

The Cosmology of Peace and Father Thomas Berry's "Great Work"

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INTRODUCTION

In this article, I discuss the important and stimulating views articulated by the Reverend Father Thomas Berry, CP. Thomas Berry was born in 1914 and is a Catholic priest of the Passionist order,¹ cultural historian, and "geologist" (Berry's term for "earth scholar"). He is regarded as an American environmental leader in the tradition of the French Jesuit Pierre Teilhard de Chardin (1881–1955), who was a scientist, geologist, philosopher, and mystic. Berry founded the Riverdale Center of Religious Research in Riverdale, New York, and was its director from 1970 until 1995.² He also taught at Fordham University for twenty-five years. He is sometimes referred to as the North American equivalent of Leonard Boff, the Brazilian liberation theologian, eco-theologian, and ex-priest.³

In Japan, Thomas Berry may not be as well known as those he is compared to. Yet in July 2008 the Sophia Center in Culture and Spirituality at the Holy Names University in Oakland, California, hosted a conference dedicated to the works of Berry. The guest speakers included his friends and colleagues John Grim and Mary Evelyn Tucker. Grim and Tucker were the main figures in organizing the Religion and Ecology conference series at Harvard Divinity School in the mid-1990s. Berry's influence can be discerned, not only in their

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scholarly works, but also in practical ecological activity. As Sara McFarland Taylor explains, many Catholic eco-nuns are influenced by Berry's writings and ideas because he highlights the importance of women in the coming ecological period.⁴ These nuns are very active in preserving biodiversity by planting a variety of seeds within the territory of their monasteries and by encouraging investors to put money in ecologically oriented businesses. At the same time they are carefully negotiating with the Catholic Church itself, since their emphasis on the sacrality of nature might turn out to be at odds with traditional teachings.

Berry's intellectual writings are highly regarded in scholarly circles. It is noteworthy that in November 1999, the American Academy of Religion hosted a panel discussion on Thomas Berry's writings, in particular, *The Great Work: Our Way into the Future*, in which he describes the historic effort of bringing civilizational transitions to an ecological era as an essential task of the present generation. In 2001 the academic journal *World View: Environment, Culture, Religion* devoted two issues to Berry's writing on "the Great Work."⁵ In the fall of 2008, philosophy professor Lu Feng of Tsing Hua University in China told me that Tu Wei-ming, professor of East Asian History at Harvard University and a scholar of modern Confucianism, mentioned Thomas Berry several times in conversation with Lu. Tu Wei-ming was, in fact, given the Thomas Berry Award at the Millennium World Peace Summit of Religious and Spiritual Leaders in August 2000. It was on Berry's side to have acknowledged Tu Wei-ming's scholarly contribution first, since Berry has been much impressed by the teachings of Confucius. On the other side of the Pacific Ocean, there is a scholarly interest in Berry's work in China, too. So, Thomas Berry is something of a global figure in an environmental age.

In this paper I discuss Berry's religious and intellectual efforts to construct a "universe story" as a "new story," which he sees as a needed bridge to a new ecological civilization. He believes this ecological civilization eventually will lead to a cosmology of peace in what he terms the "Ecozoic era" by putting an end to the techno-industrial society that has been so destructive to nature and humans at the terminal phase of the present Cenozoic period.

In the first section, I examine Berry's view of history. In the second section, I discuss religion-science dialogues in general and locate Berry's position in them. In the third section, I focus on Berry's 1999 book, *The Great Work*.

I. BERRY'S VIEW OF OUR PLACE IN HISTORY

I wish to highlight Berry's views on several important issues.

1. Peace

Thomas Berry's work can be seen as a Catholic response to the global historical and ecological trends that began with the environmental movements in the 1960s and continued with the Club of Rome's *Limits to Growth* in 1972, the World Conservation Strategy in 1980, the Brundtland Committee's report *Our Common Future* in 1987, and the *Great Transition* by Paul Raskin et al. in 2002. Many environmental movements emerged during this period, varying from radical activism such as Earth First! to the moderate Sierra Club, Greenpeace, and other organizations, and to the philosopher Arne Naess's deep ecology.⁶ When Al Gore and the UN's Intergovernmental Panel on Climate Change (IPCC) received the Nobel Peace Prize in 2007, many people came to see that environmental problems and climate change caused by global warming can be potential causes of conflict, violence, and war.⁷ It is customary to regard the issue of peace as a problem only of relations among human beings, yet it is now understood that there can be an environmental context for human conflict and violence. What is interesting about Thomas Berry's view is that he raises the issue of human violence against the earth as an inexcusable part of the cosmic process and a potential cause of threats to peace for future generations. "If humans will not become functional members of the earth community, how can humans establish functional relationships among themselves?"⁸ Peace of Earth, or Pax Gaia, needs to be sought.

