

Evening Thoughts

Reflecting on Earth as Sacred Community



Thomas Berry

Edited by Mary Evelyn Tucker

Table of Contents

Also by Thomas Berry

Title Page

Dedication

Editor's Preface

Chapter 1 - Our Way into the Future: A Communion of Subjects

Chapter 2 - The Place of the Human

Chapter 3 - Loneliness and Presence

NOTES

Chapter 4 - Earth as Sacred Community

Chapter 5 - Creative Continuity

NOTES

Chapter 6 - The Nation-State in the Twenty-first Century

Chapter 7 - The Petrochemical Age

Chapter 8 - Global Warming

NOTE

Chapter 9 - Legal Conditions for Earth Survival

NOTES

Chapter 10 - The Epic of Evolution

NOTES

Chapter 11 - Catching the Power of the Wind

[Chapter 12 - Evening Thoughts](#)

[Appendixes](#)

[About the Author and Editor](#)

[Copyright Page](#)

Also by Thomas Berry

The Great Work

The Universe Story
(coauthored with
Brian Swimme)

The Dream of the Earth

Religions of India

Buddhism

Evening Thoughts

Reflecting on Earth as Sacred Community

Thomas Berry

Edited by Mary Evelyn Tucker

Sierra Club Books

San Francisco

*To my monastery community, which has guided,
educated, and supported me through these many years.*

*Also to the Center for Respect of Life and Environment
of the Humane Society of the United States,
whose assistance contributed immensely to the
later part of my work.*

Editor's Preface

Evening Thoughts appears at a moment when the human community is beginning to awaken to the massive changes we have wrought on the life systems of the planet. This awakening brings with it a sense of alarm as well as an awareness of the countless efforts being made to build the foundations for a viable future. The increased pace of modernization and industrialization throughout the twentieth century has resulted in a critical turning point in the history of humans and the Earth. As Thomas Berry muses, a central question we face is whether humans themselves are an endangered species. This book is a response to that question.

Berry himself has lived through nine decades of the twentieth century and witnessed the explosion of technology—from the first automobile and airplane to the spread of radio, television, and computers. His extended travels in Asia and Europe expanded his cultural understanding, and his widespread speaking engagements across North America helped to hone his ideas with varied audiences. While Berry spent some four decades immersed in Western and Asian history, he has devoted his last three decades to contemplating Earth and universe history.

From this immense period of study and lecturing, his key publications have arisen: *The Dream of the Earth* (1988), *The Universe Story* (1992), and *The Great Work* (1999). *Evening Thoughts* stands in this lineage and extends Berry's critical reflections into such pressing areas as nationalism, jurisprudence, petrochemicals, and global warming. The essays here are vintage Berry, drawing on his original inspiration concerning the epic of evolution and weaving that epic into the fabric of our times.

Berry's pathbreaking contribution in *The Dream of the Earth* is to suggest that we are between stories—namely, between a scientific description of evolution and a Biblical account of creation. A schizophrenia

has emerged from this dichotomy, resulting in the alienation of humans from the Earth and in their inability to see the Earth as a sacred community. Berry suggests that a new story is needed, one that integrates the material and spiritual dimensions of evolution. This story, he conjectures, will provide an enlivening orientation for a new ecological period for the human-Earth community.

Berry develops this perspective more fully in *The Universe Story*, his book coauthored with the mathematical cosmologist Brian Swimme. The comprehensive integrated vision of Swimme and Berry gives rise to a compelling narrative of the long history of universe and Earth evolution. The story provides a dynamic and engaging context to overcome alienation and to activate human energies for creating a sustainable future. This activation is what Berry describes as “the great work” in his book with this title. He calls on the human community to participate in creating a viable future for the Earth by transforming the major institutions of education, law, government, business, and religion. He sees this challenge as similar to the challenges inherent in earlier civilizations, to create functional social, economic, and political systems, but acknowledges that this is no small task as it requires now a major global transition toward ecological sustainability. Nonetheless, he identifies hopeful examples of changes already emerging. In doing this, he evokes the energies of the human to return home—to become part of the family of the Earth. This is what Berry does for each of us, places us in the vast matrix of life so we experience kinship once again. He helps us to find our way home.

During the year I first met Thomas Berry, some three decades ago, he literally pushed me home. I had just returned from two years of teaching in Japan and had come to study with him at Fordham University. He had started a History of Religions program that was attracting an extraordinary group of students. Frequently after class, we would have coffee and a grilled cheese sandwich at the nearby Howard Johnson restaurant. Late one afternoon when I returned with him to Fordham’s parking lot to retrieve my car, I discovered it would not start. No one was able to help start it, so Thomas said, “I’ll drive behind you and push you home.” So steadily, but surely, we threaded our way out of the parking lot, through the streets of the

Bronx, onto the Bronx River Parkway and north to Pelham. Arriving at last on the tree-lined street where my parents lived, he graciously bid me goodbye, not wanting to intrude on my family by coming in. I was amazed by this generosity and kindness at the time, but have come to see it as characteristic of Thomas's largess.

Thirty years later I am touched to see it once again. Thomas is now ninety years old and living in a retirement community in Greensboro, North Carolina. I am working with him to prepare this set of essays for publication. After a morning's discussion, we leave his room to go out for lunch. Down the hall comes an elderly woman in a wheelchair trying to pull herself along the handrail. Without a moment's hesitation, he gives me his cane, greets her, and begins to push her down the hall back to her room. We laugh at the simple humanness of it all.

I marvel in the moment, reflecting on how many people Thomas has helped to come home. He has literally guided us back to our original place of birth, the universe itself. To have restored us to our cosmic origins is a gift beyond measure. We can see with fresh eyes the universe as a womb of immense creativity; we can know the Earth as embodying a sacred community of life. We experience ourselves as arising out of this dynamic community, participants in a vast, unfolding process that our minds and hearts are opening to embrace anew.

How did he come to articulate this perspective of evolution, in which evolution is not simply a scientific account but our guiding cosmological story? How did he find his way when there were few markers and no maps? He did this as a historian of cultures and religions who extended his study of history to the Earth and the universe. And all this while navigating the extraordinary challenges of the twentieth century, a period of enormous upheaval and rapid change.

Thomas's particular genius is to preserve creativity amid the destructive currents of our times. The American writer Edith Wharton has suggested

that longevity and creativity rest on four things: being unafraid of change, having an insatiable intellectual curiosity, being interested in big things, and being happy in small ways. Thomas has combined all these qualities with a driving sense of purpose, namely, his desire to enhance human beings' relationship with the Earth.

Thomas is both open to change and able to interpret it. When the student demonstrations and upheavals of the 1960s tore universities and societies apart, he sought to uncover the larger causes and chart a way through the tensions. With his endless intellectual curiosity, he established the Riverdale Center for Religious Research along the Hudson River in New York and built up a library of some ten thousand books, collected over many decades. He investigated world cultures and religions to discern our history; he explored cosmology and evolution to comprehend our origin story.

His boundless curiosity led him to ask huge and challenging questions. He saw, before many others did, the critical nature of our present moment, with its looming ecological crisis. In asking the big questions, he was able to shed light on this moment, poised as we are between fear and fascination. We are caught between alarm at the destruction of life-forms and disintegration of civil society even as we are attracted to creating a viable and sustaining future. This is what Thomas offers us: a means of walking the ridge between the evident destruction and the emerging creativity of our times. He situates us at the end of the Cenozoic era, a period characterized by 65 million years of flourishing life, and at the beginning of the Ecozoic era, where new human-Earth relations are being shaped.

Thomas shows us as well how one can be happy in small ways while navigating this passage. As he so richly illustrates in this volume, being happy entails entering into the wonder, beauty, and intimacy of the Earth community. For Thomas our fascination with ever-renewing natural processes is what sustains us despite sorrow and loss. His poetic sensibilities are focused on the daily cycle of life: the stars that capture our imagination, the dawn that brightens the day, the evening that holds us in

mystery. In the essay “Loneliness and Presence,” he brings forth the intimate presence of the myriad species that share the planet with us.

Indeed, all the essays contained in this volume are offered as a means of celebrating the exuberant display of life as we seek our path into the Earth community and the larger universe. Written over many years and for a variety of venues, these essays are like a series of beacon lights mapping our way into an unknown future. The map is not complete, but suggestive, and this is part of its immense power. For Thomas knows how to evoke the human energy necessary for engagement with the pressing issues of our day.

Evening Thoughts has three sections: the first describes the magnitude of our current ecological crisis and its causes; the second highlights some of our specific current challenges; the third returns to the epic of evolution as a context for situating the role of the human. The first five essays locate our present crises in the midst of a sixth extinction period. Berry suggests that this devastation has resulted from various transcendences that have removed humans from nature and left them with a vast sense of alienation and loneliness. Berry observes that, rather than remain alienated, humans can find their authentic role as participants in the Earth as sacred community by entering into the larger creativity of the universe.

The four middle essays turn toward particular political, ecological, and legal issues that currently challenge us. These include the pervasive ethnic strife and intense nationalism that have dominated the twentieth century. In addition, he discusses the global warming brought on by massive burning of fossil fuels by humans unrestrained by a larger sense of a common good for the Earth community. To counteract this, Berry calls for a new jurisprudence, which he sees as necessary for Earth’s survival. In the final section of the book, Berry returns to his large-scale perspective of the epic of evolution and the contribution of the human to that story. He also calls for the United Nations to rise to the challenge of establishing the foundation for a viable future by drawing on the spiritual resources of the human

community. He concludes the book by calling for a new period of Pax Gaia for the Earth and for all life-forms.

This, then, is the gift of these essays: they offer both a way home into the universe and a peaceful way forward for the Earth community. The grandeur and vision of the universe story will sustain our energies, while the renewed kinship with the Earth community will ground our actions. These evening thoughts provide the seeds for dawning hope.

—*Mary Evelyn Tucker*

1

Our Way into the Future: A Communion of Subjects

Since the appearance of *Silent Spring* by Rachel Carson in 1962, we have been reflecting on the tragic consequences of the plundering industrial society that we have brought into existence during these past few centuries. That we should have caused such damage to the entire functioning of the planet Earth in all its major biosystems is obviously the consequence of a deep cultural pathology.

Just as clearly, there is need for a deep cultural therapy if we are to proceed into the future with some assurance that we will not continue in this pathology or lapse into the same pathology at a later date. We still do not have such a critique of the past or a therapy for the present. Yet even without such evaluation of our current situation, we must proceed with the task of creating a viable future for ourselves and for the entire Earth community.

Two things are needed to guide our judgment and sustain our psychic energies for the challenges ahead: a certain alarm at what is happening at present and a fascination with the future available to us if only we respond creatively to the urgencies of the present. We are concerned here with the second of these requirements and wish especially to outline the conditions for entering a future that will lead to the larger fulfillment for which the entire planet, as well as ourselves, seems to be destined.

The first condition for achieving this objective is to realize that the universe is a communion of subjects, not a collection of objects. The devastation of the planet can be seen as a direct consequence of the loss of

this capacity for human presence to and reciprocity with the nonhuman world. This reached its most decisive moment in the seventeenth-century proposal of René Descartes that the universe is composed simply of “mind and mechanism.” In this single stroke, he devitalized the planet and all its living creatures, with the exception of the human.

The thousandfold voices of the natural world became inaudible to many humans. The mountains, rivers, wind, and sea all became mute insofar as humans were concerned. The forests were no longer the abode of an infinite number of spirit presences but were simply so many board feet of timber to be “harvested” as objects used for human benefit. Animals were no longer the companions of humans within the single community of existence. They were denied not only their inherent dignity but even their right to habitat.

As we recover our awareness of the universe as a communion of subjects, a new interior experience awakens within the human. The barriers disappear. An enlargement of soul takes place. The excitement evoked by natural phenomena is renewed. Dawn and sunset are once again transforming experiences, as are the sights, sounds, scents, tastes, and feel of the natural world about us—the surging sea, the sound of the wind, the brooding forests. All this could be continued in a never-ending list of experiences that have been lost to large segments of the human community in recent centuries—not because the phenomena do not surround us constantly, but because we have become locked into ourselves, as though large segments of the human mind have become paralyzed. It is no wonder that humans have devastated the planet so extensively. It was only a collection of objects to be used.

Associated with this attitude is the loss of realization that the planet Earth is a onetime endowment. Earth came into being at a moment that will never occur again. It was given a structure and a quantum of energy for its self-shaping processes whereby it could bring forth all those remarkable geological formations and all those magnificent modes of life expression that we see around us. Earth was caught up in an inner dynamism that is overwhelming in its impact on human consciousness. These creations are

set in a pattern destined for indefinite survival if only they are treated properly. If they are abused, if the life process is wantonly extinguished, then in the future the energies that brought about these life-forms that have been functioning throughout these past millennia in such a brilliant sequence of transformations will never again be available. The quantum of energy involved in their historical existence has been expended. Their unique wonder and beauty, the entrancement with life that they evoke, will have vanished.

Yet even with all the extinction that has taken place, there does exist a quantum of energy, available at the present moment, for creative movement from the terminal Cenozoic to the emergent Ecozoic. This energy, however, will be available only for a brief period. Such transformation moments arise in times of crisis that need resolution immediately. The time for action is passing. The devastation increases. The time is limited. The Great Work remains to be done. This is not a situation that can be remedied by trivial or painless means. A largeness of vision and a supreme dedication are needed.

Hope for such a renewal of the creative forces of the planet lies in a realization that the Earth is primary and that humans are derivative. That this dependence of the human on the integral functioning of the planet should be so obvious and yet so consistently denied and so extensively violated is beyond comprehension. The primacy of the Earth community applies to every mode of human activity: economics, education, law, medicine, and religion. The human is a subsystem of the Earth system. Thus the primary concern of humans must be to preserve the integrity of the Earth system. Only then can the human subsystem function with any efficacy. Yet no phase of human activity is so directly violated as this relation of the human to the Earth.

In the realm of jurisprudence, the English common law tradition, which has claimed such superiority in its conceptions of the dignity of the human, has little sense of the larger governing principles of the universe or the planet. The nonhuman world becomes property to be used by the human. What is needed is a governance and a jurisprudence founded in the

supremacy of the already existing Earth governance of the planet as a single, yet differentiated, community. An interspecies jurisprudence is needed. The primary community is not the human community, it is the Earth community. Our primary obligations and allegiances are to this larger community.

Especially in religion, the human depends on the natural world, for it is the wonder and majesty of the universe that evokes the sense of the divine origin and sacred character of the universe. The universe is a mysterious reality. We can know only the marginal aspects of how the universe functions. The difficulty arises to some extent in written scriptures. Once the divine is perceived principally through written scriptures, then there is a tendency to believe that the natural world does not communicate the sense of the sacred except in some minor way. Scriptures can never replace our need for a natural world that we will esteem, by immediate experience, as the manifestation of the ultimate mysteries of existence itself. If the Earth is only a background or a collection of resources for the human, then the devastation presently taking place will continue.

Since the discovery of the universe as an evolutionary process, there is a special need to establish this new sense of the universe as a revelatory experience. Such experience activates a new mode of manifestation of the ultimate mysteries of the universe. Future generations will need to be religious within this context. Traditional scriptures will not be effective in awakening future generations to a sense of the sacred, as they have done in past generations. A radical new adaptation is taking place, a new awakening to the divine not only through the awesome qualities of the universe as experienced immediately but also through the immense story of the universe and its long series of transformations.

We need to establish rituals for celebrating these transformation moments that have enabled the universe and the planet Earth to develop over these past many years. This would involve celebrating the primordial moment of emergence of the universe and other transformation moments, such as the supernova collapse of the first generation of stars whereby the ninety-some

elements needed for life and consciousness came into existence. We should especially celebrate that star out of which our own solar system was born and the various life-forms of Earth became possible.

The discovery of sexual reproduction upon which the evolutionary process depends so directly, the discovery of photosynthesis, of respiration, the emergence of life out of the sea and its venturing onto the land, the first trees, the flowering plants, the transition to the Cenozoic era, the emergence of the human: all these are sacred moments. To celebrate these occasions would renew our sense of the sacred character of the universe and the planet Earth.

The Earth will not function in the future in the same manner that it has functioned in the past. A decisive transformation has taken place. The human had nothing to say in the emergent period of the universe before the present. In the future, however, the human will be involved in almost everything that happens. We have passed over a threshold. We cannot make a blade of grass. Yet there is liable not to be a blade of grass in the future unless it is accepted, protected, and fostered by the human. Sometimes, too, there is a healing that can be brought about by human assistance.

Just now our modern world, with its scientific technologies, its industrial processes, and its commercial establishments, functions with amazing arrogance in its attitude toward the natural world. The human is seen as the supreme reality. Every other being is available for exploitation. The supreme law of economics calls for taking as much as possible of the Earth's resources to be processed, passed through the consumer economy as quickly as possible, and then deposited as residue on the waste heap. The greater the amount of natural resources consumed in this manner, the greater the gross domestic product or the gross human product and the more successful the human enterprise is thought to be, although the final consequence of such an economic program is to turn the entire planet into a wasteland. Any sense of the sacred, any restraint in favor of maintaining the inner coherence and resplendence of the natural world, is considered an expression of an unendurable romanticism.

Yet the planet now exists in a more intricate relation with the human than ever before. The very devastation wrought by the human has brought about a new type of interdependence in human-Earth relationships. The new scientific controls over the natural world do not mean that the human can, as it were, direct the destiny of the planet or bring the planet into any context that the human wishes. The human can bring about extinction on a broad scale, but it cannot bring about life. It can only assist in some limited way in evoking life through the processes inherent in the Earth itself.

The ultimate goal of any renewal process must be to establish a mutually enhancing mode of human-Earth relations. This mutual enhancement can be achieved only within limits, since the human in some manner places stress upon Earth ecosystems. Nonetheless, this mutuality can make the gains and losses more proportional and acceptable within the context of the planetary community. The tensions within the life processes of the planet are, in their larger consequences, creative, not destructive, tensions.

This story of the universe now becomes the basic framework for education. This comprehensive context includes all education, from the earliest period of schooling through professional education. The story of the universe expresses a functional cosmology that needs to be taught at every level of education. To be educated is to know the story and the human role in the story. Through this story we come to know the manner whereby we ourselves came into being and the role we should be fulfilling in the story. Because our capacity to tell this story in its full dimensions in space and in its sequence of transformations in time has been only recently attained, we are only now beginning to understand the story's significance.

If we respond to it properly, this story can guide us through the transition phase of our history from the terminal Cenozoic into the emerging Ecozoic. This new, emergent phase of Earth history can be defined as that period when humans would be present to the Earth in a mutually enhancing manner. This story evokes not only the guidance but also the psychic energy

needed to carry out the sequence of transformations now required of us as we move into the future.

Throughout its vast extent in space and its long sequence of transformations in time, the universe constitutes a single multiform sequential celebratory event. Every being in the universe is intimately present to, and is influencing, every other being in the universe. Every being contributes to the magnificence of the whole. Because the universe is the only self-referent mode of being in the phenomenal world, it constitutes the norm of all reality and value. The universe is the only text without a context. Every particular mode of being is universe-referent, and its meaning is established only within this comprehensive setting. This is why this story of the universe, and especially of the planet Earth, is so important. Through our understanding of this story, our own role in the story is revealed. In this revelation lies our way into the future.

2

The Place of the Human

How and why did our present devastation of the Earth happen? How did Western civilization, deriving as it does from a biblical Christian humanist matrix, provide the basis for the aggressive commercial industrial culture that grew from it? How has industrial culture led to the catastrophic processes we witness at the present time? We might consider these questions in terms of the six transcendences that have made us vulnerable to such forms of development over the centuries.

The first thing that makes us vulnerable is a *transcendent, personal, monotheistic creative deity*. The constellation of the divine in a personal transcendent order tends to desacralize the phenomenal world. In addition, the opening chapters of Genesis offer us a transcendent patriarchal deity. Those who gave him this status had a certain abhorrence of the feminine Earth-dwelling deities of the eastern Mediterranean. We might interpret the early chapters of Genesis as an assertion of a patriarchal heavenly deity over the earlier feminine Earth-dwelling deities. The first commandment might read, “Thou shalt not have an Earth Mother.” The positive side of this is that we inherited the special sense of a personal deity that is clearly distinct from the phenomenal world. The difficulty is that this has led us to treat the phenomenal world with something less than the reverence paid it by those cultures in which there is a sacred dimension to trees, to rivers, and to the whole of creation. We have lost the primary manifestation of the divine in its cosmological manifestation.

The second transcendence is the *spiritual nature of the human*, the insistence that we do not form a single society with the natural world. The natural world is material; we are spiritual. As spiritual beings we become

detached from the visible world. The natural world becomes an external objective reality that can be dealt with only in subservience to that high spiritual reality for which all things exist. In this context, material things lose their sacred dimension. They become sacred by an added consecration, as water is blessed to serve as the sacrament of baptism.

A third transcendence is the primacy of our belief in *redemption*. This belief tells us that we are not for this world. This world is what brought about the loss of primordial innocence. We are redeemed not simply from sin but from the natural world itself. We belong to some transcendent world. The natural world is seen as having a certain utility, even as having a certain consecration potential. In this context, however, the natural world is not in itself possessed of a sacred role.

The fourth transcendence is the *transcendence of mind*. This came to us somewhat later through Descartes. Descartes desouled the world. There is only mind and extension in the Cartesian understanding of the universe. Until the time of Descartes, we had the sense that every organism was by definition an ensouled being. Every living being had an anima—a term that has been used by C. G. Jung and given other designations. But the primordial meaning designates anima as the primary organizing, animating principle of a living organic being. This definition of anima existed until the seventeenth century. Descartes shattered the world of the living when he divided the world into mind and matter. Matter was to be known by mathematical measurement. The animal world was simply an extension of material forces coming together by a synchronicity of their activities. He identified every living being as mechanism. There was no vital principle, not even a vital biological principle. What was not mind was matter. This removal of the soul began the whole mechanistic trend of the modern world.

The fifth transcendence is our *transcendent technology*. Technology allows us to transcend the basic biological law that every species should have opposed species or conditions that limit each species so that no one species could overwhelm the others. With technological invention, humans

are able to surpass natural limits. We can undermine the natural limits of the human population on the planet. We can preserve life. We can delay death. We can extinguish other life-forms. We can subvert the whole chemical constitution of the planet. We can subvert the biosystems of the planet in a way that nature, in its nonscientific technological phase, cannot remedy.

The sixth transcendence is *a transcendent historical destiny* for humans. This sense that our destiny is in some other world—namely, a transphenomenal world—has so diminished our concern for this world that the religious believers in our society have shown little concern for the integrity and survival of this world. Only such disdain for this world could have so diminished our concern for what is happening here that we would accept the extinguishing of living forms on such a scale that it could only be equaled by the extinction at the end of the Mesozoic period some 65 million years ago.

The controlling force of modern civilization that has brought us to where we are is the complex of industrial corporations that developed throughout Western civilization in the twentieth century. The enormous energies and corresponding organizational skills of this complex have built an industrial world with a withering influence on the life systems of the planet so devastating that our period is in the midst of a mass extinction of species. So now the events of the twentieth century have terminated the Cenozoic era. The infrastructures of the industrial world are fantastic, as are the energies put into automobile production, into the discovery and manufacture of electronics, and into building dams and other mammoth construction projects. At the present time, megaprojects are being carried out throughout the planet, each of them multi-billion-dollar undertakings. The Transamazon Highway in Brazil has opened up millions of acres of the Amazon jungle for exploitation. The Three Gorges Dam on the Yangtze River in China and the Narmada Dam project in India have caused environmental damage and resulted in the relocation of several million people. Some damming projects are being reexamined for their environmental impact, such as the massive damming of eight rivers involved in the James Bay hydroelectric project in Canada. So too the earlier plan to bring freshwater from the Great Lakes and eastern Canada to

the southwest areas of the North American continent is being rethought. For a long while, Russia was planning to divert some of the Siberian rivers, to turn them from flowing north to flowing south. These are all projects of such a vast scale that they overwhelm our imagination.

It's the illusion of WonderWorld. Everything that has happened is multiplied by an order of magnitude in the millennial vision that came in through the biblical world. The millennial vision manifest in the apocalyptic literature from Daniel to the Book of Revelations held a vision of a future period when the human condition would be transcended. This vision can be considered a seminal dynamizing force in Western history. In the later millennial period that it describes, the conflict between the forces of good and evil, the dragon—the evil or destructive force—would be chained for a thousand years, during which there would be peace, justice, and abundance. The pervasive agony of the human condition would be alleviated in the reign of the saints.

This vision of the millennial age has sunk deep into Western imagination. Our awareness that life might be other than it is causes a pervasive resentment against the human condition. This resentment is what drives our Western historical effort to change the *very conditions of life* through our scientific technologies. The industrial establishment has been trying to initiate this WonderWorld millennial period through the seductive power of advertising and the media. That's why the majority of commercial advertising is WonderWorld advertising. This automobile, that bar of soap, this or that trinket will bring you to WonderWorld.

What we are really getting is WasteWorld. However, we still think deep in our souls that we are on our way to WonderWorld. This is the central issue, for it is clear that the coming Ecozoic era has to offer an attractive vision.

Two things are needed. First, the vision of the industrial world must be evaluated in a more realistic manner. Second, a viable alternative must be

identified, an alternative sufficiently alluring that it can counter the seductive vision presented by the industrial world. Although the alternative cannot promise us that we'll get beyond the human condition, it can offer us life nourishment and a world of meaning.

Even so we need to be clear that the natural world has, inherent in it, a violence and a vulnerability. The commercial-industrial world has given Western civilization, at least for a while, security against famine, against cold and heat, and protections against many diseases, for a certain portion of the human community. We have refrigerated food, we have cars, air conditioning, airplanes, computers—a remarkable array of wonders. The human community is not prepared to give up all that. Yet we do need to be clear that we are paying a high price for these conveniences. That is the difficulty. Even though the industrial bubble is disintegrating, humans cling to these possessions in the belief that only the industrial corporations can provide the better life that we long for so ardently.

At its present order of magnitude, the industrial world cannot be maintained, nor can it ever be done again. It can be done once, and once only. There are three reasons for this. When it was created, there was limited awareness of the dark side of the industrial world. Its creators saw and experienced only the bright side. Now we are seeing the dark side. Many who built the roads, structures, and dams saw them as glorious ways into the future. Now we see the damage dams can do, the damage of irrigation processes, the damage the automobile is causing. It is to be hoped that we will never again as a community be seduced as thoroughly as we were earlier.

The second reason is the financial aspect: It costs many times more to maintain things than to put them up in the first place. We have insufficient resources for repairs. Every government is running a deficit. The United States is over \$8 trillion in debt. It has an annual budgetary deficiency of hundreds of billions of dollars.

The third reason is that natural resources are no longer as readily available. The petrochemical industry is already beyond its apex, and the downfall is coming. Within twenty years, even here in the United States, we will be paying much more for each gallon of gasoline. Beyond that, petroleum and petroleum-based products will become increasingly expensive. All the oil in Alaska will not keep the United States going for more than a few years. No matter how much fossil fuel is discovered within the lifetime of our children, the petrochemical industry will be searching for other sources of supply.

It's in this context that we have to counter so many of the most forceful structures that have determined the world as it is. Even now we are in the process of restructuring the story of the universe that we must tell our children. A restructuring of all the professions is in process. All the human professions must recognize their prototype and their primary resource in the integral functioning of the Earth. The natural world itself is the primary economic reality, the primary educator, the primary governance, the primary healer, the primary presence of the sacred, the primary moral value.

In economics, it is clear that the human economy derives from the Earth economy. The glory of a rising gross national product with an irreversibly declining gross Earth product is an economic absurdity. The only viable human economy is one that is integral with the Earth economy.

