



Adventists and The Good Earth

A scientist challenges Adventists to transform the ecology of their faith.

by Alvin Kwiram

GLOBAL ENVIRONMENTAL CHANGE IS CONSIDERED by some to be the most important science policy issue of the 1990s. Environmental issues will influence the scientific and political agenda for years to come. Failure to address the most critical aspects can expose us to potentially devastating consequences. But do these issues, however important they may be to the world at large, have any relevance to us as Christians?

The answer to this question depends in part on our theology and in part on our world view in general. If we take the view that we are transients in an alien community, then our interest in the long-term welfare of the community will tend to be limited. If we see

ourselves as fully embedded in a complex web of life, as an integral part of God's creation, and as responsible stewards of that creation, then our response to challenges such as the environmental issue will take on a distinctly different character. Which of these two attitudes we hold is deeply influenced by our religious tradition, by the paradigms of our culture, and by the metaphors on which we structure our daily lives.

I would assert that at the very center of our tradition stands the concept of time and endtime. Yet our ambivalence about the question of time prevents us from thinking clearly and acting decisively with regard to major global issues. It is precisely this ambivalence that paralyzes us and prevents us from engaging creatively and productively in some of the larger questions facing humanity today. Such paralysis undermines our own spiritual experience and weakens our Christian witness.

If this assertion is correct, then it should raise an alarm that we have serious work to do in refining our metaphors and resolving our ambivalence. The environmental issue illus-

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trates how our confusion as Adventists about the question of time essentially relegates us to the sidelines in some of the pressing issues of our time. These issues have relevance not only to our role as citizens of the social order, but especially to our role as citizens of a spiritual community.¹ I will begin by outlining a few of the most critical environmental challenges, argue that our present metaphors limit our effectiveness, and finally suggest that if we could rethink those metaphors we might revitalize our theology and give greater clarity to our mission.

Environmental Impacts

Global environmental change is a vast subject. Some of the major themes that define the current discussion include greenhouse gases and global warming, depletion of the ozone layer, destruction of the ecosystem, and population growth. Reasonable people can differ on the scale or the timing (or in some cases even the mathematical sign) of these impacts, but most would agree that these impacts are real and deserve our thoughtful evaluation.

Greenhouse Gases. There is little dispute in the scientific community that greenhouse gases have been increasing steadily since the beginning of the Industrial Revolution. Figure 1 shows the increase in the concentration of carbon dioxide in the atmosphere. This increase results largely from burning fossil fuel and other organic material (principally wood). Every time we burn a gallon of gasoline, we are putting about 20 pounds of carbon dioxide (CO₂) into the air. Not only does the burning of fossil fuels increase CO₂, but it also consumes a precious, non-renewable natural resource. (In my view, the latter is even more worrisome than the former.)

In addition to carbon dioxide, methane also contributes to the greenhouse effect, as does

water.² Cattle (ruminants) and rice paddies are significant sources of methane because of their specific metabolic processes. These processes add to the atmospheric burden. As these gases build up in the atmosphere, they block more and more of the Earth's outgoing infrared radiation without affecting the incoming radiation as significantly. The more of these gases we pump into the atmosphere, the less heat can escape by way of the infrared radiation. Consequently, the Earth will gradually grow warmer.³

Two things are clear: carbon dioxide and methane concentrations are increasing, and increases in greenhouse gases can cause global warming. What is not clear is how much and how soon such warming might occur. (Nor do we know whether there is another ice age just around the corner that could completely overwhelm the impact of the greenhouse gases.) To answer these questions, scientists have developed models to simulate the impact of various factors on the thermal budget of the planet. Unfortunately, this is a massive computational problem. Even the most powerful computers available today cannot adequately address the task. The problem is complicated further by the fact that we do not even know all the factors that should be included in the models. In other cases, we may recognize the importance of a factor, but do not really know how best to include it in the model.

