in itself prove one side or the other is right, but it suggests that lay people such as Crichton (and me) should be damn careful about making the complex seem simple.

But again, Crichton seems uninterested in anything specific except vague references to his own authority as a reader of scientific articles (or popularizations of such articles) in fields where he is not an expert. We all do this, but when we do we should be somewhat more humble about the matter.

I can, with a lot of time, give you the factual basis for these views, and I can cite the appropriate journal articles not in whacko magazines, but in the most prestigious science journals, such as Science and Nature. But such references probably won't impact more than a handful of you, because the beliefs of a religion are not dependant on facts, but rather are matters of faith. Unshakeable belief.

A few cites would be useful since he is publishing his talk. But he prefers ad hominem arguments that we wouldn't pay attention to taking the time to list a few sources, where we can evaluate them for ourselves. It's easier and avoids the risk of being proven incompetent.

Most of us have had some experience interacting with religious fundamentalists, and we understand that one of the problems with fundamentalists is that they have no perspective on themselves. They never recognize that their way of thinking is just one of many other possible ways of thinking, which may be equally useful or good. On the contrary, they believe their way is the right way, everyone else is wrong; they are in the business of salvation, and they want to help you to see things the right way. They want to help you be saved. They are totally rigid and totally uninterested in opposing points of view. In our modern complex world, fundamentalism is dangerous because of its rigidity and its imperviousness to other ideas.

True enough. Now, perhaps Crichton can actually name some environmentalist fundies, please. I notice he never does. If he did we would quickly see how unrepresentative they are of environmentalists as a whole.

I want to argue that it is now time for us to make a major shift in our thinking about the environment, similar to the shift that occurred around the first Earth Day in 1970, when this awareness was first heightened. But this time around, we need to get environmentalism out of the sphere of religion. We need to stop the mythic fantasies, and we need to stop the doomsday predictions. We need to start doing hard science instead.

As a religious person who is also an environmentalist, I can say without any doubt that Crichton does not know what the hell he is talking about. First, the reason a person values the wild world – let's call it religious – says nothing about how that person will study and learn about the wild world. In physics many leading physicists had a belief in God or some similar concept, but that did not prevent Einstein and others from doing first rate work.

Religion need not be opposed to hard science. It does with fundamentalists, but fundamentalists hardly have a lock on religion either today or historically.

Environmentalism mixes people's ethics with their understanding of science and their religious beliefs, if any. It is extraordinarily complex and multifaceted because of the extraordinarily complex and multifaceted ways in which people come to environmental concerns. Hard science by itself is inadequate to address our environmental issues, for reasons I will outline at the end when Crichton brings it up in more detail.

[There are two reasons why I think we all need to get rid of the religion of environmentalism.](#)

Environmentalism is NOT a religion and no matter how often Crichton and the wise use crowd says it is so doesn't make it so. Yes - there are cranks and fanatics. They exist in every field of thought and action, without exception. But they do not exemplify any of them. Again - names, please.

Crichton claims the mantle of science – as a scientist he must give us some objective evidence that the "religion" he claims to exist does in fact exist, and is held by enough people concerned with environmental issues to make it worthwhile to call environmentalism itself a religion. Names, core beliefs, core writings demonstrating such beliefs, and a demonstration that those holding these beliefs are representative of environmentalism seems a fair request, one that Crichton cannot fulfill because the claim is specious. That he does not try suggests he knows this.

Yes, I have been approached in Berkeley by a young man demanding I sign a petition against logging the rain forest because the rain forest is the earth's lungs, and when the trees are cut down we'll all die from lack of oxygen. Uninformed silliness. But this is not a representative view.

What is more representative is that rain in the Amazon basin comes in substantial part from respiration from trees. The rain forest there in a sense maintains itself, and in its absence the rains would not fall. That is rooted in science, by the way. And it's pretty important information on many fronts. It's a very good reason to not log hell out of such forests.

