



A NEW ERA

The third millennium of our era will be more threatening to human well-being than any time in the past. Even though our well-being as a species and as individuals depends on the earth's biosystems, our plundering industrial economy has disrupted them. We have even disrupted the balance in the chemical constitution of the air, water, and soil. The earth has become dysfunctional.

Even with all our medical technologies, we cannot have well humans on a sick planet. Planetary health is essential for the well-being of every living creature. Future healthcare professionals must envisage their role within this larger context, or their efforts will fail in their basic objective. Although until recently healthcare providers could ignore this larger context, such neglect can no longer be accepted.

In this regard medicine is in the same situation as economics, law, religion, education, governance, and indeed the entire range of human activities. All must find a way to exist in harmony with the natural world. In economics, for instance, the preservation of the planet's integral economy is the only adequate basis for a sustainable human economy. We cannot have a rising gross national product with a declining gross earth product.

Similarly, human governance must be integrated with those more ultimate governing forces that enable any geographic area to function in an

Healing the Injuries We Have Inflicted On Our Planet

BY REV. THOMAS BERRY, CP

integral manner. This is recognized in the clean-air and clean-water legislation and in the environmental impact statements that are required before any significant development program can get underway.

HEALTHY PLANET, HEALTHY INHABITANTS

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Summary The health of the earth is essential for the well-being of every living creature on the planet; however, our plundering industrial economy has disrupted the earth's biosystems. Such neglect can no longer be accepted. Medicine is in the same situation as the entire range of human activities: All must find a way to exist in harmony with the natural world.

We have been so caught up in our scientific capacity to alter the natural world that we have ignored its most basic structure. We must, therefore, enter a new era—the "Ecozoic" era, a period when humans would live on the earth in a mutually enhancing manner. This transition will require changes at a most profound level in human activity.

Three principles form the basis for the Ecozoic era:

- Humans must recognize the universe as a communion of subjects, not a collection of objects.
- The earth is primary; humans are derivative.
- The planet will never again function as it has in the past.

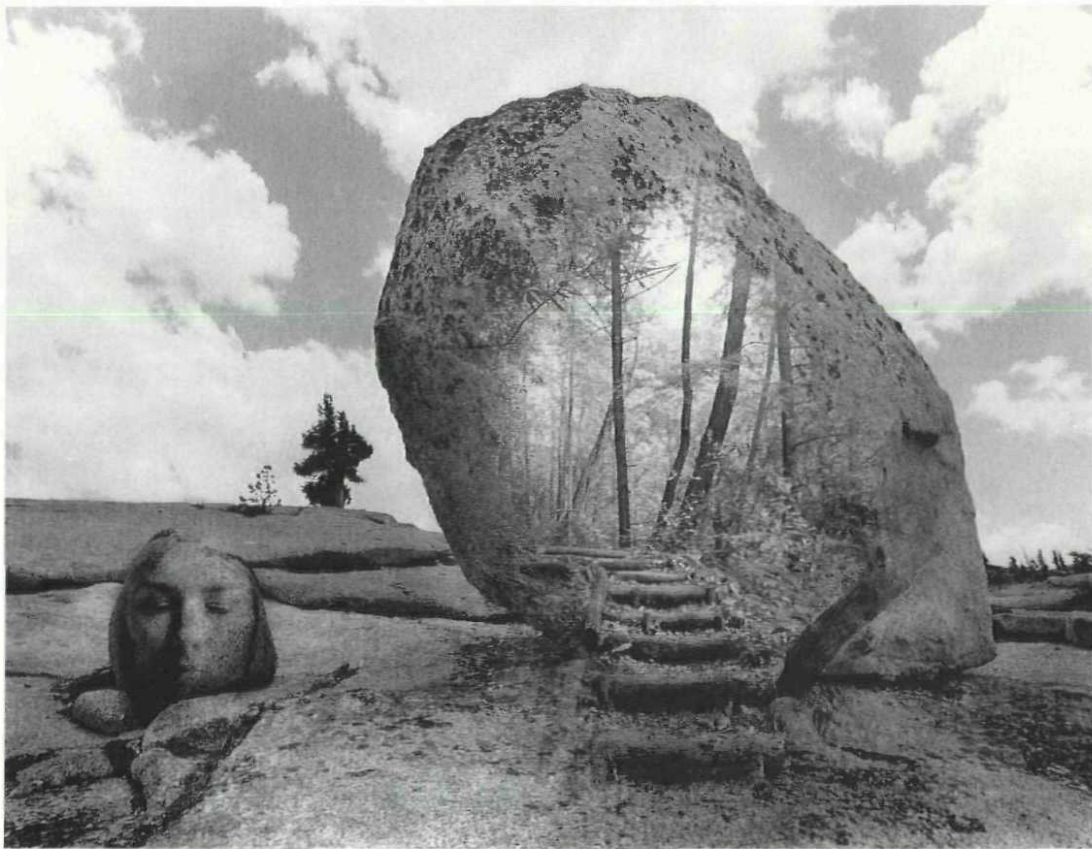
To enter the Ecozoic era, humans need sciences that create a new way of understanding the natural world as possessing its own unique spontaneities. Especially needed are biological sciences that have a "feel for the organism." This move from anthropology to "earthology" and cosmology is a comprehensive challenge to all our professions.