2. Christianity

It is no surprise that in the United States, where religion has played such an important historical role, scholars and practitioners have discussed the importance and role of religion in ecological issues, especially since 1967 when Lyn White, a noted historian of agricultural technology in Medieval Europe, criticized Christianity in Western societies as being responsible for worldwide environmental problems. There have been reactions both pro and con to this charge. Some of those arguing from a biblical point of view claim that the sacred narrative of the Creation does not encourage people to destroy nature nor make humans masters of all life. Some might expect that Berry as a Catholic priest would also take such a defensive position for the Bible. Yet, in fact, Berry, who studied Pierre Teilhard de Chardin, argues that the tradi-

tional Western creation story in the Book of Genesis is no longer a functional cosmology. In the time of science, the universe story unifying modern physics, astrology, earth science, and life science could become a new “great story,” a functional cosmology for the global community, especially in a time of environmental crisis. He even says:

Our modern world is not working. Christianity, in this sense, is not working. Particularly, there is the inability of the Christian world to respond in any effective way to the destruction of the planet. Religion is assuming no responsibility for the state of the earth or the fate of the earth.⁹

Barry tries to breathe new energy into the minds of the faithful to carry out what he terms “the Great Work,” that is, bringing about the “transition from a period of human devastation of the Earth to a period when humans would be present to the planet in a mutually beneficial manner.”¹⁰ In his writing, Berry periodicizes the history of the universe, including human history. This periodization is one of Barry’s characteristic techniques.

According to John Grim and Evelyn Mary Tucker, the way Berry periodicizes history and applies a sense of coherence and meaning to history, derives from several sources, especially the Bible (for example, Daniel’s reading of King Nebuchadnezzar’s dream) as well as Giambattista Vico’s philosophy of history as outlined in *The New Science of the Nature of the Nations* published in 1725.¹¹ Tucker points out that Vico is one of the earliest influences on Berry’s intellectual development. Tucker summarizes Vico’s impact as follows:

Vico’s thought has clearly been seminal for Berry. This is evident in several respects: 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 namely, the tribal shamanic, the traditional civilizational, the scientific technological, and the ecological or ecozoic age. 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.¹²

Vico’s philosophy is often regarded as a counterphilosophy to the materialism of Descartes. If Cartesian philosophy has provided a basis for modern industrial-technological society, Berry’s association with Vico indicates his belonging to an alternative philosophical genealogy.

3. Berry's View of History

There are several points to pay special attention to in Berry's view of history. First, he sees human society as having made gradual progress through history. The developmental progress can be characterized by the primary features of each historical period. Berry calls the coming historical period "Ecozoic," which expresses his wishes, in contrast to the first three historical periods. Second, though he acknowledges the developmental process of history, Berry still recognizes the ongoing contributions of each historical age for a transition to the Ecozoic era. Third, Berry encompasses natural science within a great framework of the historical process, not as an antagonistic intellectualism, but as part of a revelatory process. Fourth, his view that the present generation is now moving into a new stage is the central focus of his intellectual efforts of constructing a poetic and mythic foundation for the coming new civilization. Berry locates human history as a part of the "universe story" in the context of a scientific narrative of the universe following the insight of Pierre Teilhard de Chardin.

For the purpose of this article, suffice it to say that Teilhard devoted his life to both Christianity and learning. He was a lifelong Jesuit priest as well as a paleontologist and geologist, who acknowledged that modern people had become suspicious of traditional Christian teachings in light of modern science. As an established paleontologist he was well known for being involved in finding a skull of *Homo erectus pekinensis* in 1927 in China. According to Claude Cuénot, his scholarly achievements were so great that he was asked to take a professorship at the College de France, but his superior in the Jesuit order declined permission.¹³ Furthermore, though he was a Jesuit priest, his writings on Christian theology were judged by his order as being unsuitable for publication. They were only allowed to be published after his death. Berry is strongly influenced by Teilhard, and his work shares the same basic framework. Although Berry does not have a strong academic training in science, he is very knowledgeable about scientific literature.