Another argument is that in some areas the soil quickly degrades - the lush growth feeds off itself. Take away the growth and you end up with pretty infertile soils. Does this mean we can do nothing there? No - but we need to be smart and wise about it, virtues lacking in Crichton's piece and in those who would log it based primarily by standards of how much money they can make in the short run.

There is more as well, the rights of indigenous peoples, the importance of biological diversity for scientific as well as ethical and spiritual reasons, and so on. But these issues are easily discovered by any who would take the time to look.

First, we need an environmental movement, and such a movement is not very effective if it is conducted as a religion. We know from history that religions tend to kill people, and environmentalism has already killed somewhere between 10-30 million people since the 1970s. It's not a good record. Environmentalism needs to be absolutely based in objective and verifiable science, it needs to be rational, and it needs to be flexible. And it needs to be apolitical. To mix environmental concerns with the frantic fantasies that people have about one political party or another is to miss the cold truth---that there is very little difference between the parties, except a difference in pandering rhetoric. The effort to promote effective legislation for the environment is not helped by thinking that the Democrats will save us and the Republicans won't. Political history is more complicated than that. Never forget which president started the EPA: Richard Nixon. And never forget which president sold federal oil leases, allowing oil drilling in Santa Barbara: Lyndon Johnson. So get politics out of your thinking about the environment.

The dishonesty or incompetence of this argument is second only to the dishonesty of the one about population.

Let's start by assuming that Crichton is correct about 'environmentalism' killing millions. If you read the sources I gave above, you would know he isn't. But let's grant him this for a moment.

Religious wars deliberately killed as a matter of policy. "Kill them all, God knows His own" is a genuine quotation by a Catholic Bishop during the Albigensian Crusade in France.

ANY deaths from the non-use of DDT were never intended outcomes - and this is the only example he gives. Therefore his argument by analogy is false on logical grounds, as well as the evidence he cites being false factually.

His stuff on political parties is true, and today is largely irrelevant. It helps some people without much historical knowledge abandon the falsehood that the Republican Party has always been the enemy of the environment. But as a matter of fact, today the Republican Party is opposed to most environmental values, and those in power manipulate the science as well. For example, just

recently the government finally admitted its water policies were responsible for the massive salmon kills on California's Klamath River. It denied this for months and months. The Bushies also busily destroyed agreements between loggers and environmentalists about reintroducing grizzly bears in Idaho Selway-Bitterroot Wilderness, putting the lie to Gale Norton's supposed belief in local initiatives.

Does the Republican Right sometimes do some good things environmentally while in power? Yes – it is difficult to be wrong all the time. There are some good ideas in recent policy changes concerning the Klamath area. But the examples are all too few and far between. The evidence to the contrary stinks to the heavens.

The second reason to abandon environmental religion is more pressing. Religions think they know it all, but the unhappy truth of the environment is that we are dealing with incredibly complex, evolving systems, and we usually are not certain how best to proceed. Those who are certain are demonstrating their personality type, or their belief system, not the state of their knowledge. Our record in the past, for example managing national parks, is humiliating. Our fifty-year effort at forest-fire suppression is a well-intentioned disaster from which our forests will never recover. We need to be humble, deeply humble, in the face of what we are trying to accomplish. We need to be trying various methods of accomplishing things. We need to be open-minded about assessing results of our efforts, and we need to be flexible about balancing needs. Religions are good at none of these things.

Finally! A good paragraph - except for the overstatement "never recover." Maybe he wrote this in order to appear environmentally friendly. Alas, he only appears environmentally ignorant. By the way, environmentalists were THE major critics of USFS fire suppression policies, a fact Crichton can't bring himself to mention. Or maybe he doesn't know it.