In education, ecology is not a course, nor is it a program. It is the foundation of all courses, all programs, all professions. Such a statement can be made because ecology is a functioning cosmology, and cosmology deals with the ultimate self-referent mode of being, the universe itself. The ecology issue is not restricted to one course in education. It is *the* course, *the* curriculum, *the* structure of the entire educational program. It is the basis of medicine; it is the context for law. *Ecology* refers to the way the universe functions. The universe is the ultimate referent for every mode of being and every mode of activity in the universe. Cosmology is the unifying context and the ultimate referent for all human understanding. It is the

entire sequence of education from kindergarten to professional school. It is the comprehensive context of phenomenal existence.

College education needs to move into its ecological, or planetary, phase. In addition to teaching the liberal arts and the sciences, we should teach an ecological economics that recognizes the cost to the planet of industrialization. Traditional economics focuses on the exchange and production of goods and services, but the discipline has been reduced to a mere utilitarian and exploitative process. This distortion of economics is at the base of many social and environmental problems today. Thus we need new forms of ecological economics, such as those suggested by Herman Daly, Robert Costanza, Richard Norgaard, and Hazel Henderson.

Education is already late in revising itself to include attention to the environment. But we expect that it will, in the future, be extensively altered. Education will be defined as knowing the story of the universe, of the planet Earth, of life, of consciousness, all as a single story. There's no other way of discovering the role of the human in the universe. Just as the Earth is a biospiritual planet, the universe is a physical, spiritual, biological reality. Knowing the story of the universe, of the Earth, of life, and of consciousness, all as a single story, is where the synthesis is. The humans articulate this story in a particular human way, the whales do it in their way, the birds do it in their way, the worms in the Earth do it in their way, the insects do it in their way. Every particle of the universe tells the story in its own context. It's a kind of symphonic process. When we exile the scientific telling of the story from the humanities and theology, we do not allow them to be an integral expression of the great story.

And so with governance. The human community is moving from limited forms of democracy to a more comprehensive biocracy. What we need is not merely constitutions for humans, but constitutions for an entire continent. We need a governance that extends participatory processes to the larger Earth community. Already the basis of that has been established in environmental impact statements. A first step toward biocracy was the United Nations Charter for Nature, which was adopted in 1982 (111 nations

voted for the charter, 18 abstained, and only the United States voted against it). A second important document that takes us in this direction is the Earth Charter adopted by the Earth Charter Commissioners in 2000 at UNESCO headquarters in Paris (www.earthcharter.org). This charter emerged out of a decade of negotiations and three years of drafting, with input from thousands of institutions and individuals from around the world.

The preamble of the charter reflects the comprehensive context of the Universe Story: “Humanity is part of a vast evolving universe. Earth, our home, is alive with a unique community of life. The forces of nature make existence a demanding and uncertain adventure, but Earth has provided the conditions essential to life’s evolution.” The charter also suggests our way into the future: “The resilience of the community of life and the well-being of humanity depend upon preserving a variety of plants and animals, fertile soils, pure waters, and clean air. The global environment with its finite resources is a common concern of all peoples. The protection of Earth’s vitality, diversity, and beauty is a sacred trust.” Such a sacred trust is the counterpoint to the particular transcendences outlined in this chapter. With the emergence of this alternative biocracy, the conditions for the sustainability of life systems can be established.

3

Loneliness and Presence

At the time of his treaty with the European settlers in 1854, Chief Seattle of the Squamish tribe along the North Pacific coast is reported to have said that when the last animals will have perished, “humans would die of loneliness.”¹ This was an insight that might never have occurred to a European settler. Yet this need for more-than-human companionship has a significance and an urgency that we have begun to appreciate in more recent times. To understand this primordial need that humans have for the natural world and its animal inhabitants, we might reflect on the needs of our children, the two-, three-, and four-year-olds especially. We can hardly communicate with them in any meaningful way except through pictures and stories of humans and animals and fields and trees, of flowers, birds, and butterflies, of sea and sky. These present to the child a world of wonder and beauty and intimacy, a world sufficiently enticing to enable the child to overcome the sorrows they necessarily experience from their earliest years. This is the world that we all grow up in, to some extent in the reality of it, to some extent through pictures and stories.

The child experiences that “friendship relation” that exists among all things throughout the universe, the universe Thomas Aquinas speaks of in his commentary on the writings of Pseudo-Dionysius the Areopagite, the mystical Christian Neoplatonist of the late fifth century. Indeed, we cannot be truly ourselves in any adequate manner without all our companion beings throughout the Earth. This larger community constitutes our greater self. Even beyond the Earth, we have an intimate presence to the universe in its comprehensive reality. The scientists’ quest for their greater selves is what prompts their relentless drive toward an ever-greater understanding of the world around them.

Our intimacy with the universe demands an alternative presence to the smallest particles, as well as to the vast range of stars splashed across the skies in every direction. More immediately present to our consciousness here on Earth are the landscape; the sky above, the Earth below; the grasses, the flowers, the forests, and the fauna that present themselves to our opening senses. Each in its own distinctive perfection fills our mind, our imagination, our emotional attraction.

Of these diverse modes of being, the animals in the full range of their diversity belong within our conscious human world in a special manner. A few years ago, Joanne Lausch wrote a book concerned with the smaller animals, the insects. The title, *The Voice of the Infinite in the Small* (1999), indicates that even those living forms that we are least attracted to have their own special role in the grand design of the universe. They speak to us and must not be slighted or treated with contempt. If we assault them with chemical sprays. they will mutate and defeat us time after time.

As humans we come into being as an integral part of this millionfold diversity of life expression. Earlier peoples celebrated the whole of the universe in its integrity and in its every mode of expression. From the moment of awakening our consciousness, the universe strikes wonder and fulfillment throughout our human mode of being. Humans and the universe were made for each other. Our experience of the universe finds festive expression in the great moments of seasonal transformation, such as the dark of winter, the exuberance of springtime, the warmth and brightness of summer, the lush abundance of autumn. These are the ever-renewing moments of celebration of the universe, moments when the universe is in some depth of communion with itself in the intimacy of all its components.

Even with this comprehensive presence of the universe to itself and to its varied components, there is a challenging, even a threatening, aspect experienced in every component. Each individual life-form has its own historical appearance, a moment when it must assert its identity, fulfill its role, and then give way to other individuals in the ever-renewing processes of the phenomenal world. In our Western tradition, this passing of our own

being is experienced as something to be avoided absolutely. Because we are so sensitive to any personal affliction, because we avoid any threats to our personal existence, we dedicate ourselves to individual survival above all else. In the process of extending the limits of our own lives, we imperil the community of life systems on the planet. This leads eventually to failure in fulfilling our own proper role within the larger purposes of the universe.

Rather than become integral with this larger celebration-sacrificial aspect of the universe, we have elected to assert our personal human well-being and survival as the supreme value. For us, here in the Western world, the human becomes the basic norm of reference for good and evil in the universe. All other modes of being become trivial in comparison. Their reality and value are found in their use relationship to our own well-being. In this context we lose the intimacy that originally we had with the larger community of life. We are ourselves only to the extent of our unity with the universe to which we belong and in which alone we discover our fulfillment. Intimacy exists only in terms of wonder, admiration, and emotional sympathy when beings give themselves to each other in a single psychic embrace, an embrace in which each mode of being experiences its fulfillment.

Such observations as these are needed because our reduction of the entire universe to subservience to the human has led to our present situation. As Norman Myers observes, in terms of species extinction we are in the process of creating the greatest impasse to the development of life on Earth since the beginning of life almost 4 billion years ago.² Niles Eldredge and other scientists suggest we are in the midst of the sixth great extinction period due to loss of species.³

Here we might observe an awakening to our present situation and the structuring of a new guiding vision for our Western civilization through an event that occurred in the early decades of this century. While hunting in Arizona, the forester Aldo Leopold shot a female wolf with a pup. He tells us that he reached the wolf in time to watch “a fierce green fire dying in her eyes.” “I realized then, and have known ever since that there was something

new to me in those eyes—something known only to her and to the mountain.”⁴ From then on, his perspective on human relations with the natural world was utterly changed.

Our own lives too were changed by that event, and the reflections born of it have provided a new ethic—one never known previously in any formal way to the American people, an ethic that Leopold designated as “a land ethic.”⁵ His basic statement is simply that “a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such.”⁶ A simple prosaic statement, this carries implications that challenge the entire range of Western civilization. It challenges all the governmental, educational, economic, and religious institutions of our society as regards the ethical basis of what they are doing.

Another fascinating moment in human-animal intimacy is when, after a night’s sleep on a beach, Loren Eiseley awakened in the presence of a young fox who had wandered from its den. He tells us: Here was “a wide-eyed innocent fox inviting me to play, with the innate courtesy of its two forepaws placed appealingly together, along with a mock shake of the head. Gravely I arranged my forepaws while the puppy whimpered with ill-concealed excitement. I drew the breath of the fox’s den into my nostrils. . . . Round and round we tumbled for one ecstatic moment.”⁷

This sense of intimacy with the land found comprehensive expression in the life of Henry David Thoreau when he became attracted to a field of special beauty in the region where he often walked. He even put down a deposit in anticipation of buying the field. Later Thoreau decided not to buy the land, realizing that he already possessed the region in its beauty and its spiritual integrity and did not really need to gain physical possession. Whoever owned it physically could not keep him from intimacy with this region in its wonder and its beauty.

In discussions such as this, we might go to the world of literature, where the deeper interpretation of our human experiences is generally found. In the *Rime of the Ancient Mariner* by Samuel Taylor Coleridge, we read of the mariner who got himself, the ship, and the entire crew into an agonizing experience by his revulsion at the sight of the slimy creatures of the sea. He received a healing from his deep sorrow of soul only when he learned to bless the sea serpents and all living beings: “A spring of love gushed from my heart, / And I blessed them unaware.” The curse of the doldrums of the sea was lifted, the wind arose, the sailors came back to life: joy was theirs once again.

There are also the numerous passages in Fyodor Dostoevsky’s *The Brothers Karamazov*: “Love the animals. God has given them the rudiments of thought and joy untroubled. Do not trouble them. Do not harm them, don’t deprive them of their happiness, don’t work against God’s intent.” Often Dostoevsky speaks of the innocence of the animals in contrast to the loss of innocence in humans. We need to be inspired by the birds especially: “My brother asked the birds to forgive him; that sounds senseless but it is right; for all is like an ocean, all is flowing and blending, touch in one place sets up movement at the other end of the Earth. It may be senseless to beg forgiveness of the birds, but birds would be happier at your side—a little happier anyway—and children and all animals, if you yourself were nobler than you are now.”

Even with all our technological accomplishments and urban sophistication, we consider ourselves blessed, healed in some manner, forgiven, and for a moment transported into some other world, when we catch a passing glimpse of an animal in the wild: a deer in some woodland, a fox crossing a field, a butterfly in its dancing flight southward to its wintering region, a hawk soaring in the distant sky, a hummingbird come into our garden, fireflies signaling to each other in the evening. So we might describe the thousandfold moments when we experience our meetings with the animals in their unrestrained and undomesticated status.

Such incidents as these remind us that the universe is composed of subjects to be communed with, not of objects to be exploited. For, of all the other benefits we receive from the world about us, none can replace these deeper moments that we experience somewhere within the depths of our being. These are the moments when we are truly ourselves, when we attain a rare self-realization in the truly human mode of our being.

To me it seems that the universe as a whole and in each of its individual components has an intangible inner form as well as a tangible physical structure. It is this deep form expressed in its physical manifestation that so entrances us in these moments. When Aldo Leopold looked into those “fierce green” eyes of the dying wolf, he saw something more than the physical light reflected there. The wolf and the human came to an intimacy with each other beyond description. That is the fascination, the mystery, the immeasurable depths of the universe into which we are plunged with each of our experiences of the world about us. Such are the experiences spoken of by Leopold, Loren Eiseley, Henry David Thoreau, Samuel Taylor Coleridge, and Fyodor Dostoevsky, and more recently by Rachel Carson, Annie Dillard, and Terry Tempest Williams. What they experienced was something so significant that it would be difficult to imagine that human life would be truly satisfying in any other context.

Although this intimacy exists with the stars in the heavens and with the flowering forms of Earth, this presence of humans with the other members of the animal world has a mutual responsiveness unknown to these other modes of being throughout the universe. Our relation with the animals finds its expression especially in the amazing variety of benefits they provide for us in their guidance, protection, and companionship. Beyond these modes of assistance, they provide a world of wonder and meaning for the mind—beauty for the imagination. Even beyond all these, they provide an emotional intimacy that is unique, that can come to us from no other source. The animals can do for us, both physically and spiritually, what we cannot do for ourselves or for each other. These more precious gifts they provide through their presence and their responsiveness to our inner needs.

The difficulty in our relation with the animals comes from the sense of use as our primary relationship with the world about us. Hardly any other attitude so betrays ourselves and the entire universe in which we live. Every being exists in intimate relation with other beings and in a constant exchange of gifts with each other. But this relationship is something beyond pragmatic use. It is rather a mutual sharing of existence in the grand venture of the universe itself. Indigenous peoples perceive the universe as a single gorgeous celebration, a cosmic liturgy that humans enter through their ritual dances at those moments of daily and seasonal change, at dawn and sunset, and at the equinox and solstice moments.

At such moments the human venture achieves its validation in the universe, and the universe receives its validation in the human. The grand expression of wonder, beauty, and intimacy is achieved. As Henri Frankfort, an archeologist, observed, in the ancient Near East the various modes of being of the universe were addressed as “thou” rather than “it.” “Natural phenomena were regularly conceived in terms of human experience, and human experience was conceived in terms of cosmic events.”⁸ As humans, we awaken to this wonder that stands before us. We must discover our role in this grand spectacle.

Recovery of Western civilization from its present addiction to use, as our primary relation to each other and to the world about us, must begin with the discovery of the world within, the world of the *psyche* as designated by the Greeks, a word translated by the term *anima* in the Latin world or by the term *soul* in the English world. The term *anima* is the word used to identify a living or animated or ensouled being from the earliest period in European thought. While the word *soul* has been abandoned by scientists lest it compromise the empirical foundations of their study, the reality of the thought expressed remains forever embedded in the very language that we use. The term *animal* will forever indicate an *ensouled* being

This interior world of the *psyche*—the *anima*, the *soul*, the *spirit*, or the *mind*—provides the basis for that interior presence that we experience with each other throughout the world of the living. Simply in their physical

dimensions, things cannot occupy the same space while remaining their individual selves. This mutual indwelling in the same psychic space is a distinctive capacity of the transmateral dimension of any living being. Not only can two psychic forms be present to each other in the same psychic space but an unlimited number of forms can be present. Indeed the entire universe can be present, for as Thomas Aquinas tells us, “The mind in a certain manner is all things.” Even so, this inner presence, while distinct from, is not separate from, the outer experience. This capacity for indwelling each other, while remaining distinct from each other, is a capacity of soul or mind or the realm of the psyche. In this integral realm of both the inner and the outer realms is where we discover our fulfillment.

To reduce any mode of being simply to that of a commodity within the community of existence is a betrayal. While the nonliving world does not have a living soul as a principle of life, each member of the nonliving world does have the equivalent as its inner principle of being. This is an inner form that communicates a power, an enduring quality, and a majesty that even the living world cannot convey. In a more intimate way the nonliving world provides the mysterious substance that transforms into life. Throughout this entire process, a communion takes place that belongs to the realm of spirit. There is a spirit of the mountain, a spirit surely of the rivers and of the great blue sea. This spirit mode has been recognized by indigenous peoples everywhere, also by the classical civilizations of the past where such spirits were recognized as modes of personal presence.

Both to know and to be known are activities of the inner form, not of the outer structure of things. This inner form is a distinct dimension of, not a separate reality from, the visible world about us. To trivialize this inner form, to reduce it to a dualism, or to consider it a crude form of animism is as unacceptable as would be the attribution of the experience of sight to a refinement of the physical impression carried by the light that strikes the eye, or the reduction of the communication inherent in a Mozart symphony to vibrations of the instruments on which it is played.

One of the most regrettable aspects of Western civilization is the manner in which this capacity for inner presence to other modes of being has diminished in these past few centuries. While the full expression of this diminished capacity has come in recent centuries, it is grounded in the deeper tendencies in our cultural traditions to emphasize the spiritual aspect of the human over and against the so-called nonspiritual aspect of the other modes of being.

We might think of ourselves as recovering from the pervasive attitude of Western civilization, which designates the human as a superior mode of being and use as our primary relation with the world about us. We have only begun to realize that we are, precisely in our human mode of being, a single if also an immensely significant component in the great community of existence. We might remember that the reality of our own existence can be validated only in the context of honoring the larger communication that the natural world offers us in terms of wonder for the mind, beauty for the imagination, and intimacy for the emotions. Our longing to experience the sight and presence of wilderness creatures seems to indicate that already we are beginning to experience the loneliness of which Chief Seattle warned.

NOTES

[1](#) Editor's note: This story is likely apocryphal. Regarding the fact that the standard quote by "Chief Seattle" is not composed of the actual words of the historical individual Seeathl (1786–1866), a chief of the Squamish and Duwamish tribes of the northwestern United States, see the explanation advanced first by Rudolph Kaiser in 1984, which is published in Kaiser, "Chief Seattle's Speech(es): American Origin and European Reception," in *Recovering the Word: Essays in Native American Literature*, ed. Brian Swann and Arnold Krupat (Berkeley: University of California Press, 1987). The issue is also explained in David Suzuki and Peter Knudtson, *Wisdom of the Elders: Honoring Sacred Native Visions of Nature* (New York: Bantam, 1992), pp. xx–xxiii. Nevertheless, the sentiment is surely emblematic of the Native American view—and hence of Thomas Berry's view—of an intensive web of relationship between human beings and animals, a web whose rupture would be fatal to both.

[2](#) Norman Myers, cited in E. O. Wilson, *Biodiversity* (Cambridge, Mass.: Science Center, Harvard University, 1989), p. 34.

[3](#) Niles Eldredge, *Life in the Balance: Humanity and the Biodiversity Crisis* (Princeton, N.J.: Princeton University Press, 1998), p. x.

[4](#) Aldo Leopold, *A Sand County Almanac: And Sketches Here and There* (New York: Oxford University Press, 1949, 1968), p. 138.

[5](#) *Ibid.*, pp. 237–64.

[6](#) Ibid., p. 240.

[7](#) Loren Eiseley, *The Unexpected Universe* (New York: Harcourt Brace Jovanovich, 1969), p. 210.

[8](#) Henri Frankfort et al., *Before Philosophy* (Chicago: University of Chicago Press, 1946), p. 12. This book was originally published under the title *The Intellectual Adventure of Ancient Man: An Essay on Speculative Thought in the Ancient Near East*.

Earth as Sacred Community

The magnitude of the ecological crisis of our times is such that we are presently terminating the Cenozoic era of Earth's development and entering into the Ecozoic phase of the Earth process. The Cenozoic has been the period of the expansion of life in the full brilliance of its expression, but this expansion of the life systems of Earth is being terminated. This will affect all our human institutions and professions that were appropriate to the Cenozoic era. They must now undergo a transformation if they are to be integral with the new period in the historical evolution of the planet. The transformation required is a transformation from an anthropocentric norm of reality and value to a biocentric or geocentric norm. This will affect every aspect of our human thought and action. It will affect language, religion, morality, economics, education, science, technology, and medicine.

In our discussion of sacred community, we need to understand that in all our activities the Earth is primary, the human is derivative. The Earth is our primary community. Indeed, all particular modes of Earthly being exist by virtue of their role within this community.

Failing to recognize this basic relationship, industrial society seeks to subordinate the entire Earth to its own concerns, with little regard for the consequences for the integrity of the planet. This subjugation of the primary functions of the Earth to the limited concerns of the human can be observed in all our professions and institutions.

This is certainly true for economics. Both in our great corporations—in, for example, the automobile industry; the petrochemical industries; and the

construction industry that builds roads, housing development projects, shopping malls, and parking lots—and among public utilities, we find little concern for the well-being of the natural world. Nor in the teaching of economics is there any significant reference to the remarkable economics of the Earth, whereby the vast numbers of living species provide habitat and nourishment for each other in an ever-renewing cycle of seasonal transformations. Our imposition upon the natural world is reaching a certain extreme moment in the case of contemporary drift-net fishing in the great oceans of the world. These fine-meshed nets, thirty to fifty miles long and forty feet deep, draw up from the sea every living being within their range. Over five hundred such nets are used daily by boats from Japan, Korea, Taiwan, and other nations. Even in the Mediterranean, drift nets are being used, with obvious consequences that include the extinction of marine life and, ultimately, diminishment of human life. Those who criticize this kind of industrial fishing now call these nets “walls of death.”

That such destruction is possible, and that there has been great difficulty in ending these practices, can be traced, to a large extent, to our sense of governance. We have established our human governance with little regard for the need to integrate it with the functional order of the planet itself. Just as the human derives from the Earth, so the validity of our governance in its every aspect derives from the ecosystems of the Earth.

Not only have we failed to establish our legal system in accord with the ecosystems whereby the Earth rules itself, we have established legal structures that leave the Earth defenseless against the savage assaults by its human inhabitants and their corporate embodiment.

We are extremely sensitive as regards human rights. Yet the question of Earth rights seldom enters into our conscious minds. We invade the habitat of other species on the supposition that humans have rights to habitat unlimited by the rights of other species. Our machines are built to tear the Earth apart in our construction projects. Our off-road vehicles tear up the natural world for ephemeral human excitement. Our failure to establish some acceptable interspecies legal structures is contributing to the

extinction of species around the planet. This will continue until we expand our democracy into a biocracy, under which humans will be sensitive to the needs of the larger Earth community.

This inability to take the integral functioning of the Earth into consideration when we conduct human affairs can be observed even in the medical profession, with its very limited concern for the integral functioning of the larger life community within which we exist. The lack of concern in the medical profession for the chemical balance and the integral functioning of the biosystems of the Earth is driving us ever more deeply into technological forms of medical practice to counterbalance the deleterious influences on human health derived from the toxic elements in the environment. There is little awareness, apparently, that the health of the planet is primary while human health is derivative. We cannot have well people on a sick planet. Our efforts to sustain human life by increasingly artificial methods may mitigate the immediate consequences of the present situation, but it is doubtful that they will long sustain either the physical or the psychic vigor of the human community.

Humans as a planetary presence are currently terminating the Cenozoic era of Earth history and entering the Ecozoic era. This geological shift is marked by the fact that the sixth extinction spasm is occurring, and it is of our own making. This is the largest transition in Earth history since the end of the dinosaurs 65 million years ago. The survival of other species and the vitality of human affairs will depend on our capacity to adapt to this transition. Above all, this entry into the Ecozoic era is the entry into the period of the Earth community with a new sense of its sacred dimension. Just as traditional societies entered into the sacred liturgy of the natural world expressed in the sequence of cosmological transformations throughout the seasons of the year, so now we are in the process of rediscovering the sacred dimension of the great Earth community in its stupendous unfolding over these past billions of years.

Presently, those of us who are heirs to the biblical tradition are trying to be religious in accordance with written scriptures and covenant relations

with the divine based on a juridic model. This can be effective only as long as it functions within the awesome awakening to the divine evoked by our experience of the natural world. We become religious by fulfilling our role within the larger community of the universe itself. The natural world is both the primary source of religious understanding and the primary religious community. In the natural world, we discover the mysterious power whence all things come into being. In humans this religious community reflects on and celebrates itself and its numinous origins in a special mode of conscious self-awareness.

Rather than accord with these vast cosmic forces in the natural rhythms of their expression, especially in the biosystems of the planet, we have, in recent centuries, been subverting these forces. We have long been imposing our mechanistic patterns on these biosystems, forcing the natural rhythms of the Earth to accord with our accelerated demands. When organic processes are too slow or too limited in bringing forth their produce, we force the growth through chemical processes that increase the volume of production, even though the nourishing quality of the product is inferior and the fertility of the land diminished. In a multitude of different ways, we seek to subdue the Earth to our own ephemeral purposes, considering this the proper human relationship to the natural world.

Because of this distortion in our thinking, we are carrying out what may be one of the most devastating assaults ever on the Earth in more than 4 billion years of life on this planet. That such devastation is taking place is evident from the writings of Norman Myers, an environmental scientist at Oxford University with exceptional competence in understanding the larger life systems of the planet. In a conference called by the National Academy of Sciences and the Smithsonian Institution in 1986, he stated that we are likely “bringing about the greatest reduction of the diversity and abundance of life on Earth since the first flickerings of life on Earth some 4 billion years ago.” E. O. Wilson of Harvard University estimated that we are presently extinguishing some ten thousand species annually, and that this rate is increasing. In this same conference, Paul Ehrlich told us that through our industrial civilization we are likely producing the conditions of a nuclear winter.

Something much greater is happening than is generally realized. This is something more than the “end of the Enlightenment” as is sometimes suggested. It is something more than a parallel with the fall of Rome. It is something more than the demise of Western civilization. It is a transition greater than any historical transition that has ever taken place in human affairs. For this is a deleterious change not simply in human social order or cultural expression. It is a change in the very chemistry of the planet that makes life possible. It is a change in the biosystems of the planet. It is a change in the geological structure of the planet.

Not simply the human future is involved. The future of every living being on the planet is at issue. The fate of the planet itself in its most profound physical and psychic structure is being determined. We are witnessing nothing less than the dissolution of the planet Earth and all its living systems in consequence of this strange distortion of our human role in the Earth process that has emerged from within our modern Western world, which was itself born out of a biblical-classical matrix.

Here we might observe that our Western religious institutions are strangely indifferent to what is happening. This indifference arises, apparently, as a result of excessive concern for redemptive processes out of this world—which is considered to be seductive—rather than integration within this world considered to be sacred. There seems to be little realization that the disintegration of the natural world is the destruction of the primordial self-manifestation of the divine. The very existence of religion is threatened in proportion as the splendor of the natural world is diminished. We have a magnificent sense of the divine because we live in such a resplendent world. If we lived on the moon, our sense of the divine would be as dull as the lunar landscape.

Even when we try to bring religious influence to bear on these issues, we find that our religious traditions have little relevance to what is happening. Our Western religions exist in a different world, a world of covenant

relations with the divine, a world little concerned with the natural environment or with the Earth community. Our sacred community is seen primarily as one concerned with human-divine relations, with little attraction toward a shared community existence within the larger world of the living. Our iconoclasm is such that we can hardly think of ourselves within a multispecies community or consider that this community of the natural world is the primary locus for the meeting of the divine and the human.

One study done at Yale University found that the more extensively people participate in religious activities, the less likely they are to be concerned with the natural world. The pathos of the human, described so extensively in the prophetic writings, seems to exhaust our religious energies. Religious attention is directed toward moral conduct, social injustice, pietistic practices, and interior meditation experiences.

Valid as these activities might be, they are themselves frustrated at present because the primary reorientation of our society toward a more integral relation with the Earth is not taking place. Religion, rather than supplying the needed cultural therapy, is in need of a profound rethinking of itself and its role in Earthly affairs. This requires that we humans reflect on our present situation to understand how it has come about, why we are so incompetent in our efforts to mitigate the damage being done, and how we might foster a profound Earth renewal.

We are at the end of the Cenozoic era in the biological history of the Earth and moving into the beginning of the Ecozoic. If this integral Earth community is to emerge, however, the entire array of our professions and institutions must accept the larger Earth community as our primary source of reality and value and the human as derivative from, and as fulfilling a unique role within, this community. Within this context our various professions and institutions should even now be establishing their new patterns of authenticity and effectiveness. It is a moment of supreme challenge, since the various spheres that constitute the macrophase structure

of the Earth (the land sphere, the air sphere, the water sphere, the life sphere) are all presently imperiled in their most basic functioning.

Some 65 million years ago the Cenozoic era began, the period when life as we know it took shape. During the Cenozoic the life systems of Earth brought forth their most entrancing beauty. This was the period of flowers in their unnumbered variety and in all their gorgeous colors and fantastic shapes. A wildly creative period of divine fantasy and extravagant play. This was the period of music, of winds through the trees, the call of the mockingbird, the song of the whales in the sea; this period saw the flight of the osprey, the colorful patterns on the wings of the butterfly, the fireflies in the evening.

