

The Ecozoic Reader

SHARED STORY AND DREAM EXPERIENCE OF AN ECOLOGICAL AGE



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The Great Work

We are about the Great Work.

*We all have our particular work—some of us are teachers,
some of us are healers, some of us in various professions,
some of us are farming.*

We have a variety of occupations.

*But beside the particular work we do
and the particular lives we lead,
we have a Great Work that everyone
is involved in and no one is exempt from.*

*That is the work of moving on from a terminal Cenozoic¹
to an emerging Ecozoic Era² in the story of the planet Earth...
which is the Great Work.*

- Thomas Berry

¹ Our current geo-biological era, the Cenozoic Era, began 67,000,000 years ago following the mass extinction of the dinosaurs and many other species. Now Earth is undergoing a mass extinction of plant and animal species of similar magnitude, this time caused by the impact of human activity on the community of life systems. The Cenozoic Era is ending.

² That another geo-biological era will follow the Cenozoic Era is not in question. What is in question is whether humans and other forms of life as we know them will continue. Will we achieve a viable mode of human presence on the Earth? The “Ecozoic Era”—a time of a mutually enhancing relationship of humans and the larger community of life systems—represents the hope that we will.

Three Siblings: Sun, Earth, the Comet Hyakutake

by F. Nelson Stover

The Universe watched in awe
as a hydrogen star exploded
in a remote appendage of the Milky Way.

Myriads of new forms congealed
out of this fiery furnace.
Three—a sun, a comet and a planet—
would see each other every now and then.

The fused hydrogen atoms
which had become helium
drew each other closer
until
They ignited like billions of other
helium stars throughout the cosmos.
Their massive gravitational fields
served as a pillar
around which the rest of the
system of siblings revolved.

Some hydrogen pairs,
which found new oxygen atoms
wandering in the stew
of the celestial inferno,
congealed into a ball of ice
launched out on a trajectory
high above the galactic plane.
Aeons passed before the sun's pull drew the comet back.



Nearly 100 million miles beyond
the sun's searing heat
the heavier stuffs from the
hydrogen fire began to convene.
The irons, carbons, golds and gases
spun a ball which brought
fresh creativity to the Universe.

Two hundred thousand times the comet
returned to the solar plane--
It saw the third node out from
its flaming sister
turning blue.
and its water molecules reverberated
with joy
as their peers prospered on
planet Earth.

Another two hundred thousand times
the comet returned to its family --
The blue node had taken on a
greenish tint,
and its carbon molecules
reverberated with joy
as their peers
tapped solar power to photosynthesize.

On its six hundred thousandth trip
the comet knew it was being watched
and heard observers call its name,
From its ice core to the tip of its gaseous tail
Hyakutake trembled,
knowing it had brought
awe to the on-lookers from afar.

A rock watched this rendezvous
from its valley home.
Knowing it was forged in the same fire
and having seen these siblings pass
countless times before.
The rock had felt the hands of humans
and hoped the ones who give names
would survive to join future
convergences of these celestial siblings.

I watched the siblings pass,
Rejoiced at their diverse creativity,
Stood in awe of their longevity, and
Realized my consciousness flickered as
the tip of a solar flame.

The Universe, too, saw their passing
Rejoiced that is-ness persisted
Stood in awe of the multiplicity of forms of the cosmos, and
Wondered what shapes it would see
after another one, two, or six hundred thousand
convergences of the three Milky Way siblings.



Editor's note: This poem is included in *The Rocks Sang Om*, a collection of sixty poems published by the Institute of Cultural Affairs: Nepal. Copies of this publication are available for \$10 each from the author at 5911 Western Trail, Greensboro, NC 27410 (ICAGboro@igc.org). All proceeds from the sale of the book benefit women's literacy programs conducted by ICA Nepal.



Thomas Berry's "Great Work"

by Herman F. Greene

When I received my long awaited copy of *The Great Work: Our Way into the Future* by Thomas Berry, in awe, I held it in my hands. In a general sense I knew the text, for I had read a manuscript, but now here it was, THE GREAT WORK! Its rosy cover, with mountain, pond and ancient cattail, beckoned me inward. It was small—smaller than I had thought. It fit into my hand like a handbook, and it occurred to me, this was what it was—a handbook for how we can move into the future...one with hope and real prosperity.

The book's title invited inquiry. I considered the task of moving into an ecological age, or as Thomas would say, the "Ecozoic Era," and his words, "This is the Great Work of our time," resonated in my mind. I also considered the man behind the book. What was his great work? How could one describe this man and his thought, now most recently made available in this slim book, to those who do not know him? He is so widely known and influential in a small circle, and so little known in the world at large. Yet, he has everything to say to the world at large. The crisis resulting from the ecological devastation of the planet by human activity is real, though not yet expressed in a commanding and immediate way that is evident to all. We need Thomas to help us understand what is going on; to give us eyes to see, ears to hear, passion to feel, courage to act; to give us ways to explain what has happened; and to give us knowledge of what we authentically may rely on, hope for and move toward if we are to create a viable future in this dawning new millennium.

That Thomas has done this—given us a new understanding of (i) where we are, (ii) who we are as humans, (iii) how we got here, and (iv) where we are to go—is his great work. This work is most importantly expressed in the books he has written, in *The Dream of the Earth* (1988), as co-author with Brian Swimme, in *The Universe Story* (1992), and, now, in *The Great Work* (1999). We can think of these books as a trilogy. *The Great Work* fills in gaps in the two earlier books and completes thoughts inferred in them. It is to an understanding of this final installment of Thomas Berry's great work, to which the remainder of this review is devoted.



Where we are

Of the three books, *The Great Work* is the most urgent. Not so much time is spent on the broad sweep of history or of the cosmos, or on the development of human culture. This analysis Thomas has given masterfully in his earlier books and yet-to-be-published papers. This book is more to the point. It is a call to action. It is largely concerned with our present situation and what must occur in the 21st century.

In the very first chapter Thomas lays before us “The Great Work.” In each historical epoch, he says, people are given a “Great Work” to do—in one age, the settling of new lands, in another the building of great cathedrals, the creation of artistic, philosophical, religious or scientific works, or the shaping of political structures and ideas. The Great Works of prior periods are seen in such things as the movement of the first people out of Africa in the Paleolithic Period; the creation of language, rituals and social structures in hunter-gatherer communities; the establishment of agriculture communities in the Neolithic Period; the development of the great classical civilizations; and, in the modern period, advances in technology, urban civilization, new ideals of government and human rights, the modern business enterprise and globalism.

Our Great Work is not something we choose, Thomas says. It is something we find ourselves thrown into by virtue only of being born in a certain time and place. The task may seem overwhelming, one coming in response to some huge historical difficulty, but, he observes, just as we are given our historical task by some power beyond ourselves, we must also believe we are given the abilities to fulfill this task.

The Great Work into which we and our children are born, Thomas says, comes in response to the devastation of the planet caused by human activity. We are facing a breakdown in the life systems that can only be understood by comparison with events that marked the great transitions in the geological eras of Earth’s history, such as the extinction of the dinosaurs and countless other species when the Mesozoic Era ended and our present

Cenozoic Era began (p. 3)*. Our task is to move from our modern industrial civilization with its devastating impact to that of benign presence. It is an arduous and overwhelming task, one exceeding in its complexity that ever offered to humans, for it is not simply one of adjustment to disturbance of human life patterns, as, for example, that occasioned by the Great Depression or the recent World Wars, but one of dealing with the disruption and termination of the geo-biological system that has governed the functioning of the planet in the 67 million year reign of the Cenozoic Era in the history of the planet Earth.

The Great Work before us is to move from the terminating Cenozoic Era into an emerging "Ecozoic Era" when humans will be present to the Earth in a mutually enhancing way and become functional participants in the comprehensive Earth community. To do this involves "reinventing the human," because we have a task and role emerging from our modern capacities and dimensions that has never been conceived in the human venture. From the earliest times in human history we have been acculturated into a microphase awareness of our place in the Earth system, yet we find ourselves now at a place where humans as a whole have a macrophase impact. *Microphase* refers to our individual survival, achievements, freedoms, and aspirations; *macrophase* refers to our place as a collective human community within the Earth system.

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To accomplish this transition requires a fundamental reassessment of our role as humans, and it must be done as might be said in computer talk, in "real-time." We have no reprieve from being participants in the devastating impacts of our present modes of civilizational presence, yet from our places as active participants in the current system, we are called to bring about a transition to a mutually enhancing mode of presence.