For example, only recently have investigators begun to include the effect of clouds in the global circulation models (GCMs). Clouds are known to play a significant role in reflecting sunlight and in trapping radiation. However, how to include them properly in the model is not well understood. Furthermore, including a factor to represent clouds adds greatly to the demands placed on the computers which, as we have said, are inadequate even for simpler models.⁴

Similarly, the role of sulfate aerosols, pro-

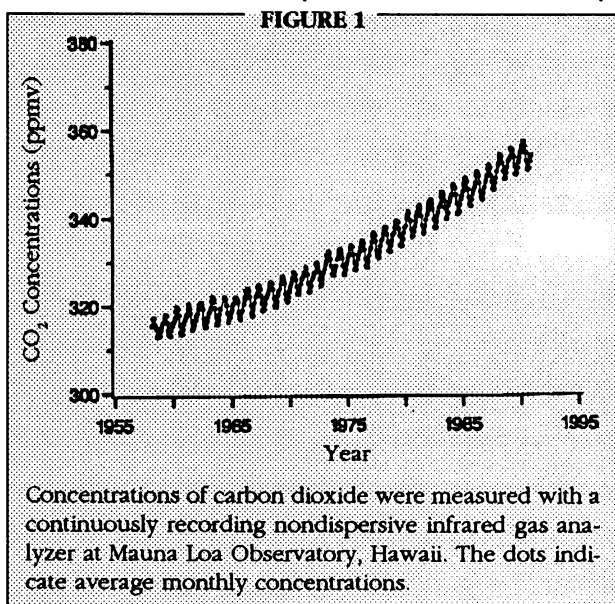
duced by burning coal and by phytoplankton in the world's temperate oceans, is only now being recognized as an important and potentially offsetting factor in global warming. These are very active areas of research today, and good progress is being made. But clearly, given the problems with the GCMs outlined above, we cannot be entirely comfortable accepting the predictions of the models suggesting that the global temperature will increase by two to three degrees in the next century.⁵

Ozone Depletion. The ozone depletion over the Antarctic is another good example of a serious environmental challenge. This problem was first recognized in the early 1970s by the chemist Sherry Rowland, who was trying to understand the eventual fate of the chlorofluorocarbons (CFCs) that we use as the working fluid in our refrigerators and air conditioners. Until recently, CFCs were also used in foam insulation and as the propellant gas in spray cans. Rowland predicted that the reactions of these "stable" compounds at high altitudes under the influence of ultraviolet radiation from the sun could lead to a catalytic and serious destruction of ozone. There was much skepticism about this idea when it was initially outlined. Gradually,

however, evidence has accumulated to confirm the original idea. The discovery of the seasonal reduction of the ozone concentration over Antarctica finally made believers out of most of the earlier skeptics, and led to the enactment of the 1985 Montreal Protocols, which called for the gradual phase-out of CFCs by 2010. That initial timetable was revised just two years later, in 1987, because of the growing recognition that the problem was far more serious than had been realized earlier. The potential impact on the health of plants and animals alike could be significant if the "thin blue shield," represented by the Earth's atmosphere with its even thinner ozone layer, were seriously compromised. Human activities are beginning to damage, perhaps irretrievably, the ecosystem.

A thousand years ago, human activities had a relatively small impact on the Earth's systems. Today, abetted by the power of giant machines, we are transforming the face of the Earth.

Human Population. The impact of humans on the Earth through the various mechanisms listed above might be manageable with a stable and reasonably modest population. However, the growth in population makes all the other problems pale by comparison. Figure 2 shows the growth of the world's population since the Middle Ages. This explosive growth should be of paramount concern to us. It is worth considering two extreme scenarios: continued and uncontrolled growth with the curve exploding off the top of the page, or a sharp bend in the curve toward the right (or even downward). If the present trend continues unchecked, then all the environmental impacts that we face today will only increase exponentially in scope and intensity. If the curve begins a sharp turn away from the vertical, it could be caused by massive starvation, disease, and death. Either of these scenarios must concern any responsible person, and should be of special concern to us as



Christians.

Although it cannot be stated with certainty just how much the impact of these global changes will affect us, it would be irresponsible for us to ignore the problems. It is imperative that we, together with other responsible inhabitants of this fragile planet, study the matter and refine our models while at the same time making reasonable efforts to modify our actions so as to mitigate the most obvious effects. We must not abdicate our responsibility by assuming that the problem will be addressed by others.

Theological Impacts

However important these issues are for society at large, what do they have to do with us as Adventists and as Christians? After all, if the Advent is imminent, and the pace of global change sufficiently slow, then we can probably escape the consequences just in the nick of time.

Such a posture is inappropriate for at least three reasons. First, we have a responsibility to be faithful caretakers of God's creation. This stewardship is directly linked to the celebration of the Sabbath, the central pillar of our faith. Second, these issues present us with an opportunity to put our holistic views of life into practice on a larger stage to encompass the relationship between mind and body, male and female, black and white, human and animal. Third, these issues provide us with an important reality check on the theoretical structure of our faith, and help us to see whether it matches with the practical realities of the world about us. However, a serious examination of our position on environmental issues brings a key metaphor of our religious culture—the metaphor of endtime—into sharp relief.