The early human types appeared during the Ice Ages of the last 1.8 million years, during a period sometimes referred to as the Pleistocene—a supremely lyrical moment when humans first emerged, quietly, somewhere on the edge of the savanna in Africa, whence they later spread into the Eurasian continent. From these early hominid types came our own ancestors some sixty thousand years ago, with developed speech, with symbolic language, with skills in toolmaking, with extended family communities and the capacity for song and dance and elaborate ritual within the sacred community of the entire natural world.

Then, some ten thousand years ago, this community emerged into the Neolithic period, during which it developed advanced skills for social structures, for weaving and pottery, for domestication of wheat and rice and chickens and pigs and cattle and horses and reindeer herds. Above all this was the period of village beginnings. Out of this village context came the early sacred cities of the world, in Sumer and Egypt.

A pervasive religious rapport with the spirit powers of the natural world developed. The gods and goddesses were born in the human mind as expressions of those ultimate creative sources of existence. Ritual enabled humans to enter into the grand liturgy of the universe itself. Seasonal

renewal ceremonies brought humans into the rhythms of the solar cycle. Religious structures were set on coordinates identified with the positions of the various heavenly bodies.

This was a period of wonder and creativity that was to shape the human future until our times. A remarkable continuity existed at this period throughout the entire realm of existence. The human experienced itself in integral relationship with the surrounding forces of the universe. Human activities were modeled on the functioning of the larger community of life. Everything possessed its own life principle, its own subjective mode of self-expression. Humans and animals and plants and all natural phenomena were integral within the larger community. There was no “it” in our sense of the word. Every being and every phenomenon was experienced as a “thou.”

This continuity between the human and the cosmic was experienced also in the Chinese world, where the residence of the emperor was so arranged as to conform to the cardinal directions of the universe. Human activities throughout the year were coordinated with the cycle of the seasons. The clothes worn by members of the court, the music, the colors, the rituals were all carefully coordinated with the seasonal sequence. If summer music was played in the winter, then the entire cosmic order was considered to be disrupted. The supreme achievement of the human personality in this context was to experience one’s own being as one body with heaven and Earth and the myriad things.

This continuity of the human with the natural world in a single sacred community can be appreciated in the experience of Black Elk, a Lakota Indian. When he was nine years old, he experienced an elaborate vision culminating in a vast cosmic dance evoked by the song of the black stallion seen in the heavens: “There was nothing that did not hear, and it was more beautiful than anything can be. It was so beautiful that nothing anywhere could keep from dancing. The virgins danced, and all the circled horses. The leaves on the trees, the grasses on the hills and in the valleys, the waters in the creeks and in the rivers and the lakes, the four-legged and the

two-legged and the wings of the air—all danced together to the music of the stallion’s song.”

To alter this primordial sense of continuity throughout the universe seems to have been the basic purpose of biblical revelation. Within the biblical context, the continuity of divine presence with the natural world was altered by establishing the divine as a transcendent personality creating a world entirely distinct from itself. In addition, the continuity of the divine with the human was altered by the establishment of a covenant relationship based on a juridic model. The continuity between the human community and the natural world was altered by identifying the human as a spiritual being in contrast to all other beings. Only the human really belonged to the sacred community of the redeemed. The previous sense of a multispecies community was diminished.

These discontinuities became exaggerated over the centuries, especially through emphasis on the personal redemptive experience communicated to the human, not a redemption out of our autistic status into a more abundant life of intimacy with the Earthly community, but redemption of an elect people into a trans-Earthly divine kingdom. Our true home, our true community, was not in this world.

The humanist traditions that come down to us through the classical writings of the Greco-Roman world, apart from those of the Stoics, supported this alienation. This is evident in their emphasis on human grandeur considered to be distinct from the wilderness world and opposed to any sense of multispecies community. This “arrogance of humanism,” as David Ehrenfeld termed it, alienated Western society from both its religious heritage and its intimacy with the natural world.

Whatever the human gains in these Western religious and cultural developments, the Earth in its most essential functioning has been profoundly disturbed by these developments. But even while we indicate the role of our Western biblical-classical traditions in bringing about

deterioration within the larger Earth community, we must note that this is an intensification of even earlier stresses upon the Earth: the stresses caused by the constant increase of its human occupants, especially since the Neolithic period; the clearing of woodlands; the development of agriculture; the invention of the plow; and the domestication of animals. Even evidence from Paleolithic times indicates a significant deleterious human impact on some of the larger animal species.

From these observations we can say that establishing a mutually enhancing human presence upon the Earth has been a difficulty from the late Paleolithic until the present. Also, we can say that the biblical-Christian-classical tradition has intensified this alienation from the natural world and has set up conditions that have permitted extensive plundering of the Earth for human use. As regards our own specifically Western responsibilities, we must note that, although we have developed a moral teaching concerned with suicide, homicide, and genocide, we have developed no effective teachings concerned with biocide, the killing of the life systems of the Earth, or geocide, the killing of the Earth itself.

Realizing that there is something terribly wrong in our relations with the natural world, our religious traditions have recently begun putting special emphasis on the concept of stewardship as the primary relationship between the human community and the natural world. This concept of stewardship is derived from biblical statements concerning human dominion over the Earth and all its living creatures. To many religious people, this seems quite adequate as a basic orientation toward the natural world. To others, stewardship itself is the origin of our present evils. There is no way in which we can care for the natural world or improve on the genius of nature. It would be difficult to discover any human improvements that have ultimately been beneficial to the natural life systems of the Earth, although we can on occasion bring about a measure of healing to the damage that we have caused.

Yet it should not be said that stewardship exhausts Christian concern for the world about us. There is a profound Christian awareness that the natural

world is itself a manifestation of the divine. This has led to the concept of revelation being contained in two scriptures: one the scriptures of the natural world, the other the scriptures of the Bible. While this sense of the natural world as revelatory has been severely diminished since the sixteenth century, with the discovery of printing and the consequent emphasis on the written word, it is still available in the tradition itself. If more fully developed, this could lead to a more effective concern for the survival of the planet.

However, these Christian or classical humanist orientations cannot alone support the new effort of understanding or provide the energy needed in this transition in our sense of sacred community from the Cenozoic to the emerging Ecozoic era in Earth history. The main reason for this is that our religious traditions were developed in a world characterized by a spatial mode of consciousness. In this mode of consciousness, the universe is experienced as secure and determined in its essential form, although we experience on Earth a seasonal renewal. Our religious liturgies are extensively based on this sense of an ever-renewing sequence of change. Even though there did exist a continuing irreversible historical development in the Divine Kingdom, this was essentially a spiritual transformation of the human world in an abiding natural world.

Modern humans are committed to a time-developmental mode of consciousness, in contrast to a spatial mode of consciousness. Since Darwin, humans have experienced the universe not simply as cosmos but as cosmogenesis, as changing and unfolding. Everything in the universe is experienced in the unceasing flow of cosmological or historical time. Whereas time is ever renewable in spatial consciousness, time is irreversible in a developmental mode of consciousness.

In a developmental mode of consciousness—in contrast to the spatial mode of consciousness—we know less by intuition than by empirical observation, in quantitative as well as qualitative terms, and by acquaintance with the sequence of transformations whereby the universe has attained its present structure and modes of functioning. It is not

sufficient for us to receive mythic stories of the universe, such as those that have come down to us through traditional societies, although these are a necessity both for ourselves and for other peoples and generations.

Our basic story, however, is quite different. It is upon this story known through empirical observation that we must move into the future. The difficulty with the story of the universe, as this is known to us through recent centuries of intense observation and analysis, is that it has generally been told in an inadequate way, as simply physical in form and random in process. Insofar as it goes, this scientific presentation of the universe has achieved a certain dazzling success. Yet the materialistic interpretation generally given to the scientific data has become progressively less adequate.

The entire scientific process was severely affected by Werner Heisenberg's discovery in the 1920s that the reality known is profoundly affected by the knowing subject, that our knowledge of the universe never ultimately attains the so-called objective world in any absolute sense. Knowing is a communion of subjects rather than a simple subject-object relationship.

Several other considerations have also affected our overly facile scientific presentation of the universe. In such presentations there is no reference to the fact that all coding, whether in the structure of the elements or in the genetic endowment of living beings, is by its nature an immaterial, a psychic determination. While certainly not separate from the physical aspect of things, this inner psychic dimension is distinct from any of the component parts as well as from the totality of the parts. It is the unifying principle imperceptible to sense faculties but immediately known by intelligence, just as a tree is seen as a unity in all its physical relationships and is not reducible to any or all of these. There is a mystical dimension not only in the reality known but in the scientific equations whereby we give expression to the knowing act. Our study of genetics may provide us with a pattern of the components governing the genetic process, but we will never have physical experience of the inner principle that enables this amazing

complex of genetic materials to function with the unity and spontaneity we observe in the unfolding processes of life.

A further observation: if we proceed in scientific inquiry by a downward reduction of wholes to their parts, we need to complement this procedure by an upward integration, in which we understand parts by their function in the larger configurations. We cannot understand any part of the universe until we understand how it functions in the whole. For example, any study of the element carbon limited to its inanimate form provides only minimal understanding of carbon, since carbon has astounding capacities for integrating the basic elements needed for organic existence. Even beyond the organic and the qualities associated with living beings, there is the capacity of carbon to enter into the processes of thinking. Thought itself and the highest of human spiritual achievements are attained through activation of the inner capacities of carbon in its alliance with the other elements of the universe. Thus carbon has varied modes of expression, from inorganic to organic to conscious self-awareness in the human.

In the interconnection, then, of part to whole (as seen in the example of carbon), there is surely a certain discontinuity that emerges, but also a continuity that must not be neglected between the different modes of expression—inorganic, organic, reflexive. The materialism of science or the spiritualizing tendencies of religion that refuse this continuity of the human and all our capacities with the natural world ends up with a radical disassociation of the human from the universe about us. Moreover, to identify this disassociation with spirituality is to mistake the entire meaning and significance of spirituality in its human expression.

Vast periods of time have been required to bring about this sequence of transformations from the primordial radiation to the shaping of the elements, from the elements to the molecules, then to the megamolecules—the viruses, cells, and organisms—and on to the more complex living forms, and eventually to the human mode of consciousness.

Narration of this sequence has required the immense effort of scientific investigation of these past few centuries. It has necessitated the setting aside, for a while, of the spiritual, visionary, intuitive, imaginative world in order to probe as deeply as possible into the visible, material, quantitative world, the measurable world, the world that could be expressed in the language of calculus, the great instrument of the scientific endeavor. The success of this scientific achievement and its subservience to the often-ephemeral purposes of the commercial, industrial, and financial establishments produced a profound revulsion in many religious persons. Out of this revulsion has come a widespread reassertion of traditional religious teachings with a fundamentalist fixation.

This antagonism between mechanistic science and fundamentalist religion is one of the basic reasons for our inability to establish a sense of sacred community with the natural world. Scientific materialism could not evoke the awe or wonder or fear of the natural phenomena needed to restrain the more grasping tendencies of the human. Nor could fundamentalist Christianity committed to redemption out of this world evoke the dedication needed for intimacy with the forces of nature, considered to be both seductive and without spiritual meaning. Strangely enough, even some of the other religions, such as those in Asia, with magnificent traditions of intimacy with the natural world, could not restrain their own adherents from plundering the Earth in the race to consume more resources for modernization and development.

My proposal is that we cannot fully remedy this situation except by a realization that the universe from the beginning has been a psychic-spiritual, as well as a physical-material, reality. Within this context the human activates one of the deepest dimensions of the universe and is, thus, integral with the universe from its beginning. The universe story needs to be accepted simultaneously as the human story and the story of every being in the universe.

There is a need for the religious traditions, on their part, to appreciate that the primary sacred community is the universe itself, and that every other

community becomes sacred by participation in this primary community. The story of the universe is the new sacred story. The Genesis story, however valid in its basic teaching, is no longer adequate for our spiritual needs. We cannot renew the world through the Genesis story; at the same time, we cannot renew the world without including the Genesis story and all those creation stories that have nourished the various segments of the human community through the centuries. These belong to the great story, the sacred story, as we presently know this sacred community.

The New Story of the universe is a biospiritual story as well as a galactic story and an Earth story. Above all, the universe as we now know it is integral with itself throughout its vast extent in space and throughout the long series of its transformations in time. Everywhere, at all times, and in each of its particular manifestations, the universe is present to itself. Each atomic element is immediately influencing and being influenced by every other atom of the universe. Nothing can ever be separated from anything else. The Earth is a single if highly differentiated community. This is the quintessential way of understanding the universe.

So, too, every part of the universe activates a particular dimension or aspect of the universe in a unique and unrepeatable manner. Thus everything is needed. Without the perfection of each part, something is lacking from the whole. Each particular being in the universe is needed by the entire universe. With this understanding of our profound kinship with all life, we can establish the basis for a flourishing Earth community.

Creative Continuity

The cosmological narrative is the primary narrative of any people, for this is the story that gives to a people their sense of the universe. It explains how things came to be in the beginning and how they came to be the way they are. It provides the first sense of creativity in a story that is generally recounted at any significant initiation event of the community or a person. It is a healing story, a power story, a guiding story. All human roles are continuations, further elaborations, expansions, and fulfillments of this story. So any creative deed at the human level is a continuation of the creativity of the universe.

In our times, we need to experience human activities as continuation of the creativity that brought about the emergent galactic systems and shaped the elements; that brought the planet Earth into existence within the solar system; that brought forth life in the fantastic variety of its manifestations; that awakened consciousness in the human order; that enabled the great cultural sequence to take place in its four basic periods: the tribal-shamanic period; the period of the classical religious cultures of the Eurasian, American, and African worlds; the scientific-technological-industrial period; and now the emerging ecological period when the intercommunion of all living and nonliving systems of the planet is being activated at a new level of mutual presence.

There is, I propose, an unbroken continuity in the creative process throughout this expanse of universe development. Both in our physical and in our psychic constitution, we are totally involved in that single vast creative process that reaches across all the distances of space and from the beginning of time to the present. Human involvement in this immense

creative process finds expression in poets and musicians and religious personalities, as well as in forming personal and community life, something that we refer to as culture.

The creative work of the emerging twenty-first century is the shaping of an Ecozoic era to succeed the Cenozoic era, which is presently in its terminal phase. Its creativity is frustrated just now, and a reverse process is taking place in the development of a nonviable Technozoic-Industrial era rather than an Ecozoic-Organic era. This sense of a single universe integral with itself, a universe totally in communion with itself by gravitational attraction, by the influence of its parts on each other and on the whole, is well recognized by contemporary scientists. The biologist Lewis Thomas finds the single cell to be the most appropriate metaphor for describing the planet. He says that, to a biologist observing the Earth from a distance over a long period of time, the planet appears to be a cell in an embryogenesis stage of development.¹

In this same sense, we are beginning to see ourselves as the universe that produced the human mind and the mind that knows the universe. The universe that human intelligence knows is the only universe that could possibly produce human intelligence. This relationship is amazingly close from the very moment of the emergence of the universe. If the rate of expansion of the primordial reality had been slightly faster or slightly slower, neither order nor life nor human intelligence would ever have come into being. For the universe either would have dispersed, with nothing taking shape, or would have collapsed from the absence of inner support. Such is the intimate relationship between this primordial event and the emergence of human intelligence some 15 billion years later, an intelligence capable of understanding and experiencing the primordial moment out of which it emerged.²

While all these scientific perceptions of the universe are powerful, they are only expressing in more analytical terms, and with more scientific evidence, what was known intuitively from the earliest moments of human understanding for which we have records. We can see, for example, the

importance of the early Chinese sense of the human as the *hsin* of the universe. The word *hsin*, written as a pictograph of the human heart, can be translated as either “mind” or “heart.” So the Chinese phrase defines the human as the heart of the universe, or as the consciousness of the universe.

This might lead us to consider whether we should identify the human primarily as a mode of being of the universe or as a particular being in the universe. While we need to do both, the sense of the human as a mode of being of the whole, more than as a particular being in the whole, enables us to have a more meaningful perspective on the human and on all human activities.

Before the proper mode of presence to the universe can be fully established in the present, however, there is a need to articulate the specific identity of the human within the universe. This emphasis on the human in its separation from the other components of the universe community seems to have been the special analytical role of the modern Western cultural age through which we have just passed. However, this emphasis has led to a devastating expression of human arrogance in relation to the other members of the Earth community.

We are now discovering our human presence within the larger context in which we have our existence. We are entering a period of greater human identity with the natural world and its generative powers. For creative personalities this sense of human identity is seen as being supported by the total dynamics of the universe. An awareness of the dynamics of the universe acquires a special significance in our times because of our dominant time-sequential experience of the universe rather than a dominant space-extension experience of the universe. By virtue of this developmental time-experience, we see the universe as a sequence of transformations over vast periods leading to the present. We see ourselves as participating in these generative processes rather than as fixed and established in a clearly defined mode of being and functioning. We participate in this creative activity primarily by the shaping of our own intellectual and cultural development.

This participation brings with it awesome responsibilities and also demands a clear understanding of the universe with which we are dealing. For the universe functions by violent and destructive processes, as well as by peaceful and creative dynamics. Yet the universe has so far produced an amazing order and harmony and splendor in its total effect. This we observe in the arrangement of the stars in the sky and in a more limited but more comprehensive manner in our own solar system. In the Earth, particularly, we find the structuring of a magnificent planet, the millionfold variety of life-forms, and the emergence of human consciousness. All this is evidence enough that a vast mystery is being enacted in which we participate in a unique fashion.

As we reflect on this process in all its vastness, we must pay a special tribute to the scientific endeavor of recent centuries that has given us an understanding of this process and so enabled us to appreciate, in a way not possible before, the forces at work within the universe, on the planet Earth, and in human intelligence. Personal identity and creativity go far beyond the human, the biotic, and the geological realms into the identity, functioning, and creativity of the universe itself in all its diverse modes of expression.

This largeness of context of human action is being enunciated by various new cultural or countercultural movements throughout the United States, although these frequently function more within the traditional ever-renewing spatial context than within the temporal ever-transforming sequence. This difference between a dominant spatial and a dominant temporal mode of understanding is perhaps the most basic difference between the traditional mythic understanding of the universe and the modern emergence story of the universe enunciated within the new scientific context. This sense of creativity, as the primary ever-present self-manifestation of the universe, alters profoundly our own sense of ourselves and the significance of our own human activity, since we are a dominant power in this entire process. It has been difficult for us to appreciate the full

significance to ourselves of the discovery we have made of the evolutionary mode of the universe.

This new origin story, developed within the context of modern science, is still not properly understood or functionally effective in the human community. Yet it provides the most basic cultural resource presently available to both Western society and the entire human community. Indeed this origin story now provides the context for the educational programs of the human community on a broadly universal scale. Contemporary education, to be effective, must identify where we are in both time and space in terms of this new origin story. Although the traditional religious accounts communicate to the student a significant cultural heritage, many contemporary issues cannot be effectively dealt with simply out of a traditional cultural heritage.

What is involved is not only a change in our way of thinking about the world but also a change in the physical structure and functioning of the planet Earth itself. This is a change so significant in its order of magnitude that these centuries must be considered not simply as a historical period but more as a geological age. The changes we are living through are that extensive. In a few centuries, we have changed the planet in its physical structure and in its life functioning on a scale that formerly took hundreds of millions of years. Certainly since the beginning of the Neolithic period some twelve thousand years ago, nothing so significant has happened to the planet. What is needed by way of psychic reorientation in dealing with this change goes beyond any other phenomena of which we have any experience, even those amazing moments of cultural transformation associated with the founding of a new religion.

Primary consideration must be given to our mode of understanding the inner structure of the emergent universe as presented in this new account communicated to us by scientific observation and inquiry. Until recent times the emergent universe has been seen simply as a physical reality that must be dealt with through quantified modes of understanding. In this context anything or any activity, any energy articulation, is simply what is

given by its measurable expression of itself. No scientific basis for any nonmaterial, vital, or psychic phenomenon can be allowed. Ultimately, since the time of Descartes, the universe is explained in mechanistic terms. This is due to the control over the Western mind exercised by the mechanistic interpretation we have given to the universe as presented by Isaac Newton. To scientists after Newton, any psychic or vital activity is ultimately reduced to a material basis if it is to be anything other than a reflection of a romantic mood or passing illusion.

While this scientific position, with the introduction of quantum mechanics and relativity, is much less absolute than it was formerly, the emergent universe is still not seen as a revelatory experience of numinous presence; nor is the inner psychic structure of reality understood in any effective manner. In reality, we might say that the simplest atomic structure, the hydrogen atom, already expresses a radiant intelligibility, a psychic as well as a physical aspect of reality. It is a numinous and mystical being as well as a physical measurable being. As the articulation of an energy quantum, the primordial particles carry within themselves the total mystery and meaning of the universe, as well as the entire range of creativity that will ever exist.

This we can understand if we consider the scientific view that the universe is a singular reality integral with itself, and that any later phase derives from an earlier phase. With this scientific principle of the unity of the universe, we can proceed on several basic paths of understanding. The first way, the dominant way of science, is that of an analytical reduction of later unities into prior physical parts. These prior component parts are considered to be the elemental reality; anything later is derivative.

Another way of proceeding is to begin with human consciousness and to say that we are intimately aware of the human psychic mode of being. There is no way of accounting for the human mode of being and functioning other than through the prior structure and functioning of the universe itself. If the human has a psychic-spiritual mode of being, then the universe must be a psychic-spirit-producing process. The later more

complex and conscious realities of the universe give us deeper insight into the structure of the universe than do the elementary parts out of which the later wholes and modes of consciousness emerge. Indeed, since the universe is a singular reality, consciousness must, from its beginning, be a dimension of reality, even a dimension of the primordial atom that carries within itself the total destiny of the universe.

To study the universe without the human is to study an abstraction. There is no universe without the human and no human without the universe, although the revelation of the human form of the universe did not take place in any adequate way until some two hundred thousand years ago, with the appearance of *Homo sapiens*.

A third approach, of course, would be to proceed both by analysis and by synthesis. Each should enrich the other. Given the scientific mode of presenting the universe simply as a physical reality, there can be little wonder that a cultural and spiritual schism has arisen within Western society, and that many Western religious traditions abandoned their interest in a scientific cosmology in favor of a salvation orientation. Little wonder that explanations of creativity have turned to a purely physical basis, on the one hand, and to a spiritual basis, on the other, neither of which is satisfactory.

What we are concerned with is the shaping of the human world itself: identifying values, establishing a civilizational discipline, molding a language that can carry our deeper interpretation of human experience, activating a communion with the divine, and providing an educational program in which succeeding generations can achieve an expanding life pattern along with an interpretative vision of reality. All these creative functions need to be fulfilled while we are establishing an encompassing human community that can relate effectively with the living and nonliving systems of the planet.

Before venturing into the deeper issue of just how to understand our constructive role in the immediate future, we might observe the challenge that is before us: the challenge of a planet severely damaged by an assault of unprecedented violence; a planet so toxic that rainfall is no longer the purest of waters but has become sulfuric or nitric acid; a planet with its rivers and seas severely polluted; a planet with its atmosphere diminished in its oxygen content and saturated with hydrocarbons; a planet with its continents impoverished in their capacity to support life because of blacktopping and road building, erosion and strip mining. We now have a disturbed biosphere brought about by a technology for which nature has no limiting forces short of suffocating the human perpetrators with their own waste products.

The human effort to get beyond the limiting powers of the natural world evades one of the most important laws governing the biosphere: the law that every expanding life force meets with other limiting forces that prevent any single force or combination of forces from suffocating or eliminating the others. The astounding capacity of nature to establish ecosystems wherein the myriad life systems interact creatively with each other is finally negated by its own recent invention, the human.

But if the human has entered on such a disrupting program within the evolutionary process, a question arises concerning just how this situation can be healed: how can humans enter the future with some responsible use of their creative freedom? There is a tendency to revert back to the traditional disciplines of past cultural developments, to the humanities in education, to the spiritual ideals of former times, to the religions and philosophies of the past, all on the claim that these traditions were set aside by the incoming scientific and technological age and that we need only refer back to our past to recover our humanizing disciplines. The difficulty with this solution is that these humanistic and religious traditions themselves are largely responsible for the situation that has evolved.

The inadequacies of our past humanist-religious traditions that made possible these later destructive processes can be indicated as follows. First,

there is the placing of the divine as transcendent to the natural world, thereby making a direct human-divine relationship the great spiritual ideal. While this has its admirable aspects, it diminishes the natural world as the locus for the meeting of the human and the divine. With this perspective, not only does the natural world become less capable of communicating divine presence, it also becomes isolated from the divine.

A second aspect of the extensive influence of the former humanistic-religious traditions is the establishment of the human also as transcendent to the natural world. This completed the alienation and isolation of the natural world from the divine and made possible the conception of the natural world as mere external object. A further step in degradation came later, when not only were the divine and the human taken away from intimate presence in the natural world but all inner dynamism was removed, even the life principle. Thus there emerged the concept of crass matter as mere extension, capable only of external manipulation and mechanistic activity. This view was extended to humans in the eighteenth century, when Julien Offray de La Mettrie wrote his book *Man a Machine*.³

A third influence of the earlier humanistic-religious on the modern experience is in the doctrine of an infrahistorical millennial age that is to be infallibly attained in the unfolding of the redemptive order. This concept of the millennium, of a blessed future, leaves all present modes of existence unworthy by comparison.

The inadequacy of the humanistic and religious past can be seen quite clearly from the ethical issue in its traditional context, where we perceive the evil of suicide and homicide, and especially the horror of genocide. Yet we have little objection to biocide or geocide. The very magnitude of such activities escapes us. In similar fashion it could be noted that our contemporary human professions, programs, institutions, and activities are all inadequate for the creative task before us by several orders of magnitude. The legal profession is especially inadequate. It cannot deal with Earth-human issues in an effective manner, because it recognizes no inherent rights in the nonhuman world that the human would be morally

obliged to acknowledge. Education, despite all our efforts at renewal, is still in a state of confusion. The medical profession has a much more expansive role to fulfill than it has recently been aware of. Similarly, we could go through the list of professions, occupations, and institutions and show how little they have moved beyond their particular microphase concerns to the larger, more comprehensive issues they must deal with.

It is especially important to note the extraordinary effort, the intensity of dedication, and the extravagant investment present in the current, technologically exploitative form of human existence in the modern world. Such dedication is a characteristic generally expressive of a religious attitude or a great spiritual discipline in its most creative period. Yet, in its exploitative function, our modern world has an extraordinary dynamism: it has acted on a planetary scale and in a geological order of magnitude.

To portray this fantastic modern creation as having a demonic aspect and as needing a radical reversal is to provoke a sense of total shock. To question progress is to commit the ultimate absurdity, paralyze human activity, destroy basic values, and take away existing security. The effort to change our understanding of progress is similar to the effort to stop a tidal wave in its full momentum. Yet such an effort seems demanded by the devastating aspect of a human venture that has thrown itself violently against the dynamics of a planet that took some 4 billion years to work out the intricate harmony governing the biosphere.

This harmony is tough indeed, yet delicately poised and ultimately vulnerable to a technology guided by the cunning of a human intelligence determined to exploit the planet reduced from divine manifestation to economic resource. This is a cunning driven by a subverted biblical vision of an infrahistorical millennium, a millennium to be raised up by human effort, since it did not appear by divine grace. It is a cunning that used the spiritual tradition of human transcendence of the natural world to assault a world that had in itself no rights in relation to human exploitation. This stupendous phase of human activity has not yet reached its exhaustion or its ultimate destructive impact. Yet a multitude of humans have made their

own judgment against this colossal force that has dominated the planet in recent times.

