

A Religious Response to Global Warming

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Steven Rockefeller, one of the authors of the Earth Charter, said in a 1998 interview, “Our environmental problems will not be fully addressed until we come to terms with the moral and spiritual dimensions of these problems, and we will not find ourselves religiously until we fully address our environmental problems.” I mention this to emphasize the conviction that environmental issues in general, and the problem of global warming in particular, are moral and religious issues that we as people of faith must grapple with and take seriously.

The Unitarian Universalist Association’s Seventh Principle Project, which focuses on our principle of respect for the interdependent web of all existence of which we are a part, agrees that environmental degradation is a moral and spiritual crisis of utmost importance. They point out that “individual and shared spiritual orientations and theologies frame our values, beliefs and meanings, shaping how we see ourselves in the world, how we relate to one another and how we respond to [that] interdependent web. . . [W]e are called to examine these fundamental beliefs and values; in doing so, we can create opportunities to put our fresh insights into action to create change in the world.”

Deeply embedded in our human consciousness is a primal awe and gratitude for the air, water, solid ground, sunlight, and nourishing life forms that sustain our species. Spiritually speaking, that is where we begin: with awe and gratitude. As Joanna Macy writes in her book, *Coming Back to Life*:

We have received an inestimable gift. To be alive in this beautiful self-organizing universe – to participate in the dance of life with senses to perceive it, lungs that breathe it, organs that draw nourishment from it – is a wonder beyond words. And it is, moreover, an extraordinary privilege to be accorded a human life, to possess this self-reflexive consciousness, which brings awareness of our own actions and the ability to make choices. It lets us choose to take part in the healing of our world.

I say all this in order to encourage all of us to continually remind ourselves that whatever study, discussion, debate, advocacy, or action we engage in around issues like global warming, we should remain aware of our fundamental spiritual grounding. May our awe and gratitude for our world, our awareness and experience of our interconnections with the earth and each other, continue to be our primary motivations for all that we do.

I would like to begin my remarks on global warming this morning by reminding you of something that you probably all know. That is, global warming is a very complex issue. As such, there are a lot of conflicting attitudes, opinions, beliefs, and assertions, even among scientists. I must point out that when global warming was selected at last summer’s General Assembly as an issue for engagement over the next couple of years, it was selected as an issue for study *and* action. Given the complexity of the debate around the issue, the “study” piece is particularly important in this case.

I’m not going to give you the final answers on the issue of global warming this morning. Frankly, after all the reading I’ve done in recent weeks, I am frustrated and discouraged over the lack of certainty regarding many aspects of this complex issue. I will say which way I’m leaning, and what I think are some appropriate actions, but my primary aim this morning is to identify some of the fundamental questions that need to be answered and some of the proposed

answers to those questions, and to encourage all of us to continue our study of the issue of global warming, frustrating as that might be.

Let me start by formulating some of those key questions: Is global warming real? If so, what causes it? What are the probable consequences? What can or should we do about it?

So let's consider first whether global warming is a real phenomenon at all. A point frequently made by critics is that there have always been periodic fluctuations in the earth's surface temperature, and any changes we see at present are merely a part of those natural perturbations. It's true that periodic fluctuations do occur, and that makes it difficult to say with certainty whether there is warming beyond those natural shifts. However, the rate of warming over the past hundred fifty years has been particularly rapid, and its coinciding with the period of industrial development and heavy use of fossil fuels would seem like cause for concern.

While there is not unanimity among researchers, there does seem to be a growing consensus that global warming is a real concern. Christie Todd Whitman, head of the U.S. Environmental Protection Agency during George W. Bush's first administration said: "There's no question but that global warming is a real phenomenon, that it is occurring, and while scientists can't predict where the droughts will occur, where the flooding will occur precisely or when, we know those things will occur. The science is strong there."