4. Historical Destiny

How does Berry regard the historical situation of our time, our historicity, in which he develops and constructs his ideas? Echoing the biblical notion, he writes:

Even as we reflect on what is happening, we need to reflect also on who we are and why we face with such a momentous issue. All indications suggest that we are, in a sense, a chosen group, a chosen generation, or a chosen human community. We

did not ask to be here at this time. We were destined to be here at this time in the sense that the time of our lives is determined for us.¹⁴

In *The Great Work*, he calls it “our historical destiny.”¹⁵ There are several dimensions to his keen sense of history. First, though his biblical referencing is clear, he lacks a manifest sense of covenant with divinity. Surely, without his religious background, he could not utter the sort of almost exclamatory sentences of the above quotation. Yet, it is not the religious context but rather the whole of modern knowledge from natural science, social science, and humanities that provides his view of history. His reconstruction of history is mainly based on modern knowledge.

Second, by “history” he means not just human history but the whole history of the universe in the physical sense from the Big Bang through several irreversible processes and transformations, such as the primordial flaring forth, the galactic formation, supernovas, the birth of the sun, the formation of the Earth, the formation of diverse life-forms from eukaryotes to plants and animals, and human history to the present. It could be called a history of the cosmos.

Third, needless to say, the historical moment he refers to is the modern transitional period leading to the Ecozoic period. Furthermore, to designate its transitional aspect, he employs the term “terminal phase of the Cenozoic period.” Our own Cenozoic era is characterized by a great diversity of life. Yet, he considers his generation to “have changed the very structure of the planet. We have changed the chemistry of the planet, the biosystems of the planet, even the geology of the planet.”¹⁶ That is why our historical location is in an ongoing terminal phase of the Cenozoic period. In light of what human communities have done to the planet, the West is “the most dangerous force on the planet.”¹⁷ Now, the human community (not just the Christian community) has to be engaged consciously in creating a civilizational structure for the Ecozoic period.

The ending phase of the Cenozoic period is transitional, but it is crucial in Berry’s thinking in several respects: First, it is during the modern period that modern science provides us with empirical knowledge concerning the history of the universe. Second, it is during this period that techno-industrial society has exploited the nature of the Earth, already bringing many species to extinction. Third, it is precisely during this phase of the history of the universe that we humans have become conscious of what is going on with the planet, and we are destined to act consciously to bring about transformation to the new era.

5. The United States

Among historical locations, the United States, the country of Berry's birth, occupies a special but ambiguous place in his writing. In the United States, where light is so strong and marvelous, its shadow is dark and gloomy. According to Berry, the United States has achieved knowledge, wealth, and power on a scale never seen before. The combination of the ideal of human freedom, commercial cunning, and a sense of historical destiny created this magnitude and meaning, this Wonderland. The positive side of this, actually only positive from a certain viewpoint, is that Francis Bacon's view that human intelligence, which has as its primary purpose the understanding and control of nature, has found its fulfillment in America.

Yet what Berry witnesses now is "a land of roads and automobiles and grimy cities, a land of acid rainfall, polluted rivers and endangered species, a land extensively plundered of its forests and its mineral resources, a land with its human inhabitants somewhat bewildered and rebellious against their role as the great consumer people of earth."¹⁸ Instead of a Wonderland, America has become a Wasteland, ruining its beautiful land.

How does Berry view the religious history of the United States? Does he have a different perspective on it than a common Protestant one? In his book *The Dream of the Earth* (1988), in the chapter entitled "Christian Spirituality and the American Experience," Berry argues that he is mainly interested in public spirituality, that is, "the functional values and their means of attainment in an identifiable human community," not so much in private experiential spirituality, which implicitly refers to America's early Protestant heritage. The "ultimate spiritual issues are those dealt with in the cruel and compassionate world of active human existence, in the marketplace, in the halls of justice and injustice, in the places where the populace lives and works and suffers and dies."¹⁹ He refers explicitly to the victims of U.S. power, especially to the historical suffering of Native Americans, which is a subject that has been ignored by mainline historians of American religion.