But precisely here the question arises concerning the immense creative effort needed to replace these gigantic forces once they are exhausted or negated. This question of the order of magnitude that appears before us must be addressed in direct fashion. As mentioned previously, the new origin story, the supreme achievement of the scientific effort of these centuries, must be completed by a sense of the psychic, as well as the physical, dimensions of the evolutionary process from the beginning. Once this is done, a vision is constituted that is strong enough, vital enough, and sufficiently inspiring to support the effort required.

The new origin story is our present archetypal story, just as Genesis has been the archetypal story of Western civilization. The Genesis story of a fall in the beginning of a paradisaical human situation does not fit the emergent story of the universe such as we now understand it. The redemption story saves individuals out of the world rather than inspires integration into the world. For centuries, especially since the Black Death of the fourteenth century, the Christian world has alienated itself from the Earth community. So long as salvation proceeds, the Earth community has little relevance.

The great need at present is not for redemption dynamics but for creation concern. An integral creation story is available in the modern scientific account of the origin and development of the universe, because this account of the physical universe is completed by an awareness of its numinous and psychic aspects from the beginning. We need only understand this in some depth and then move forward with the creative task of transforming all human roles, professions, and human institutions, especially our educational, humanistic, moral, and religious institutions, in accord with this creative cosmology.

One great advantage that we possess in this story of the universe is its widespread availability. While it emerged originally out of a Western

cultural context and has a special coherence with this context, the story is not intrinsically related to any traditional culture. It is sustained on its own evidence, which is available empirically. Already this story is gradually becoming the functional basis of education on a planetary scale, even though the story is generally understood simply in its scientific account of an emergent physical universe. Still, such an achievement is not to be disdained or rejected.

In general, however, it must be said that this scientific story of the universe can be challenging to some traditional societies. It can be seen as a contamination of religion, a cause of moral breakdown, a disruption of social order, and a source of psychological confusion when it is presented as simply a sequence of random events with no import for human meaning and purpose. Hence the need for more comprehensive articulation of the epic of evolution. For there is likely no way into the future that does not take as its basis the more integral form of this new vision of the universe. The burden of Western civilization is to integrate the creative aspects of this story and to develop it as our central orientation for the future course of the human venture. This can be achieved in the following way.

First, we need to understand that the universe is the primary revelation of the divine, the primary scripture, the primary locus of divine-human communion.

Second, the unity of the universe needs to be understood. The universe is an interacting community throughout its full extent in space and its development in time. The universe is present to itself in each of its innumerable modes of expression. This is especially true as regards the planet Earth. The harm or benefit of any part is experienced throughout the entire planet.

Third, the human needs to be seen as that being in whom the universe and especially the planet Earth becomes conscious of itself in a special mode of reflective self-awareness. This mode of consciousness seems to be

the most recent achievement of the immense evolutionary journey, the vast transformations through which the universe and the planet Earth have passed. Humans are now involved in an effort at self-understanding of the entire universe, of the Earth, and of all living creatures. Human awareness of the numinous dimension of the universe in the primordial phase of human consciousness gave a special religious and spiritual quality to earlier human societies. So too in the period of the great civilizations, humanistic awareness continued to develop. Full penetration into the dynamics of the physical world awaited our modern times. The next phase is to fulfill the promise of all these previous phases in an integral period of the universe's awareness of itself.

Fourth, the Earth is a self-emergent, self-educating, self-nourishing, self-governing, self-healing community. Thus any particular human activity upon the Earth must take its norm from the principles governing the total community. This is a new expression in our times of the natural-law vision of the medieval world.

Fifth, the creative genius of the earlier life processes of the Earth, as well as its principal instrument of education, is genetic coding. This coding guides the unfolding of the life process in the individual and the species. The ultimate creative genius of the Earth at this level is the emergence of the total biospheric interaction of genetic codings and the mutation processes whereby new codes are developed within the interplay of the various living and nonliving energy systems. Understanding creativity and freedom at this level is wonderfully instructive for appreciating expressions of freedom and creativity in the later phases of human development.

Sixth, with the emergence of hominid life the Earth community brought forth a genetic coding for the transgenetic processes that identify the human level of cultural development. The human being is genetically coded for speech, but then the vast creative effort of human communities is needed to shape the specific languages in which speech finds expression. The entire complex of human culture is genetically coded and further developed by additional cultural codings, which are the supreme expression of human

genius. In such cultural codings, we have that extensive range of creativity whereby the human community gives shape and direction to itself. Again at this moment, the human in its most intense expression feels that its activity has its ultimate origin in the primordial depths of time and space.

As with the universe, the full expression of the human takes place through a sequence of macrophase developments, and results as well from the variety within any single microphase level of its development. Certain moments of human creativity correspond with the mutation processes at the prehuman level. So we have the four macrophase expressions of human creativity. These four macrophase expressions can be identified as the tribal-shamanic phase; the classical religious-cultural phase; the scientific-technological-industrial phase; and now the emerging ecological phase.

In each of these phases, a form is established that governs the basic modes of human activity of the period. At the first two levels, the human creative process articulates itself in a variety of expressions, much as the elements and the stars in the heavens, the minerals and the living beings of Earth differentiate into a variety of expressions. This creativity of nature takes place also in the creativity of the human community as seen in the multiform indigenous traditions and the various classical cultures.

In the tribal-shamanic phase, the human experiences its deeper inspirations as coming from the ultimate mystery of the universe. Thus we have the revelatory experiences of the natural world and cosmos that shaped human societies in this earlier period.

In its second, or classical, period, a cultural coding developed that had extensive similarities throughout Eurasia and the Americas. At this time an extraordinary sense of the divine coexisted with sacrificial rituals, revelatory experience, clearly articulated theologies, and extensive spiritual disciplines whereby the human attained liberation from the world of phenomena and entered into an absolute mode of being.

Especially important is the dominant spatial experience of this time. Creativity was mainly in a spatial mode. A sense of developmental time did not exist, except in the Western biblical worlds. Even then, it was a spiritual mode of historical development within a given spatial context.

This sense of spiritual development in the Western world led eventually to a cultural coding dominated by historical developmental time as the most primordial aspect of reality. This later provided the context for the third great cultural phase, the scientific-technological period, with its amazing capacity for transforming the human community and the entire planet. During this period, the unifying impact was so overwhelming that adequate differentiation has been slow in developing, although this differentiating process is now taking place on an extensive scale. New capacities for travel, communication, and transportation have joined the total Earth process in a new web of relationships both psychic and physical. This has occurred even while the human community has been articulating its differences in the form of the 199 nations into which the peoples of Earth and the surface of the Earth and the resources of the Earth are now divided. This articulation of differences within encompassing unities requires new modes of understanding that we have not yet achieved.

After considering the tribal-shamanic, the religious-cultural, and the scientific-technological-industrial sequences, we come to a fourth period, the specific period of creativity that is being mandated for us by the historical situation in which we find ourselves as we move from the scientific-technological phase into the ecological phase of human-Earth development. Most important just now is the task of creating a conscious integration of the entire range of all those codings that govern the living and the nonliving systems of the universe.

As all creativity involves being seized by an archetypal reality in the unconscious depths of the universe, as creative religious personalities were seized by revelatory experiences of the divine whereby they created the religious cultures of the past, so now we are being seized by a new revelatory experience that is coming to us in the new origin story and its

fulfillment in this latest communion phase of the universe. It is the supreme challenge of our period to bring this new origin story into its fuller articulation. With this story as an orienting context, our way into the future is possible.

NOTES

[1](#) Lewis Thomas, *The Medusa and the Snail* (New York: Viking Press, 1974), p. 15.

[2](#) Sir Bernard Lovell, *In the Center of Immensities* (New York: Harper and Row, 1978), ch. 7, esp. p. 122.

[3](#) Julien Offray de La Mettrie, *Man a Machine*, trans. Gertrude C. Bussey (Chicago: University of Chicago Press, 1912).

The Nation-State in the Twenty-first Century

The nation-state, formulated as a political reality in the period of the Enlightenment, found its full development in the romantic period. A political romanticism came into being in the late eighteenth century and the beginning of the nineteenth century, along with literary and artistic romanticism. The more artistic forms of romanticism were often inspired by a political mystique. These all contributed to the rise of nationalism. We hear this nationalistic exaltation in the French anthem, the *Marseillaise*, and associate it with the marching of people through Paris to the Bastille in July of 1789. We see it later in the bravado of Giuseppe Garibaldi and his thousand ragtag soldiers as they invaded Sicily in May of 1860 in the Risorgimento of Italy.

A political romanticism resounds with triumphal expression in the music of Giuseppe Verdi (1813–1901), especially in *Aida* (1871) and his *Hymn of the Nations* (1862). The spirit of the Polish nation finds expression in the *Polonaises* of Frédéric Chopin (1810–1849), and the spirit of the Russian people blossoms forth in the music of Mikhail Glinka (1804–1857). What Bedřich Smetana and Antonin Dvořák achieved in expressing the spirit of the nation in Czechoslovakia, Edvard Grieg accomplished in Norway. Similarly, Richard Wagner sought to evoke the ancient spirit of the German people with the cycle of the ring of the Nibelung.

The influence of Johann Gottfried von Herder (1744–1803) is significant because he celebrated the belief in the *volkgeist*, the soul of the people. He moved beyond the doctrine of the social contract to establish the basis of community cohesion more deeply in the organic order, rather than simply in the political realm. For Herder, the spirit of the people determines the basic

achievements of a society. This nationalist mystique can be observed also in the historical narrative of the French people as presented by Jules Michelet (1798–1874). Similarly, Alessandro Manzoni gave expression to the mystique of modern Italy. Lord Byron, with the revolutionary fervor of his poetry and his deep personal commitments, died while participating in the Greek nationalist revolution of 1821. This was the earliest of the nationalist revolutions of eastern Europe. Nationalism finds expression also in the work of the French painter Eugène Delacroix (1798–1863) and of J. M. W. Turner (1775–1851) in England.

In the philosophy of G. W. F. Hegel (1770–1831), the supreme Spirit is incarnated in the state. For Hegel, absolute Spirit exists in and through a dialectical process and culminates in the state as its ultimate expression. Similarly, constitutional monarchy for Hegel is the highest ideal of the nation-state, for it is the embodiment of the Absolute Idea. All of this reflects an awareness of new modes of being in community. This is especially true in South America, where political revolutionaries such as José de San Martín (1778–1850) and Simón Bolívar (1783–1830) awakened the people to their existence as nations. In China, there emerged the political nationalism of the reform movement led by the scholar K'ang Yu-wei (1858–1927) and Li Ta-chao (1889–1927), a leader in the May Fourth Movement. In the United States, nationalism found expression in the Declaration of Independence, the Revolutionary War, and the nineteenth-century expansionist concept of Manifest Destiny.

As a mystical passion, nationalism activates deep archetypes of social and communal yearning. Devotion to the nation might even be considered a religious phenomenon, emerging initially in Western history and then, since the beginning of the nineteenth century, in other nations that have established their independence. Indeed this was the thesis of Carlton J. H. Hayes, one of the founders of the study of nationalism, in his final book, *Nationalism: A Religion*.

The primal sources of this enthusiasm are found deep in the historical beginnings of a people from their tribal origins. Community identity as the

larger personal self becomes something close to community self-veneration. In this context, the highest spiritual achievement is to die for the ideal of the nation. National heroes have become models for youth. Civil religion emerges and extensive symbolic ceremonies are created for national celebrations. These have their parallels in the rituals of various religious traditions. National flags, anthems, and holidays have become the true holy days of modern peoples. Religious ceremonies are carried out at the sacred tomb of unknown soldiers who died so that the nation might live. All this belongs to the ritual of national identity—to serve the nation is the highest calling of this civil religion.

The common good of the nation gradually becomes the justification for diverse human action. Anything can be done by invoking *raison d'état*, that is, by reason of the state. Treason against the nation is the highest form of betrayal. To endanger the nation is the greatest evil. The national constitution is the most sacred referent for the allegiance of the people. It establishes the final norms of acceptable and nonacceptable modes of human activity. Indeed, the dynamics of political life, the forces that evoke the immense passions of the nation-state, are still powerfully experienced in the twenty-first century. The well-being of the nation is considered normative and is constantly asserted. In foreign affairs, international responsibility is determined by the extent to which actions benefit one's own nation.

The nation-state emerged in a series of developments that began in the early modern period. The spirit of nationalism was enhanced by Enlightenment philosophy regarding the importance of the individual and by a sense of community responsibility for its own destiny. This was a major inspiration of the American Revolution, evident in the thought of Thomas Jefferson, Benjamin Franklin, and James Madison. Yet it was the romantic movement that provided a new emotional intensity in the revolutions of the nineteenth and twentieth centuries.

The nation-state combined two basic concepts, that of the primacy of the people and that of democratic control of government through their

representatives. Thus the nation-state is the political form of a people with common traditions living in an identified territory and guided by a recognized authority derived in some manner from the people governed. Political coherence is achieved by common religious, linguistic, ethnic, or cultural forces. In some cases, as in Switzerland, the will to be a people seems to be the dominant unifying force, since among its people there is a diversity of language, ethnic background, religious tradition, and artistic heritage.

The principles of the nation-state inspired participatory government, guaranteed personal freedom, and protected personal rights to ownership of private property. One of the earliest systematic presentations of investing public authority in the people was presented by Marsilius of Padua (d. 1342) in his work *Defensor Pacis*, a book translated into English in 1535 by order of Thomas Cromwell. At this time the movement in England toward diminishing the power of the ruler in favor of the people had begun. Although this was largely a power play by some of the leading barons of the time, it laid the groundwork for the emergence of a parliament.

Jean-Jacques Rousseau (1712–1778), an exile who wandered throughout Europe for most of his life, emphasized the social contract as the central political concept. Rousseau became a major influence in the political and philosophical life of Europe in the eighteenth and nineteenth centuries. Through his writings the sense of popular sovereignty spread throughout the continent. Two teachings are especially prominent: his sensitivity to the natural world and to the primordial innocence of humans. He taught that humans attain their civic liberty by entering into a social contract. The common will was seen as an expression of the individual will at its deepest level.

In England the Glorious Revolution of 1688 established parliamentary authority over the king's prerogatives, marking a significant expansion of power beyond the monarchy. John Locke (1632–1704) integrated all these political developments in his treatises on civil government. He identified the role of the middle class in the political and economic structure of the

nation-state. Furthermore, he described the conditions and organizational details needed for democratic liberalism to assert itself. In opposition to Thomas Hobbes, he considered humans to be essentially happy in their original state of nature, a period of equality and freedom. Formed by social contract, the state protected its citizens from abuse or exploitation by the unscrupulous. The well-being of the individual and that of the nation ideally coincided. Revolution for the reform of the government was acceptable. His ideas concerning the relations of the administrative, legislative, and judicial branches of government all influenced the framers of the American Constitution.

To understand the intensity of nationalistic feelings behind political structures, we need to understand that the nation-state constitutes what may well be the most powerful political form ever devised by humans. The empires of the past have had their grandeur and their extensive control over peoples. However, the power of the nation-state is primarily in the will of the people and their freedom to pursue intellectual, moral, and scientific inquiry without governmental restraints. The importance of the freedom of thought and freedom of religion that began in this period can be seen in the lives of so many who suffered extensive personal restraints, such as Giordano Bruno, René Descartes, Francis Bacon, Benedict Spinoza, Jean-Jacques Rousseau, and John Locke.

To understand just how powerful the nation-state has been, we need only reflect that the accomplishments of the modern world were mostly achieved within the context of this form of political rule. Modern science, technological inventions, new modes of production, extension of commercial industrial ventures, all these have been formulated within the nation-state. Widespread literacy has been achieved in this context, and universal education has been established as a goal.

It is true also that the nations as thus constituted have been constantly in conflict with each other. National devotion has led to national rivalry. The ideal of national honor evokes extreme reactions at any real or apparent offense. A mutual fear between the nation-states promoted the rise of state

militarism, which is one of the most distinctive features of this period of nationalism. Huge armies began to rise, needing vast expenditures of money and intense research for the development of increasingly destructive technologies.

These historical factors were manifest in the establishment of colonial possessions throughout the nineteenth and early twentieth centuries, especially in Africa and Asia. Colonialism resulted in political and military oppression due to the rivalry for resource extraction, trade advantages, and exploitation of labor. Religious missions worked to further these interests, often motivated by evangelical zeal. Ironically, the power and the freedom of the European nation-states were used to subject many of the peoples of the world through colonization.

Clearly there are difficulties with the nation-state that arise from its failures, as well as from its successes. Its self-exaltation is necessarily suspect from the beginning. There existed a certain arrogance of each nation in relation to the others. The nation-state's economic benefits were taken over by the bourgeois element of the society, by those who knew how to manipulate the system for personal advantage. This was especially true in the ownership of property. It gradually became evident that the Enlightenment claim for equality could not be carried out effectively, since humans were vastly different in their intellectual and practical abilities. The less competent were subject to the dominance of the more competent. The rights to property led progressively to enlargement of ownership by some, leading to the impoverishment of others. These inequities are now widespread in the global community, especially between the developed and developing nations.

An even greater difficulty now becoming clear is that the concerns of the nation-state have been primarily human concerns. The nation-state's authority is founded in its human citizenry. While it exalted the individual person and advanced the human community by fostering commercial enterprise, this has only increased the plundering of the nonhuman world for the benefit of humans. There has been not only a certain arrogance of

the individual nations in their relations with each other, but there has also been a supreme bias of the human in its relations with the nonhuman world out of which the human emerged and upon which it depends in an absolute manner. There has been no sense of human societies being a continuation of the biological forces at work throughout the planet.

Since the Stoics in the Hellenistic period in the West, there has not been a comprehensive expression of the deep continuity of the human with the natural world. The Romans who received the Stoic teachings produced such persons as Cicero (*De Amicitia*), Seneca (*Dialogues*), Epictetus (*Discourses*), and the emperor Marcus Aurelius (*Meditations*), all of whom were concerned with the role of the human within the natural systems of the planet. The universe was seen as a great cosmic order in which humans had their distinctive place. The medieval period in Europe attained its concepts of natural law mainly from this tradition. Natural law has largely been understood as the manifestation of reason in humans and the regularity of the natural order of things in nature. Consequently, it has engendered a sense that humans should accept the regular order of life within the limitations that nature manifests.

At the present time, there is need for a referent to this larger context of human affairs that will enable us to be present to the natural world in a mutually enhancing manner. So far in the modern period, the dominant orientation of humans has been to conquer or exploit the natural world. Tension between the human community and the natural world has increased, with devastating consequences. This tension was expressed by Thomas Huxley in his famous lecture delivered in 1893, wherein he stated that the measure of the human is its capacity to distance itself from the natural world. Civilization was regarded as essentially a vast effort at liberating the human from the limitations of nature. The traditions of Western religions in modern times have been complicit in this distancing disposition. This reflects the thinking of the Enlightenment, rather than the succeeding romantic period that associated the human more intimately with the natural world. The distancing of the human from the natural world created the grounds for economic exploitation. This resulted in an idealization of the nation that carried within it an ironic contradiction: the

more dedicated the nation became to the well-being of the human, the more this enthusiasm was turned to purposes inherently destructive of the natural world.

The difficulty at present is not only that the individual nations see themselves and their own well-being as the ultimate referent as regards reality and value, but also that the human tends to establish a discontinuity between itself and the natural world. In this manner the nonhuman world is reduced to being objects to be used by humans for their own purposes, rather than functioning as participants in a single integral community of existence.

This dilemma was the source of some of the impasse that developed at the United Nations Conference on Environment and Development (the Earth Summit) held in Rio de Janeiro in 1992. There, the heads of state assembled to discuss the future of the human community in relation to the integral functioning of the Earth. It was difficult to achieve a sense of common ground at the Earth Summit, not only because of national allegiances, but also because of human allegiances. Only now are the limits of nationalism and anthropocentrism with regard to the environment becoming clear. Certainly, the role of the United Nations is indispensable for bringing the human community into more mutually enhancing human-Earth relations. What is needed is a bonding of all the various forms of life on the planet Earth into a single, yet differentiated, community. Even beyond the living forms, there is the urgency to establish a comprehensive community of all the constituents of the planet, both the geological and biological components. Even beyond this, there is the necessity for humans to recognize the unity of the universe itself. There is ultimately only a single community. No community at any level can survive that is not founded in the unity of the universe. Every component of the universe is a subsystem of the universe system.

We must not underestimate the severity of the conflict between the larger Earth community and the power of humans and their national interests dedicated to exclusively economic ends. There is little sense of the order of

magnitude of change needed for any adequate resolution of these conflicts. A new context of understanding and a more extensive program for the community of nations need to be brought forth. The major challenge we are confronting is the difficulty inherent in the inability of the Earth to support the demands that we are making on it. The planet is being exhausted in the excessive exploitation of natural resources. Not only is the functioning of the human community out of alignment with the functioning of the planet, but also the human community has become a predator draining the life of its host.

One of the main reasons for this situation is that the transnational corporations have largely taken control of the planet. The corporations now have greater resources and power than any nation. They are themselves beyond the control of any nation, and they now control the nations. Dependence on the financial-commercial-industrial corporations is what limits the activity of the nation-states. The progress of the nations has been measured in modern times by the progress in their economic-industrial order. All the major institutions within the nations are themselves subject to these same economic forces, especially the universities. The courts also consistently hand down decisions that protect the corporations as they exploit the biosystems of the planet. The industrial nations have lived under the sign of unlimited progress carried out by devastating Earth's geological and biological resources.

Yet the only viable context for future survival seems to be the universe or, more immediately, the planet Earth and its integral functioning as the controlling referent. Only such a referent to the Earth itself, beyond all the various nations of the planet, can evoke a sense of common future. There needs to be a realization that no nation has a future if the planet does not have a future. Any nation that plunders its own resources for economic gain, to the detriment of the larger context of the geological or biological systems of the Earth, is endangering all the nations, including itself.

Awareness of this is especially important in the inner functioning of the state. For this is precisely what is needed, a referent that would prevent the

individual state from devastating the natural regions over which it has control. This is of special importance because the powers that humans now have are sufficient to do immense damage to the Earth.

As a precedent for establishing the larger context of human activity within the universe itself, we might turn to the Chinese Confucian tradition that envisaged the natural order as intrinsic to the human order. The two constituted an interwoven existence. The ruler was the linchpin holding the two together, or the interpreter who negotiated the bonding of the two. This he did through the power of his personhood as moral leader. That is why the ideal ruler needed only to sit on his throne and face south and the entire cosmic-human order would be affected by his moral presence.

In the Confucian context, government was integrated with the universe itself as the supreme cosmic ritual. All human affairs were inseparable from this order. Thus, in the palace of the emperor, music appropriate to each season would be performed. The robes of the emperor manifested seasonal colors, designs, and symbols. The household of the emperor moved to the appropriate seasonal section of the palace. The emperor inaugurated the spring planting by plowing the first furrow. This entire system was codified in the Chinese classic called the Book of Ritual.

This was the manner in which a norm of reference was established for meaningful human activity in earlier traditional civilizations. The human realm was seen as integral with the heavenly realm. There was an exchange of gifts at various seasons of the year, especially at harvesttime. Humans worked the land during their lifetimes for their needed sustenance. Central cities were sacred cities. When the emperor died, a cosmological period came to an end. A new city had to be founded and a new cosmological period introduced. Thus, there was the designation of the period of Heavenly Peace or the period of the Flowery Kingdom.

It may seem that such a political and cosmological perspective is no longer suitable for guiding nation-states, since this manner of envisaging

the government developed in association with a sense of time as moving in an ever-renewing sequence of seasonal cycles. Nothing was irreversible. This may seem incompatible with the modern evolutionary understanding of an emergent universe moving through a sequence of irreversible transformations.

Yet the main principle of Confucian thought is that the human is integral with the Earth and the entire universe. That this is compatible with modern cosmology is evident from the observation in contemporary physics that the universe is integral with itself throughout its vast extent in space and throughout its sequence of transformations in time. This is known as the cosmological principle. Through the principle of nonlocal causality, every atom is in contact with and influencing every other atom in the universe.

Even though we live in a universe that, in its larger movement, is passing through a sequence of irreversible transformations, we also live in a universe that expresses itself in terms of its diurnal and seasonal sequence. What we are concerned with now is that we have disturbed the order of this seasonal sequence, whereby the rains come in their own time and the various trees and plants blossom in their appropriate sequence. Our present urgency is to recover a sense of the primacy of the universe as our fundamental context, and the primacy of the Earth as the matrix from which life has emerged and on which life depends. Recovering this sense is essential to establishing the framework for mutually enhancing human-Earth relations for the flourishing of life on the planet.

The Petrochemical Age

The influence of the petrochemical industry on the human-Earth process is so significant that the period from the end of World War II until the end of the twentieth century might be designated as the Petrochemical Age. Other appropriate designations for this period that might be considered because of the extent of their influence are the Space Age, the Television Age, the Computer Age, the Automobile Age, the Age of the Transnational Corporations, the Age of the United Nations, and the Age of Scientific Technologies.

These terms are interconnected with each other, so that to name one is implicitly to name the others. Yet the designation of the Petrochemical Age seems to identify the most pervasive influence on the entire Earth community. The main reason for this is the widespread use of petroleum, the expanded development of chemicals, and the subversion of life processes as a consequence. In this period, much of the planet, including the land, water, and air, has become toxic due to petrochemicals.

All this took place in a relatively short period of time. The first oil well in the United States was sunk in Pennsylvania in 1859. The financial possibilities of this resource were first recognized by John D. Rockefeller, founder of the Standard Oil Corporation in 1870. It took more than eighty years for a full sequence of the uses of petroleum to be realized. Since then, there have been continued discoveries of its uses in research laboratories. This science of chemistry was further refined in the schools of chemical engineering established in the universities throughout both Europe and the United States.

The physical volume of industrial chemicals developed in this period is staggering. As noted in the *Norton History of Chemistry*, the United States was annually producing five hundred thousand tons of industrial chemicals in the 1940s. In the 1990s we were producing 200 million tons of industrial chemicals annually. It is also estimated that there are some seventy thousand different chemicals in use by the human community at the present time.

The term *petrochemical* arises from the fact that petroleum is the basic resource from which the greater part of these industrial chemicals is produced. Petroleum is used to make fertilizers and pesticides for the agricultural industry. It is made into preservatives, varnishes, waxes, solvents, glues, and dyes. Petroleum is also used in the production of electrical power. As gasoline it is used in the internal combustion engine to drive our automobiles and power our jet engines. Petroleum can be spun into fibers to be used in making fabrics for clothing. The creation of nylon from petroleum by DuPont in 1938 was the beginning of a new era in the world of clothing and fabrics.

After 1909, plastics from petroleum came into modern industrial use. This was the beginning of the real transformations associated with the petrochemical industry. Things as delicate as optical lenses and dentures, as well as machine parts, could be made from a petroleum base. Integrated with fiberglass, plastics could be shaped into boats, automobile bodies, even furniture. Plastics have become so important to modern medicine that it would be virtually impossible for many medical procedures to be carried out without plastics. From the millions of gloves used each day by the medical profession to the tubes used in heart surgery, medicine is dependent on plastics. One of the values and the difficulties of plastic is its permanence. Plastics can be hardened into durable forms by the addition of chemicals that are broken down in nature only over an extended period of time.

Whatever the intended benefits of petrochemicals for humans, the total effect has been disastrous to the natural chemical balance of the planet as

well as to human health. Many of the life-forms that give to the Earth its most distinctive aspects, especially in the polar regions, have been flooded with persistent organic pollutants. Presently, there is a profound foreboding concerning the future of the planet because of the toxicity derived from the chemical industries that affects so many life-forms. This foreboding includes the future of the human species as well as other species threatened by this toxicity that may tip the existing order of life systems into imbalance.

So pervasive are chemical products in society that we can hardly imagine how to establish a viable human mode of living by diminishing their uses. Without the abundance of petroleum and its transformations through chemical processes, our energy systems would be severely diminished. Our modes of transportation would largely cease. Agriculture would be profoundly affected. Our fabrics would be altered in their composition. The scientific and medical professions would be radically changed.