How will we manage to get environmentalism out of the clutches of religion, and back to a scientific discipline? There's a simple answer: we must institute far more stringent requirements for what constitutes knowledge in the environmental realm. I am thoroughly sick of politicized so-called facts that simply aren't true. It isn't that these "facts" are exaggerations of an underlying truth. Nor is it that certain organizations are spinning their case to present it in the strongest way. Not at all--- what more and more groups are doing is putting out lies, pure and simple. Falsehoods that they know to be false.

True - on both sides, by the way.

This trend began with the DDT campaign, and it persists to this day. At this moment, the EPA is hopelessly politicized. In the wake of Carol Browner, it is probably better to shut it down and start over. What we need is a new organization much closer to the FDA. We need an organization that will be ruthless about acquiring verifiable results, that will fund identical research projects to more than one group, and that will make everybody in this field get honest fast.

The last part is a very good idea. Sure didn't happen under his hero Bush.

Because in the end, science offers us the only way out of politics. And if we allow science to become politicized, then we are lost. We will enter the Internet version of the dark ages, an era of shifting fears and wild prejudices, transmitted to people who don't know any better. That's not a good future for the human race. That's our past. So it's time to abandon the religion of environmentalism, and return to the science of environmentalism, and base our public policy decisions firmly on that.

LOTS of confusion here. We definitely should seek to insulate science from politics as much as possible - and also from corporate agendas as well. Crichton is amazingly and disturbingly one sided.

But in the end science cannot solve the most important of these problems because they are also questions of values. How much of a certain sort of pollution is acceptable cannot be answered "objectively." It is a value call. Science can help us take better care of Yellowstone - but it is we who need to decide what counts as "better care." Nor can science tell us whether we should have a national park system, whether it is too large, too small, or just right. It cannot tell us whether or not to drill at the Alaska National Wildlife Refuge. It cannot tell us whether to preserve endangered species. It cannot tell us if it is ever justifiable to frustrate certain human desires in order to protect the well being of non-humans. These are questions of ethics and morality, and when a society has to confront them it must do so at least partially politically because individual behavior alone cannot resolve the issue..

Crichton is a naive technocrat in the final analysis, with as romantic a view of science as the intellectuals he rightly criticizes for a romantic view of native peoples. He has an idealization of science as a source of unchanging objective knowledge about which there is no doubt, with issues clearly defined and objectively solvable, and if scientists are simply given enough authority, either

directly or through attentive leaders, all will be well. This is an attitude of a venerable tradition in science fiction – we are reminded of Isaac Asimov – but it has proven woefully misleading in the world of complex phenomena, such as ecosystems.

To sum up - here are Crichton's major rhetorical tricks to give the illusion of a thoughtful piece when it is ultimately little more than a rant. Interestingly, they are similar to the bag of tricks most right wing critics of environmentalists employ. So understanding his methods is of greater value than simply learning why Michael Crichton often does not know what he is talking about. We are safeguarded against the wiles of a well paid and very devious school of professional sophists.

1) Create a simplified model of your opponent, collapsing many different positions into one that is easy to attack, and says everyone using the term adheres to it.
(Today this is done for "Democrats," "Republicans," "Liberals," "Conservatives," and "Christians" among many others.) Because we must simplify to some extent, it is easy to abuse this necessity to create straw men.
(example: Crichton's "environmentalist.")

2) Make very general arguments about the views of people allegedly belonging to this simplified model. *Never* name names or places because that allows us to evaluate the model empirically.
(examples: nature as nice, tribal harmony)

3) Use specific common sense examples to rebut these abstract grand generalizations. Psychologically, the concrete prevails over the abstract in this kind of argument.
(examples: nature can drown you and break your bones, tribal people sometimes destroyed their environment, life spans were on average often short)

4) Bring in additional facts to supposedly bolster your argument, even if they not really related to the issues at hand. Creates the illusion of even more concreteness in the rebuttal.
(example: tribal people fought)

5) Discuss complex and ongoing scientific disputes as if one side is obviously right or their opponents deliberately misleading.
(example: global warming.)