The complexity of this task, as compared with other Great Works, can be understood when we realize there can be no frontal attack on our adversary in

* *Editor's note:* All page numbers cited refer to the hardcover first edition of Thomas Berry's *The Great Work: Our Way Into the Future* (New York: Bell Tower, 1999).



this crusade. There is no “we” and “they,” there is no “here” and “there,” there is no frontier to cross, and no externalities that can be ignored in the name of one great cause. No, everything is in the midst; we are both on the side of this cause and against it. The transformation that is called for is both inner and outer, regional and global, national and international, economic and social, individual and collective, family and sect, and—for the first time in human history with self-conscious awareness—human and other-than human nature.

We are lost in a task of such great magnitude without some guide to lead us, some great understanding to counsel us on the way. Such a guide is Thomas Berry’s *Great Work*. His understanding that will counsel us is not, however, some easily mastered technique or path, but a comprehensive understanding of who we are as humans, how we got here, and where we in our larger dimensions are to go.

This then is where we are: We are in modern industrial civilization in the terminal phase of the Cenozoic Era. We are people born into the Great Work of creating and transitioning into an emerging Ecozoic Era.

Who we are as humans

The beginning of the transformation to the Ecozoic, to Thomas, is an inner one. It is a recovery of a sense of awareness that has atrophied in the modern period, that of our intercommunion with the natural world and our presence to its primal mystery and value.

In a way, it would be possible to understand all of Thomas’ work by experiencing with Thomas, and fully comprehending, the second chapter of *The Great Work*, entitled “The Meadow Across the Creek.” Thomas here explains how his understanding of the Great Work first began:

I was...eleven years old. My family was moving...to the edge of town where [our] new house was being built. The house, not yet finished, was situated on a slight incline. Down below was a small creek and there across the creek was a meadow. It was an early afternoon in late May when I first wandered down the incline, crossed the creek, and looked out over the scene.

The field was covered with white lilies rising above the thick grass. A magic moment, this experience gave to my life something that seems to explain my thinking at a more profound level than almost any other experience I can remember. It was not only the lilies. It was the singing of the crickets and the woodlands in the distance and the clouds in a clear sky....

This early experience, it seems, has become normative for me throughout the entire range of my thinking. Whatever preserves and enhances this meadow in the natural cycles of its transformation is good; whatever opposes this meadow or negates it is not... (pp. 12-13).

It is to this theme of the bondedness of the human with nature, and to nature as the source of vitality, meaning and value for the human, that Thomas returns again and again. In the chapter on "The Earth Story," he says, "The human is neither an addendum to the universe nor an intrusion into the universe. We are quintessentially integral with the universe. In ourselves the universe is revealed to itself as we are revealed in the universe" (p. 32).

In the chapter on "The North American Continent," he finds this awareness of our bondedness with nature in indigenous people. "The peoples who lived here first, with their unique experience of this continent have much to teach us concerning intimate presence to this continent, how we should dwell here in some mutually enhancing relation with the land" (p. 36).

In the chapter on "The University," he traces this awareness in the Western tradition. He quotes from Thomas Aquinas' *Summa Contra Gentiles*, "'The order of the universe is the ultimate and noblest perfection in things'" (p. 77), and from his *Summa Theologica*, "'The whole universe together participates in the divine goodness and represents it better than any single being whatsoever'" (p. 77).

In the evolutionary developmental story of the universe as made available to us through science, Thomas says in the chapter on "The Earth Story," there is a special means of access to our sacred relation to the cosmos. This story—which shifts our awareness from the universe as being static and cyclical to being an emergent, dynamic creative universe that is about something—is, to Thomas, our primary means of access to the divine. In this story we find an emergent process that is "neither random nor determined, but creative."



[A]s in the human order, [this] creativity is neither a rational deductive process nor the irrational wandering of some undisciplined cosmic intelligence, but the emergence of beauty as mysterious as the blossoming of a field of daisies out of the dark Earth.

To appreciate the numinous aspect of the universe as it is communicated in this story, we need to understand that we ourselves activate one of the deepest dimensions of the universe. [That the] special intellectual, emotional, and imaginative capacities [we recognize in ourselves] have existed as dimensions of the universe from its beginning is clear since the universe is ever integral with itself in all its manifestations throughout its vast extension in space and throughout the sequence of its transformations in time (pp. 31-32).

In this story we also come to understand ourselves as related to other beings in a new way, as when we understand our genetic relationship with all of life on Earth (pp. 105-106).

And finally, we find this awareness of our intimate rapport with nature in our encounter with wildness. In the chapter on “The Sacred and the Wild,” Thomas says

I speak of the wild dimension of existence and the reverence and fear associated with the wild, since precisely here is where life and existence and art itself begin.... Wildness we might consider as the root of the authentic spontaneities of any being. It is that wellspring of creativity whence come the instinctive activities that enable all living beings to obtain their food, to find shelter, to bring forth their young; to sing and dance and fly through the air and swim through the depths of the sea. This is the same inner tendency that evokes the insight of the poet, the skill of the artist, and the power of the shaman (p. 51).

This then is who we are. We are people who have lost touch with nature. We are people recovering and healing as we become aware of the physical and spiritual continuities, and magnificence, of the existence of the universe of which we are a part.

How we got here

One cannot follow Thomas' guidance into the Ecozoic Era without an understanding of cultural history. To move to the Ecozoic is not a situation of making minor adjustments to ameliorate the negative environmental impacts of an otherwise functional civilization, for, in Thomas' view, ours is a civilization that is fundamentally flawed in its conception, values, construction, operation, and aspirations. To analyze civilization only in its contemporary manifestation and to find fixes for its deficiencies would be a futile exercise. What is first required, in Thomas' view, is an understanding of why human civilization is this way, and to understand this, one must understand how we got here. Only then may a genuine understanding of where we have to go arise.

The theme of how we got here is more fully elaborated in *The Universe Story* where Thomas traces the development of human culture from its beginning. It was not necessary to repeat this in *The Great Work*, but to grasp Thomas' treatment of history, it is important to recall his understanding of culture. At birth, he says in *The Universe Story*, we are only imperfectly human.

Whereas nonhuman life forms receive their guidance almost completely through their genetic coding, the human is genetically coded toward further transgenetic cultural codings, which in their specific forms are invented by human communities themselves in their various modes of expression. These distinctive cultural inventions are not simply the work of individuals or even of a single generation. They are the work of a people over the generations. (*The Universe Story*, pp. 158-59)

The reason we act as we do and make the choices that we do is because of our cultural coding, which is handed on to succeeding generations by education (p. 91). Now, at this critical juncture in the terminal phase of the Cenozoic, because of the pervasive effects of human activity, natural selection can no longer function as it has. Consequently, "cultural selection" even more than natural selection will determine the future of the biosystems of the planet, and on the future of the biosystems, the fate of all life on Earth, including our own, depends (p. 4).



The central flaw in our development, according to Thomas, is our “mode of consciousness that has established a radical discontinuity between the human and other modes of being and [has bestowed] all rights on the humans” (p. 4). This is the cultural pathology that Thomas seeks to understand and to have us understand. In the chapter on “The University,” Thomas observes that the traumatic effects of the Black Plague in the 14th century resulted in a “deep aversion to the natural world that...has profoundly conditioned the Western cultural tradition ever since” (p. 77). This was followed in the early 17th century by the philosophical “*desouling*” of the Earth by Descartes “with his division of reality between mind and extension. In this perspective the nonhuman world was seen simply as mechanism...that could be, and even must be exploited for human benefit” (p. 78). And this philosophical *desouling* was accompanied for the next three centuries by a mechanistic science, a materialistic economics and an anthropocentric polity in an increasing division between the human and the natural world.

In his chapter on “The North American Continent,” Thomas juxtaposes the culture of the American Indians and that of the Europeans settlers. The arrival of the Europeans in North America, he says, “could be considered as one of the more fateful moments in history, not only of this continent but of the entire planet.... Every living being on this continent might have shuddered with foreboding when that first tiny sail appeared over the Atlantic horizon” (p. 40).



The first peoples of North America and the European settlers held two sharply contending views of nature. “To indigenous people...the natural world was the manifestation of a numinous presence that gave meaning to all existence.... As seen by the Europeans the continent was here to serve human purposes through trade and commerce, as well as through the more immediate personal and household needs of the colonists.

They had nothing spiritual to learn from this continent. Their attitude toward the land as primarily for *use* was the critical issue” (p. 44).