This negative aspect of American society is related to a lack of understanding or a certain incompetence in Western religion so that the American people have been unable to mitigate or even to understand or protest what he calls "the terrifying assault of American society on the nature world." He turns previous evaluations of almost all characteristics of American Christian experience upside down. First, many religious historians of the United States, including Sydney Mead, Jerald Brauer, Martin Marty, Clark Gilpin, and others, emphasize the significance of covenant theology. But Berry argues that the biblical identification of the divine as transcending the natural world

makes a human-divine covenant possible, with the natural world unnecessary in this meeting. In his scheme, Berry is trying to bring a new way of communicating between humans and cosmic nature, that is, the universe, a part of which is planetary nature.

Second, according to Berry, the religious insistence that the human is a spiritual being with an eternal destiny makes it impossible for human beings to be integrated members of the Earth community. It is precisely the religious understanding of what a human is that is the primary reason the human community is alienated from the natural community. Berry is attempting to integrate human spirituality with natural spirituality.

Third, in the Cartesian period, the idea of an inner principle of life in natural beings was taken away and a mechanical view of the world and beings became prevalent. Rationality became the primary way to examine and understand the world, while the body became an object lacking any power of reasoning. Berry, however, praises sense perceptions and sensual judgment as the primary observer of the present predicament of our civilization.

Lastly, Berry thinks that in American religious history, Christians, generally speaking, believe that an infrahistorical millennial age of peace, justice, and abundance will come about in the unfolding of Christ's redemptive power. When the millennial age did not arrive by divine grace as anticipated, Americans began to feel an obligation to bring earthly paradise on earth by human technological and economic effort. This is part of the dynamism of American political and economic life, which pursued the Wonderland with technological development, but ended up by creating the Wasteland.

Berry emphasizes the importance of the physical basis of all things human, of human sensitivity to the world, to grasp the order of magnitude of change taking place in human affairs. Our senses make us aware of the repulsive aspects of the present civilization. He asks, "What do we smell? What is the fragrance or the stench that is in the air?" The smell of industrial society is repulsive, indicating that there is something seriously wrong.

By his way of questioning, Berry is attempting to turn modernity around in two ways. First, he emphasizes the bodily senses as the primary tool for evaluating the world rather than rational reasoning. Making bodily senses the foundation also points out the primacy of a subjective and personal experience of the world, not rationality alienated from bodily experience. Second, Berry particularly emphasizes the olfactory sense, rather than the optical and visual sense that Michel Foucault considered the primary modern sensual tool. Berry clearly attempts to turn the historical trend of modernity upside down. Yet, in the last analysis, he trusts one important contribution of moder-

nity: natural science.

II. THE RELIGION-SCIENCE DIALOGUE

1. Berry's View of the Relationship between Religion and Science

One would not know from reading some of Berry's books that he is indeed a Catholic priest. He writes his books as a cultural historian rather than as a priest. His capacity as a cultural historian allows him to write a story of the cosmic universe that is quite different from a traditional biblical story. For example, in *The Universe Story*, coauthored with physicist Brian Swimme, the first half is a narration of the history of the universe from the Big Bang through the formation of the earth to the emergence of various forms of life. The authors call this history "cosmogogenesis," not a static description but a dynamic repetitive process of cosmic genesis. The second half of the book relates a so-called history of humanity from the emergence of the human species to the coming Ecozoic period. Probably, it is safe to say that a scientist, or scientific cosmologist, would not write a history of the universe in the way that Berry does. Nor would such a scientist use Berry's term "the great story." He rather presents himself as a creative storyteller of the great story.

Here, several points are clear. Berry, a Catholic priest, trusts modern science and its "revealing" knowledge,²⁰ while at the same time he feels dissatisfied with scientists who focus on very narrow and fragmented knowledge and do not try to integrate all available knowledge comprehensively. He firmly believes that science provides the basic facts, which underlie his *Universe Story*. He says:

At the present time we know the story of the universe in fragments rather than in its integrity. Whole libraries are being created with these fragments: photographs, research papers, plans for further inquiry. The physical facts themselves are so fascinating that need for further understanding hardly seems appropriate. Both a competence and a willingness to engage in the immense effort needed to tell the story is what is now needed, especially if this story is to become what it should be: the comprehensive context of our human understanding of ourselves. This is a task that requires imaginative power as well as intellectual understanding. It requires also that we return to the mythic origins of the scientific venture.²¹