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ignored its most basic structure. In a recent article, Charles Krauthammer insists, "Nature is our ward. It is not our master" ("Saving Nature, But Only for Man," *Time*, June 17, 1991, p. 82). Instead of recognizing that nature brings us into being and establishes the comprehensive conditions for our well-being and survival, Kraut-

hammer asserts, "Man should accommodate only when his fate and that of nature are inextricably bound up." He says this as though our submission to nature and our following its guidance were inimical to our human well-being, as though nature were something that we tolerate rather than something that we strive to revere and fol-



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just and sustainable society and world is not an optional ideal, but a moral and practical necessity. Without justice, a sustainable economy will be beyond reach.

Without an ecologically responsible world economy, justice will be unachievable.

To accomplish either is an enormous task; together they seem overwhelming.

But "all things are possible" to those who hope in God.

—U.S. Catholic Conference, *Renewing the Earth*, 1992



low as faithfully as we are able.

Krauthammer's remark, "It is man's world. And when man has to choose between his well-being and that of nature, nature will have to accommodate," expresses the human arrogance that has brought about the earth's current desolation and made it a threat rather than a support for human health.

The greatest lesson healthcare professionals can learn is that the health of the earth is indivisible. If the air, the water, the soil, and the plants, grains, and animals that provide our food are in distress, then human health will not be sustained for long.

Containing the toxins produced through our chemical industries and through our energy systems and processing organic wastes back into the earth are ultimately of profound concern for individuals, government, the legal profession, educators, and religion, as well as for the healing professions. Yet healthcare professionals have their own immediate concern with the consequences of these disorders for the earth's functioning. To an increasing degree, many human illnesses are either caused by or aggravated by environmental disorders.

THE ECOZOIC ERA

A new relationship is being established between humans and the natural world. This change, principally a result of new scientific technologies and corresponding industrial processes, is leading to a vast change in all phases of human activities, including all professions. This change is far greater than any historical change or cultural modification that humans have witnessed over the past centuries. The change is paralleled only by the alterations in the planet's biosystems that took place at the end of the Paleozoic era (220 million years ago) and at the end of the Mesozoic era (65 million years ago). However, even these comparisons are inadequate because the reasons for and consequences of the present devastation are far different from those of other periods of transformation.

We are nearing the end of the Cenozoic era, the 65 million-year period when the earth as we know it and all the flora and fauna that currently exist came into being. Our only hope for an acceptable form of human survival is through an entry into the "Ecozoic" era, an era when humans would live on the earth in a mutually enhancing manner. This transition will require changes at a most profound level in the modes of human activity and in the functioning of all our professions.

The first principle of the Ecozoic era says that humans must recognize the universe as a communion of subjects, not a collection of objects.

The tendency in medicine, as in economics and the other professions, is to enter into a "Technozoic" era, an era when we would depend even more extensively on the scientific skills we use to impose our mechanistic processes on the earth's biosystems. We tend to increase our skills in manipulative processes rather than increase those subjective and evocative processes whereby living creatures achieve integral well-being. Living beings are not machines. This is true not simply of the human but of the entire functioning of the planet.

First Principle: A Communion of Subjects The first principle of the Ecozoic era says that humans must recognize the universe as a communion of subjects, not a collection of objects. The tendency toward the Technozoic would mitigate the planet's pollution, promote recycling, reduce energy consumption, even use solar and photovoltaic systems to make the present mechanistic-controlled system viable. However, this would, in my estimation, violate the first principle of the Ecozoic era. We must recycle and continue other earth-saving acts, not to preserve our present industrial system, but as part of the transition to the Ecozoic era.