Culturally derived anthropocentrism caused insuperable difficulty for the Europeans in establishing any intimate rapport with the North American continent or its people. To Thomas, "Such orientation of Western consciousness had its fourfold origin in the Greek [humanistic] cultural tradition, the biblical-Christian religious tradition, the English political-legal tradition, and the economic tradition associated with the new vigor of the merchant class" (p. 45). To the Europeans "[t]heir human-spiritual formation was complete before they came. They came[, they thought,] with the finest religion of the world, the highest intellectual, aesthetic, and moral development, the finest jurisprudence. They needed this continent simply as a political refuge and as a region to be exploited" (p. 43). They were committed to a "divinely commissioned task of commercially exploiting this continent [and] could even experience a high spiritual exaltation in what [they] were doing" (p. 46).

Even now this continues. This is how we got here.

Where we are to go

Where we are to go is derived in part from our present historical situation. In *The Great Work*, more than in his earlier books, Thomas attends to the factors that require the adoption of a new course. In the chapter on "Ethics and Ecology," he states, "We find ourselves ethically destitute just when, for the first time, we are facing ultimacy, the irreversible closing down of Earth's functioning in its major life systems. Our ethical traditions...collapse entirely when confronted with biocide, the extinction of the vulnerable life systems of the Earth, and geocide, the devastation of Earth itself" (p. 104). In the chapter on "The Great Work," he catalogues the evidence of the vast disruption of natural systems that "is leading to the terminal phase of the Cenozoic Era" (p. 4). In the chapter on "The Corporation Story," he describes how the modern global industrial, commercial and financial corporations have become "among the principal instruments for devastating the planet.... These corporations are the organizing centers directing the discovery and use of modern science and technology in the quest for human benefit and financial gain by exploiting the living and nonliving resources of the planet" (pp. 117-118).



In the chapter on “The Extractive Economy,” he describes how in the closing years of the 19th century and in the 20th century, we moved “from an organic economy to an extractive economy.... [T]his was the time that we set forces into motion that would disturb the chemical composition of the air, water, and soil to an extent that would affect the entire network of organic life on the planet” (p. 138). For an organic economy, which “is by its very nature an ever-renewing economy,” we substituted an extractive economy which “is by its nature a terminal economy,” one dependent on extracting nonrenewing resources, placing ourselves where “we could survive only so long as these endured; or so long as the organic functioning of the planet was not overwhelmed by the violent intrusion involved in extracting and transforming these substances [and] from the contaminants that resulted, especially from the chemical industry” (pp. 138-39).

And in the chapter on “The Petroleum Interval,” he draws attention to how fragile in the larger scale of time our economy is in its dependence on the rapidly depleting resource petroleum. He reminds us that petroleum will “never again be made in any volume” and its exhaustion in its easily available forms in the 21st century “is inevitable” (p. 156). Even if we could find replacements for this fuel, such as with hydrogen, “we would still be without replacements for the other uses to which petroleum is put” (p. 156). We could find replacements in other organic substances, such as coal, for a time, but only with higher extractive costs and greater pollution. Despite this dire situation, we enter the 21st century, Thomas says, with no comprehensive program for transition into some alternative form of sustainable economy (p. 156). Instead, we engage in frenzied pursuit of still faster extraction and consumption of this valuable resource that forms the disintegrating foundation of the entire modern economy.

With this as background then, what does Thomas say is our way into the future? In my view there are three guide words (one of which is a compound word) that serve as keys to understanding Thomas’ answer to this question. These three words are viability, intimacy/community, and celebration—*viability*, because what Thomas offers is not Utopia, but a means for the human community to be viable within the limitations of the Earth’s life systems; *intimacy/community* because he calls for us to overcome the radical discontinuity between the human and non-human to form a single community of life with the other components of Earth; and *celebration* because he invites us into an understanding of our role as humans as being

the ones in whom the universe celebrates itself and its mysterious origins in a special mode of conscious self-awareness.

In the remainder of this review, I will discuss where these guides of viability, intimacy/community, and celebration might lead us. The chart below provides a framework for understanding Thomas’ vision of our way into the future.

Our Way into the Future - The Ecozoic Era			
The Guides	Viability (Is it viable?)	Intimacy/Community (Does it favor intimacy/community?)	Celebration (Does it celebrate the universe?)
The Directions	Developing a viable mode of human presence on the Earth	Forming a single community of life with the other Earth components	Celebrating the universe in a special mode of conscious self-awareness
The Paths	Earth-centered rather than human-centered	Communion of subjects, not a collection of objects	Re-inventing the human through story and shared dream experience
	Self-limitation/creative discipline	Understanding of integral relation	The Cosmic Liturgy/ Cosmogogenesis
	Organic rather than an extractive economy	Reform of culture and institutions	Meta-religious movement including all

Viability:

Developing a viable mode of human presence on Earth.

The first guide Thomas gives us for our way into the future is *viability*, and this leads us in the direction of “developing a viable mode of human presence on the Earth.” This direction follows from a conviction that the present mode of human presence is not viable, because it is not physically sustainable, and the reason it is not physically sustainable is because it is not coherent with the ever-renewing processes of the functioning of the Earth. To obtain a viable mode of human presence, Thomas gives three paths: Earth-centeredness, self-limitation, and organic economy.



Earth-centered rather than human-centered. Thomas says we must move from a human-centered to an Earth-centered norm of reality and value. The human-system is a subsystem of the Earth system; therefore, we must recognize that “the community of all living species, including the human, is the greater reality and the greater value [than that of the community of the human species alone]. The primary concern of the human community must be the preservation and enhancement of this comprehensive community, even for the sake of [the human community’s] own survival” (p. 58).

The great illusion of the industrial age is that we can “advance human well-being by plundering the planet [and devastating its] geological and biological structure and functioning” (p. 58). We must move from the idea that what is good for the human is good for the Earth, to an understanding that what is good for the comprehensive community of life on Earth is good for the human. The great struggle then becomes that between the industrial-commercial entrepreneur, who sees the planet as a resource base to be possessed and used in an unlimited manner for human consumption, and the ecologist, who sees the planet as an interdependent community of beings and seeks its preservation and enhancement in its comprehensive reality. This struggle is “the central human issue and the central Earth issue of the 21st century” (p. 59).

To Thomas, all things exist within the dynamic order of the universe, and thus the universe in all of its processes, and for us the Earth in all of its processes, becomes the supreme norm of reality and value. The universe is

To have a viable future,
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“the primary lawgiver, the primary economic corporation, the primary scientist, the primary technologist, the primary healer, the primary revelation of the divine, the primary artist, the primary teacher, and indeed the primary source, model and ultimate destiny in all earthly affairs” (p. 81). “The ecological community is not subordinate to the human community. Nor is the

ecological imperative derivative from human ethics. Rather, our human ethics are derivative from the ecological imperative. The basic ethical norm is the well-being of the comprehensive community and the attainment of human well-being within that community” (p. 105).

If we are going to find a viable path into the future, we must look to the Earth in the functioning of all its natural processes and life systems. The question we must ask is not what do we want the Earth to be, but what does the Earth want to be?

To have a viable future, we must become Earth-centered, rather than human-centered.

Self-limitation/creative discipline. To move in the direction of viability, Thomas also says we must move from a wonderworld mentality to one of creative discipline or self-limitation. In his view, the Western history of millennial expectation, of a heaven of unlimited beatitude here on Earth, combined with the material successes of the industrial/technological period have given rise to a wonderworld mentality in which restraints upon the quest for human satisfaction have become irrelevant. Behind the disruption of Earth's processes is the refusal to accept limitations on the attempts to find release, "not simply from the normal ills to which we are subject, but from the human condition itself. . . . Some ancient force in the Western psyche seems to perceive limitation as a demonic obstacle to be eliminated, rather than as strengthening discipline" (p. 67).

This impulse for unlimited release from the conditions of existence has created a kind of collective insanity. The quest for a thoroughly sanitized world is leading to a toxic world. The endeavor to produce abundant energy by an ever-accelerating process of extracting resources from the Earth and burning them is creating entropy on an unprecedented scale. "The effort to create wonderworld is making wasteworld," and we are losing, actually and in our psyches, the true wonderworld of nature itself (p. 68). To end this insanity will require us to see that that the containing and confining aspects of our existence, which oppose and limit us, are also the sources of our liberation and vitality. Acceptance of the challenging aspects of the natural world is a primary condition for our creative existence within the community of life systems (p. 67).

If we are to have a viable future on the planet, we must become self-limiting.



From a terminal extractive economy to an organic economy.

Thomas' third path for moving in the direction of viability is that we must move from an extractive economy to an organic economy. An organic economy participates in the ever-renewing processes of the Earth. An organic economy is like a tree—a tree is planted in the Earth, draws its nourishment from the Earth, grows, provides fruit, shade and shelter, and returns to the Earth to give birth to new trees. An extractive economy is, on the other hand, a terminal economy. It depends on the exploitation of resources that cannot be replaced within the time frame needed to sustain an economy that is dependent on them. Its byproducts are toxins that are dispersed into the air, water and soil. Further, the extractive economy has the capacity to turn renewing resources into nonrenewing ones. For example, over-harvesting of fish depletes the vast renewable fish populations, and overly intensive farming exhausts the soils and leaves them exposed to erosion.