There are several issues to be considered here. First, the main purpose of scientific inquiry is to accumulate knowledge and facts; much of this vast accumulation is just stored in books and articles. This is acceptable because this

is the main social and cultural role of books. However, this stored accumulation of knowledge and facts has not yet been used by scientists to solve the environmental crisis. It lacks a social dimension and role; scientists don't know how to apply their own intellectual products. What is the use, then, of all these scientific facts and knowledge, if they cannot be used to combat anticipated social disorder, conflict, and even war that will be set off by environmental problems? If scientists don't dare take on the responsibility of translating knowledge into action, who will? And in what manner? Berry further says:

The real tragedy, however, is that religious and spiritual persons themselves remain unaware of their need to provide for themselves and for the society a more significant evaluation of this larger context of our lives. On both sides, the scientific and the religious, there is a naiveté that is ruinous to the human community, to the essential functioning of the biosphere, and eventually disastrous to the earth itself.²²

Berry encourages those in both the scientific and religious communities to start developing a constructive collaboration for the sake of the entire Earth community.

2. Storytelling

Berry emphasizes the significance of storytelling, especially, the telling of a myth or a sacred narrative, as a foundation for traditional societies, including great civilizations. The story of Genesis was once such a founding story, but it no longer serves today. In place of it, we need to weave the story of the universe as a new functioning and foundational cosmology. We need, not only storytelling, but all sorts of artistic expressions for this new vision, including dance, singing, drawing, and performance. Berry praises the Australian Aborigines for having everybody in their society participating as artists, singers, dancers, storytellers, and performers.

3. Fourfold Typology of the Relationship between Religion and Science

Berry lays his storytelling on a framework of scientific knowledge. At this point, many scientists and cosmologists might not feel comfortable with Berry's proposal. Yet, the relationship between science and religion, which has been discussed in a variety of ways, is more complicated than has been imagined. Ian G. Barbour proposes a fourfold typology describing the relationship between the two: Conflict, Independence, Dialogue, and Integra-

tion.²³ He elaborates this as follows:

Conflict: While biblical literalists believe that the theory of scientific evolution conflicts with their religious faith, atheistic scientists claim that scientific evidence for evolution is incompatible with any form of theism. Both see science and religion as enemies.

Independence: This view holds that science and religion are strangers who can coexist as long as they keep a safe distance from each other. There should be no conflict because they refer to differing domains of life or aspects of reality. Furthermore, their assertions are two different kinds of language that don't compete because they serve completely different functions in human life. They answer contrasting questions. Science asks how things work and deals with objective facts; religion deals with values and ultimate meaning.

Dialogue: There are several forms of dialogue. The first form is a comparison of the methods of the two fields, which may show similarities even when the differences are acknowledged. In both fields, for example, conceptual models and analogies are employed to imagine what cannot be directly observed. The second form of dialogue may arise when science raises limit questions at its boundaries that it cannot itself answer. The third form occurs when concepts from science are used as analogies for talking about God's relation to the world.

Integration: A more extensive and systematic kind of relationship between the two occurs among those who seek a closer integration. There are two ways of approach. From the science side, for example, some astronomers argue that the physical constants in the earliest universe seem to be fine-tuned as if by design. Even a slight difference would have caused the collapse of the universe a few seconds later. From the religious side, some authors such as Arthur Peacocke argue that some religious beliefs should be reformulated in light of scientific knowledge. This can be termed a "natural theology."

Barbour examines, in light of the fourfold typology, topics including astronomy and creation, quantum physics, evolution and continuing creation, genetics/neuroscience and human nature, and God and nature. Since Barbour's analysis is not my main subject here, it is sufficient to note that Berry's attempt fits more or less into the third typology relating to the dialogue between science and religion. One of the sub forms of the third typology is nature-centered spirituality. Barbour argues that in Berry and Swimme's *The Universe Story*, they set the Bible aside and "advocate a new spirituality of the earth inspired by the story of the cosmos revealed by science, from the primeval fireball to human culture." He says that "they call for a universal science-based myth for cosmic story in place of the conflicting stories of

particular traditions, so that the global community can unite to preserve a planet facing environmental destruction.”²⁴