In the twentieth century, we were surrounded with oceans of petroleum immense beyond imagining. The use of this resource in the twenty-first century is such that, within a hundred years or less, some 80 percent of all the petroleum readily available will be exhausted. The toxic residue of petroleum will affect the biosystems of the planet well into the future. Just now it seems, however, that the human community is in such a pervasive state of denial that it cannot cease its ever-expanding use of petroleum. There is a relentless and increasing demand for this resource due to the pressures for global development that will inevitably bring about its exhaustion in the years ahead.

There is a proposal that we replace petroleum as an energy supply with hydrogen obtained from water. Yet this will certainly be at a great economic cost, and even if we could supply ourselves with the energy needed, we would still be without replacements for the other uses of petroleum. We cannot readily make plastics or fabrics or fertilizers from hydrogen. Moreover, the conditions by which petroleum came into being will never again exist within human-historical time. Just what might happen in a

period of some billions of years we have no way of knowing. We can judge only by the manner in which nature is functioning in our own times.

We are now in urgent need of more viable conditions for life on planet Earth. This is due to the rising demand on our energy systems, the aspirations of others around the planet to develop economically, and the increase of the human population on the Earth. In addition, the realities of global warming and ozone depletion will require massive changes in human societies. Thus, learning a way of life independent of petroleum may well be the most urgent issue before the human community at present.

The magnitude of these planetary disturbances can be appreciated only if we consider the immense amount of time it has taken the universe to establish the conditions for the emergence of life in the variety present in its life systems. Anyone with an appreciation for the grandeur of the Earth can understand the enormity of the tragedy we are witnessing in the devastation of the Earth—its geological structures, its microbial forms, its flowering plants, its insects, all those dazzling beings that move through the oceans, roam over the land, or fly through the air. A planet this gorgeous is required for the emotional, aesthetic, and intellectual development of the human. Without such magnificence we would not be able to bring forth any sublime expression of what it is to be alive or to experience fully the delight in life that is presently available to us.

Much could be said about what it would be like to be without our emotional or aesthetic or religious development, to be without the images evoked by the various physical phenomena—by the clouds, the rains, and the wind; by the mountains, rivers, and valleys; as well as by all those living forms that we have mentioned. Our explorations of the moon should be sufficient to convince us how great a privilege it is to be living on this luxuriant planet. We tend to emphasize the resplendence of the Earth as seen from the moon. Yet we fail to reflect adequately on the desolate future there would be for the human if we were reduced to the lunar mode of being. The lunar landscape may confront us with its barrenness and remind us of all that is so alive and exciting on Earth. We might wonder what it

would be like if we had existed first on the moon and then came to the planet Earth. The experience would, of course, be so overwhelming that we could not absorb the impact of Earth's beauty. Yet we can obtain some sense of this now as we contrast these two modes of existence.

To work out the integral functioning of the Earth required an enormous sweep of time. It also took untold billions of experiments as each component of the planet was brought into its proper place and function. Just how the sequence was worked out we will never fully know; yet it is evident that vast forces were at work that we have not begun to comprehend. But if we have not begun to understand these forces, it is important that we recognize and revere their inherent mystery. Thus, we cannot assume that we can intrude on their functioning without respect for the geological, chemical, and biological processes that maintain such incomprehensible precision and complex interaction.

Here is where the modern industrial world reveals itself as failing in its larger purposes even while it seems to accomplish so much: It has failed to align its own functioning with the geological, chemical, and biological processes on which it depends. This distortion of the industrial world reaches a certain height of destructiveness in the chemical industry. The intimacy of the chemical profession with the physics of the universe has enabled this profession to intrude so profoundly into the inherent forces of the biological and the physical world that it can turn the most benign substances into the most deadly forms.

Thus we find imbalances emerging in the physical world, especially, for example, in the element of carbon. Carbon might be considered the miracle element, the one with astounding properties that can provide the basis for those phenomena that we associate with living beings—beings with special capacities for self-reproduction and self-movement and with the capacity to absorb other beings and transform them into their own substance. Yet this element of carbon easily enters into compounds that can also be devastating. It is clear that nature has taken much care to store the carbon in petroleum, in coal, and in forests, so that the chemistry of the atmosphere

can be worked out with proper precision. Nature's chemistry thus has its purposes in creating these sinks for the storage of its carbon. This needs to be understood and respected by those who would intrude into these processes by extracting petroleum or coal or by cutting down the great forests of the planet.

With little concern for these natural processes, we have discovered how to take petroleum and use it for human purposes with insufficient concern for the limited abilities of nature to process the residue of these petrochemical products into natural systems. Thus, the toxins accumulate. Functional disruptions are evident throughout Earth systems. The greenhouse effect in the atmosphere can be observed; acidic precipitation becomes deadly rather than life-sustaining in its effects. Even the ozone layer shielding the living forms of Earth has been severely depleted by chlorofluorocarbons. That the industrial processes bringing this about are supported in their activities by a consumer society does not lessen the responsibility of industry that constantly provokes higher orders of consumption through the advertising media. Nor does it excuse the petroleum industry's collaboration with other industries, such as the automobile industry, to increase the production and use of automobiles so that economic profit will be accelerated at the expense of the natural systems.

The regretful and ironic aspect of this is that harm is often done to ecosystems by good people for supposedly good purposes. This is an example of the paradox of conscious purpose. The assault on the planet is being brought about by persons whose intentions are seemingly good, but whose concept of what is good is inadequate. Human well-being is seen as requiring human control over natural processes. This arises from a mechanistic view of nature. Thus, humans try to impose a manipulative overlay on biological processes. From this mechanistic perspective, the greater the human intrusion into nature, the greater the so-called progress and the greater the imagined "improvement" of human well-being.

A cosmological sense of reverence for natural processes in medieval Europe was gradually lost with the rise of science and its objective analysis of nature. The sense of intimacy with the natural world was recast by rational scientific studies. An antagonism thus developed throughout the modern centuries, in which scientific approaches to the study of nature dominated reverence for the inherent mystery experienced in phenomenal forms. Wonder has been a major motivation for many scientists, yet, paradoxically through objective studies, the scientific-technological world has lost its intimacy with the natural world. Moreover, science has acquiesced to the close connections established between applied science, technological developments, and military research.

In this context, unrestrained commercialism, unlimited technological drive, and unbounded political expediency have been drawn together in the myth of progress that drives industrial societies. These influences have pervaded education, the media, cultural norms, and recreation. Indeed, they have pervaded the wide range of human activities and are placed over and against the aesthetic-emotional-spiritual processes of society. These unrestrained drives are limited by their neglect of the physical and biological functioning of the planet.

It might be noted that the religious-spiritual traditions also accepted the alienation of the scientific-technological endeavor from the world of meaning. The otherworldly and transcendent orientations of the Western religions accommodated the objective method of science as an appropriate control over matter. Thus, in some of the religious traditions a feeling of resentment against the natural world as setting the conditions for the human mode of being was interpreted as compatible with the objectivizing tendencies of science.

This resentment, which might be described more effectively as an inner rage against the human condition, is at the heart of many of our current dilemmas. Moved by the myth of progress, humans are unwilling to accept biological limitations to life. We were, however, unable to make a serious assault on them or to effect any radical change until our modern scientific

discoveries, especially in the chemical sciences. As soon as these were available, we began to change the entire functioning of the planet, not to discover how best we could improve our situation within the conditions assigned us by the natural world, but according to our own limited conception of how we might control the natural world for human benefit. Unable to accept our proper niche, we began to redesign the planet and its most intimate functioning. This led to a lack of understanding of the effects of our actions, as is evident even today in the rush to promote genetic engineering without any regard for precautionary principles.

From the perspective of commerce and industry, the problematic consequences of the devastation of the environment have been considered to be externalities. The chemical profession could train people to make tires without any regard for what to do with the tires after their temporary utility was complete. The same applied to the chemicals used on the soil. The basic skills needed in applying the chemicals could be taught without teaching the effects on the larger life systems or what would happen to the chemicals once they had served their immediate purpose. As with the pollution emanating from power plants, the toxic residue released into the air was only an irrelevant externality. Nature was a sink assumed to have the infinite ability to absorb and renew any of the refuse of our industrial development. The ultimate effect not only on nature but also on human health has been disastrous.

It is strange that such a large portion of the human community should fail to recognize the consequences of what it was doing. It should have been obvious that industrialization, dynamized by the profit motive and developed at this high order of magnitude, was simply nonviable. The planet has its inherent limitations, and there is little possibility of dealing with the issues before us without increased awareness and restrictions on human activities that would terminate many of the industrial processes as we know them presently.

The human consequences will be enormous. But that is now unavoidable in any reasonable assessment of the situation. To continue our denial of the

nature and order of magnitude of the issues is only to make any later adjustment that much worse. It is already determined that our children and grandchildren will live amid the ruined infrastructures of the industrial world and amid the ruins of the natural world itself. This is already happening. Much of the nonindustrialized world is also being plundered with regard to resources. We are beginning to realize that industrialization at this order of magnitude cannot be maintained, nor can we ever repeat such extensive industrial exploitation of the planet. The reasons are quite simple.

First, the psychic energy is no longer available. The bright promise of the industrial process was the attraction. Now we are seeing the dark side, the disintegration aspect. The consequence is that humans seem unwilling to make the demands on ourselves for dedication to work and progress that once made the industrial age possible.

Second, the finances are not available. Maintaining the infrastructures of the industrial order is driving many industrial establishments into bankruptcy, corrupt accounting, and megamergers. We could, perhaps, support some of the infrastructure, but the whole system cannot be supported and cannot survive without the other parts.

Third, the natural resources are no longer as available in such abundance. This is particularly true of the petroleum on which so much of our industrial system depends. Such a resource for power, for food-growing, for fabrics, for transportation, for implements of a thousand varieties has enabled the industrial age to expand at a fantastic rate, but only for a very limited period.

As regards an acceptable program for guiding our transition from our present situation to a more sustainable future, we can do very little without a truly valid and functional cosmology. We need above all a sense of the universe, how it functions, and our human role in the universe. The damage

has been done largely because of our distorted cosmology. In outlining a functional cosmology, we propose the following reflections.

The universe is primarily a communion of subjects, not a collection of objects. Those of us who live in the industrial world have become locked into ourselves, into the human process. We cannot relate to the outer world in any effective manner. We cannot get out, and the outer world cannot penetrate the human. We have lost our reverence, our sense of mystery, our sense of the sacred. We do not hear the voices—the voices of the surrounding world, the voices of the entire range of natural phenomena. The forests seem to be there primarily for exploitation. Any depth of human presence to the forests is relegated to marginal persons, such as poets and painters, who are considered victimized by sentiment. The reality of the tree is simply its utility, its economic value. To accept that trees have rights to be what they are and that all living beings have rights to their habitat is the challenge. Humans too have rights within the larger context of the Earth community. If our rights are sacred, we must accept that the rights of other beings also are sacred.

We are only beginning to realize what happens to humans once we lose our emotional-intellectual contact with the life forces of the natural world and begin to plunder the Earth in an effort to increase our human well-being. We find that the fabric and the functioning of the planet are more mysterious than we thought, that we cannot win in this exploitative process. We have endless examples of the consequences of eliminating the forests, of using chemical rather than organic agriculture, of using petroleum to avoid having to develop more sustainable forms of energy and materials.

The basic assumption as regards the future cannot be that it is necessary to maintain a high level of industrial production. The industrial period is at an end, at least in its present form. The problem is how to terminate industrial plundering in such a way that we can go into a completely new sense of how humans should be present to the Earth. The industrial period has brought us to the terminal phase, not simply of Western civilization, or even of the post-Neolithic period of human development: it has brought us

to the end of the Cenozoic era itself. The period of the Earth as we know it, the period into which humans emerged, is generally designated as the Cenozoic. During this 65-million-year period, the period of flowering plants, of birds, and of mammals, the entire range of life systems as we experience them were at the height of their florescence when humans came into being.

What is truly regretful is that so much of this is irreversible in anything like human-historical time. We are already far beyond any recovery of the integrity of the planet—its basic life-sustaining functioning—such as existed prior to human appearance. This reversal of the wave on wave of life development that had been occurring during the 65 million years of the Cenozoic can be designated the terminal phase of the Cenozoic.

What is available to us is the emerging Ecozoic era, a period of the integral Earth community when humans become present to the powers of the Earth in a mutually enhancing manner. For humans to do this will require that we appreciate and honor the principle that the Earth is primary and that humans are derivative. In our economics, in our healing, in our legal and political practices, and in our religious sensitivities, we need to recognize the primacy of the Earth community. This interacting community has remarkable capacities for self-renewal, but within limits. Already we have strained these limits.

The Earth will never again function in the manner in which it has functioned until the present. We had nothing to say in the Cenozoic era about the functioning of the planet. The awesome splendor of the planet came about completely independently of human participation. In the emerging Ecozoic era, however, very little will happen without human involvement. We cannot make a blade of grass, but there is liable not to be a blade of grass unless we accept it, protect it, and foster it.

There will continue to be a need for technology, and for science, especially for the chemical sciences, but these will need to develop

sensitivities that they have never known before. These sensitivities to the inner functioning of the planet will, hopefully, enable our sciences and technologies to function in a creative relation with the planet and its technologies, not in the present destructive manner. The precautionary principle points the way by urging us not to put things into the environment for which we do not know the full consequences for both the health of humans and the well-being of the environment.

The chemistry profession laid the foundations for entering into the transformation of the physical world with a special efficacy. The ancient alchemical tradition had some sense of identification with and transmutation of elemental processes. This identification was lost with the rise of empirical science, which involved a psychic distancing from nature. The critical faculty was allowed to pursue its path only within very narrow confines of objective research.

Chemical engineering entered into the process where nature was at an extremely vulnerable point, at the elementary level where nature wrought some of its most remarkable achievements. After the planet had been physically altered through the building of dams, highways, parking lots, shopping malls, and corporate centers, the Earth had to deal with the more disastrous effects of the chemical industry. The chemical concoction of fuels for power plants and internal combustion engines eventuated in the saturation of not only the soils of the Earth but also its atmosphere and the waters. The consequences for the forests of the world are beyond all calculation.

Here we must note the ambivalence of the situation. It has not been easy to know what ultimately is of benefit to, and what ultimately is detrimental to, the integral functioning of the planet or to the human mode of being. What should have been clear from the beginning and throughout the entire process is that we were dealing with powers that we understood only to a very limited degree. There was from the beginning an avid quest for the “improvement” of the human situation.

There can be some debate about when humans, by virtue of population and industrialization, became a peril to the planet. However, in these past few centuries, especially in the period after World War II, humans began a relentless termination of the basic life systems of the planet. This came about through human arrogance and through the dark side of our religious-cultural traditions. It was not simply an aggression that arose with modern sciences or with industrial development in these centuries. There are still deeper sources of the pathology. Until these are recognized and dealt with, all our present efforts will at best mitigate the problem, not deal with it in any effective manner. The religions certainly have a role in these transformations.

The unjust social conditions that evolved within industrial societies have been a main concern of the religious traditions, as have the inner salvation experience and the personal spiritual disciplines they transmit. Only in the last years of the twentieth century did the religious establishments develop any serious interest in the devastation of the life-giving qualities of the planet. The earlier sense that religion arises out of a sense of awe and wonderment at the incomprehensible majesty of the natural world seems to have disappeared. Western religion has only recently begun to recover its sense of concern for Earth and Earth's life systems. This recovery is clearly needed in order to move toward the enhancement of human-Earth relations. Without this, our way forward is blocked; with this, the renewal of the larger community of life is possible. A vast new orientation to the universe and to the Earth will be needed to reorient the human community toward a viable future.

Global Warming

The Kyoto Protocol Global Warming Conference convened by the United Nations in December of 1997 was held a little more than fifty years after the ending of World War II. The period from 1945 until the present has been a turbulent time in human history. Every phase of the human endeavor has been affected. The population has expanded from 2.5 billion to approximately 6 billion. Most political colonialism has been terminated. The United Nations' original membership of 51 countries has expanded to more than 190 members.

Global economic activity has surged from an annual economy of some hundreds of billions to an economy of some \$20 trillion. Scientific-technological inventions have been developed such as we never dreamed of previously: nuclear energy, jet aircraft, space travel, computers, plastics, and genetic engineering. The use of chemicals has expanded from half a million tons of industrial chemicals in the 1930s to over 200 million tons each year in the 1990s—chemicals that nature knows nothing of and cannot deal with in any satisfactory manner.

Beyond these changes, the one change that overshadows all others is the disruption of the planet Earth in its geobiological functioning on such a scale that the future viability of many of the major life-forms of the planet is severely compromised. The disruption of the planet can be seen in the toxic substances and greenhouse gases infused into the atmosphere, into the soil, and throughout the entire range of plant and animal organisms. As a global phenomenon, the disturbance can be seen in the depleted ozone layer in the polar regions that shields the Earth from severe damage by ultraviolet

radiation. Global warming is resulting largely from excess carbon dioxide in the atmosphere.

The emerging climate-change crisis arises from the simple question of whether economic profit or the integral functioning of the planet will be the normative value in guiding the human community into the future. Will the human economy be accepted as a subsystem of the Earth economy, or will the Earth economy be considered to be a subsystem of the human economy? The greatest folly of our times may be the setting of these two in opposition to each other, when obviously any conflict between the two is disaster for both.

Yet in recent times, all four of the basic establishments that govern the course of human affairs have functioned on the supposition that the natural world must be considered subservient to whatever purposes humans decide. These four establishments are the government, the corporations, the universities, and the religions. Of these four, the economic establishment has gained control over the political and intellectual establishments. The transnational corporations, with allegiance to no other power than themselves, now control almost every phase of human activity and have turned this power toward control of the Earth process on a global scale.

The economic corporations—industrial, commercial, financial—now, in a sense, own the planet. They have so increased their power that some individual financial corporations in Japan and Switzerland have assets of over \$700 billion. Through a series of potential mergers, this control of assets can be expected to rise to entail more than a trillion dollars.

The educational establishment functions within the context of a plunder-consumption economy. From an early age, students understand that they are being prepared to take their place within the existing economic structure. Outside the corporate bubble, there is less chance of economic success—such is the basic principle of the present American consumer dream. Even many of the scientists and technologists are in the service of the

corporations. In communications courses, students are taught how to penetrate every aspect of contemporary life through advertising so that the compulsion to consume will take complete possession of the mind of the people.

Political decision-making is so extensively controlled by economic powers that the democratic principles of personal freedom and participatory government are subverted. The money needed for elections must come from corporate wealth in some form. Legislatures are controlled by the economic powers. What needs to be understood is that the legal establishment in the United States, including the judiciary, at an early period, bonded with the commercial-industrial establishment against citizen groups and agricultural interests.

Morton Horowitz, who holds a chair in the history of law at Harvard University, outlines this view in a two-volume work, *The Transformation of American Law*. In the final chapter of the first volume, he notes, “By the middle of the nineteenth century the legal system had been reshaped to the advantage of men of commerce and industry at the expense of farmers, workers, consumers, and other less powerful groups within the society.”¹

This reorientation of American law, leading to protection of commercial and industrial establishments, even to public subsidy in support of these corporations, has remained in place in American society. This was the beginning of the “market economy,” controlled by the ever-increasing power of the corporations, supported by the legal profession and the judiciary. It is a legal-economic consortium that has assaulted the natural world with such devastating consequences and which resists so vehemently any restrictions on its freedom to exploit the natural wealth of this continent.

This uncontrolled drive toward exploitation has now so ruined the soil, so emptied the seas of marine life, so devastated the forests, so polluted the atmosphere, so endangered the various species of plants and animals, so

disrupted the hydrologic cycle, so wasted the countryside with road building, shopping malls, and parking lots that finally some alarm must be shown for the consequences to all forms of life on the planet. This is especially the case for global warming and all its deleterious effects on the life systems of the planet. It was in this context that the meeting of the nations was held in Kyoto in 1997.

The question of Earth survival was focused more sharply in Kyoto than at the Earth Summit held in Rio in 1992. In Rio the question that dominated was how to foster sustainable economic development of the human community, whereas in Kyoto the question was concerned more immediately with the deleterious impact that humans are having on the integral functioning of the Earth through global warming. The basic question that is slowly emerging is whether human dominance will be asserted as normative over the Earth or whether the priority of the integral functioning of the Earth will be accepted by humans.

The decisions made in the past, and decisions being made in the present, suppose that human benefit must be advanced as far and as effectively as possible at whatever cost to the Earth. This absolute subservience of the natural world to the human has been supported by our modern Western cultural traditions, by our religious and moral traditions, by law and politics, by science, education, and medicine. This dominance over the natural world is particularly the position of the industrial-commercial world, the world of the great national and transnational corporations. This is why so many business lobbyists gathered to influence the decisions made in Kyoto.

Only recently has this attitude been severely questioned and a new view of the human proposed, a view that sees the human as a component member of the Earth whose well-being depends absolutely on the flourishing of the life community of the planet. This sense of the human as a subsystem of the Earth system has not been central to Western civilization. Even more challenging is the view that there is a single Earth community and that

every component of this community, including the human, survives only within the well-being of the larger community.

Somewhat earlier, the issue of integrating human activities with the natural processes of the Earth had been dealt with, in the World Charter for Nature in 1982 and the 1987 Brundtland Report, *Our Common Future*. As regards the World Charter for Nature, overwhelmingly passed in the United Nations General Assembly, the United States cast the only negative vote. While these two documents were significant accomplishments, neither was created with the sense of urgency and even rising feeling of anxiety such as existed in Kyoto.

What can be noted at all of these conferences is the negative attitude of the United States toward passing any resolution that would in any way limit the existing activities of the commercial establishments of this country. This negative attitude led to opposition by the United States to any serious proposals in Kyoto that would lessen the deleterious impact of humans on the natural world. Economic concerns had an absolute priority—even while abundant evidence indicates that present activities, aimed simply at human economic well-being, would produce severe and even catastrophic effects on the integral functioning of the natural world. The irony is that, by all measurements, the United States is the largest contributor to global atmospheric pollution.

In these circumstances the fact that our mainstream institutional religions have not shown adequate concern for the survival of the natural world must be recognized. At the same time, the World Council of Churches has had an active group working on climate change for over a decade, and the evangelical community is becoming more vocal about the moral issues involved in global warming. Yet many religious authorities and theologians still seem to have little understanding that the natural world is the primary revelation of the divine and the context in which religion is awakened in the human soul. Loss of the splendor and diversity of the natural world is loss of the primary source of religious awakening.

This failure in the basic establishments that govern our lives is so devastating in its consequences for both the physical and spiritual aspects of human survival that a growing revulsion toward such crass insensitivity is occurring throughout the society. A small number of scholars, activists, scientists, spiritual leaders, writers, artists—even economists, lawyers, and political figures—have arisen to call for a new era in the geobiological, as well as the human-cultural, history of the planet. For the first time, the human community is directly confronting the question of the integral well-being of the Earth.

This is the meaning of the Kyoto Protocol conference in December of 1997. Even as the ratification of the protocol regulations has now taken place (2004), the ultimate success of the protocol to reduce global warming is still in doubt. The weakened decisions that were arrived at have a minimal chance of being adequately implemented; yet the confrontation has taken place.

In this situation, whereas the human project has entered a period of heightened perils, it has also entered a period of new possibilities, with alternative and renewable energy sources on the horizon. All the creatures of Earth are looking to us for their destiny. Among these are our children and grandchildren, who depend on our decisions for the sustenance and flourishing of the life systems of the planet. This remains one of our primary challenges in the twenty-first century.

NOTE

[1](#) Morton Horowitz, *The Transformation of American Law: 1780–1860*, vol. 1 (Cambridge, Mass.: Harvard University Press, 1977), p. 253.

Legal Conditions for Earth Survival

The present legal system in the United States is supporting exploitation rather than protecting the natural world from destruction by a relentless industrial economy. The difficulty became critical in the last decades of the nineteenth century. At that time we moved from an organic, ever-renewing, land-based economy to an extractive, nonrenewing, industrial economy. This industrial economy, supported by the political power of United States, has become a controlling presence throughout the entire planet.

With devastating force, the industrial way of life has invaded every aspect of human existence, including its political, legal, educational, and religious functioning. So extensive is this control that we must now speak of ourselves as living in an industrial civilization. The difficulty is that the industrial process, based on nonsustainable use of the Earth, is so destructive throughout the natural world that we begin to envisage a terminal extinction for many of those life-forms on which humans most depend. The future of the human species itself is brought into question.

We are told by biologists that we are extinguishing living species of the natural world at a rate unequalled since the last great extinction, some 65 million years ago. Lester Brown of the Worldwatch Institute tells us, "We are losing the war to save the Earth." Vandana Shiva observes, "Humanity seems to be in a free fall towards total disaster." The Union of Concerned Scientists reports that the human disturbance of the natural life systems of Earth is putting the human project itself into serious peril.

Yet those in control of our industrial civilization continue to insist that the survival and well-being of humans can be achieved only through nonrenewing industrial processes carried out by globalizing institutions such as the World Bank, the International Monetary Fund, the World Trade Organization, and the multitude of transnational, multinational, and global corporations that have been actively engaged in extending the industrial way of life throughout the planet.

Since the continuation of our industrial processes depends directly on the legal system authorizing these processes, we must reconsider our legal system in its deepest foundations. Critics of the present situation in the United States have consistently found that our existing legal structures cannot protect the natural world. The federal judiciary has so undermined the Endangered Species Act and the regulations of the Environmental Protection Agency and other regulatory agencies established by Congress and the presidency that many people are concluding that the environmental movement in the United States is under attack. An account of our legal institutions' antagonism toward our efforts to preserve the natural world can be read in a document published by the Natural Resources Defense Council, the Alliance for Justice, and the Community Rights Council titled *Hostile Environment: How Activist Federal Judges Threaten Our Air, Water, and Land* (July 2001).

We clearly need a more viable basis of human presence to the natural world than currently exists. It seems that such considerations of the basic function of law have not been a concern in recent times. The authors of the American Constitution were so preoccupied with their escape from the authoritarian controls of European monarchies over human life that their main objective was to establish a new range of personal human rights, especially rights to own and use property without restriction by government.

This granting of protection for individual human rights was later extended to industrial-commercial corporations plundering the Earth, with no recognition of the inherent rights of nature and no defense of the natural

world from abuse by these corporations. Indeed, it can be said that a basic purpose of government and the legal system in the United States has been to assist and even subsidize the industrial corporations in their exploitation of the land. The well-being of the corporations came to be identified legally with the well-being of the people. Morton Horowitz, professor of the history of law at Harvard University, observes, “As political and economic power shifted to merchant and entrepreneurial groups in the post-revolutionary period, they began to forge an alliance with the legal profession to advance their own interests through a transformation of the legal system.”¹

Many people now depend for survival on having a job within the industrial-commercial corporation or its associated establishments. We now live and breathe and have our being in the world of industrial production and consumption more than in the natural world. Citizen rights no longer have meaning apart from the world of the corporation. It is not a question of choice. It is a question of survival without concern for the larger consequences of what is happening.

Not only the industrial empires of the nineteenth and twentieth centuries but also the entire industrial civilization achieved its juridic foundations within this context. For this reason, any effort to diminish the devastating consequences of the industrial age might begin with discussion of this question of rights, their origin, their distinction, their role, and especially their function in human-Earth relations.

The primary supposition here is that the interdependence of every mode of being on every other mode of being requires humans to recognize that every being has rights derived from existence itself. This interdependence is immediately evident. We cannot have well humans on a sick planet. We cannot have a viable human economy by devastating the Earth economy. If the soil is poisoned so that food does not grow, we die. If the climate is altered so that the rainfall and the sunlight are affected, there are serious consequences. We cannot survive if the conditions of life itself are not protected. So, too, what humans do affects every other being. If we cut the

rainforest, then the land turns into desert, so that the entire planetary process is disturbed.