Thomas states that we moved from an organic economy into an extractive economy in the last decades of the 19th century (p. 141). He notes the emergence at that time of the great corporations such as Carnegie Steel, Standard Oil, General Electric, Westinghouse, Dow Chemical and many others. These corporations, with the massive technological, political and human resources they could bring to bear, became the instruments for the transformation of the human economy through the extractive exploitation of the Earth. This, he observes, could not have occurred without the preceding shifts in consciousness “when the Biblical-Christian emphasis on human spirituality joined with the Greek humanistic traditions to create an anthropocentric [worldview, and when, at the time of the Black Death,] this spiritual and humanistic alienation deepened into a feeling that the natural world was an actual threat to both the physical and spiritual well-being of the human” (pp. 136-37). These shifts made possible the massive, unfeeling, ethically-justified assault on the biological integrity of the Earth through extractive processes, what increasingly may be described as biocide or geocide.

Thus, when Thomas examines the extractive economy, he does not see the modern economic miracle others see, rather he sees an economy faltering on its own success, not only because the nonrenewable resources that it depends upon are being exhausted, but also because the toxic residue and the disruptive processes of the extractive economy are destroying the capacity of the Earth to perform its basic biological functions. Thus, we are in a terminal

economy, not only because of the now very foreseeable depletion of resources, but also because the life systems that the evolutionary processes invented over billions of years are breaking down. Simply put, we are in a more difficult situation than we may recognize. The way out, our path into the future as viable humans, is to move to an organic economy, one that is coherent with the ever-renewing cycles of the Earth. "The radical transformations suggested by the ecologists—organic farming, community-supported agriculture, solar-hydrogen energy systems, redesign of our cities, elimination of the automobile in its present form, restoration of local village economies, education for a post-petroleum way of life, and a jurisprudence that recognizes the rights of natural modes of being"—move us in the right direction (p. 110).

If we are to have a viable future, we must move from a terminal extractive economy to an organic economy.

Intimacy/Community:

Forming a single community of life with the other Earth components.

The second guide Thomas gives for our way into the future is *intimacy/community*, and this leads in the direction of "forming a single community of life with the other Earth components." Forming this single community, he says, "is the central issue of the Great Work" (p. 115). This is so because he accepts the proposal that "no effective restoration of a viable mode of human presence on the planet will take place until intimate human rapport with the Earth community...is reestablished on an extensive scale" (p. 18). Until then, efforts, even heroic ones, to establish a more benign mode of human presence will ultimately fail.

When we speak of this "single community of life" to which Thomas calls us, we must understand this has an interior dimension, which is intimacy or establishing an intimate rapport with nature, and an outer dimension, which is understanding in both a factual and philosophical sense the integral relations of the human and the other Earth components. That is why we have used the compound word "intimacy/community" as the guide word for this direction. "Intimacy" speaks to the inner dimension of this direction, and "community" speaks to the outer. Neither word alone conveys the meaning intended.



Thomas gives us three paths for moving in this direction: communion of subjects, knowledge of integral relations, and reform of culture and institutions.

Communion of subjects, not a collection of objects. Thomas says the Ecozoic Era can only come into being when we understand the universe as a communion of subjects, not a collection of objects (pp. x-xi). He observes that over the course of our historical and cultural development, the human community has established a “use” relationship with the nonhuman components of the Earth (p. xi). In this relationship, they (the nonhuman components) are here as a set of resources for the human; lacking human consciousness, they have no subjective integrity and cannot be violated; and they exist independently of the human. As such, they are objects to be exploited for the benefit of the human and their loss or extinction is of little concern.

This view, which is taken to be a realistic/pragmatic one in our time, masks, for Thomas, the true reality. Who, he asks, has not been moved by a communion experience when he or she “looks at the ocean at dawn or sunset or the heavens at night with all the stars ablaze, or who enters a wilderness area with its foreboding as well as entrancing aspects...?” (p. 82). We are, he says, dependent “in every phase of our imaginative, aesthetic, and emotional lives” on our experiences of the outer natural world (p. 82). “The tragedy in the elimination of the primordial forests is not the economic, but the soul loss involved” (p. 82). We are in communion with nature.

And not only are we in communion with nature as objects in our imagination, but we are in communion with other subjects. Thomas explains, “[S]ince the universe brought us into being with all our knowledge and our artistic and cultural achievement, then the universe must be an intellect-producing, aesthetic-producing, and intimacy-producing process” (p. 81). He continues by saying:

[The] qualities that we identify with the human...we observe throughout the natural world. Even at the level of the elements we observe self-organizing capacities [and] the capacity for intimate relationships. [These pervasive psychic abilities] are so impressive that we must consider that modes of consciousness exist throughout the universe.... [Each] being has its own spontaneities [arising from within, and they] express the inner value of each being in such a manner that we must say of the universe that it is a communion of subjects, not a collection of objects (pp. 81-82).

If we are to have a single community of life, we must understand that we in the universe, the human and the nonhuman, are a communion of subjects, not a collection of objects.

Knowledge of integral relation. The second path Thomas gives for moving to a single community of life is that of knowledge of our integral relations with other-than-human nature. This is an inner/psychic awareness, as discussed in the preceding section, but it is also factual and philosophical knowledge that must be studied and mastered. In a factual sense, it is knowledge of the interdependent relations among all beings on Earth, and this is the study of ecology, which is, by definition, the study of the interrelations of organisms and their environments. To Thomas, ecology must become the queen of the sciences, and not only of the sciences but also of the humanities, economics and the studies of the professions. It should not be thought of as a separate course of study, but as "the foundation of all courses [and] programs" (p. 85). Thus, for example, "[e]cology is not a part of medicine; [rather] medicine is an extension of ecology [because medicine is an extension of the healing powers of the Earth]" (p. 85). The same can be said for law, for architecture, engineering and the other professions. And to take the study of ecology seriously, we will need to study intensively geography. Geography, Thomas says, provides a means for "understanding the functioning of the Earth in its larger structure, [and it] is even more useful in [understanding the functioning] of the various regions into which the planet is divided. In this manner it provides the context for ecological understanding." Yet it is not geography in its present form that we must study, it is "ecological geography," a geography informed by biology that will teach us of the interdependent life systems of the Earth and of the relatively self-sustaining bioregions on which the future of the planet depends.



Knowledge of integral relations must also come from our wisdom traditions. Thomas notes four wisdom traditions that are particularly important. The first is that of the indigenous people with their knowledge of a primordial abiding numinous presence in the phenomenal world, an intimate association with the beings, rhythms, moods, powers and grandeur of the natural world, and a sense of a cosmic order that becomes the ultimate referent of any human understanding (p. 177). The second is that of women, which is the wisdom of joining “the knowing of the body to that of the mind, to join soul to spirit, intuition to reasoning, feeling consciousness to intellectual analysis, intimacy to detachment, subjective presence to objective distance” (p. 180), and to experience in the universe a primordial originating and nurturing principle (p. 183). The third is that of the classical religious and humanistic traditions, which in their various expressions provide a vast resource for understanding the numinous powers of the universe, for guiding human affairs, for understanding the capacities of the human, and for providing meaning, depth and purpose in human experience (p. 185). The fourth is that of observational science, which he says in its latter stage has moved beyond a mechanistic understanding of an objective world to recognition that there is subjectivity in knowledge and causality, and that as well as reduction downward there is integration upward where organisms and relations affect the elements in their individual beings and the evolutionary drama involves the cosmos entire in a still unfolding adventure (p. 189, p. 25).

To form a single community of life, we must understand our integral relations with the other components of Earth.

Reform of culture and institutions. When our consciousness is transformed by the awareness that in the universe we are a communion of subjects not a collection of objects, and that we are integrally related with the other components of Earth, we are led to re-examine our values and, from this re-examination, to re-examine the adequacy of our culture and institutions to our values. To Thomas, this leads to a need for a comprehensive reform of our culture and institutions.

Take, for example, language, an essential aspect of our culture. The inadequacy of our present language is established when we reflect that the word “profits” is commonly understood to be a term that encompasses what is not only good for business enterprises and their stakeholders, but also for

society at large. Yet, we can see that what passes for profits may actually be losses in the context of the Earth economy on which the human economy depends. Thus, our language as presently constituted does not express a "true sense of reality, of value, and of progress," and the "rectification of language in relation to reality" becomes a part of the cultural reform for which Thomas calls (p. 63).