4. Berry’s Dialogue between Religion and Science

What sort of relational mode between religion and science does Berry envision? If the mode is dialogue, then what is the content? It is noteworthy that, considering he is a Catholic priest, in *The Universe Story*, the word “Christ” does not appear even once, while the word “Christianity” appears several times in the section on classic civilization. It shows that he composes his storytelling, not as a Catholic priest, but as a cosmologist and geologist, trying to avoid being seen as a Catholic writer. This feature is clearer, being compared to other Christian-based eco-conscious books. For example, Johan Hart, in his *Sacramental Commons: Christian Ecological Ethics* (2006), for which Berry wrote the afterword, develops a more Catholic-based Christian ecological ethics.²⁵ This book is, at a quick glance, clearly written by a Catholic writer. Another book on Christian ecological ethics, J. Matthew Sleeth’s *Serve God, Save the Planet: A Christian Call to Action* (2006),²⁶ is clearly written from an evangelical Protestant perspective. Berry writes in the style of a historian, a cosmologist as he calls himself, or even a science writer. Without knowing that the author is a Catholic priest, most readers would take his book as a sort of scientific story.

5. Twelve Principles

Berry has defined twelve principles that underlie the role of the human in the transitional phase. Among the twelve principles Berry develops, it is easy to notice that he juxtaposes the two realms of science and religion. He begins his story with the knowledge modern science and physics provide, and then combines it with spiritual or religious insight. He does not limit spiritual significance to the Christian sort, as he emphasizes important lessons from Asian religions and Native American teachings. As he develops the content of his twelve principles, there are some differences between his earlier and later writings. Here, to highlight the connection between religion and science that he attempts to construct, I will refer to the earlier list.²⁷ I will examine a few of his principles.

Berry’s first principle is that the history of the universe is the source of “the primary revelation of that ultimate mystery whence all things emerge into being.” There is room for debate as to what he really means by “that ultimate mystery,” yet it is clear that he sees the whole process of universe formation as the stage where human consciousness can perceive the ultimate mystery,

the origin of all things. Some materialist scientists would oppose such an overtly religious overlay on scientific knowledge. Yet his main point is that the religious orientation will provide a narrative framework to fragmented and unrelated scientific knowledge, which should be and could be now a universal common base for the global Earth community.

Directly related to the first principle is the third one, which says that the universe is a psychic as well as a physical reality, and the sixth one, which says that the human is the being in whom the universe activates, reflects on, and celebrates itself in conscious self-awareness. For the third principle, he means that the latest developments of quantum physics and its related fields imply that there is “subjectivity in all our knowledge, that we ourselves, precisely as intelligent beings, activate one of the deepest dimensions of the universe.”²⁸ For the sixth one, it is his view that human beings are an inseparable component of the continuing irreversible cosmogenetic process of the universe, which culminates in the Cenozoic period. The human being’s self-reflective faculty should be regarded as part of the same universe process. Defining the human as being characterized by self-reflective power puts Berry among the phenomenologists Bergson and Teilhard. Berry’s self is not the Cartesian self, but embodied conscious self-awareness.

Berry’s second principle is a combination of ecological thinking and some religious teachings such as indigenous mythological thinking or even Confucian teaching. Berry emphasizes human’s interconnectedness with the natural and cosmic environment, especially since the planet Earth is one, with every creature and noncreature “being profoundly implicated in the existence and functioning of every other being of the planet.”²⁹

For the purpose of this article, the fifth principle is the most important: “The universe has a violent as well as a harmonious aspect, but it is consistently creative in the larger act of its development.” The universe has gone through cycles of violence and harmony, which bring about the ensuing phases in the cosmogenetic process. His view is applicable, not only to the cosmic process, but also to human cultural history. Human history has undergone countless cycles of violence and harmony. Berry’s view could be said to resonate with Teilhard’s positive sense of “terrifying disaster.” It is interesting to note that Teilhard did not lose all hope, even in the midst of World War I, which he participated in as a nurse attending to wounded soldiers. In the midst of this terrifying human disaster of death and destruction, Teilhard maintained that such human disasters are part of preparation for a creative path.

The last and twelfth principle states that the “main human task of the im-

mediate future is to assist in activating the inter-communion of all the living and nonliving components of the earth community in what can be considered the emerging ecological period of earth development.” His view can be clearly recognized as similar to James Lovelock’s Gaia theory, especially in the idea of intercommunication among all living and nonliving components of the earth. Berry’s view is clearly grounded in his acceptance of evolution and the theory that life emerged from nonliving components. At this point, he goes beyond the limit of life-centered ecology.