Not only our physical being but also our souls, our minds, imagination, and emotions depend on our immediate experience of the natural world. There is in the industrial process no poetry, no elevation or fulfillment of mind or emotions comparable to that experienced in response to the magnificence of the sea, the mountains, the sky, the stars at night, the flowers blooming in the meadows, the flight and song of the birds. As the natural world diminishes in its splendor, so human life diminishes in its fulfillment of both the physical and the spiritual aspects of our being. This is the case not only with humans but also with every mode of being. The well-being of each member of the Earth community is dependent on the well-being of the Earth itself.

Within this context, then, I make the following set of proposals expressed in terms of rights that should be recognized in national constitutions and in courts of law. Whether simply from consideration of survival and the well-being of humans or from concern for the larger destiny of the Earth, we are faced with legal issues that can no longer be avoided. I propose that we recognize and accept the following statements concerning the origin and nature of the rights of the natural world.²

1. The natural world on planet Earth has rights that come with existence itself. These rights come from the same source from which humans receive their rights, from the universe that brought them into being.

2. Every component of the Earth community has three rights: the right to be, the right to habitat, and the right to fulfill its role in the ever-renewing processes of the Earth community.

3. In the nonliving world, rights are role specific; in the living world rights are species specific. All rights are limited. Rivers have river rights. Birds have bird rights. Insects have insect rights. Humans have human rights. Difference in rights is qualitative, not quantitative. The rights of an insect would be of no value to a tree or a fish.

4. Human rights do not cancel out the rights of other modes of being to exist in their natural state. Human property rights are not

absolute. Property rights are simply a special relationship between a particular human owner and a particular piece of property, so that both might fulfill their roles in the great community of existence.

5. Since species exist only in the form of individuals, rights refer to individuals and to those natural groupings of individuals into flocks, herds, and packs, not simply in a general way to species.

6. These rights as presented here are based on the intrinsic relations that the various components of Earth have with each other. The planet Earth is a single community whose members are bound together with interdependent relationships. No living being nourishes itself. Each component of the Earth community is immediately or mediately dependent on every other member of the community for the nourishment and assistance it needs for its own survival. This mutual nourishment, which includes predator-prey relationships, is integral with the role that each component of the Earth has within the comprehensive community of existence.

It is clearly a challenge to envision just how these six principles can be incorporated into the structure of our legal system, but some progress is being made in environmental law. The difficulty lies mainly in historical developments since the Enlightenment period in the eighteenth century, the period when modern nationalism came into being. The independent nation, with the people as the supreme rulers over themselves, recognized no authority beyond itself, neither in heaven nor on Earth, neither in the realm of nature nor in the realm of humans.

This isolation of nations within themselves was altered significantly in the period after World War II by establishing the United Nations and by creating the associated economic and social organizations. Yet the dominant postwar movement has been the expansion and centralization of power of the industrial establishment, so that it controls the entire planet—both its human and its other-than-human forms.

Beyond having an effect on humans, the deleterious consequences of industrial civilization are found now in the chemical and biological

functioning and even in the genetic processes of the life systems of the planet. These systems are now being invaded so extensively that the human community must have foreboding as regards its future. The industrial project seems determined to assume control, in a few decades, over the natural processes and interrelations that took the Earth billions of years to establish. The consequences are evident in the devastation that follows wherever the industrial establishment has taken control and the environment is ignored.

Such is the challenge before us—in every aspect of our lives. Such is the basis of the proposals that I have presented here as fundamental to our human survival and the survival of that great community of living beings in the florescence that they once knew. Humans will always make significant demands on the surrounding world. Yet a more mutually beneficial situation must be found. The legal profession needs to cease its subservience to the industrial corporations to fulfill its larger responsibilities for the survival of the Earth in the fullness of its grandeur

NOTES

[1](#) Morton Horowitz, *The Transformation of American Law: 1780–1860*, vol. 1 (Cambridge, Mass.: Harvard University Press, 1977), p. 253.

[2](#) See the further elaboration of these principles in appendix 2.

The Epic of Evolution

Our main concern here is with the Universe Story and our human role in that story. There is, it seems, such a long way from the vastness of the universe to ourselves gathered here in Chicago in the Field Museum of Natural History.¹ Yet this is an appropriate place for our meeting, since the purpose of this museum is to bring our present human venture into an intimate presence with these earlier forms of life so different from our ordinary experience.

But even while all these displays of earlier life are here, they seem to play a somewhat limited role in any interpretation of the human project other than the scientific, the academic, or the technological phases. We know more about the universe than any people ever knew. We have more command over the functioning of the Earth than any people ever had. Yet we are less intimate with the universe than peoples of previous times. This can be seen in the work of scientists such as Steven Weinberg, who writes with great insight about the earlier phases of the universe and then remarks that the more we know about the universe the less meaning it seems to have.

When we inquire just why scientists devote such intense effort, such enduring dedication to research projects concerned with the story of the universe, one answer might be that scientists are answering the irresistible call of the Great Self of the universe to the Small Self of the individual. We are only beginning to be aware that this attraction of the scientist to the study of the universe is itself one of the more fascinating aspects of the universe. Since the universe is the only self-referent mode of being in the phenomenal world, every being in the universe is universe-referent for its

origin and destiny and its proper role in the great community of existence. If there is such a thing as human intelligence, then it has emerged out of the universe, and, in its functioning, it must in some manner be ordered toward the universe. The primary study of human intelligence might be designated as universe study or, in a term derived from the Greek, cosmology. Only through understanding the universe can we understand ourselves or our proper role in the great community of existence.

All human occupations and professions must themselves be expressions of the universe and its mode of functioning. This is especially true of what came to be known as religion, for the term *religion* and the term *universe* are somewhat similar in their meaning. Both are derived from the Latin, and both have to do with turning back to unity. Religion, *re-ligare*, is a binding back to origin. Universe, or *universa*, is a turning back of the many to the one. Earlier peoples seem to have understood this. They lived in a pattern of human activities that were validated by their relation with the cosmological sequence. They lived within the Covenant of the Universe, the ontological covenant whereby each component of the universe experienced itself in intimate rapport with the other components of the universe. They constantly evoked their self-consciousness within their universe-consciousness. The one had no meaning without the other.

They situated themselves at each moment in terms of the four cardinal directions governed by their position in relation to the sun. The sun arose in the east, set in the west. At midday the sun was in the south. The north was where the sun never situated itself. The sky was above, Earth below. Each person received self-validation by this act of knowing exactly where he was in the universe. So too with any structures erected on the Earth. These could only be authentic, even physically secure, by being ordered in relation to the cosmological directions. This required careful alignment with the celestial world whence the sense of direction as well as the sense of time was derived.

With regard to time and seasons, rituals were established to create a consciousness of the moments of cosmological change: the dawn and dusk

of the daily sequence of sunlight and dark, the increase and decline in the phases of the moon, the winter solstice especially as the danger moment of the universe, the period of dark descent; then came the rise into a world of warmth and light and the blossoming of the plants and the birth moment throughout the mammalian world. These moments of change were the moments when the shining forth of the phenomenal world was most evident. Such moments were moments of grace, moments when the sacred world communicated itself with special clarity to the world of the human.

This intimacy with the universe can be seen in the initiation ceremony of the Omaha Indians. When an infant is born, the child is taken out under the sky and presented to the universe with the invocation "O Ye Sun, Moon, Stars, all Ye that move in the heavens, I bid you hear me. Into your midst has come a new life. Consent Ye, we implore, make its path smooth that it may move beyond the first hill." After this invocation to the heavenly powers, the invocation is made to the atmospheric powers, to the clouds, the wind, the rain, and the snow, with a similar petition that these powers too would accept the child and guide it on its way. So too an invocation was made to the powers of living beings on the Earth, and then to the Earth and the insects and to all those beings that live within the Earth. In this manner the covenant of Earth was affirmed. Humans asserted their intimacy with the Earth and acknowledged their dependence on the larger community for whatever they needed in life.

This was also true in the Chinese world. There, the imperial palace was constructed in such correspondence with the movement of the natural world that the emperor could move from one section of the palace to another with each change of seasons. The colors of the garments worn by the emperor were also coordinated with the changes of the cosmological order. The music was altered to suit the quiet and dark of winter or the brightness and delight of summer. If these correspondences between the human and the cosmological order were not observed, the entire order of the universe would, supposedly, be thrown into disarray.

In Western civilization at an earlier period, the entire structure of Western ritual was cosmologically oriented. This was most obvious in the worship ritual that was extensively coordinated, especially in the Christian monasteries, with the sequence of changes during the day-night cycle. Psalms and hymns were sung in the middle of the night to celebrate the deep contemplative aspect of the nocturnal hours; then came the dawn rituals, the midday and evening rituals. So too at its highest moment of intellectual development, the entire theological explanation of Western religion was integrated with physics and metaphysics and cosmology as these were handed down through the Aristotelian tradition. This was the great work of Thomas of Aquinas, to restructure all Christian thought within a cosmological perception. That is why he tells us quite clearly in the prologue to his summary of Christian belief that divine revelation comes to us through two scriptures, the scripture of the natural world and the scripture recorded in the Bible. That is why also he tells us, “The Order of the Universe is the ultimate and noblest perfection in things.”²

Throughout this premodern period, the universe, experienced as a cosmic liturgy celebrating the grandeur of existence, was the ultimate creative force in the phenomenal order giving shape, resplendence, vigor, and meaning to every mode of being. Above all, it was the primary locus, the primary place for the meeting of the divine and the human. Simply to draw attention to such grandeur of perception and human participation in such ecstatic fulfillment is to awaken a deep wonderment in our modern souls. To us who live in this very secular age, all this appears in a distant world, something of a dream world, a world that we cannot experience as entirely real.

We live too deeply alienated from the cosmological order, the phenomenal world, the world of the “shining forth” (for such is the meaning of the word *phenomena*). We live in a human world, a world where all our values are human. The natural world is experienced as subservient to the human. Its reality has diminished as the human has been magnified. If we give attention to the universe, it is to the scholarly world of scientific equations, of atomic and subatomic particles; to the technological world of mechanistic contrivances; to the economic world of unlimited human use of the Earth as a collection of natural resources.

We seem not to appreciate the dazzling wonder or the sacred dimension that finds expression in the universe itself, a universe that emerged into being by a creativity beyond anything we can imagine, a world that assumed its present form by an unpredictable self-organizing power. What is truly amazing is that these unpredictable processes, sometimes considered to be random, produced a universe so coherent in its structure and so finely ordered in its functioning amid the turbulence of an awesome and relentless inner creative energy.

Even when we penetrate so deeply into the reality of the physical and the biological orders, even when we understand clearly that the human story and the universe story are a single story, we somehow fail in our ability to tell the story in a way that would provide a comprehensive meaning for our human mode of being. In earlier times a world of meaning was worked out within a universe and a planet moving in ever-renewing seasonal cycles. However, such a world of meaning has not yet been worked out within a universe that has come into being by a primordial flaring forth giving rise to an irreversible sequence of transformation episodes. These episodes move in the larger arc of their sequences, from lesser to greater complexity of structure and functioning and also from lesser to greater consciousness. This unfolding sequence is self-emergent, self sustaining, self-educating, self-governing, self-healing, and self-fulfilling. From this source must come all emergence, all nourishment, all education, all governance, all healing, all fulfillment.

Humans, in this earlier period of cultural development, experienced themselves as owning nothing, as receiving existence itself and life and consciousness as an unmerited gift from the universe, as having exuberant delight and unending gratitude as their first obligation. It was a personal universe, a world of intimacy and beauty. A universe where every mode of being lived by a shared existence with all other modes of being. No being had meaning or reality or fulfillment apart from the great community of life. This primordial Earth community itself existed through the presence of the indwelling spirit whence came its sacred character.

Whatever humans needed was supplied by the surrounding world, whatever inspiration for their imagination, whatever awakening of intelligence, whatever personal fulfillment. This joyful fulfillment found expression in poetry and music and song and dance, a fulfillment that continues to find expression in our children running through the meadows, wading in the creeks, playing with animals, or simply sitting with utmost satisfaction in a backyard puddle experiencing the cooling delight of such an environment on a summer's day. Such is the beginning of education, of aesthetic experience, of physical vigor, of acquaintance with the universe. This is the awakening of both the senses and the mind. Ultimately it is the awakening of the universe to itself. This is the beginning of poetry and music and literature. It is the beginning of cosmology, of philosophical reflection, of moral perception, of theological insight. It is the beginning of the Epic of Evolution.

This fulfillment within the capacities of the child is continued in an unbroken sequence in the life of the adult. The experience deepens, but it is not essentially different. Fulfillment for humans continues to be delight in the celebration of existence in intimate presence to the comprehensive community of the universe—only deepened in its significance by experience of the tragic, the painful, the sacrificial dimension that is found throughout every realm of existence.

In the child's quest for experiencing the universe, Maria Montessori found the basic guidance that we need for an integral educational program within the Epic of Evolution. As she indicates in her 1936 series of essays titled *To Educate the Human Potential*, the six-year-old child needs to experience his own center as the center of the universe. That is what the child is seeking in his excited discovery of the surrounding universe. Montessori writes, "Since it has been seen necessary to give so much to the child, let us give the child a vision of the whole universe. The universe is an imposing reality, and an answer to all questions. We shall walk together on this path of life, for all things are part of the universe, and are connected with each other to form one whole unity. This idea helps the mind of the

child to become fixed, to stop wandering in an aimless quest for knowledge. He is satisfied, having found the universal center of himself with all things.”³

Then she describes the security that the child feels within the integral functioning of the natural world as soon as he is assured that the universe is that which gives him orientation. In this wandering through the natural world, the imagination is inspired, the mind is activated, the feeling of nobility developed. What Montessori could not experience in her times was the empirical evidence of the intimacy of every phase of the universe with every other phase such as we now recognize to be the basis for all scientific inquiry. Yet she knew that the child needed to know the story of the universe and to grow throughout life with ever-greater intimacy with the universe and ever-greater delight in celebrating the grandeur of existence within this vast community.

This story of the evolutionary universe, she told with amazing detail for the period in which she lived. She recognized that the telling of the story of the universe should not be a technical explanation of the evolutionary process, nor should it be interrupted by constant reference to how we discovered the story. The story needed to be told in direct narrative, even in epic style. So she tells us, “To interest the children in the universe, we must not begin by giving them elementary facts about it, to make them merely understand its mechanism, but start with far loftier notions of a philosophical nature, put in an acceptable manner, suited to the child’s psychology.”⁴

Then she proceeds to tell the drama of the emergent universe, of the formation of the oceans, how the continents came to be, then the origins of life and the biosphere. Then comes a transition moment of great significance, a lengthy transition to the human: “The Earth was trembling with expectancy and glad foreboding. Her heart moved in sympathy with creation’s joy; tremors ran through her frame and emotional tears coursed through her in new streams.”⁵ How appropriate a way of indicating the moment when the Earth was about to reflect on itself, to see itself for the

first time within the human mode of intelligence. Then she continues on to the emergence of the human, and the sequence of stages of human cultural development, and finally to the rise of modern empirical science and our unique experience of the universe in the vast range of its extent and the full sequence of its transformations in time.

This excitement of which she speaks is not the excitement of the builder following a blueprint in building a house. It is rather the excitement of the musician creating a symphony, of the artist who is designing a painting or a sculpture, or the expectation of a poet as he moves into the most significant lines of a poem to which he has dedicated his effort over a long period of time. Such a moment the poet Goethe referred to when he noted that, in writing his finest lines, it seemed that his spirit guide took over his pen and did the writing. Neither the painter working out her design nor the poet writing out his vision nor the musician writing a symphony knows just what he is about to do. Nor are they totally ignorant. Yet in a way the artist and the musician know exactly what they are working toward: a vision of beauty, a musical phrase that expresses the full depths of some deep human experience. There is at this moment an intensity of feeling, an expectation, a joy of soul, all of which then flows over into the creation that emerges. It is this that Maria Montessori had in mind when she wrote of the mood of excitement in the universe at the moment when the human first came into being. The human is the model for understanding the universe, as the universe is the model for understanding the human. For certainly humans have nothing but what they receive from the universe.

This beginning account of the Epic of Evolution needs to be further developed in order to guide the entire course of human affairs into a more coherent rapport between the universe community and our modern human society. The evolutionary universe should be the primary referent in every field of academic concern as well as in every human concern.

This would be clear especially in economics, where the economic well-being of the human would be sought within the well-being of the natural world, whence all human wealth and well-being is derived. The first law of

human economy would be to preserve the integral economy of the planet and to seek the well-being of the human within this context. Sociology would not envisage the human community apart from the larger Earth community or apart from the integral bioregional communities of the Earth. In law and government, humans would discover their proper role within the governing structures of the surrounding natural world. For the planet Earth has a governance with a precision and an efficacy far beyond anything that humans might contrive. Human governance should not seek to override the governance of the natural world, but rather should aim to integrate human presence with this governance and extend human intellectual understanding and conscious decision-making to include the broader Earth community.

In this governance, each form of existence has its own role, for each form brings to the community a perfection of insight found in no other mode of being. The integral evolving community would be not simply the human community but the larger community of the Earth. Not only the rights of the human but the rights of every mode of Earth being would be recognized. The basic biological law concerning habitat would be recognized as binding also on humans: the law that every species should have conditions that limit each species so that no one species or group of species would overwhelm the other species. This law would be recognized as binding also upon the human, with the difference that humans need to obey this law by conscious recognition and free compliance, whereas the nonhuman species would be constrained in their modes of action by their genetic coding.

This is also the case with medicine. The first recognition would be that there cannot be well humans on a sick planet. The way to human well-being would be to recognize that the Earth brought humans into existence and established the conditions for the well-being of the human by an integral relation with the other life systems of the planet. We have now thoroughly polluted the life systems. To keep this integral community from becoming even more toxic due to human interference would be recognized as a primary concern.

In religion and theology, the great need is to join in the great liturgy of the universe, not now simply an abiding ever-renewing universe but a universe distinguished as both abiding and transforming. We might think of the threefold evolutionary process: the galactic evolutionary processes of the universe, the geobiological evolutionary processes of the Earth, and the cultural evolutionary processes of the human that need to be understood in their sacred dimension. These are the three components of the single evolutionary narrative that needs to be seen and understood and recounted in epic style.

Epic narrative, we might say, is the manner in which a period or a culture articulates its experience in the tragic yet glorious enterprise of survival in the midst of fearsome threats to life continuance and fulfillment of some destiny. Epics are celebrated in poetry and music especially. Among the epics that we are best acquainted with are the Homeric epics, the epic story of the Bible, and the epic of Virgil, the *Aeneid*. In India there is the tale of Rama and Sita in the *Ramayana* and the account of the great Bharata, the *Mahabharata*. In Europe, there are also the epics the *Song of Roland* and the *Nibelungenlied*, the ring cycle. In these stories the ideals of the society are articulated. Personal and community life are revealed in their heroic dimensions. Cosmological forces of the surrounding world are identified. The sense of the sacred is expressed. The rituals of the society are enacted. The ideals of personal conduct are made evident. The community is protected at personal risk to the heroic individual. Above all, the sense of transhuman forces at work throughout the universe is communicated.

If in the past the great moments in human achievement were presented in epic narrative, we must now appreciate that the universe achievements are the subject of the authentic epic of the late twentieth century. A world of these times is no longer simply the human world; the epic of the world is no longer the epic of a nation or even of the assembly of nations. It is rather the epic of an emerging universe that humans have come to appreciate for the first time with such intimate knowledge of the turbulent trials through which it has passed. No story of human affairs can begin to compare with this story for its significance throughout the order of Earthly affairs. While this narrative does not displace any other religious or literary narrative, this

story bears the impress of many sacred values to be identified and celebrated with a new appreciation. Such is the triumph of science to give us this story in infinite detail.

In this evolutionary story, we easily identify the moments of change. These moments of transformation are the mysterious, the sacred moments, the moments when a numinous guidance shows through amid the turbulent course of universe affairs. Such moments we can no longer believe are controlled by purely random consequences out of a roiling sea of conflicting forces. Between the random and the directed, as the geneticist Theodore Dobzhansky insisted, lies the creative. Randomness is another name for the mysterious ordering processes that affect all artistic creativity.

The dazzling course of things is exciting indeed. Yet the mysterious moment when the galactic formations took shape and the stars were formed throughout the heavens deserves celebration in liturgies not dissimilar from the liturgies coordinating human activities with the transforming moments of the seasons of the years or the transformation of day into night or night into day.

To illustrate how the Epic of Evolution might be integrated into traditional religious services, I would like to mention the most sacred moment in traditional Christian liturgy, the moment designated as the Easter vigil. This is the moment when the experience of life renewal is reenacted. This liturgy is to be celebrated in the darkness of night, just before the dawn. At this moment the story of the creation of the world is recited, as are the events that transpired in the historical order until the moment of renewal. What is striking in this narrative is that the story of creation is a very limited narrative, since in earlier times the only account of creation of the universe in the religious traditions of the Western world was contained in the few paragraphs of the Book of Genesis. After that, the entire story of history was the human story. There was no further story of the galaxies or the formation of the Earth or the evolutionary emergence of life. What is now available to us is a more extensive account of the universe and how it came into being through the immense amount of time and through a long

sequence of transformation episodes. This, to my mind, needs to be incorporated into the story of the creation of the world as this is narrated in religious liturgy.

Of the possible moments for celebration, one that deserves mention is the galactic formation and the formation of the stars. Another might be the first-generation star that, some 4.5 billion years ago, formed the ninety-some elements in its supernova moment of implosion, and then explosion, as fragments into space. By gathering these fragments with the aid of gravitational attraction, our own star came into being, with the Earth as one of its nine planets. We might note the rise of the first living cell become possible some 3 billion years ago amid the turbulent shaping of the planet. Then came sexual reproduction, later photosynthesis. From then on, a long choice of celebrations would present itself.

The evolutionary responsibility of the human, from a religious perspective, is to perceive the epic of the universe as the primary revelatory experience of our times. Our perception of the natural world, which in former times was understood in its ever-renewing sequence of seasonal change, is now changed. The natural world is the irreversible sequence of change such as we now experience it through empirical scientific studies. There is an additional revelation that we are having. Revelation is not something merely of the past. It is the reality of the present. Just as the universe reveals the basic sources of economic understanding, as the universe is the guide to medical understanding, so the universe is our guide to understanding the sacred dimension of the universe. For too long a time we have refused to accept the insight into the world of the sacred that is there before us. The scientists themselves have been overwhelmed by their discoveries and have found it difficult to explain themselves in other than scientific equations and mathematical description.

Now that this awareness of the epic dimension of the evolutionary process begins to be seriously considered, a new world of understanding begins to appear on the horizon. My first thought is that we not try to write theology at this moment. My thought is that we celebrate the glory of the

universe that is there before us. We need have no doubt of the appropriateness of our celebration of the sacred in this epic narrative. Here we join the great wisdom traditions of the past. In the Epic of Evolution, science becomes a path to wisdom.

NOTES

[1](#) This was originally delivered at a conference, “The Epic of Evolution,” held at the Field Museum in November 1997 and sponsored by the American Association for the Advancement of Science.

[2](#) Thomas Aquinas, *Summa Contra Gentiles* 2.24.10.

[3](#) Maria Montessori, *To Educate the Human Potential* (Madras, India: Kalakshetra Publications, 1948), p. 8.

[4](#) Ibid., p. 28.

[5](#) Ibid., p. 61.

Catching the Power of the Wind

*A Statement on the Occasion of the Thirtieth
Anniversary of the United Nations at the Spiritual
Summit Conference, October 24, 1975*

On this thirtieth anniversary of the founding of the United Nations, we wish to indicate to you our esteem for the work you have accomplished. For thirty years this body has carried within itself many of the larger hopes and destinies of humankind. We remember the moment, some thirty years ago, when this body first assembled after a period of tragedy and devastation on a scale that humans had never witnessed before. To heal this devastation and assist in guiding humankind into a better future, the United Nations with its related agencies set itself to work. To fulfill its high purposes, this space outside of all nations was set up to provide a context in which all can meet on equal terms no matter how tense the human situation may be.

We come here because we, too, feel a responsibility for the human community. To preserve and develop a human quality of life is the common responsibility of us all. It is not fitting that those concerned with the various aspects of the human be alienated from each other. Both you and ourselves represent forces too profound, and aim at objectives too significant, for either of us to succeed completely without the assistance of the other. The urgency of our work impels us to get on with our common task lest a new period of disaster erupt over the Earth.

To expect your work to succeed by utopian standards would not be fair to your work at this highest and most complicated level of human affairs. But to be satisfied with what has so far been achieved would be a betrayal of the human venture that urges us to press onward lest the ever-threatening world situation engulf the human venture once again in another inhuman swirl of global violence. This might result from the incapacity of the human community to adjust to its own inner tensions or from an incapacity to adjust to the ecological demands of the Earth system itself.

Here the human community gathers on a comprehensive scale, human as creator and destroyer, human as peacemaker and as antagonist, human as the finest production of the Earth and as the greatest threat to the Earth. These antagonisms, dangerous as they are in any period of history, are a thousandfold more threatening at this time because of the new range of power available to the nations. Through space exploration and nuclear technology, through the acceleration of movement and communication, new instruments of creativity and destruction have evolved. At the same time, poverty, hunger, and starvation have increased for millions of people throughout the world. From a large planet of overwhelming magnitude, unlimited resources, and endless mystery, the Earth has suddenly become a small planet, thoroughly explored, limited in resources, and reduced in mystery.

According to this new scale of measurement, the human community is seen as too large for such a small planet. From this, there arises both a sense of common destiny and a feeling of rivalry for possession. Excessive population, increasing per capita energy consumption, group rivalries for land: all of these aggravate the capacity of individuals and peoples to live comfortably with each other. At the same time, the sense of a common home, a common mode of being, a common origin from the Earth, a common destiny, and a common heritage is increasing. It is precisely these perils and this newly emerging consciousness that have brought about this assembly and that now bring about this meeting between ourselves. Our challenge is to turn our perils into opportunities and to bring about an intensification of life rather than a turning of life against itself.

Concerning the present world tensions, our hope is not that these stresses all be removed but that they become creative rather than destructive. Tension within and among nations can have its salutary effects. It is not something to be totally avoided or completely eliminated, lest humankind sink into an uncreative equilibrium. It is only in a high pitch of creative tension that we will get on with our work. Our fear for the present lies not precisely in the tensions but in our limited ability to deal creatively with our tensions. We take this attitude because impatience with existing world tensions and a relentless drive toward utopian objectives constitute a main cause of humanity's recent difficulty. Unwilling to accept the fallible nature of humans, with our inherent limitations, we develop iconoclastic attitudes that often lead us to destroy what fragile structures have been erected against total chaos in the illusory hope of establishing some flawless but unreal world. Discovering how to work effectively toward improvement of the human situation without such upset requires wisdom and restraint as well as courage and power. These qualities are rarely found but are now demanded if we are to move into the next phase of human development.

Here a new difficulty arises, for after years and generations of effort toward finding a less perilous human mode of being, and seeing one crisis succeed another with disappointing regularity, we often take a negative attitude toward such larger values. There is the temptation to believe that nothing can be done, that the cosmic as well as the human process is inevitably drawn back into chaos, that the world is without meaning. Such attitudes as this have brought about widespread enervation, apathy, a feeling of resignation to what will be. This leads even to the disastrous drift in the economic and political orders, as well as in the cultural and spiritual spheres, that can often be observed.

At this time, we who speak out of the spiritual traditions of humankind wish to offer to this Assembly [the United Nations General Assembly] all the support of which we are capable in sustaining a livable world over and against the threatening chaos. This support also comes from the multitude of peoples throughout the world with whom we are in some manner in contact. Numinous and cosmic, as well as primordial human, forces are available in guiding the process of human development if only we will

become sensitive to this guidance. Without an awareness of such numinous forces, we might feel that the United Nations is merely the design of a few politically conscious personalities manipulating the larger community for their own advantage or for national power and prestige.