Thomas' agenda for cultural and institutional reform is extensive. We need an educational system that teaches children the story of the universe and allows them to learn the "book of nature" from their own direct experience.

We need a new industry and economics that produces a minimum of unusable and unfruitful waste, and where preservation of the Earth's economy is a primary concern. We need a new political alignment where the ecologist rather than the entrepreneur (as presently conceived) is the primary influence. We need a new university that teaches students about the human role in the integral functioning of the Earth community. We need laws that recognize the rights of the nonhuman components of the Earth and an ethics that provides guidance to the human community in its interrelations with the natural world. We need religion that honors the creative process at work throughout the universe. We need, in short, to develop a culture and institutions grounded in the recognition that the universe in its natural function is the supreme norm and reality of existence and that the human endeavor has meaning and value only when it is a functional part of the larger community of life systems.

If we are to form a single community of life, we must reform our culture and institutions.



**Celebration:*****Celebrating the universe in a special mode of conscious self-awareness.***

The third and final guide Thomas gives us is *celebration*, and this leads us in the direction of “celebrating the universe in a special mode of conscious self-awareness.” It is in this direction that Thomas most specifically addresses how we should understand our role as humans in relation to the larger community of life. The universe brought us into being for a purpose. We were genetically coded to be about something and “would not have survived if [we] had not had some basic role to fulfill within the larger Earth community” (p. 57). We must understand that purpose in the unique capacities given to the human for “thought and speech, aesthetic appreciation, emotional sensitivity and moral judgment” (p. 57). “By bringing forth the planet Earth, its living forms and its human intelligence into being, the universe has found, so far as we know, its most elaborate expression and manifestation of its deepest mystery” (p. 56).

But why this splendor called Earth of which we are integrally a part? To Thomas, the answer would be found in his understanding of the universe as being “primarily [that of] celebration. [T]he universe celebrates itself in every mode of being,” and if this is so, the universe must express itself in special delight in the vast diversity and unique capacities of the Earth system. Within that system, Thomas says, “the human might be identified as that being in the universe in whom the universe celebrates itself and its numinous origins in a special mode of conscious self-awareness” (p. 19). That is why we are here; our fundamental role is to use our special abilities of thought and speech and artistic expression in a celebration of life in all of its diversity and communion. Now, however, we are somehow failing in this fundamental role. We have a distorted presence on the Earth. We must recover a true sense of our own humanity.

Thomas gives us three paths for moving in this direction: reinventing the human through story and shared dream experience, the cosmic liturgy/cosmogogenesis, and meta-religious movement.

Reinventing the human through story and shared dream experience. In one remarkable sentence in the chapter on “Reinventing the Human,” Thomas lays out a description of the task before us in a way that almost encapsulates his entire thought in one statement. This one sentence, with seven phrases, is: “The historical mission of our times is to reinvent the

human—at the species level, with critical reflection, within the community of life-systems, in a time-developmental context, by means of story and shared dream experience” (p. 159). Each phrase is important and bears comment. In this section we will focus on the phrases of “reinvent the human,” “within the community of life systems,” and “through shared story and dream experience.” In the next section we will focus on “in a time-developmental context.” “At the species level” means that we must see ourselves as a species among other species and find our place in the community of life systems based on an understanding of our genetic coding and on our original purpose in being. “With critical reflection” means that we must exercise our rational-critical facilities to analyze our situation and to make moral choices about our future.

When we reinvent
the human through
story and shared
dream experience, we
celebrate the universe.

Thomas, in explaining his purpose in writing *The Great Work*, said, “To some extent this entire book can be considered an effort to identify the role of the human community in relation to the other components of the planet” (p. 91). This is what reinventing the human is about. Our contemporary understanding of what it means to be human came into being in the Neolithic period when the first agricultural communities began and civilization, as we know it, was invented. This civilization focused on the betterment of the human condition through the cultivation and even subjugation of the other-than-human natural world. In Thomas’ view, this understanding of civilization has, with our modern technological capacity, become dysfunctional. We stand at a watershed moment; we must invent civilization again so that we, the humans, will be present to the Earth in a mutually enhancing way and become functional participants in the comprehensive Earth community. This is what Thomas means by “reinvent the human.”

The primary resources for accomplishing this task lie within us...in our stories and dream experiences. What is required to move into the Ecozoic future, Thomas says, is a creative advance that can only be felt “as a groping or as a feeling or imaginative process” (p. 165). “In the larger cultural context the dream...both drives and guides the action” (p. 201). The Ecozoic cannot be built on the “distorted dream of an industrial technological paradise” (p. 201). “A new revelatory experience is needed, an experience



[in which] human consciousness awakens to the grandeur and sacred quality of the Earth process” (p. 165).

Each of us participates in this dreaming process, and in our dreaming the future awakens within us. In our dreams we experience the new archetypes for the building of a new human community. These dreams and archetypes are not of our own making, rather they are an expression beyond our active thought, through our genetic coding, of the dream of the Earth (p. 165). When we tell our stories of our journeys toward an Ecozoic future, when we allow ourselves to dream dreams of an Ecozoic Era, we are reinventing the human.

When we reinvent the human through story and shared dream experience, we celebrate the universe.

The cosmic liturgy/cosmogenesis. The second path Thomas gives us to follow in the direction of celebrating the universe is that of the *cosmic liturgy/cosmogenesis*. “We might think of a viable future for the planet,” he says, “less as the result of some scientific insight or as dependent on some socio-economic arrangement than as participation in a symphony or as a renewed presence to the vast cosmic liturgy (p. 20). He also says, “The fulfillment of the Earth community is to be caught up in the grandeur of existence itself and in admiration of those mysterious powers whence all this has emerged” (p. xi).

This *cosmic liturgy*, for Thomas, is of two parts. First, it is the drama of the ever-renewing cycles of nature and the wild exuberant dance of being we experience in the marvel of a starry night, the budding of flowers from dark Earth in spring, the fury of a winter storm, the caprice of blowing rain, the magical songs and flight of birds, the frolic of foaming seas, the grandeur of towering mountains, and the fields of wonder in the plains. This is the drama to which the indigenous people were and are uniquely present, a cosmic liturgy to which they sought to coordinate every human activity.

Second, it is a drama that we have only come to know in our time, which is the still unfolding drama of the evolutionary development of the universe from the time of the primal flaring forth to the present moment. This is a new dance of being, and one which can give renewed meaning in our time to the first drama. This second aspect of the comic liturgy, Thomas calls

cosmogensis. "We now live," he says, "not so much in a *cosmos* as in a *cosmogensis*; that is a universe ever coming into being through an irreversible sequence of transformations..." (p. 26).

We need to come to understand this evolutionary drama, not only in a physical sense, but also in a psychic sense. The sequences of evolutionary transformations in the universe are, to Thomas, moments of grace, and as they are experienced in little ways in our own lives as creative moments, they are also the means of grace. Presence to the vast range of Earth's psychic dynamism becomes the source of our own psychic energy as "we become present to the Earth in its next sequence of transformations. While we were unknowingly carried through the evolutionary process in former centuries, the time has come when we must in some sense guide and energize the process ourselves" (p. 173). To undertake such a task, "[w]e must feel we are supported by the same power that brought the Earth into being, that power that spun galaxies into space, that lit the sun and brought the moon into its orbit" (p. 174).

In former times, we celebrated the moments of seasonal renewal; now we must also celebrate the sequential transformation moments in an emergent universe. This story of the emergent universe is now our dominant sacred story (p. 170).

While our sense of the sacred can never be recovered precisely as it existed in former centuries, it can be recovered in the mystique of the Earth, in the epic of evolution.... A way is opening for each person to receive the total spiritual heritage of the human community as well as the total spiritual heritage of the universe. Within this context the religious antagonisms of the past can be overcome, the particular traditions can be vitalized, and the feeling of presence to a sacred universe can appear once more to dynamize and sustain human affairs (p. 174).

When we are present to the sacred liturgy in both its cosmic and cosmogenetic aspects, we celebrate the universe.

Meta-religious movement. In the end, to Thomas, the transition that is needed from the Cenozoic to the Ecozoic can only be compared to the great classical religious movements, the emergence of Buddhism, Hinduism, Judaism and Taoism, the spread of Christianity and the rise of Islam. Each of these movements involved a widespread change of consciousness and a new



orientation in life. The movements spread through the intellect, but perhaps even more by some unconscious force that entered the human spirit and changed human culture.

Thomas speaks of the coming transformation as a meta-religious movement. One of the meanings of the prefix “meta” is “more comprehensive” or “transcending,” and this is the sense in which Thomas uses “meta.” What he envisions is a more comprehensive or transcending religious movement. This movement is more comprehensive because it involves not simply a segment of the human community, but the entire human community, even the entire geo-biological order of the planet, and it is transcending because it is not a replacement for existing religious traditions and cultures, but an overlay that establishes a new context and dimension of sacred experience.