It is time for us to re-examine our understanding of time. It can be argued that we are

not able to take issues such as the environment (and many other contemporary issues) seriously if we are ambivalent about the time frame in which we operate. For example, some will argue that our apocalyptic view exempts us from responsibility for the creation. If we don't expect to be here very long, then it doesn't matter if we use up the Earth's resources or devastate our environment or destroy essential ecosystems. If we don't expect to be here very long, then there are higher priorities that require our attention, and we should not be wasting our time worrying about some remote ice fields or rain forests.

Let's turn back the clock briefly to 1843. The Millerites were expecting the Lord's return in a very short time. Since they believed that the Advent was going to occur within a year, there really wasn't a compelling reason to worry about their long-term health or to put new roofs on their houses. In that context, it was entirely reasonable for the Millerites to leave their jobs, and to turn all their energies to the anticipated event in 1844. But once that date had passed, they began to realize that a new understanding was necessary. Different actions were appropriate.

For the past 100 years Adventists have operated with a somewhat stretched version of the one-year time frame of the Millerites. I believe we have operated, pragmatically, within a 10-year time frame. And we have not really acknowledged our ambivalence, much less examined it. As a result we have continued to live a somewhat schizophrenic existence that has arguably crippled our effectiveness.

Part of our confusion stems from what I will refer to as the actuarial fallacy. We have failed to emphasize a basic mathematical reality: what is true of a statistical average is not true for each member of the average.⁶ For humankind, the Lord's coming may be 10 or 100 years away, and so humans must structure society and government on that basis. But for the individual, the operative time of the Lord's

coming can occur at any moment. The challenge is to balance the task of being ready each moment with the task of occupying until he comes.

Even if a one-year time frame for the faithful was appropriate for the mid-19th century, is it appropriate today? Almost 150 years have passed. Is it time to explore this question? Is it time to consider a new paradigm? Even a 10-year horizon imposes an entirely different dialectic. The challenge of clarifying this fundamental issue could be one of the primary tasks of our theologians.⁷ If we could make such an adjustment, it could have a profound effect on our vision of the future, on our contributions to society, and on our vitality as a movement.

Some will object that even talking about such a change in time frame will undermine faith. But cognitive dissonance, insisting on something that is demonstrably not so, also undermines faith. The challenge for the church today is how to keep faith alive if we do not make the transition to a more comprehensive world view.

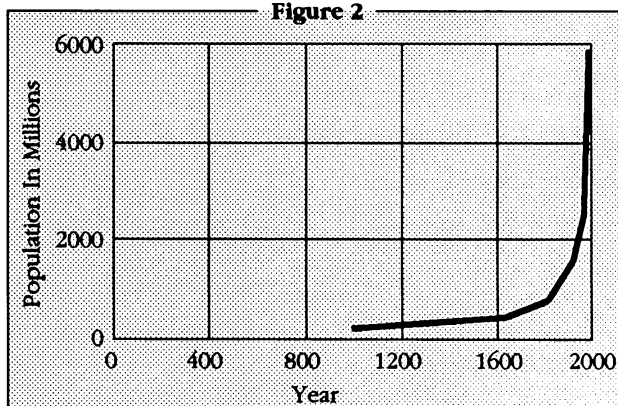
Christians should be concerned about the physical and social environment because of our concept of the Creator and his creation. Adventists are in a unique position to provide leadership in this arena, especially given the strong link between the doctrine of the Sabbath and the doctrine of creation. As a church

we have espoused a profound truth about the need to stop and recognize the holiness of time. Maybe it is appropriate to expand our celebration of the Sabbath by giving greater attention to the holiness of creation as well. What a wonderful opportunity to give the Sabbath new meaning and to bring a new richness, depth, and purpose to this special day.

A re-examination of our metaphors and our tradition in the context of environmental awareness would enlarge our understanding and broaden our vision in other areas as well. The concepts of the Enlightenment, however powerful and productive, have left us with a legacy that establishes a hierarchical world view wherein nature is to be mastered and exploited. Maybe it is time to take our Western metaphors, with their emphasis on individualism and domination, and leaven them with some Eastern perspectives on holism, on the importance of community, and the connectedness of all living things.