How to take cognizance of these deeper forces, however, is a problem of some magnitude in a world that has been torn by dissension in both the spiritual and political realms. If in recent centuries it has been found that an independence of the political and the spiritual from each other is to their mutual advantage, a greater interdependence always remains. So with the United Nations, alienation from the deeper dynamics of Earth's history and human culture can only lead to uncertainty concerning the political process itself. Isolation has its limits, particularly when more profound problems arise that concern our integral destiny.

The human as an indivisible being is a centering of many forces, each of which depends on the others. The spiritual and the political destinies of humans are necessarily related to each other, even while each in its own sphere has a certain unique role to fulfill. It is hardly possible for the political function of the United Nations to be achieved when there is a profound disillusionment with the human process itself because of a lack of satisfaction or of an adequate life orientation. When human existence itself has lost all meaning, then the political function cannot have any serious significance or any effective power or any sustained direction.

Especially at this time of personal enervation, of political instability, of economic hardship, and of ecological peril, it is important to recall those ancient visions that still provide for many humans a basic life meaning. These orientations constitute reliable spiritual and psychic power for many in facing the instabilities of the present and the uncertainties of the future. Just as we depend for our physical survival on the Earth's minerals, fuels, seas, and atmosphere and on all the life-forms constructed over billions of years, so in the human and spiritual order we depend on these primordial visions and religious experiences from the past for the energies whereby we

are sustained in the heroic effort needed to bring the Earth system and human history to fulfill their deepest purposes.

We realize, of course, that many divisions and antagonisms arise from a faulty spirituality and inadequate religiosity, and that we who speak here bear a heavy responsibility for the present perils of humanity and the Earth process. We are committed to establishing a more acceptable spiritual context within which the nations and peoples of Earth can effectively experience the higher meaning of the human venture, live in harmony with the Earth, and reconcile their differences, all while sharing the multiform spiritual traditions now available to the human community. To be in the presence of this Assembly is an awakening to our own human responsibilities, even as, we hope, our presence may offer to you some encouragement and communicate something of our own confidence in the work you are doing.

The inner power of humans has traditionally derived from the numinous, or awe-inspiring, experiences of ultimate reality at the origin of the multiple cultures that are represented here. Such formative experiences are expressed in key religious symbols. We believe that one of the most effective ways to establish the larger human context for sustaining the work of the United Nations is to renew contact with these ancient symbols, manifested in such terms as Absolute Reality (*Brahman*) and Self (*Atman*) in the Hindu world, the Nirvana experience and the Buddha nature in the Buddhist tradition, Heaven (*T'ien*) and the Way (*Tao*) in the Confucian and Taoist world, Yahweh and Christ in the biblical world, Allah in the Islamic world, and the Great Spirit (*Wakan Tanka*) in the indigenous Lakota world of North America. These are, of course, only a few of the many names whereby humans have entered into the world of sacred power and through which they attain both a healing of life's pains and the psychic energies needed to push on toward those transforming experiences that provide existence with ultimate meaning.

While this numinous, awe-inspiring world cannot substitute for the world of political activities, as the latter take place among the nations, the

numinous world is a much-needed presence in all human affairs lest the world of time and its concerns become empty of any final human meaning and eventually dissolve in a process of inflation or of trivialization. This is the point we wish to make most clearly at this time, not only for our present gathering, but also for the entire human community. Formation of this community is a human and spiritual, as well as a political, event in the Earth process.

To attain peace among the nations in any dynamic or enduring form requires not simply political negotiation but a new mode of consciousness. The magnitude of this change is in the order of religious conversion or of spiritual rebirth, rather than of treaty processes or even of intercultural understanding. Simply to recognize the basic nature and dimension of the issues we face is already an advance. But if a peaceful world is beyond politics, it is also beyond religions as these presently exist. A change is needed in every phase of human life. This lies mainly in recognition that the microphase, the particular or national traditions, must find their context and fulfillment in the macrophase, the global or panhuman phase of human existence. The future rests in the religious, political, economic, and cultural capacity of humans to establish this larger context in which the particular traditions will find both support and fulfillment in a functional global community.

Even while we recognize the limitations of our own wisdom in human affairs, we do consider the times to be so urgent and the occasion so appropriate that we offer the following observations. These emerge from our own reflections on the present needs of the world community, which must constantly be called to mind lest humans become so occupied with lesser issues that they forget the greater disasters that threaten not simply one nation or group of nations but the entire human community.

Our first observation is that this gathering of nations into the United Nations must not be considered merely a pragmatic human endeavor but, to some degree at least, a manifestation of the ultimate mystery, whereby the multiplicity of phenomena are gathered into an intimate communion with

each other to make the numinous depths of the real present in the world of time and change. If all intercommunion of the real carries within it a high form of spiritual significance, then this must be said especially of an assembly that carries such significance for human affairs at this critical moment in history.

That the United Nations came into being and has functioned in a secular period of humanity's development, and that it might not wish to be anything overtly spiritual, cannot obscure the fact that it does have a transpolitical significance and itself depends for its efficacy on the transpolitical dynamics of human affairs. We might also recognize that the human finality of the United Nations is not simply within the phenomenal order. A realization of this larger context of its work can be a sustaining force in the complex of crises that seem to increase rather than diminish in the course of the years.

The second observation we make is that our present crisis must itself be seen as a numinous moment in human affairs inspiring both awe and terror. All basic transformation moments—such as the dawn and dusk, seasonal change throughout the year, and the moments of passage in human life, from birth through maturity—possess a certain numinous, sacred quality. So, too, moments of great historical change are numinous moments and must be seen as such.

Only at a special numinous moment in history could the United Nations have been founded. So now, only by responding adequately to this contemporary moment of historical change in the context of the historical existence of the United Nations can this organization survive with the efficacy it should have. That the present can be viewed as such a significant moment is evident from the vast transformation in human consciousness that is taking place. A radical shift is occurring within the entire Earth system. Human intelligence is taking upon itself the effort to control and direct the Earth system more extensively than it has ever before attempted. This has repercussions throughout the entire religious and spiritual worlds, as well as upon the political, economic, and cultural processes that have so

far given basic meaning and value to human life. If we fail to grasp the dimensions of what is happening, we will find ourselves caught in a whirlwind of destruction rather than entering a period of significant achievement.

Our third observation concerns the need that each nation has for the other nations of the world. Each must discover anew its special place and function within the community of nations. Until nations realize that to injure another nation is to injure itself, and that to harm the human community is to destroy itself, then little can be done to better the human condition; the human process can only move toward an increase of explosive tensions that may well build up into events of terrifying dimensions, especially in light of nuclear weapons.

But here again, the political order by itself has limited capacity to deal directly with the change of mind and emotions that is required. Religions also have in the past revealed their own limitations in this regard. Yet it is clear that within the cultural and spiritual phases of human traditions, there are powerful teachings and extensive resources that can be efficacious if they are brought to bear on the situation. Interhuman communion is taught by all religious, spiritual, and humanist traditions, and these can make a significant contribution to developing the depth of communion among humans that is needed. If we have no total assurance of success in any aspect of our human endeavors, we can feel that we do have the resources, or even the numinous assistance, that we need. The entire Earth process will support us if we commit ourselves to the task.

We might well believe that the law of universal gravitation whereby each physical reality attracts and is attracted to every other physical reality has its correspondence in the hidden or overt attraction of all human beings and all human societies to each other. This attraction takes place within a functional balance of tensions whereby each is sustained in its existence by all the others even as each sustains the others in existence. This seems to be demonstrated in the extensive and continuing efforts of humans to

encounter each other and to establish a universal network of communication throughout the human order.

As our fourth observation, we indicate the need to protect the Earth system as the matrix within which the human community has emerged and without which human existence is unthinkable. The Earth, with its layers of land and water and air, provides the space within which all living things are nurtured and the context within which humans attain their identity. If in the excitement of a secular technology, reverence for the Earth has diminished in the past, especially in the Western world, humans now experience a sudden shock at the devastation they have wrought on their own habitation. The ancient human-Earth relationship must be recovered in a new context, in its mystical as well as its physical functioning. There is need for awareness that the mountains and rivers and all living things, and the sky and its sun and moon and clouds, all constitute a healing, sustaining sacred presence for humans, which they need as much for their psychic integrity as for their physical nourishment. This presence, whether experienced as Allah, as Atman, as Sunyata, as the Buddha nature, as Bodhisattva, or whether as Tao or the One or the Divine Feminine, is the atmosphere in which humans breathe deepest and without which they eventually suffocate. That the United Nations itself exists within the united Earth community is of utmost importance for itself as well as for other living beings. Concern for this Earth community must itself bring about a deeper sense of the community of peoples upon the Earth.

As our final observation, we note that the greatest danger to the human community may be the loss of its will to carry on the cosmic and numinous intentions within itself. The danger is the loss of internal vitality and a cooling down of life energies. Precisely at this time, these energies are needed in a new vigor of expression. A new vigor of expression can be brought about only by a new infusion of the life and ideals that animated this institution at its earliest foundation, and that derive ultimately from the realization of the numinous goals toward which human effort has aimed from the beginning. If, in the necessarily heroic course of the institution, these ideals are set aside as incompatible with the hard facts of life—with what are called political realities or economic urgencies—this would be like

destroying the sails or the power system of a great ship and expecting to paddle it to its designated port. Little wonder that the human effort would soon be exhausted. The real skill is to raise the sails and catch the power of the wind as it passes by.

Evening Thoughts

*On the occasion of the presentation of the Thomas Berry
Award to Tu Weiming, director of the Harvard-Yenching
Institute, at the Millenium World Peace Summit of
Religious and Spiritual Leaders, August 2000*

During these past few days much has been accomplished to advance the cause of peace by our discussions and simply by our being with each other. We learn to trust and admire each other and to share with each other the traditions we represent.

This evening I suggest that we continue this presence to each other by looking beyond ourselves to the larger universe we live in. If it were convenient, I would suggest that we go outside this building, that we go beyond all the light and noise of the city and look up at the sky overarching the Earth. At this time in the evening, we would see the stars begin to appear as the sun disappears over the horizon. The light of day gives way to the darkness of night. A stillness, a healing quiet, comes over the landscape.

It is a moment when some other world makes itself known, some numinous presence beyond human understanding. We experience the wonder of things as the vast realms of space overwhelm the limitations of our human minds. At this moment, as the sky turns golden and the clouds reflect the blazing colors of evening, we participate in the intimacy of all things with each other.

Parents hold their children more closely and tell stories to the children as they go off into dreamland, wonderful stories of times gone by, stories of the animals, of the good fairies, adventure stories of heroic wanderings through the wilderness, stories of dragons threatening to devour the people, and of courageous persons who saved our world in perilous times. These final thoughts of the day are continued in the minds of children as even in their sleep they begin to dream of their own future, dreams of the noble deeds that would give meaning to their lives. Whether awake or asleep, the world of wonder fills their minds, the world of beauty fills their imaginations, the world of intimacy fills their emotions.

When we look back over our own lives, we realize that whatever of significance we have achieved has been the fulfillment of earlier thoughts and dreams that sustained us when we encountered difficulties through the years.

Beyond the dreams of our personal future, there are the shared dreams that give shape and form to each of our cultural traditions. Because this other world cannot be explained by any technical or scientific language, we present this other world by analogy and myth and story. Even beyond childhood this is the world of the human mind.

So tonight as we look up at the evening sky, with the stars emerging against the fading background of the sunset, we think of the mythic foundations of our future. We need to engage in a shared dream experience.

The experiences that we have spoken of as we look up at the starry sky at night, and as, in the morning, we see the landscape revealed as the sun dawns over the Earth—these experiences reveal a physical world but also a more profound world that cannot be bought with money, cannot be manufactured with technology, cannot be listed on the stock market, cannot be made in the chemical laboratory, cannot be reproduced with all our genetic engineering, cannot be sent by e-mail. These experiences require only that we follow the deepest feelings of the human soul.

What we look for is no longer the Pax Romana, the peace of imperial Rome, nor is it simply the Pax Humana, the peace among humans, but the Pax Gaia, the peace of Earth and every being on the Earth. This is the original and final peace, the peace granted by whatever power it is that brings our world into being. Within the universe, the planet Earth with all its wonder is the place for the meeting of the divine and the human.

As humans we are born of the Earth, nourished by the Earth, healed by the Earth. The natural world tells us: I will feed you, I will clothe you, I will shelter you, I will heal you. Only do not so devour me or use me that you destroy my capacity to mediate the divine and the human. For I offer you a communion with the divine, I offer you gifts that you can exchange with each other, I offer you flowers whereby you may express your reverence for the divine and your love for each other.

In the vastness of the sea, in the snow-covered mountains, in the rivers flowing through the valleys, in the serenity of the landscape, and in the foreboding of the great storms that sweep over the land, in all these experiences I offer you inspiration for your music, for your art, your dance.

All these benefits the Earth gives to us individually, in our communities and throughout the entire Earth. Yet we cannot be fully nourished in the depths of our being if we try to isolate ourselves individually or if we seek to deprive others of their share by increasing our own; for the food that we eat nourishes us in both our souls and our bodies. To eat alone is to be starved in some part of our being.

We need to reflect that our individual delight in the song of the birds or the sound of the crickets and cicadas in the evening is enhanced, not diminished, when we listen together in the evening with our families and our friends. We experience an easing of the tensions that develop between us, for the songs that we hear draw us into the intimacy of the same psychic

space. So too music, our folk music as well as the symphonies of Mozart or Beethoven, draws an unlimited number of persons into the same soul space.

Perhaps our greatest resource for peace is in an awareness that we enrich ourselves when we share our possessions with other. We discover peace when we learn to esteem those goods whereby we benefit ourselves in proportion as we give them to others. The very structure and functioning of the universe and of the planet Earth reveal an indescribable diversity bound in an all-embracing unity. The heavens themselves are curved over the Earth in an encompassing embrace.

Here I would recall the experience of Henry David Thoreau, an American naturalist of the mid-nineteenth century who lived a very simple life with few personal possessions. At one time he was attracted to the idea of purchasing an especially beautiful bit of land with a pasture and a wooded area. He even made a deposit. But then he realized that it was not necessary to purchase the land because, he reasoned, he already possessed the land in its wonder and its beauty as he passed by each day. This intimacy with the land could not be taken away from him no matter who owned the land in its physical reality. So indeed that same bit of land could be owned in its wonder and beauty by an unlimited number of persons, even though in its physical reality it might be owned by a single person.

Such was the argument of Mencius, the Chinese Confucian writer who taught the emperor that he should open up the royal park for others, since it would be an even greater joy to have others present with him, just as at a musical concert we enjoy the music without diminishing, but increasing, our own joy as we share it with others. So too for those in the Bodhisattva tradition of India, where those such as Shanti Deva, in the fifth century of our era, took a vow to refuse beatitude itself until all living creatures were saved. For only when they participated in his joy could he be fully caught up in the delight of paradise.

It has taken these many centuries for us to meet with each other in the comprehensive manner that is now possible. While for the many long centuries we had fragments of information concerning each other, we can now come together, speak with each other, dine with each other. Above all we can tell our stories to each other.

Tonight we might recall the ancient law of hospitality, whereby the wanderer was welcomed. So it was with Ulysses on his long voyage home after the Trojan war. When exhausted and driven ashore on occasion, and surrounded by a people he had never met before, he was consistently rested, invited to dine with the people of the place, and then in the quiet moment afterward invited to tell his story. So it has been, I trust, with each of us in these past few days. To some extent we have been able to tell our stories to each other. Now a new phase in all our stories has begun as we begin to shape the Great Story of all peoples as we move into the future.

As a final reflection, I would suggest that we see these early years of the twenty-first century as the period when we discover the great community of the Earth, a comprehensive community of all the living and nonliving components of the planet. We are just discovering that the human project is itself a component of the Earth project, that our intimacy with the Earth is our way to intimacy with each other. Such are the foundations of our journey into the future.

Now night has advanced. The stars are more brilliant than ever. The time has come for us to enjoy our final moments with each other as we continue our journey on into the twenty-first century.

Appendixes

APPENDIX 1

Twelve Principles for Understanding the Universe

1. The universe in its full extension in space and in its sequence of transformations in time is best understood as story: a story known in the twentieth century for the first time with scientific precision through empirical observation. The greatest single need for the survival of the Earth or of the human community in the twenty-first century is for an integral telling of the great story of the universe. This story must provide in our times what the mythic stories of earlier times provided as the guiding and energizing sources of the human venture.
2. The universe is a unity, an interacting and genetically related community of beings bound together in an inseparable relationship in space and time. The unity of the planet Earth is especially clear; each being of the planet is profoundly implicated in the existence and functioning of every other being of the planet.
3. The three basic tendencies of the universe at all levels of reality are differentiation, spontaneous self-organization, and bonding. These tendencies identify the reality, the values, and the directions in which the universe is proceeding.
4. The universe has a violent as well as a harmonious aspect, but it is consistently creative in the larger arc of its development.
5. Earth, within the solar system, is a self-emergent, self-propagating, self-nourishing, self-educating, self-governing, self-healing, and self-fulfilling community. All particular life systems must integrate their functioning within this larger complex of mutually dependent Earth systems.
6. The human emerges within the life systems of Earth as that being in whom the universe reflects on and celebrates itself in a special mode of conscious self-awareness. The human is genetically coded toward a further

cultural coding invented by the human community with remarkable diversity in the various regions of Earth.

7. The transition from a hunter-gatherer mode of life to the beginning of village life with control over the forces of the Earth through agriculture and domestication of animals took place some twelve thousand years ago. This period, generally known as the Neolithic period, was also the beginning of pottery, weaving, and new ways of fashioning stone implements. The major shaping forces of human societies were manifest at this time in the intellectual, artistic, and emotional developments that ever since have characterized the various human communities.

8. The rise of cities with extensive populations: the advent of more elaborate religious expression in ritual and architecture; the extension of intellectual, religious, and moral reflection; the development of specialized social functioning; the increase in centralized government; the invention of writing and greater technological expertise: these achievements, developed some five thousand years ago, were centered in the eastern Mediterranean, in the Indus Valley and the Ganges Valley of India, and in the Yellow River valley in North China. Later they appeared in the western Mediterranean and European areas and in the Americas.

9. Modern scientific achievements, based on empirical observational processes, originated in early-sixteenth-century Europe. They were further developed in Europe, in North America, and in other countries of the world in succeeding centuries.

10. Modern industrial exploitation of the resources of the Earth, factory manufacturing, scientific technologies, and capitalist economics all had their beginnings in Europe and in North America in the eighteenth century. In this period the violent plundering of the Earth took place. The functioning of the Earth in its chemical balance, in its geological structure, and in its biological systems has been profoundly and permanently altered by human agency. The atmosphere and water are extensively polluted. The soils of the Earth are wasted as a result of erosion, road building, industrial establishments, shopping malls, and waste disposal practices. The earlier mystique of the Earth seems to have vanished from human consciousness.

11. In the last half of the twentieth century, as a new period—of electronics and genetic engineering—was developed, a new intimacy was sought with the integral functioning of the natural world. Now the dominant anthropocentrism is being replaced with ecocentrism. New programs are being instituted for integrating human technologies with the technologies of the natural world. A sense of the larger interspecies social order is being developed.

12. The newly energizing Earth community needs a mystique that will provide the high exaltation appropriate to the existence of such a stupendous universe and such a glorious planet as that on which we live. This can be found in celebrating not simply the seasonal sequence but also the irreversible transformational sequence, as this has taken place in the evolutionary story of the universe.

APPENDIX 2

Ten Principles for Jurisprudence Revision

1. Rights originate where existence originates. That which determines existence determines rights.
2. Since it has no further context of existence in the phenomenal order, the universe is self-referent in its being and self-normative in its activities. It is also the primary referent in the being and the activities of all derivative modes of being.
3. The universe is composed of subjects to be communed with, not primarily of objects to be used. As a subject, each component of the universe is capable of having rights.
4. The natural world on the planet Earth gets its rights from the same source that humans get their rights: from the universe that brought them into being.
5. Every component of the Earth community, both living and nonliving, has three rights: the right to be, the right to habitat or a place to be, and the right to fulfill its role in the ever-renewing processes of the Earth community.
6. All rights in nonliving form are role-specific; rights in living form are species-specific and limited. Rivers have river rights. Birds have bird rights. Insects have insect rights. Humans have human rights. Difference in rights is qualitative, not quantitative. The rights of an insect would be of no value to a tree or a fish.
7. Human rights do not cancel out the rights of other modes of being to exist in their natural state. Human property rights are not absolute. Property rights are simply a special relationship between a particular human “owner” and a particular piece of “property,” so that both might fulfill their roles in the great community of existence.

8. Since species exist only in the form of individuals, rights refer to individuals, not simply in a general way to species.

9. These rights as presented here are based on the intrinsic relations that the various components of Earth have to each other. The planet Earth is a single community bound together with interdependent relationships. No living being nourishes itself. Each component of the Earth community is immediately or mediately dependent on every other member of the community for the nourishment and assistance it needs for its own survival. This mutual nourishment, which includes the predator-prey relationship, is integral with the role that each component of the Earth has within the comprehensive community of existence.

10. In a special manner, humans have not only a need for but also a right of access to the natural world to provide for the physical needs of humans and the wonder needed by human intelligence, the beauty needed by human imagination, and the intimacy needed by human emotions for personal fulfillment.

APPENDIX 3

Editor's Afterword: An Intellectual Biography of Thomas Berry

Thomas Berry's intellectual journey is noteworthy for the breadth of his interests and the depth of his study. Berry has combined a lifetime of immersion in the great classical civilizations of the West and Asia with a remarkable appreciation for the spiritual contributions of indigenous traditions. This careful study of human history and religions over many years was reflected in the immense library he gathered and eventually housed at the Riverdale Center for Religious Research in New York City. Some ten thousand books lined the shelves of every room, many in the original languages. From the Latin texts of the Church fathers, to the Sanskrit texts of Hinduism and Buddhism, to the Chinese classics of Confucianism and Taoism, Berry's search for an understanding of the guiding forces in the human journey was intense, persistent, and rare. He sought grounding in the past as a means of reading the demands of the present and anticipating the needs of the future. His was not a study undertaken simply for the sake of pursuing an academic career or for expanding a curriculum vitae. Rather, he pursued the contours of human history around the planet in order to guide humans as they face the immense challenges of our new millennium. He anticipated by several decades the need to understand other cultures and religions, and he foresaw the environmental crisis before it loomed in public consciousness.

Thus Berry's intellectual journey provides a context for understanding how some of his seminal ideas arose. Before developing his own original thinking that identified the need for a new story for humans, Berry explored the history of human communities, from our earliest appearance in the Neolithic period, to the rise of the Axial Age civilizations in the sixth century BCE, through the emergence of the scientific and industrial revolutions, to the present. Berry's study of the human story is noteworthy not only for its broad sweep but also for its resulting vision. His reading of the past has provided us with a comprehensive context for finding our way into a sustainable future.

From Human History to Earth History

It is significant to see Berry's contributions initially as those of a cultural historian whose interests have spanned both Europe and Asia. He did his graduate studies in Western history and spent several years living in Germany after the Second World War. In addition, he read extensively in the field of Asian religions and history. He lived in China the year before Mao came to power, and he published two books on Asian religions, which are still in print (*Buddhism* and *Religions of India*).

From this beginning as a cultural historian, Berry has moved in the last thirty years to become a historian of the Earth. Berry sees himself, then, not as a theologian but as a geologist. The movement from human history to cosmological history has been a necessary progression for Berry. He has witnessed in his own lifetime the emergence of a planetary civilization as cultures have come in contact around the globe, often for the first time. At the same time, the very resources for sustaining such a planetary civilization are being undermined by massive environmental destruction.

It is out of these kinds of concerns for the future direction of human-Earth history that Berry has developed the New Story. Indeed, *The Universe Story*, which Berry wrote with Brian Swimme, represents a fruitful convergence of his interests in both human history and evolutionary history. Berry's aim is to evoke the psychic and spiritual resources to establish a new reciprocity of humans with the Earth and of humans to one another. As Berry has frequently said, there can be no peace among humans without peace with the planet. This, in short, is the intent of the New Story. The underlying assumption is that, with a change of worldview, there will emerge an appropriately comprehensive ethics of reverence for all life. With a new perspective regarding our place in this extraordinary unfolding of Earth history, there will arise a renewed awareness of our role in guiding the evolutionary process at this crucial point in history.

Historian of Western Intellectual and Cultural History

Thomas Berry began his academic career as a historian of Western intellectual history.¹ His thesis at Catholic University on Giambattista Vico's philosophy of history was published in 1951. Vico outlined his philosophy in *The New Science of the Nature of the Nations*, which was first published in 1725, after some twenty years of research.² Vico was trying to establish a science of the study of nations comparable to what others had done for the study of nature. Thus he hoped to make the study of history more "scientific" by focusing on the world of human institutions and causation.

At the same time, Vico intended to demonstrate how this new science should manifest a "rational civil theology of divine providence." In other words, Vico wished to show that providence was at work not only in sacred history but also in "profane" history. Consequently, some kind of pattern and order are operative and discernible in history. Moreover, in contrast to Descartes' concentration on rationalization, Vico emphasized the poetic wisdom and creative imagination needed for creating the future.

In his study, Vico used large, sweeping categories to describe major historical periods since the time of Noah and the flood. Looking at human history from a macrophase perspective, he identified three ages: the age of the gods, the age of the heroes, and the age of humans. Corresponding to each age are different kinds of customs, laws, languages, arts, and economies embracing quite distinctive cultures. Moreover, in each stage a different human faculty dominates, namely, sensation, imagination, and intellect.

In the first period, the age of the gods, a theocratic government supported by mythology prevails. In the second period, the age of the heroes, an aristocratic government dominates, along with class conflict and slavery. In the third age, the age of humans, democracies appear and the power of reason and human rights emerge. Vico sees this cycle as recurring at different points in human history as we move from myth to rationality and from savage to civilized states. In each of these periods, the role of natural

or poetic wisdom and intuition has been crucial in founding institutions that have given rise to the nations. Yet the movement through history is punctuated by disintegration and dissolution. Vico called these the periods of the “barbarism of reflection.” In passing through such phases of entropy, history moves toward a “creative barbarism of sense.”

Vico’s thought has clearly been seminal for Berry. This is evident in several areas of similar concerns, namely, the sweeping periodization of history, the notion of the barbarism of reflection, and the poetic wisdom and creative imagination needed to sustain civilizations. With regard to periodization, Berry has defined four major ages in human history: the tribal-shamanic, the traditional civilizational, the scientific-technological, and the ecological, or Ecozoic, era. He observes that we are currently moving into the Ecozoic era, which he feels will be characterized by a new understanding of human-Earth relations. Nonetheless, he acknowledges that we are in a period of severe cultural pathology with regard to our blind yet sophisticated technological assault on the Earth. In other words, we are in a time of a “barbarism of reflection.” Vico’s description of people in the midst of such a barbarism is uncannily reminiscent of contemporary Western societies: “Such people, like so many beasts, have fallen into the custom of each man thinking only of his own private interests and have reached the extreme of delicacy, or better pride, in which like wild animals they bristle and lash out at the slightest displeasure. Thus no matter how great the throng and press of their bodies, they live like wild beasts in a deep solitude of spirit and will.”³

Berry says that, to extract ourselves from this cultural pathology of alienation from one another and destruction of the Earth, we need a New Story of the universe. By evoking such a deep poetic wisdom, he feels, we may be able to create a sustainable future. He calls for reinventing the human at the species level, which implies moving from our cultural coding to recover our genetic coding of related-ness to the Earth. By articulating a new mythic consciousness of our profound connectedness to the Earth, we may be able to reverse the self-destructive cultural tendencies we have put in motion with regard to the planet.