This meta-religious movement is grounded in, first, a functional cosmology, one that is based in the universe story as we have come to know it through observational science and as it has been interpreted by Thomas and others, in its psychic, aesthetic and moral dimensions; second, a spiritual dimension derived from an apprehension of the mysterious unfolding of the self-organizing, creative, emergent processes that have given and continue to give form to the universe in both its macrophase and microphase realities; and third, a recovery of intimacy with other-than-human nature and its aesthetic and numinous dimensions.



Yet, ultimately, this movement passes over such a rational analysis into the realm of celebration. “For in the end the universe can only be explained in terms of celebration. It is all an exuberant expression of existence itself” (p. 170). We, the humans with our special capacity for conscious self-awareness, become the celebrants of this vast cosmic liturgy. We do this with dance, as in the great Sundance of the

Lakota Sioux tribe in North America. We do this with a revival of archetypal

symbols such as the Great Journey, Death-Rebirth, the Cosmic Tree, and the Sacred Center recast in the story of an emergent universe. We do this with a renewal of spiritual disciplines and communal observance, especially as these are revitalized with sacred wonder of the emergent beauty of existence and the sacred process that has brought all of this to be and sustains it in being.

And we join in this celebration not only with our own kind, but with all of other kind. For religion, and so this meta-religious movement, is in its most profound dimension a dynamic reality. This grand liturgy is not only a celebration of what is, but what can be, and to engage in its celebration is to be empowered to realize the potential of what can be, and to heal. We have arrived in a time of peril. "[T]he damage that has been done is immediately the work of humans. [Yet] now the entire universe is involved in the healing of the damaged Earth in the light and warmth of the sun" (p. 20). To grasp that we are involved in such a universe...for this we lift our songs of praise.

When we join with all people on Earth of various backgrounds and traditions, and with all others in the larger community of life, in this meta-religious movement, we celebrate the universe.

Conclusion

In the first chapter of this book, Thomas says, "Perhaps the most valuable heritage we can provide for future generations is some sense of the Great Work that is before them..." (p. 7). This is what Thomas has given us. Out of a vast storehouse of knowledge of human cultures, history, science, and religion, and his own accumulated inner wisdom, Thomas has comprehended the meaning of our times at a critical juncture in human history and of the Earth as a whole. He has taught us where we are, who we are, how we got here, and where we are to go through viability, intimacy/community, and celebration. He has given us the promise of a new chapter in Earth's history, that of an Ecozoic Era.

This is Thomas Berry's *Great Work!*



A Conceptual Background for Ecozoic Aspiration

by Lewis S. Ford

Among the many general concerns of the ecological movement, two stand out as particularly noteworthy. Firstly, there is the widespread appreciation of the interconnectedness of things; how each is dependent on others, and they in turn are dependent on it. This movement intuits the greater our sense of interdependence with other peoples and with nature, the less we shall be inclined to suppose that our independence justifies the imposition of our interests and goals on other beings. Secondly, the ecological movement has a sense of the intrinsic value of things. Value as seen by the ecologist isn't merely a human projection of concerns on things, but is rather an expression of value which belongs to them for what they are.

These two concerns are themselves interconnected. If we were all truly independent selves, then the only values we could have access to would be our own. Then it would make sense for us to impose our values on others. Insofar as we were ethnocentric, we would be right in imposing our values on other ethnic groups. Without intrinsic value in nature, there would be no inherent reason for us to respect any value other than our own. We can only be influenced by values beyond our own if there are real values “out there” upon which we depend.

Alfred North Whitehead's process philosophy

Interdependence and intrinsic value are central features of the “process philosophy” of Alfred North Whitehead. In this paper I would like to propose Whitehead's thought as a conceptual framework for ecological concern, or as some would have it “ecozoic” aspiration. At first glance, the thought of Whitehead appears to be a very unlikely source of ecological guidance. For one thing, his major work, *Process and Reality*, was first published in 1929. While the work has lasting significance, and continues to excite interest among scholars, its advent obviously took place long before the recent awakening of ecological consciousness. Also, one would expect a work of greatest relevance to emerge from those fields most relevant to ecology such as biology and environmental studies. Whitehead was a British



mathematician and theoretical physicist nearing retirement when he was called to teach philosophy at Harvard in 1924.

During the initial decades of the 20th century, Whitehead experienced the revolution in physics first-hand and became convinced that its conceptual foundations needed to be transformed. For the customary space, time, and matter, he substituted events and characteristics. The difficulty with matter, for Whitehead, lay in the assumption that each material entity was perfectly and fully itself without reference to any other material entity. In other words, relations of one entity to other entities were purely external, that is, they made no difference to what an entity was in itself.

Programmatically, Whitehead made the opposite assumption: every event (entity) is internally related to other events. These relations are internal, for each makes a difference to that event and are constituents of that event. Moreover, he assumed that an event had no independent features whatever; it was nothing but its relations.

Process vs. Substance.

Whitehead's process philosophy is usually contrasted with substance philosophy. Substance was classically defined by Descartes as that which needs nothing other than itself to exist. In other words, a substance cannot be affected by any relations it might have. An event as Whitehead conceived it has no substantial element, nothing which is other than its relations.

Since they are relatively independent of their surroundings, substances can endure, and hence undergo change. Change is explained as the exchange of some properties (generally called accidents) while the substantial core remains the same. That means at best that only some relations could be internal. The accidental relations must be external, not affecting the substantial core, for if they did, the substance would not endure and remain the same.

Now a wholly relational entity cannot be an enduring substance. An event neither endures nor changes. These are rather properties of successive events. Endurance is the sameness several successive events might possess, while change is the difference between events. In order to be fully relational, then, process had to be substituted for substance. The world was conceived as constituted by events.

How events come into being.

In Whitehead's first major philosophical book, *Science and the Modern World* (1925), he analyzed the nature of events and criticized the substantial view of materiality as the "fallacy of misplaced concreteness." He didn't develop the concept of process in that book, although he envisioned the possibility of extending his understanding of events to cover the evolutionary emergence of elementary particles, atoms, and molecules, as well as living organisms. In *Process and Reality* he extended his speculative inquiry into how these events with their interrelations could come into being.

He analyzed a causal relation in terms of prehension, a derivative of the word of apprehension, which could be applied to all events, not just conscious ones. If A causes B, then the present event B prehends the past completed event A. Ordinarily we think of that which we immediately perceive as part of the present. According to relativity physics, however, and so in Whitehead's thought, events that occur contemporaneously cannot causally influence one another. Thus the objects we perceive, or prehend in the present, Whitehead argued, have the same structure as past beings, and should be classified as the immediate past rather than the objective present.

Interdependence and intrinsic value are central features of the 'process philosophy' of Alfred North Whitehead.

Events occurring in the present are not determinate unities (or beings). They are rather acts of becoming whereby the many relations or prehensions of other beings are unified together into a definite experience. Concrecence is the name for this process of growing together (con+creocere) into something concrete. Concrecent unification is a subjective process, in contrast to the objective unity which comes into being when concrecence is realized. Then each completed event becomes the objectively available to be prehendend as successive events occur.

The actuality of present events—events in the process of becoming or, in Whitehead's terminology, concrecence—is subjective insofar as each entity's only direct access to it is by means of inner subjectivity. At its lowest nonmental level this subjectivity simply means the capacity to be influenced by other actualities (*i.e.*, to have internal relations). Mentality involves the added feature of being capable of being influenced by possibilities.



Consciousness is a far more complex property applicable only to very restricted actualities such as animal and human minds.

Whitehead found that his analysis of concrescence (how a completed event comes to be) was incomplete without an additional factor he called subjective aim. Without it there would be no guarantee that the various prehensions of an event in process would all grow together in the same direction. They could just grow apart, in which case no unity or being could be achieved. This aim could not come from the multiplicity of past actualities of completed events, for it was precisely they which were to be prehended and unified through concrescence. He reasoned that the unifying factor, the subjective aim experienced by the event in process, comes from God as the cosmic coordinator of the universe.

Creativity and God.

Though Whitehead does not do so, concrescence, the process of an event coming to fulfillment or completion, might be described as creation. Creation is purposeful emergence, one which doesn't simply happen by chance. This is not, however, creation in the traditional theistic sense. It does not come about *ex nihilo* by the eternal fiat of a transcendent, omnipotent Creator. Concrescence is an immanent temporal act, growing out of past events, occurring over and over in an evolutionary sequence. Nevertheless it is creation in the sense of bringing forth new beings within the sequential occurrence of events. Nor is this random emergence in the non-theistic mechanistic sense. Events do not simply repeat themselves; change is not merely accidental.