III. “GREAT WORK” FOR THE COSMOLOGY OF PEACE

1. Violence

Bringing about the transition from the terminal stage of the Cenozoic period to the beginning of the Ecozoic period is also a means to achieving peace. Yet Berry’s concept of peace is somewhat different from the conventional one in three respects. First, within Berry’s scheme, violence is from the very beginning of time a recurring aspect of the cosmic and geological process. Even on the galactic scale, violence is a physical event accompanied by catastrophic and destructive effects, yet it always leads to something creative. Second, within Berry’s specific ecological perspective, human agency on earth is only a part of the planetary process, not an independent agency as assigned by modern ideology. It is only our current conventional view that blindly assumes humans are separate from other agents and from the Earth itself. Third, despite all these things, violence for the most part refers to violence inflicted on the Earth by human beings.

The violence associated with human presence on the planet is ambiguous. As human power over all the Earth’s processes has increased, the spontaneities of nature, which are characteristic of the Cenozoic period, have been suppressed or extinguished. The functioning of the planet has become increasingly dependent on human wisdom and human decisions: “For the first time, the planet has become capable of self-destruction of its major life systems through human agency.”³⁰

Berry warns that a failure in human creativity would bring an absolute failure that cannot be remedied later by some greater success. What is required is a completely new type of creativity that has as its primary concern the survival of the Earth in its functional integrity and that will bring all the nations of the world into an international and global community. Since the Earth functions as an absolute unity, any dysfunction of the planet imperils every nation of the planet. It echoes an idea of “Earth ethics” proposed by

environmental philosopher Holmes Rolston III, whose argument also includes a social and political dimension.³¹ Here the issue of intergenerational ethics comes into play. As Hans Jonas argues, our generation has the duty to ensure a future for coming generations.³² To insure the existence and conditions of future generations, Berry argues, our generation must bring the cosmology of peace to the Earth by relying on the fourfold wisdom: the wisdom of indigenous people, the wisdom of women, the wisdom of the classical tradition, and the wisdom of science.

2. New Type of Human

It is necessary to see the human being as an integral member of the Earth community, not as some lordly creature free to plunder the Earth for human utility. The issue of interhuman tensions and conflicts are secondary to earth-human tensions. The central question is whether the planet can survive the intelligence that it has itself brought forth. Further, Berry argues, “one of the historical roles now being assigned to our generation is the role of creating, in its main outlines, the spiritual context of the ecological age, the next great cultural coding that is presently taking on its effective form.”³³

It is not just the peace among human communities but a cosmology of peace that is the basic issue: “The human must be seen in its cosmological role just as the cosmos needs to be seen in its human manifestation. This cosmological context has never been clearer than it is now, when everything depends on a creative resolution of our present antagonisms.”³⁴

To attain such a view of a new type of human, a new view of the Earth has to be introduced. The planet Earth “needs to be experienced as the primary mode of divine presence, just as it is the primary educator, primary healer, primary commercial establishment, and primary lawgiver for all that exists within this life community.”³⁵

Let me sum up Berry’s ideas. To ensure the attainment of a cosmology of peace, several understandings of the Earth should be accepted. First, the Earth is “a single organic reality that must survive in its integrity if it supports any nation on the earth.” Yet, at the terminal stage of the Cenozoic period, there is possible danger. The Pax Gaia is “a creative process activated by polarity tensions requiring a high level of endurance,” which is a groping toward an even more complete expression of the numinous mystery that is being revealed in this process, and that implies a disquiet, an incompleteness, and has the excitement of discovery, ecstatic transformation, and the advancement toward new levels of integration.

Though the Earth is the planet on which human beings are able to exist, the peace of Earth has become progressively more dependent on human decisions. The severe tension existing among the great national powers are of a planetary order of magnitude because the resolution of these tensions is leading to a supreme achievement: global unity, toward which all earthly developments were implicitly directed from the beginning of time. It leads to the final expression of the curvature of space: the return of the Earth to itself in conscious reflection on itself.

The last aspect of the peace of Earth is its hopefulness, deriving from our knowledge of the past, which shows that the planetary system has undergone several periods of tension, violence, and creation.

To accelerate the transition to the Ecozoic era, the following starting points should be agreed on:

1. The universe is a communion of subjects, not a collection of objects.
2. The Earth exists and can survive only in its integral functioning.
3. The Earth is a one-time endowment. If we kill the Earth, the possibility of life is all over.
4. The human is derivative, the Earth is primary. All the professions must be realigned to reflect the primacy of the Earth.
5. The entire pattern of the Earth's functioning is altered in the transition from the Cenozoic to the Ecozoic era, since we have "a humanized planet." Human technologies must become coherent with the technologies of the natural world. The natural world has its own technologies.
6. We need new ethical principles that recognize the absolute evils of biocide, the killing of life systems themselves, and geocide, the killing of the planet.