As to the cause of global warming, the prime suspect appears to be the "greenhouse effect". As the amounts of so-called greenhouse gases such as methane and especially carbon dioxide (CO₂) increase in the atmosphere, they have the effect of trapping infrared radiation from the sun. Those gases create, in effect, an insulating blanket, holding in heat-causing radiation that would otherwise escape into space.

Without any greenhouse effect, the earth would probably be too cold to support life as we know it. The problem, if there is one, is in maintaining the proper balance. For the last 10,000 years the level of CO₂ in our atmosphere has been fairly constant – about 280 parts per million. But in the past hundred years or so, that level has increased to 360 parts per million (ppm), the highest level in the past 400,000 years. Some projections have it rising to 560 ppm by the end of this century. The expected rise in global temperature with such an increase of CO₂ is somewhere between two and seven degrees Fahrenheit. That doesn't seem like much, but that level of increase can bring about potentially catastrophic climate changes.

The primary source of all the extra CO₂ is, of course, our burning of huge quantities of fossil fuels like coal and oil, which have been repositories of much of the earth's carbon for millennia. It is our sudden release of all that stored carbon in the form of CO₂ that threatens to upset a balance that has been in effect over all those years.

To be fair I must point out that there is not unanimous agreement on the role of released CO₂ in global warming. As with many phenomena, correlation does not prove causation. The case is circumstantial. One alternative hypothesis is that global warming is largely a result of solar variability. That is, the amount of light and heat arriving at the earth's surface varies over time. There is a well-established eleven-year cycle in solar radiation, and the peaks of those cycles vary over time as well. For instance, 1980 saw the highest solar maximum ever recorded.

Another explanation for global warming that discounts the effects of human action suggests that observed changes are merely a natural part of a relatively predictable schedule of 100,000-year glaciation cycles. Each cycle is characterized by a cooling period, an ice age, and then an abrupt warming period. Under this scenario, we are currently in a warm interglacial period that began about 10,000 years ago.

Part of what makes the whole issue of global warming so difficult to get a handle on is that all of these explanations undoubtedly play a role. Where the uncertainty and disagreement come in is in the relative contribution of each. Another frustration is that phenomena like global warming do not lend themselves to the purest form of scientific method. What we need is

several copies of earth, in each of which we could isolate particular variables and determine the effects of their manipulation. Unfortunately we only have one earth, and we can't afford the kind of experiment that proves conclusively that some particular course of action leads to catastrophe.

The third question I posed asked about the likely consequences of a continuing process of global warming. According to many who study global warming, we are already experiencing many of its detrimental effects, primarily in the form of extreme weather. Events such as deadly floods, droughts, and powerful storms are becoming more frequent, apparently due to destabilization of climatic processes resulting from rapid warming.

There are those who argue that further global warming will have primarily positive effects, such as lush forests, increased food production, a healthier human population, and a decrease in climate-related disasters. But then others point out the already detrimental effects of warming, including floods, heat waves, and hurricanes injuring or killing thousands and leaving survivors to endure famine and malnutrition. There are also predictions of increases in diseases spread by pests and insects which will find more breeding grounds as the world warms.

Another expected phenomenon is rising sea levels as polar icepacks melt. In yesterday's Centre Daily Times was a report on the observation that most of the glaciers on the Antarctic Peninsula have shrunk significantly over the past fifty years. If such melting continues, the resulting increases in sea level could prove catastrophic for low-lying coastal areas around the world unless costly remedies are undertaken.

Just to keep the waters muddied, however, I must point out that there are scientists who predict *falling* sea levels as a result of global warming. In fact some climatologists suggest that current warming could lead to an abrupt cooling in the not-too-distant future. The thinking, according to W. H. Calvin in a 1998 *Atlantic Monthly* article, is that melting ice caps and increased high-latitude rainfall could place huge amounts of fresh water into the world's oceans, which in turn could suppress the natural movements of warm surface waters from the tropics to the cold north, which in turn could cause the cooling of northern continental land masses, which ultimately could trigger the onset of a new ice age.