The ecological movement seems at times to avoid the question of God. This emphatically does not mean that spirituality is absent, or that this movement's attitude towards God is shaped by the increasing secularization of our culture. This spirituality, however, is purely immanent. It is, in general, piety to the Earth and its values and not to any transcendent being.

While it may be a political choice of the movement to avoid mention of God in order to unite theists and agnostics in a common ecological endeavour, I suspect the ambivalence towards the notion of God is really a distaste for any omnipotent being.

Those who trust the benevolence of an omnipotent being will usually have other reasons, grounded in their sacred scriptures or religious tradition, for doing so. But there is nothing inherently benevolent about an omnipotent being, nothing that requires that an all-powerful being will always will for the best. The character of “Q” on *Star Trek: The Next Generation*, endowed with all power but with infantile desires, illustrates this point.

Further, omnipotence undercuts any interdependence between God and the world. Understood as omnipotent, God alone is independent, while all other beings are dependent on God for their existence. God alone is immutable, self-sufficient, and needs no world to exist in perfection. An omnipotent God having unlimited power is a despot. It is possible that God, as so understood, may be a benevolent despot, but there is no intrinsic reason why this must be so.

Scientists are rightly distrustful of this notion. If God can do anything whatsoever, then God can complete any process we have only incompletely analyzed. This weakens any commitment to further scientific inquiry. Conflicts such as these led Whitehead, a scientist, during the last decade of the 19th century to a seven-year independent study of theology in which he found no adequate concept of God. While Whitehead grew up a devout Anglican, he became profoundly atheistic around 1898. Bertrand Russell collaborated with Whitehead on *Principia Mathematica* during the years around the turn of the 20th century, and found him just as atheist as Russell himself was. I suspect the notion of God Whitehead objected to was the notion of an omnipotent Creator, for when in 1925 he found a meaningful concept for God which did not require omnipotence, he immediately published it.

How can God be God and yet not be the omnipotent creator? This is possible when the notion of divinely perfect power is understood in a different way. Divine persuasion replaces omnipotence. God acts primarily by providing concrescences with their initial subjective aims (guidance experienced as a lure of feeling). The subjective aims are the possibilities which if realized achieve the best well-being for the occasion (the event as it is fulfilled in its concrescence) and its surroundings. The particular concrescence of an event is an act of self-creation which modifies the subjective aim by integrating it with the other causal relations impinging on the event (*i.e.*, the other events prehended). The creature, in this way of



thinking, escapes divine determinism by means of the causes the creature prehends, and the creature escapes causal determinism (mere repetition) by means of the freedom God provides. We may thus say that God creates by persuading the creatures to create themselves in novel ways.

God, in Whitehead's thought, is omniscient, but not in the traditional sense, which imagines an unchanging knowledge which already includes determinate knowledge of the future. Omniscient knowledge in the traditional sense is the knowledge possessed by a perfect being, assuming that perfection means immutable completeness. Process omniscience, on the other hand, is perfectly contoured to what is known, the actual as actual and the possible as possible. From this perspective it is impossible to know a future possibility as if it were already determinately actual.

God is in process in that the divine knowledge is evergrowing. What we do doesn't simply replicate knowledge which God always had. What we do makes a direct contribution to the divine life. The aims God provides are ordered to God's own life, enriches God's experience, and correspondingly God's knowledge.

There is a reciprocity here, even an interdependence. The world is dependent upon God for the order which it has, partial though it may be, since only incompletely actualized. God is dependent upon the world for the enrichment of the divine experience. This concept of God is fashioned after the order of a constitutional monarch in which God is self-limiting for the sake of a world which is truly other than God's own being (something other than an expression of God's absolute will), and can contribute to the divine well-being.

Contrast with traditional theism.

Those who conceive of an omnipotent God in the traditional sense are embarrassed by the disorder in the world. Augustine was troubled that it should take the Creator seven days to bring forth the world. An omnipotent being ought to be able to do it instantaneously. Likewise there should not be such a long and tortuous route to the emergence of humans as the fossil record has taught.

Yet the difficulties resulting from conceptions of God as omnipotent do not require the absence of a cosmic coordinator in the process sense. Without a cosmic coordinator, can we be assured that anything would come about? If the world consists basically of free beings, each intent on doing its own thing, should any order emerge? Entropy indicates that there will be growing disorder, and things will descend into chaos.

Omnipotent thinking also has a problem with evil in the world, because an omnipotent being ought to create a perfect order. The failure of an omnipotent being to do so can only be explained by some malevolence in the being of such a creator or by the hypothesis that the created order is a soul-school of suffering offering a potential for transition to the perfection of the omnipotent being in a realm beyond the world. Yet again, this difficulty with a God conceived as omnipotent does not require the absence of some cosmic persuasive power. For there is also the problem of the good. Why in the absence of God should there be any order at all? The world as we find it is partially ordered, partially disordered, partly good, partly evil. That is as we should expect it if God is a cosmic coordinator persuading the world to adopt order.

Contrast with traditional evolutionary theory.

Evolutionary theory, framed in accordance with scientific methodology, postulates two principles: random mutation and natural selection. By natural selection any organism suited to its environment will multiply and thrive and persist. Random mutation, however, basically appeals to chance. Chance is really the absence of explanation. Chance cannot be explained by reference to principles, for they are generalizations from uniform behavior. Process creation, as purposeful emergence, substitutes initial aims for the element of chance.

Religion in the Ecozoic Era

Interdependence.

Some people see the ecological movement as ushering in a new religion, one, as stated above that is based on piety to the Earth and its values and not to any transcendent being. I hope I have shown, however, how it is possible for it to revitalize personal theism in a way that is consistent with ecological concerns, provided theism is understood in interdependent terms. But whether the deep spirituality that many ecologically minded have engenders



a new religion or revitalizes an old one, values are clearly experienced and these values are intrinsic to other sentient beings.

Becoming and value.

In opposition to the scientific materialism of Whitehead's day, which held that material entities had no value in themselves, Whitehead declared "'Value' is the word I use for the intrinsic reality of an event" (SMW 93). Pure scientific theory held fact and value apart, and saw its job as investigating the facts alone in an objective fashion as possible. This has considerable plausibility as long as we confine ourselves to facts. They are what they are, and may be seen to be devoid of any value of their own.

Yet, if Whitehead is right, and every event is not just a fact, but the outcome of an act of becoming, the situation is quite different. For becoming and value are inseparably intertwined. There are many ways in which the prehensions can be integrated. This requires decision in the root sense of cutting off alternatives. Some are better or worse and must be valued as such. Also the achievement of concrecence brings a measure of self-value.

We saw that the minimal meaning of subjectivity is the capacity to be affected by other actualities. For each actuality is a dynamic recipient of internal relations to others. But these relations do not come pre-ordered. The task of the subject is to order, to integrate, and this by means of decision. But such decision is so primitive and all-pervasive that it need not yet require mentality. Mentality's capacity to be influenced by possibility intensifies the decision-making process in those events to which it pertains.¹

Martin Buber has championed the cause of intrinsic value, but he has restricted his conceptuality to the human situation, even though he has written about extending his concern to encounter a tree as a "Thou." Whitehead shows a way of generalizing Buber's concept of intrinsic value to

¹ *Editor's note:* Process philosophers take a variety of positions on whether mentality, defined by Ford as the capacity to be influenced by possibilities, is present in all actualities. Some take the position that it is and they interpret Whitehead as expressing a "pan-psychic," "pan-subjective" or "pan-experientialist" view. For example, see Leemon B. McHenry, "Whitehead's Panpsychism as the Subjectivity of Prehension," *Process Studies*, Volume 24, page 1. McHenry argues that the concepts of prehension and concrecence require that events be understood as "centers of experience actively selecting from their environments."

other-than-human actualities. We may consider Buber's three primary words from the standpoint of value. The "I" is an intrinsic source of value. The "Thou" is an intrinsic source of value I encounter, and by which I am transformed. The "It" has no value except the value I impute to it.

Jean-Paul Sartre exhibits the opposite attitude from Buber. In his terms, we can only be truly authentic if we generate and live by our own values. This means that it is strictly inauthentic to be affected by the values of another, to encounter a Thou. Every Thou, including the Source of our Being, must be reduced to an It, a projection of my own values. This is the deepest root of Sartre's atheism.