Every being in the universe, especially those which constitute the earth community, functions from within its own spontaneities, not by extrinsic manipulation. These spontaneities guide and activate the plants and animals in obtaining their food, in mating, in nourishing their young, in adapting to the seasons, in migrating over vast distances, and in carrying out all those innumerable activities which constitute the natural world. These inner spontaneities also include the psychic powers of knowing and judging, as well as relating to other beings in some intimate manner.

Such capacity for self-directedness and for intimate relations with each other constitutes the basis for considering the universe as a communion of subjects, rather than as a collection of objects. The universe is ultimately one community, with one destiny. Within this supreme reality everything has its own role, its own nobility, its own rights to exist, to have its own proper habitat, and fulfill its proper role in the universe's functioning.

Only when these rights are recognized in a comprehensive manner can human beings expect to bring into being a mutually enhancing human presence on the earth. Briefly stated, the human community and the natural world will go into the future as one sacred community, or they will both perish on the way.

Second Principle: The Earth Is Primary The second



principle of the Ecozoic era is that the earth is primary; humans are derivative. The earth can do without humans; humans cannot do without the earth. The earth established the primary conditions for human well-being, and we will respond willingly to those conditions or endure the penalties such as those now being imposed on us for the abuse we have already wreaked on the planet.

The Western psyche seems to harbor a deep hidden rage against the human condition. We seem determined to reject the conditions under which life is granted us. Our quest, apparently, is to disassemble the planet and to remake it according to our own design as some painless "wonderworld"—despite evidence that we are turning the entire planet into a wasteland.

Third Principle: An Inescapable Responsibility The third principle of the Ecozoic era is that the planet will never again function as it has in the past. In the Cenozoic era humans had no say in the shaping of such a remarkable planet. Humans did not exist, except for the brief centuries at the end. Yet in the Ecozoic era almost nothing will happen in which humans are not involved. We cannot make a blade of grass, but in the future there is liable not to be a blade of grass unless humans accept, protect, and foster it. We have in the future an enormous responsibility that we have brought on ourselves. We will never be able to evade this responsibility for many areas of the earth's functionings.

Even more than this, we now have extensive responsibility for healing the biosystems we have damaged so extensively. Unfortunately, some of these life systems are beyond restoration to anything like their original grandeur. Yet remedial processes must be set in motion for the well-being of the entire planet and eventually for ourselves as we become increasingly conscious that the earth's health is a condition for the well-being of any life form on it.

Remedial processes that have been successful include the restoration of damaged marine environments in the Caribbean, the Mediterranean, the South Pacific, and the Persian Gulf. The osprey has been brought back to the Northeast. The Thames River in England has been restored to a condition that can support living forms. With extensive human assistance, Lake Erie has recovered from its worst period of pollution and species extinction. Although many species have been irretrievably lost from the lake, further degradation has been avoided. And many countries have established seed banks to preserve the genetic basis of the food supply, as

well as to maintain the integrity of the various plant communities.

SCIENCES FOR THE NATURAL WORLD

In this new adaptation of the human to the natural world, we have an urgent need for sciences and technologies that are coherent with the integral functioning of the natural life systems. We cannot do without such sciences and technologies. However, we need sciences that understand the natural world, not simply through analytic, reductionist, quantitative, or mechanistic approaches, but through the holistic, qualitative, and organic modes of functioning of the natural world within a self-organizing universe. Engineering sciences especially must show a more comprehensive understanding of the consequences of intruding on the functioning of natural life systems. The arrogance of the professions in dam building, in petroleum drilling, and in running nuclear plants has been the immediate cause of immense devastation throughout the planet.

Especially needed are biological sciences that have a "feel for organism," such as that manifested by Barbara McClintock, the Nobel Prize winner for her study of genetics. We urgently need biological technologies that function in accord with the technologies of the natural world, not our plundering technologies that disrupt the larger life systems. In this regard the agricultural sciences have engaged in extensive and irresponsible intrusion into the organic functioning of the planet's soils.

MUCH TO LEARN

If this move from anthropology to "earthology" and cosmology offers a supreme, if inescapable, challenge to the healing professions, it might be remembered that this is a comprehensive challenge to all our professions. In this we have much to learn from the primal, indigenous peoples of the world who have from the beginning recognized this larger context of all human affairs.

These indigenous peoples would recognize immediately the devastating consequences in Krauthammer's statement, "It is a bizarre sentimentalism that would deny ourselves oil that is peacefully attainable because it risks disrupting the calving ground of Arctic caribou." Such a statement reveals with total clarity the origins of the devastation that is not simply ruining the human or the caribou or even North America, but that has brought down in ruins the entire planet's effort during these past 65 million years of the Cenozoic era. □

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