That possibility suggests to me that it's not just temperature increases themselves that we have to fear from global warming, but rather the destabilization of climatic processes – the upsetting of delicate balances that make this a hospitable planet for ourselves and our fellow creatures.

So we're left with the question of what to do about global warming. In the absence of solid proof about what we can expect in the future, how can we act decisively and effectively? One of the main reasons for continuing uncertainty and disagreement goes back to the complexity of the situation. Projections for the future come from computer models, which have become increasingly sophisticated, but which still require a number of initial assumptions, whose correctness and completeness is less than certain.

We're really playing a probability game, and that's the best we'll ever be able to do. After all, the only way to be sure that global warming will destroy the world is to let it do so. If there seems a reasonable likelihood that dire predictions are even close to correct, something needs to be done. Because if the predictions are right, and we wait long enough to see that they're right, it will be too late.

In an article in the latest *UU World* magazine, Jon Luoma suggests an analogy. He writes:

Think of this hypothetical situation: You wake up one morning to the frightening news that astronomers have located a belt of asteroids heading towards Earth. They've plotted a trajectory that hints that the cluster could begin colliding with the planet in two years. The nations of the world

rapidly convene their best scientists, who conclude that although calculating trajectories is complex, serious harm will likely come to Earth. We might get lucky and avoid calamity, but the probability of mass human casualties and ecological devastation appears high. The scientists do have some better news. We still have time to act, but only if we begin immediately. Solving the problem, however, will be difficult and costly. The rich nations of the world are going to have to shoulder the bulk of the burden.

It's difficult to picture an America apathetic about the threat, or political leaders aggressively rejecting pleas to act.

Uncertainty does not necessarily preclude action. Nor does it necessarily excuse inaction. Of course there's one important aspect of this whole issue that I have virtually ignored today. And that's politics. Curiously enough, people's conclusions about the science of the situation frequently correlate highly with political leanings and short-term economic interests. That's an unfortunate feature of the real world. We're all susceptible to biases growing out of our political world view, especially in the absence of clear-cut conclusive evidence one way or the other.

But the conclusion I come to in the case of global warming, tainted though it may be by political bias, is that the proposed response of working to reduce CO2 emissions is a worthy effort. According to the science that projects potentially catastrophic effects of global warming, slowing down the increase of CO2 levels by reducing the burning of fossil fuels will mitigate those effects. But even if those effects turn out to have been exaggerated, a reduction in fossil fuel use would be a good thing. It's indisputable that fossil fuels are a finite resource, for which replacements will be required for our energy needs at some point. Wouldn't we be better off biting the bullet and developing those alternative sources *before* the well runs dry?

I will leave you this morning with just a few suggestions for where to go from here. First, is to adopt and advocate for policies and practices that will reduce our reliance on fossil fuels. That makes sense to me, regardless of the detailed correctness of any particular set of predictions regarding global warming. One such form of advocacy would be to press the U.S. Senate to ratify the Kyoto Protocol that calls for reduction of CO2 emissions to seven percent below 1990 levels. Second, is to continue studying the issue, keeping up with the latest and best science available, and keeping abreast of competing viewpoints. (An extensive resource list is available on request). Third, is to try and be aware of strictly political and short-term economic motivations in yourself *and* others, and take them into account in reaching the best conclusions you can. And finally, whatever your response to the issue of global warming, try and maintain a strong sense of your fundamental spiritual grounding - that awe and gratitude that you experience in the face of this awesome planet that is our home.

And so I close with these well-known words from Noah Sealth, also known as Chief Seattle:

This we know. The earth does not belong to us; we belong to the earth.
This we know. All things are connected like the blood which unites one family. All things are connected. Whatever befalls the earth befalls the sons and daughters of the earth. We did not weave the web of life; we are merely a strand in it. Whatever we do to the web, we do to ourselves.

Blessed be.