We have successfully espoused a holistic view of personal growth in our teachings. We have emphasized that the body is the temple of God, and this understanding has served us well in maintaining a healthful life-style in which the physical, the mental, and the spiritual are components of a harmoniously balanced life. We often see these components represented pictorially as the three sides of an equilateral triangle. But that is a highly restricted emphasis, with its focus on self-development, and an individualistic strategy for personal salvation. Maybe it is time to move beyond our Flatland conceptions to add higher dimensions to our metaphors. At the very least, we could add the other components of God's creation at the apices of three-dimensional constructs so that our holistic vision can be elaborated to encompass a more harmonious balance for all of God's creation. Such a conceptual departure might provide us with a more constructive framework in which to

Figure 2



Testament of Chief Sealth Seattle, 1853

The Great Chief in Washington sends word that he wishes to buy our land.

How can you buy or sell the sky, the warmth of the land? The idea is strange to us.

If we do not own the freshness of the air and the sparkle of the water, how can you buy them from us?

What Chief Sealth says, the Great Chief in Washington can count on as truly as our white brothers can count on the return of the seasons. My words are like the stars. They do not set.

Every part of this earth is sacred to my people. Every shining pine needle, every sandy shore, every mist in the dark woods, every clearing, and humming insect is holy in the memory and experience of my people. The sap which courses through the trees carries the memories of the red man.

We are a part of the earth and it is a part of us. The perfumed flowers are our sisters, the deer, the horse, the great eagle, these are our brothers. The rocky crests, the juices in the meadows, the body heat of the pony, and man—all belong to the same family.

There is no quiet place in the white man's cities. No place to hear the unfurling of leaves in spring nor the rustle of insect's wings. But perhaps it is because I am a savage and do not understand. The clatter only seems to insult the ears. And what is there to life if a man cannot hear the lonely cry of the whippoorwill or the arguments of the frogs around a pond at night? I am a red man and do not understand. The Indian prefers the soft sound of the wind darting over the face of a pond, and the smell of the wind itself, cleansed by a midday rain, or scented with a pinon pine.

The air is precious to the red man, for all things share the same breath—the beasts, the tree, the man, they all share the same breath. The white man does not seem to notice the air he breathes.

What is man without the beasts? If all the beasts were gone, men would die from a great loneliness of the spirit. For whatever happens to the beast soon happens to man. All things are connected.

This we know. The earth does not belong to man; man belongs 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 of the earth. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself.

We will consider why the white man wishes to buy the land. What is it that the white man wishes to buy, my people ask me. The idea is strange to us. How can you buy or sell the sky, the warmth of the land—the swiftness of the antelope?

You may think now that you own Him as you wish to own our land; but you cannot. He is the God of man, and His compassion is equal for the red man and the white. This earth is precious to Him, and to harm the earth is to heap contempt on its Creator. The whites too shall pass; perhaps sooner than all other tribes. Continue to contaminate your bed, and you will one day suffocate in your own waste.

But in your perishing you will shine brightly, fired by the strength of the God who brought you to this land and for some special purpose gave you dominion over this land and over the red man. That destiny is a mystery to us, for we do not understand when the buffalo are all slaughtered, the wild horses are tamed, the secret corners of the forest heavy with the scent of many men, and the view of the ripe hills blotted by talking wires. Where is the thicket? Gone. Where is the eagle? Gone. And what is it to say goodbye to the swift pony and the hunt? The end of living and the beginning of survival.

One thing we know. Our God is the same God. This earth is precious to Him. Even the white men cannot be exempt from the common destiny. We may be brothers after all. We shall see.

understand the relationships between the sexes, between classes, between the races, between humans and animals, and between ourselves and our non-sentient environment.⁸ Just as all members of the body are of value, so all members of the natural order are of value.

A shift in paradigm that gives greater recognition to our interconnectedness could also lead us to a more realistic posture with respect to the role of women in society and in the church, and make us less prone to accord unique status to one group of individuals or one class.

Physicists in the 20th century came to understand that neither the particle picture of matter nor the wave picture alone could provide a full understanding of the fundamental character of matter. Consequently, a new metaphor referred to as the wave-particle duality has become an integral part of all of modern physics.

As in physics, so also in theology, maybe it is time to modify our image of Father/God by adding the Mother/God dimension. By invoking such a duality in our image of God, our concepts of God will tend to be shifted from trivializing, anthropocentric overspecification to a deeper insight into the profound creative and compassionate character of the Godhead. We must come to recognize that our image is just that: mere images of much deeper realities for which our inadequate mental constructs provide merely the most rudimentary and partial representations. These limit our appreciation of God's role in his/her creation.