The separation of fact and value, which underlies a great deal of modern thought, means that value in the end is imputed. This is particularly true in applied science, where materialistic facts are real, but values are introduced from elsewhere, *e.g.*, in terms of economic rationality and productivity. In Whitehead's process thought, on the other hand, fact and value are inseparable. Every actuality (fact), in its process of becoming, exhibits value. Others are thus encountered as Thous, as intrinsic centers of value.

Conclusion

This has not been an empirical study in which any of the concrete interrelationships of plants, animals, humans, and their environment have been examined. It is rather the presentation of an abstract conceptual background for interrelatedness. If events are themselves minor purposeful emergences (creations), then the value they necessarily achieve for themselves will be values we can experience in them. There is an interdependence here: Each is enriched by the values of others, and each contributes its own self-value to others. This to me is the essence of ecology and a significant contribution to a conceptual framework for those who aspire to realize an Ecozoic Era.



Recommended Reading

Whitehead, Alfred North

Science and the Modern World. (Free Press, 1967).

One of the first presentations of the rise of modern science, coupled with his critique. (Skip the chapter on abstraction.)

Religion in the Making. (Fordham University Press, 1996).

Reflections on religion, coupled with an adaptation of his own metaphysics (ch. 3) to western theism (ch. 4). Accessible, provocative.

Process and Reality. (Free Press, 1978).

Read the final chapter only. (The first chapter is also accessible.)

The full process concept is really only developed in this last chapter.

This is the heart of process theism.

Introductions to Process Theism

John B. Cobb, Jr., and David Ray Griffin. *Process Theology: An Introductory Exposition.* (Westminster Press; 1976).

C. Robert Mesle. *Process Theology: A Basic Introduction.* (Chalice Press, 1993). In this book, Mesle presents a nontheistic—or pantheistic—alternative as well.

Applications to Ecology

John B. Cobb, Jr. *Is It Too Late? A Theology for Ecology.* (Environmental Ethics Books, 1995).

Herman Daly and John B. Cobb, Jr. *For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future.* (Beacon Press, 1989, revised 1994). Daly, an economist, and Cobb have worked out a better standard for judging the economic well-being of a society than its GNP. In another book, *Sustainability: Economics, Ecology, and Justice* (Orbis Press, 1992), Cobb reflects on the theological implications of this enterprise.

Jay B. McDaniel. *Of God and Pelicans: A Theology of Reverence for Life.* (Westminster/John Knox, 1989).

Community at the Heart of the Universe

by Jane Blewett

We belong to the earth, our first community.... Community begins for all of us, not in our family or ethnic group, not in our church or neighborhood, not in our nation or global belonging, but in the universe itself. From the very first instant of time-space unfolding, some fifteen billion years ago, community/communion was there.

Three primal laws blazed in the heart of the single fireball from which all matter/energy emerged. They govern all that is, all that surrounds us, all the manifestations of reality we perceive and all that ever will be. They enunciate the most fundamental values, urgings of the universe itself. Our efforts to explore the mystery, the gift and grace of community, begin there.

Differentiation.

The first primal law, *differentiation*, expresses itself in the utter difference of everything from everything else. Differentiation is so obvious and yet so foundational to even the possibility of existence. No two things are the same. Each is its own self, its own reality, insists on its own identity, separate from and different from any other. No two blades of grass are the same, no two hairs of our head, no two atoms. Twins may be called identical but they are two very different realities. The more deeply we come to know anything, the more the other distinguishes itself as differentiated and unrepeatable.

Three primal laws blazed in the heart of the single fireball from which all matter/energy emerged.

Subjectivity.

A second law, *subjectivity* speaks to the interiority of everything, the inner reality, the numinous depths within out of which each makes Itself known to every other. Each leaf, each star, has an “inside,” gives expression to its own inner dynamic. Each reality manifests its inner being in a manner that is unique to itself and no other.



We know this so readily in the human community, we recognize the inner self that distinguishes each human being, but the same subjective uniqueness is present throughout the cosmos. There is a “within” in all.

Communion.

And the third law, *communion*, holds all this magnificent array together, binds all the differentiated interiorities in one cosmic whole, one community of all existence, embraces in so intimate a manner that nothing, no thing, being, person, is outside or exterior to this bond of community. Each belongs, all belong, by simply being. One might feel alienated at times, but one cannot finally be alienated in this sacred communion. This cosmic bondedness is at the heart of all that is, all life, all we experience, all we know. If we take a deeper look at this community in the earth around us, the discoveries overwhelm us.

It is present in the way we are united with the past. When a newborn infant emerges from the womb with a human form, a head and trunk, two arms, two legs, he or she is already linked to a common mammalian form that the earth invented and adapted over some 500 million years. This wriggling, squirming new life is a continuity, an ancient communal form, and this very form will shape all future expressions of the child, the tools it will use, the kind of habitat design, transportation methods, how it will carry out the human enterprise.

Or, another example—as the child takes within its own lungs a first gulp of fresh air, that air has already passed through the lungs of all the great men and women, the great black bear and the tiny chipmunk, all creatures that have breathed throughout history. The child is welcomed into the community of spirit-air, into the breath community of Sarah and Abraham, of Miriam and Moses, of Mary and Joseph, Jesus, Dorothy Day, Einstein, Siddhartha Gautama, Mahatma Ghandhi, Muhammad, Lao Tzu and countless others. And this new life will bring its own never-before-never-to-be-repeated breath of life for all future generations. I often ask myself at the end of the day, what have I breathed into the community of life this day? What has emerged from within me that will give life to future generations? Will the children of tomorrow, the young of every species, be blessed and graced because of what I have breathed into the community this day?

There is an urgency today to immerse ourselves once again as a human species within this larger community of all life, to bring to a new level of consciousness the mystery buried deep in our genetic code, the “belonging” that is in present in our first community. Without the wind and waves, the rain and reindeer, the solar rays and volcanic explosions, there would be no humans, we would not be. This earth community of which we are a part is ultimately as real and as essential as that.

We do not live except at the graciousness, at the creativity and munificence of the earth in its full community of life. It is a wisdom our ancestors knew, a wisdom we have largely lost. When they sang and danced the seasons, created ritual and celebrated the new moon, and welcomed the harvest they celebrated this grand communion of existence and gained strength to endure on earth’s terms. It is time, and past time, we draw upon the same primal urgings that spontaneously bring delight in the beautiful song of the wren (outside my window as I write), the graceful leap of the dolphin, the fresh smell of new-mown hay, the soft touch of “lamb’s ear” in the garden or when we thrust our hands into the soil to bury seed and wait in trust for the elements to work their incredible magic.

We need to come home to the total earth community, to hear, as our own, the cry of devastated forests and poisoned air, denuded soil and polluted rivers, species who no longer find habitat, indigenous peoples without their sacred lands, of a whole new class of environmental refugees, and of children without adequate food. In this all-embracing community of life there is no room for exclusion, for dismissal or denial. A sacred oneness permeates the whole fabric. We will live or die together. Let there be life.

There is an urgency today to immerse ourselves once again as a human species within this larger community of all life, to bring to a new level of consciousness the mystery buried deep in our genetic code...



Center for Ecozoic Studies

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Statement of Purpose

The purpose of the Center for Ecozoic Studies (CES) is to contribute through education and research to the realization of the Ecozoic Era—a time when humans live in a mutually enhancing relationship with the larger community of life systems. CES is distinguished by an emphasis on dreaming and story telling (a groping, feeling, imaginative process expressed through art and thought) as a way of enabling the creative advance needed to bring into being cultural archetypes and understandings for a new mode of human civilizational presence, and also on discerning practical steps leading toward the ecozoic. CES is dedicated to the principle that we are embedded in a meaningful universe that is irreversibly and continuously evolving. In such a universe, the Ecozoic Era is a process concept...not something to be arrived at, but something ever to be created. Its hallmarks are inclusiveness, interdependence, and celebration; communion, differentiation, and subjectivity (self-organization); and sensitivity, adaptability and responsibility. It crucially involves more just and cooperative relationships among humans, as well as transformed relationships of humans with the larger natural world.

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Pam Bruns and Jennie Baumeister,

both publications managers at organizations located in Research Triangle Park, NC, designed and published this first issue of *The Ecozoic Reader*.

Submissions for Publication

We invite you to share with us your dream experiences of the Ecozoic Era and your stories of awakening and development. We also invite you to share your insights regarding practical steps that may be taken to move toward the ecozoic.

To submit an article for publication, send a double-spaced printed copy of the article and the electronic file(s) on diskette (formatted for PC) to Center for Ecozoic Studies, 2516 Winningham Road, Chapel Hill, NC 27516, U.S.A. Alternatively, you may e-mail your submission to ecozoic@mindspring.com. In addition, please send your contact information and a brief biographical description of yourself that we may use to identify you to our readers.

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