In so doing, we will create the basis for long-range economic and ecological sustainability. This is, no doubt, for Berry our best hope for moving toward creating more equitable and just societies. This coming together of environmental concerns with social justice issues is at the heart

of the broadened perspective of the New Story. Without such an enlarged picture of our historical past and our planetary roots, it is more difficult to chart our way into a viable future. In the West, especially in the twentieth and twenty-first centuries, individual alienation, despair, ennui, and destructiveness have spread, along with a sense of deteriorating communal ties or ethical responsibilities to the natural or human worlds.

Above all, then, the New Story provides context and perspective for implementing the specific kinds of social, political, and economic changes that will be needed to sustain and foster life on the planet. Its intent is not simply to tell a story that is comprehensive and personally enriching but also to provide a basis for change. The assumption is that, when one's worldview shifts to comprehend the interrelated-ness of all life, one's ethics likewise will be affected to encourage human justice and environmental sustainability.

Influenced by Vico, then, Berry has developed a comprehensive historical perspective in periodization, an understanding of the depths of contemporary barbarism, and the need for a new mythic wisdom to extract ourselves from our cultural pathology and alienation. Berry has described contemporary alienation as being especially pervasive due to the power of the technological trance, the myth of progress, and our own autism in relation to nature. With the New Story and the Dream of the Earth, Berry hopes to overcome that alienation and evoke the energies needed to create a viable and sustainable future.

Historian of Asian Philosophy and Religion

When Berry set out for China in 1948 on a boat leaving from San Francisco, he met William Theodore de Bary, now considered to be one of the premier scholars in Asian studies. De Bary was on his way to China as the first Fulbright scholar of Chinese studies. Berry intended to study language and Chinese philosophy in Beijing. Their time in China, while fruitful, was cut short by Mao's Communist victory in 1949. After the two scholars returned to the States, they worked together to found the Asian Thought and Religion Seminar at Columbia University. De Bary helped to establish one of the nation's seminal programs in Asian studies at Columbia. In addition, he supervised numerous translation projects of individual texts and edited the landmark volumes published by Columbia University Press on the sources of Indian, Chinese, and Japanese traditions. The friendship between de Bary and Berry has lasted for more than fifty years and has been marked by many collaborative projects and exchanges of ideas on Asian thought.

Berry began his teaching of Asian religions at Seton Hall University (1956–1960) and St. John's University (1960–1966) and eventually moved to Fordham University (1966–1979). He also offered courses at Columbia, Drew University, and the University of San Diego. Berry's graduate program, History of Religions, at Fordham was the only one of its kind at a Catholic university in the United States. It lasted for some fifteen years, and at its height in the early 1970s, it attracted more students than any other division in the theology department. Its graduates are now teaching at colleges and universities throughout the United States. During these years Berry wrote numerous articles on Asian religions, in addition to two books, *Buddhism* (1966) and *Religions of India* (1971).

What was distinctive about Berry's approach was his effort not only to discuss the historical unfolding of the traditions being studied but also to articulate their spiritual dynamics and contemporary significance. This made his classes and his writings on Asian religions remarkably stimulating and memorable. Equally important in his approach has been his balance in

highlighting the distinctive contributions of both the Western traditions and the Asian religions. In addition, he has had a long-standing appreciation for the spirituality of indigenous traditions in Asia and the Americas.

In a concise booklet published in 1968, Berry demonstrates the originality of his interpretations of the spiritual dynamics of Asian religious thought. Titled *Five Oriental Philosophies*, this booklet describes the phenomenological essence of each tradition and outlines its historical unfolding.⁴ He includes Hinduism, Buddhism, Confucianism, Taoism, and Zen in his discussions. He speaks of the need to include Asian thought in textbooks on world philosophy, before multiculturalism was fashionable. His concern for embracing pluralism and diversity of thought is eloquently expressed: “Diversity is no longer something that we tolerate. It is something that we esteem as a necessary condition for a livable universe, as the source of Earth’s highest perfection. . . . To demand an undifferentiated unity would bring human thought and history itself to an end. The splendor of our multicultural world would be destroyed.”⁵

In describing the original impulse of the principal Asian systems of thought, Berry succeeds in highlighting a significant dimension of their spiritual essence and avoiding layers of complexity that tend to obfuscate rather than clarify. A few examples will illustrate his phenomenological method, which he later supplemented with a historical discussion of the development of the particular tradition.

Of Hinduism, he writes, “Hinduism is founded in a most intensive experience of divine being. It is an experience of the One beyond all Multiplicity.”⁶

Of Buddhism, he observes, “Buddhist thought originates in an unusual experience of the sorrows of time. No abiding reality is here, no lasting peace, no fit condition for human life. The first and final wisdom is to recognize the insubstantial nature of all things.”⁷

On Confucianism, he notes, “Confucian thought originates in the experience of an all-embracing harmony of the cosmic and human orders of reality. This intimate relationship between the cosmic and the human is expressed and perfected in an elaborate order of ritual and etiquette which, in a certain manner, contains and harmonizes both the cosmic and the human.”⁸

On Taoism, he reflects, “Taoism arises from an experience of the dynamic force immanent in the universe which gives order and life and

meaning to all reality and which in China is known as the Tao. This experience is not radically different from that which produced the Confucian tradition of thought, but while the Confucian scholars gave their attention to the moral qualities of the Tao and to the social and political structure of society, the Taoist visionaries turned to the contemplation of the Tao itself and the mysterious manner in which it wrought the succession of changes in the universal order of things.”⁹

Of Zen, he writes, “The total effort of Zen is to keep the intellectual and cultural life of humans in a state of elemental simplicity with all the vigor that is associated with the spontaneous and instinctive.” ¹⁰

These examples may help to illustrate the breadth of historical, cultural, and religious perspective that Berry brings to the development of his idea of the New Story. He spent several decades studying both Western and Asian intellectual history before arriving at his comprehensive vision of the universe Story. He has appreciated the deep spiritual impulses and devastating human suffering that have given rise to the world’s religions. From this perspective he has been able to discern what spiritual resources we need for creating a multicultural perspective within the Earth community.¹¹ Tolerance of diversity of religious ideas is comparable to protecting the diversity of species in the natural world. For Berry, human diversity and biological diversity are of a continuous piece.

The Asian tradition that has been most significant to Berry’s thinking is Confucianism. He has written numerous articles on Confucianism and the Chinese tradition at large. He has noted that, in East Asia, “Confucianism provided the dominant cultural form of the society, the basic human ideals, the political structure, the social discipline, the educational institutions—the comprehensive style of life.”¹² Its influence is not limited to China, but has been strong in Korea, Japan, Taiwan, Vietnam, Hong Kong, and Singapore as well.

Confucianism has been important because it emphasizes the cosmological dynamics of the universe, in which heaven, Earth, and humans form an interconnected triad. As Berry frequently says, for the Chinese, the human is the “understanding heart” (*hsin*) of the universe. Thus the role of the human in harmony with nature is critical, and the responsibility of the rulers and ministers to establish benevolent government is essential.

As humans cultivate themselves, they begin to affect the larger social and political order. At the heart of such moral and spiritual cultivation is education. Confucianism has an optimistic view of human nature as essentially good and capable of self-improvement through education. The assumption is that self-transformation of the individual will thus result in social transformation.

For Berry, Confucianism has had significance because of its cosmological concerns, its interest in self-cultivation and education, and its commitment to improve the social and political order. With regard to cosmology, Berry has identified as important the understanding of the human as a microcosm of the cosmos. Essential to this cosmology is a continuity of being and thus a communion between various levels of reality—cosmic, social, and personal. This is similar to the ideas of Pierre Teilhard de Chardin, Alfred North Whitehead, and other contemporary process thinkers.

Berry writes:

According to Confucian teaching, a mutual attraction of things for each other functions at all levels of reality as the interior binding force of the cosmic, social, and personal life. More than most traditions, Confucianism saw the interplay of cosmic forces as a single set of intercommunicating and mutually compenetrating realities. These forces, whether living or nonliving, were so present to each other that they could be adequately seen and understood only within this larger complex. . . . Because of the intensity with which the Chinese experienced this interior, feeling communion with the real, they set themselves on perfecting humans themselves and the universe by increasing this sympathetic presence of things to each other within a personal and social discipline, rather than by intellectual analysis and understanding. Indeed, the Confucian ideal of knowledge was that of an understanding heart, rather than a thinking brain.^{[13](#)}

Confucianism has remained, for Berry, a dynamic, vitalistic tradition with important implications for current environmental philosophy and ethics. Berry notes, however, that there is a disparity between theory and practice in the case of China. He recognizes that China, like many countries, has been involved in deforestation and desertification over the centuries. Furthermore, the contemporary record of China on the

environment is far from ideal, especially with its rapid drive toward industrialization and modernization. Nonetheless, the comprehensive cosmological framework of Confucian thought can be a valuable intellectual resource in reformulating a contemporary ecological cosmology with implications for environmental ethics.^{[14](#)}

A Student of Indigenous Religious Traditions

In addition to having a remarkable ability to appreciate the diversity and uniqueness of the great “world” religions, Berry has a lively interest in and empathy for native religions. He taught several courses at both Fordham and Columbia on American Indian religions and has published a number of articles on the topic. He encouraged his graduate students to write dissertations in this area, and several of them have been published.¹⁵ He has been warmly received by various native groups, including tribes on the northwest coast of the United States and the Cree and Inuit Indians in northeastern Canada who struggled against the massive James Bay hydroelectric project. He has also spent time with the Tboli people in Mindinao in the southern Philippines.

Berry’s appreciation for native traditions and for the richness of their mythic, symbolic, and ritual life was enhanced by his encounters with the ideas of Carl Jung and Mircea Eliade. Jung’s understanding of the collective unconscious, his reflections on the power of archetypal symbols, and his sensitivity to religious processes made him an important influence on Berry’s thinking. Moreover, Mircea Eliade’s studies in the history of religions have been enormously useful in Berry’s understanding of both Asian and native traditions. This is due in large part to Eliade’s ability to interpret the broad patterns of meaning embedded in comparable symbols and rituals across cultures.

Within this larger framework of interpretive categories, then, Berry is able to articulate the special feeling in native traditions for the sacredness of the land, the seasons, and the animal, bird, and fish life. He understood that native peoples respect Creation because they honor the Creator. They have a deep reverence for the gift of all life and for the human’s dependency on nature to sustain life. They have perfected some of the ancient techniques of shamanism, such as ritual fasting and prayer, to call on the powers in nature for personal healing and communal strength. They have cultivated an ability to use resources without abusing them and to recognize the importance of living lightly on the Earth. This is not to say that native peoples have been

the ideal ecologists, however. As in the Chinese case, abuses certainly have occurred. But, for Berry, these two traditions (Confucian and Native American) remain central to the creation of a new ecological sensibility for our times.

The first peoples, then, are not merely to be romanticized or idealized as a segment of the past. Rather, their way of life may have much to teach us as we are learning, rather painfully, the limits of natural resources and the consequences of mindless growth. In developing a spirituality of the Earth as part of the New Story, Berry suggests we will be returning to examine the rich symbols and rituals in the Native American religions. The principal question will no doubt be how to appreciate and understand these symbols and not simply appropriate them as some New Age groups have sometimes unwittingly done.

The Influence of Pierre Teilhard de Chardin

In formulating his idea of the New Story, Berry is much indebted to the thought of the French Jesuit and paleontologist Pierre Teilhard de Chardin (1881–1955). In particular, Berry has derived from Teilhard (and from other writers, such as Loren Eiseley) an enormous appreciation for developmental time. As Berry has frequently noted, since Charles Darwin's *Origin of Species* was published in 1859 we have become aware of the universe not simply as a static cosmos but as an unfolding cosmogenesis. The theory of evolution provides a distinctive realization of change and development in the universe and the Earth that resituates us in a huge sweep of geological time. With regard to developmental time, Teilhard suggested that the whole perspective of evolution changes our understanding of ourselves in the universe. He writes, "For our age to have become conscious of evolution means something very different from and much more than having discovered one further fact. . . . It means (as happens with a child when he acquires the sense of perspective) that we have become alive to a new dimension. The idea of evolution is not, as sometimes said, a mere hypothesis, but a condition of all experience."¹⁶ For Berry, the New Story is the primary context for understanding the immensity of cosmogenesis. It is similar to what Loren Eiseley refers to as "the immense journey" or "the firmament of time."¹⁷

From Teilhard, Berry has also derived an understanding of the psychic-physical character of the unfolding universe. This implies that if there is consciousness in the human, and if humans have evolved from the Earth, then from the beginning some form of consciousness or interiority has been present in the process of evolution. Matter, for both Teilhard and Berry, is not simply dead or inert but is a numinous reality consisting of both a physical and a spiritual dimension. Consciousness, then, is an intrinsic part of reality and is the thread that links all life-forms. There are various forms of consciousness, and, in the human, self-consciousness or reflective thought arises.

Berry has also obtained from Teilhard an appreciation for his law of complexity-consciousness. This suggests that, as things evolve from simpler to more complex organisms, consciousness also increases. Ultimately self-consciousness or reflection emerges in the human order. The human as a highly complex mammal is distinguished by this capacity for reflection. This gives humans a special role in the evolutionary process. We are part of, not apart from, the Earth.

For Teilhard and for Berry, then, the perspective of evolution provides the most comprehensive context for understanding the human phenomenon in relation to other life-forms. For Berry, this implies that we are one species among others, and as self-reflective beings we need to understand our particular responsibility for the continuation of the evolutionary process. We have reached a juncture where we are realizing that we will determine which life-forms will survive and which will become extinct. We have become co-creators as we have become conscious of our role in this extraordinary, irreversible developmental sequence of the emergence of life-forms.

Yet Berry has also critiqued Teilhard's overly optimistic view of progress and his apparent lack of concern for the devastating effect that industrial processes were having on fragile ecosystems. He has pointed out that Teilhard was heir to a Western mode of thinking that saw the human as capable of controlling the natural world, usually through science and technology. Teilhard's challenge to "build the Earth" reflects some of the unrestrained optimism of humans whose faith in science and technology had no bounds. This overly anthropocentric and blindly optimistic view is something Berry has frequently critiqued.

In addition, Berry has noted Teilhard's surprising lack of appreciation for Asian religions and indigenous traditions despite his long residence and extensive travel in Asia. His attachment to the unique revelation of Christianity and his criticism of Asian religions as static reflects the contemporary theology of his times. This lack of appreciation may also be explained as the absence of the opportunity for communication with Chinese scholars of traditional Chinese religions while he resided in Beijing. This may have been the result of language barriers, wartime constraints, or lack of time or interest due to other scholarly commitments.

Berry has been much more inclusive in terms of the study of human cultural history and world religions, while Teilhard focused on Earth and

universe history. These two approaches have come together in the book Berry coauthored with the mathematical cosmologist Brian Swimme, *The Universe Story*.¹⁸ Here for the first time is the narration of the story of the evolution of the solar system and the Earth along with the story of the evolution of the human and of human societies and cultures. While not claiming to be definitive or exhaustive, *The Universe Story* sets forth a model for the telling of a common creation story. It marks a new era of self-reflection for humans, one that Berry has described as the “ecological age” or the beginning of the “Ecozoic age.”¹⁹

In telling the story of evolution, Berry has also tried to keep his language not exclusively Christocentric as Teilhard did. Berry’s intent has been to appeal not simply to the Christian community but beyond. He is aware of the barriers theological language sometimes creates in the secular world, particularly among environmentalists and people of different religious commitments. He hopes to appeal to a wide variety of individuals who are responsive to the paradigm shift in worldviews that is beginning to take shape in human consciousness. It is a shift that transcends religious or national boundaries and helps to create the common grounds for the emergence of an Earth community.

The Origin and Significance of the New Story

Berry's ideas on the New Story began in the early 1970s, as he pondered the magnitude of the social, political, and economic problems the human community was facing. His articulation of the need for a new orientation was motivated by his deep concern about the almost suicidal path of humans in their destruction of the Earth and in their violence and indifference to one another. The need for a New Story, or a functional cosmology, then, arose not as an abstract idea, but as a response to the sufferings of humans in a universe where they saw themselves as deeply alienated.²⁰ This alienation was, no doubt, a particular experience of the West in the postwar years as expressed in existentialist philosophy, the death-of-God theology, and the theater of the absurd. Nonetheless, alienation, ennui, and disaffection have spread to other parts of the world along with growing industrialization and commercialization. Berry's New Story provides an important antidote to this disillusionment and despair. It creates, above all, a new context for connection, for purpose, for action. It is an idea with direct implications for providing the human energy needed for positive social, political, and economic change.

Berry first published *The New Story* in 1978 as the inaugural booklet in the *Teilhard Studies* series. It was published again nearly a decade later by *Cross Currents*. It was revised slightly for its publication in the *Dream of the Earth* in 1988. Berry originally subtitled the work "Comments on the Origin, Identification, and Transmission of Values." The story, then, is intended to be a new orientation and perspective that provides a moral basis for action. In other words, it is seen as a comprehensive basis for nurturing reciprocity between humans and for fostering reverence between humans and the Earth.

Berry opens his essay by observing, "We are in between stories." He notes how the old story was functional: "It shaped our emotional attitudes, provided us with life purpose, energized action. It consecrated suffering, integrated knowledge, guided education."²¹ This context of meaning provided by the old story is no longer operative. Some people have turned

to New Age practices or to religious fundamentalism for orientation and direction. However, he feels neither of these directions will ultimately be satisfying. We are confronted with dysfunctionality in both religious communities and secular societies. Berry proposes a new story of how things came to be, where we are now, and how our human future can be given some meaningful direction. In losing our direction, we have lost our values and orientation for human action. This is what the New Story can provide.

Berry cites the period of the Black Death of the fourteenth and fifteenth centuries as a watershed in the development of Western thought. On the one hand, there arose the believing redemption community, while on the other there emerged the scientific community. The division between these two has remained strong down to the present. In fact, in our own time the split between the creationists and the evolutionists has been heated. However, there is also emerging a new dialogue between science and religion that is attempting to overcome this dichotomy.

With the spread of the plague in Europe, there arose a need for the intervention of supernatural forces to mitigate the awesome power of death. Because of the vast numbers of people who died (between one-third and one-half of the population), Christianity embraced a strong redemption-oriented theology. To be redeemed and saved out of this world of suffering was the hope held up to all believers. To be assisted in this redemption from suffering by the power of Christ's suffering and death was the aim of the Christian message. Something was lost in this exclusive focus on redemption. Creation theology was subsumed under redemption theology. As Berry writes, "The primary doctrine of the Christian creed, belief in a personal creative principle, became increasingly less important in its functional role. Cosmology was not of any particular significance."²² Berry claims that the Christian story is a theological story of redemption. It is no longer the story of the Earth or the integral story of humankind.²³

On the other hand, the scientific, secular community sought to remedy the terror of natural events by studying the processes of the Earth itself, rather than by seeking supernatural intervention. They studied the heavens and the Earth with the aid of the telescope and microscope. The scientific endeavor was aided by the eighteenth-century Enlightenment philosophers' celebration of reason and the sociologists' articulation of the progress of the human mind. The biological understanding of development at the time,

which began in the nineteenth century, was a significant addition to this. It is now being completed by the astronomers' and physicists' exploration of the expanding universe.

The significance of the sense of developmental time for the New Story should be highlighted. The Copernican revolution changed our whole sense of our spatial orientation in the universe. No longer was the Earth considered the center of reality. In a similar manner, the Darwinian revolution is altering our sense of time. For the first time it is dawning on human consciousness that the Earth is part of an irreversible developmental sequence of time. In other words, life has evolved from less complex to more complex forms. Species did not always exist as they are now; they are derived from early life-forms. As Berry writes, "The Earth in all its parts, especially in its life forms, was in a state of continuing transformation."²⁴ This is the first implication of the New Story: we live not simply in a cosmos but in a cosmogenesis.

Second, as this reality of developmental time begins to dawn on the human community (although it is still fiercely resisted by creationists), a realization of the subjective communion of the human with the Earth likewise begins to be felt. As Berry expresses it, "The human emerges not only as an earthling, but also as a worldling. We bear the universe in our beings as the universe bears us in its being. The two have a total presence to each other and to that deeper mystery out of which both the universe and ourselves have emerged."²⁵ This subjective presence of things to one another is one of the most distinctive features of Berry's thought. In *The Divine Milieu*, Teilhard writes of this interior attraction of things: "In the Divine Milieu all the elements of the universe touch each other by that which is most inward and ultimate in them."²⁶ Berry has suggested that the importance of the awareness of the subjective dimension of the universe story cannot be underestimated. Indeed, he writes, "The reality and value of the interior subjective numinous aspect of the entire cosmic order is being appreciated as the basic condition in which the story makes any sense at all."²⁷

Berry states, then, that to communicate values within this new frame of reference of the Earth story we need to identify the basic principles of the universe process itself. These are the primordial intentions of the universe toward differentiation, subjectivity, and communion. Differentiation refers to the extraordinary variety and distinctiveness of everything in the

universe. No two things are completely alike. Subjectivity is the interior numinous component present in all reality, also called consciousness. Communion is the ability to relate to other people and things due to the presence of subjectivity and difference. Together these create the grounds for the inner attraction of things for one another. These are principles that can become the basis of a more comprehensive ecological and social ethics that sees the human community as dependent upon and interactive with the Earth community. Only such a perspective can result in the survival of both humans and the Earth. As Berry has stated, humans and the Earth will go into the future as one single multiform event, or we will not go into the future at all.

Berry closes his essay “The New Story” with a powerful passage evoking a confidence in the future despite the tragedies of the present. He writes:

If the dynamics of the universe from the beginning shaped the course of the heavens, lighted the sun, and formed the Earth, if this same dynamism brought forth the continents and seas and atmosphere, if it awakened life in the primordial cell and then brought into being the unnumbered variety of living beings, and finally brought us into being and guided us safely through the turbulent centuries, there is reason to believe that this same guiding process is precisely what has awakened in us our present understanding of ourselves and our relation to this stupendous process. Sensitized to such guidance from the very structure and functioning of the universe, we can have confidence in the future that awaits the human venture.²⁸

This then is Berry’s New Story, born out of his early intellectual formation as a cultural historian of the West and his later exploration of Asian religions and indigenous traditions, and finally culminating in the study of the scientific story of the universe itself. It is a story of personal evolution against the background of cosmic evolution. It is the story of one person’s intellectual history in relation to Earth history. It is the story of all our histories in conjunction with planetary history. Berry’s journey points toward the universe story that awaits new tellings, new chapters, and ever-deeper confidence in the beauty and mystery of its unfolding.

—*Mary Evelyn Tucker*

NOTES

[1](#) For a discussion of Berry's philosophy of history, see John Grim, "Time, History, Vision," *Cross Currents* 37, nos. 2–3 (1987): 225–39.

[2](#) The second edition was published in 1730 and the third edition in 1744, six months after Vico's death. The third edition is available in a revised edition translated by Thomas Goddard Bergin and Max Harold Fisch, *The New Science of Giambattista Vico* (Ithaca, N.Y.: Cornell University Press, 1970).

[3](#) Ibid., p. 381.

[4](#) Thomas Berry, *Five Oriental Philosophies* (Albany, N.Y.: Magi Books, 1968).

[5](#) Ibid., pp. 45–46.

[6](#) Ibid., pp. 8–9.

[7](#) Ibid., p. 15.

[8](#) Ibid., p. 21.

[9](#) Ibid., p. 28.

[10](#) Ibid.

[11](#) For a view of resources within the traditional world religions and within contemporary ecological perspectives, see Mary Evelyn Tucker and John Grim, eds., *Worldviews and Ecology* (Maryknoll, N.Y.: Orbis Books, 1994); and M. E. Tucker and J. R. Grim, series eds., *Religions of the World and Ecology*, 9 vols. (Cambridge, Mass.: Harvard Center for the Study of World Religions and Harvard University Press, 1997–2003).

[12](#) Thomas Berry, “Affectivity in Classical Confucian Tradition,” in *Confucian Spirituality*, ed. Tu Weiming and Mary Evelyn Tucker, vol. 1 (New York: Crossroad Publishing, 2003), p. 96. Also in this volume is Berry’s article “Individualism and Holism in Chinese Tradition: The Religious Cultural Context.”

[13](#) Ibid., pp. 1–2.

[14](#) See M. E. Tucker and J. Berthrong, eds., *Confucianism and Ecology* (Cambridge, Mass.: Harvard Center for the Study of World Religions, 1998).

[15](#) See, for example, John Grim, *The Shaman* (Norman: Oklahoma University Press, 1988).

[16](#) Pierre Teilhard de Chardin, *Science and Christ* (New York: Harper and Row, 1968), p. 193.

[17](#) See Eiseley, *The Immense Journey*, first published in 1946, and *The Firmament of Time*, published in 1960.

[18](#) Published in 1992 by HarperSanFrancisco.

[19](#) See Berry's essay titled "The Ecological Age," in *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988).

[20](#) For a discussion of Berry's project of articulating a functional cosmology, see Brian Swimme, "Berry's Cosmology," *Cross Currents* 37, nos. 2–3 (1987): 218–24.

[21](#) Thomas Berry, *The New Story*, Teilhard Studies no. 1 (Chambersburg, PA: Anima Press, 1978), p. 1.

[22](#) Ibid., p. 2.

[23](#) Ibid., p. 3.

[24](#) Ibid., p. 4.

[25](#) "The New Story," as revised in *The Dream of the Earth*, p. 132.

[26](#) *The Divine Milieu* (New York: Harper and Row, 1960), p. 92.

[27](#) "The New Story," p. 135.

[28](#) Ibid., p. 137.

About the Author and Editor

Thomas Berry, one of the leading environmental thinkers in North America, was the director of the Riverdale Center for Religious Research and founder of the History of Religions Program at Fordham University. His major publications include *The Dream of the Earth* (1988), *The Universe Story* (coauthored with Brian Swimme, 1992), and *The Great Work* (1999). He lives in Greensboro, North Carolina.

Mary Evelyn Tucker is a co-coordinator with her husband, John Grim, of the Forum on Religion and Ecology (www.religionandecology.org). Together they directed a series of conferences on world religions and ecology at Harvard and edited the 10 volume series that resulted from these conferences. They are visiting professors at Yale at the Institute for Social and Public Policy.

The Sierra Club, founded in 1892 by John Muir, has devoted itself to the study and protection of the earth's scenic and ecological resources—mountains, wetlands, woodlands, wild shores and rivers, deserts and plains. The publishing program of the Sierra Club offers books to the public as a nonprofit educational service in the hope that they may enlarge the public's understanding of the Club's basic concerns. The point of view expressed in each book, however, does not necessarily represent that of the Club. The Sierra Club has some sixty chapters throughout the United States. For information about how you may participate in its programs to preserve wilderness and the quality of life, please address inquiries to Sierra Club, 85 Second Street, San Francisco, California 94105, or visit our website at www.sierraclub.org.

Copyright © 2006 by Thomas Berry

All rights reserved under International and Pan-American Copyright Conventions. No part of this book may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without permission in writing from the publisher.

The following copyrighted essays are reprinted with the permission of the publishers:

"The Epic of Evolution," in *The Epic of Evolution: Science and Religion in Dialogue*, ed. James Miller (Upper Saddle River, NJ: Pearson Prentice Hall, 2004); "Evening Thoughts," *EarthLight* 39 (Fall 2000): 134–35; "Loneliness and Presence," in *Communion of Subjects*, ed. Kimberley Patton and Paul Waldau (New York: Columbia University Press, 2006).

Published by Sierra Club Books
85 Second Street, San Francisco, CA 94105
www.sierraclubbooks.org

Sierra Club Books are published in association
with Counterpoint (www.counterpointpress.com).

SIERRA CLUB, SIERRA CLUB BOOKS, and the Sierra Club design logos
are registered trademarks of the Sierra Club.

Library of Congress Cataloging-in-Publication Data

Berry, Thomas

Evening thoughts : reflecting on Earth as sacred community / Thomas Berry ; edited by Mary Evelyn Tucker.

p. cm.

Includes bibliographical references.

eISBN : 978-1-578-05186-1