Apart from our ambivalence about time, all of these deeply rooted metaphors that shape our thinking and actions must be re-examined in order that our understanding may be enriched and our concepts reformulated for the

contemporary context.

Scripture reminds us that the Creator looked at all that had been made and declared it good. God has called on us to be caretakers, not only of the Earth and of its creatures, but more importantly, of those who live on the Earth: all are precious in God's sight. If we value the message of this church, if we are committed to the Christian imperative, then let us be faithful caretakers of God's creation and protectors of the environment. This will enhance and nurture the ecology of our faith in all its wonderful diversity and complexity.

The challenge is simply stated: let us begin a serious re-examination of our paradigms. We can begin with an examination of the time frame in which we will operate. If we engage in this effort with honesty, with openness, and with seriousness of purpose, we will discover new dimensions of our faith and broaden the horizons of the Advent movement. Our attitude toward environmental issues can be a telling reflection of our spiritual understanding.

But, if we retain a narrow focus, we will become mere hecklers on the sideline of major human events. If we take these challenges seriously and act responsibly, we will not only become more fully engaged with some of the great issues of our time, we will also find our experience enriched, our understanding expanded, and our metaphors transformed for a contemporary faith. We will feel energized, and this sense of excitement and meaning will be contagious not only for our own young people, but for countless others who are seeking answers in a world of confusion and despair. Most important of all, we will bring new meaning, understanding, and respect to both the challenge and promise of stewardship, service, and justice.

NOTES AND REFERENCES

1. The relationship between environmental issues and human aspirations has significant overtones for our spiritual quest, and shapes our attitudes toward others as well as the rest of God's creation. This dimension has received increasing attention in recent years. A few examples will provide a flavor of the breadth of these concerns. Selected references are provided that illustrate the range of discourse.

For example, environmental issues were a major factor in the political and intellectual ferment that eventually led to the collapse of the iron curtain. The Prayer of Thanksgiving and Confession crafted recently by the North American Conference on Christianity and Ecology provides a compelling statement of interconnectedness, and echoes a similar theme expressed eloquently by Chief Sealth (after whom the City of Seattle is named) nearly 150 years before. The recent Rio conference was probably the single largest gathering in history to address the environmental issues. Other voices have also called attention to the spiritual dimensions of our relationship to the environment and the natural world.

This issue has not been a highly visible topic in the life of the Adventist Church. See, however, the editorial by Kit Watts in the *Adventist Review* (April 18, 1991), p. 5.

2. Water is an important greenhouse gas, and water vapor is obviously very abundant in the atmosphere. But it tends to remain in dynamic equilibrium since we are not introducing many new sources of water to the atmosphere. The fact that we are mining aquifers at an accelerating rate could alter this equation somewhat. However, the enormous quantities of water in the world's oceans tend to ensure the stability of the equilibrium. Of course, if the global temperature were to change, the equilibrium point would shift as well.

3. The principle is essentially the same as that which describes the operation of a greenhouse, hence the

name. In the greenhouse, the glass lets in the sun's rays but prevents the infrared radiation from escaping (since ordinary glass is opaque to infrared radiation). Obviously, in the gardener's greenhouse, the glass also reduces losses due to convection.

4. For example, the size of the grid used in present models is 250 miles on a side, hardly what one would call a fine-grained model.

5. Two or three degrees (whether in centigrade or Fahrenheit) may not seem like very much. However, if one realizes that the ice age, which resulted in ice nearly a mile thick as far south as the northern tier states of the United States, was characterized by a global temperature drop of only four to five degrees centigrade, then a two-to three-degree change becomes more interesting.

6. When an insurance company sets the premium on your life insurance policy, it considers the probability that, statistically, people live to about 75 years of age. So even if you are 30 when you take out your first policy, your premium is based on the assumption that you will live to be 75. But presumably no one is so naive as to believe that everyone insured by that company will live to be 75.

7. Clearly, it would be important in that reformation to help people understand the fundamental difference between the actuarial time frame and the personal time frame.

8. Maybe we should consider a new mission for the Geoscience Research Institute. What if the focus of that program were to shift somewhat to address the nature of environmental impacts, to consider the relationship of these issues to the mission of the church, and to devise programs that could enlist the energies and imagination of our young people? This could lead to a constructive dialogue between our scientists and theologians. It could lead to a positive and creative engagement with problems of immediate and pressing significance.