CONCLUSION

Thomas Berry, although a Catholic priest of the Passionist order, expects his views to be extended beyond a small circle of Catholics in the United States (though his influence is particularly strong among Catholic nuns, since he promotes the role of women in the transitional phase). Compared with the philosophies of deep ecology, the social ecology of Murray Bookchin, and the radical Earth First! organization Berry finds his ground in scientific cosmic knowledge and a religious attitude of awe. However, his interest in the history of the universe does not let him retire peacefully to merely writing books. He is actively engaged in plotting a future course for the global community through his advocacy of "celebrating the universe."

It is too early to evaluate how much his effort to integrate scientific knowl-

edge and a religious attitude in “the Great Work” will influence global efforts to transform the present civilization into a new Ecozoic civilization. Because Thomas Berry is also a cultural historian and geologist, it is possible to interpret his work as an attempt to reawaken the repressed sense of cosmic sacrality held by almost all premodern societies. His voice for the future sounds like a voice echoing the past when he says that our generation needs to have sensitivity to the sacred, as well as a deep, emotional, imaginative sensitivity to all things, from bluebirds to butterflies, insects to trees. When we face the possibility of extinction of the various creatures of the Earth, his words reveal their significance. If it would ever happen that there would be no birds, no butterflies, no insects, and no trees, then, we would not even be around ourselves to dismiss Berry’s ideas as too poetic and romantic.

NOTES

¹ The Passionist order is the Congregation of Discalced Clerks of the Most Holy Cross and Passion of Our Lord, founded by St. Paul of the Cross (Paul Francis Danei) in 1720. The congregation has the dual goal of missionary work and contemplation. Its founder desired to blend a reflective order such as the Trappists with a dynamic order such as the Jesuits.

² Thomas Berry has written several important books, including *The Dream of the Earth* (Berkeley, CA: Sierra Club with the University of California Press, 1988), *Befriending the Earth* (New London, CT: Twenty-Third Publications/Bayard, 1991); *The Universe Story from the Primordial Flaring Forth to the Ecozoic Era: A Celebration of the Unfolding of the Cosmos*, with Brian Swimme (San Francisco, CA: HarperSanFrancisco, 1992); *The Great Work: Our Way into the Future* (New York: Bell Tower, 1999); and *Evening Thoughts: Reflecting on Earth as Sacred Community* (Berkeley, CA: Sierra Club with the University of California Press, 2006).

³ Leonard Boff is known as one of the liberation theologians. From his work for the poor, he became interested in environmental issues. He has numerous publications, including *Ecology: Cry of the Earth, Cry of the Poor* (New York: Orbis, 1995).

⁴ Sarah McFarland Taylor, *Green Sisters: A Spiritual Ecology* (Cambridge: Harvard University Press, 2007), 5–6.

⁵ *World Views: Environment, Culture, Religion* 5, no. 2 and no. 3 (2001).

⁶ Arne Naess (b. 1912) is a world-renowned Norwegian eco-philosopher. In 1972 he proposed the term “deep ecology” as opposed to “shallow ecology,” which characterizes business and industry’s environmental response. Deep ecology is a philosophical and practical attempt to turn the anthropocentric view of nature and life upside down and acknowledge the significance and importance of all forms of life. Some would characterize Naess’s view as “eco-centric.”

⁷ “Those who attach importance to ‘human security’ argue that the main thing is to protect individuals. The chief threat may be direct violence, but deaths also come from indirect sources in starvation, disease, or natural disasters. A goal in our modern world must be to maintain ‘human security’ in the broadest sense. Environmental problems certainly affect human security in this broad sense. . . . Unfortunately we can already establish that global warming not only has negative consequence for ‘human security’, but also fuel violence and conflict within and between states.” Presentation speech by Ole Danbolt Mjøes, chairman of the Norwe-

gian Nobel Committee for the Nobel Peace Prize 2007, Oslo, December 10, 2007, http://nobelprize.org/nobel_prizes/peace/laureates/2007/presentation-speech.html (accessed August 27, 2008).

⁸ Thomas Berry, *The Dream of the Earth* (Berkeley, CA: Sierra Club with the University of California Press, 1988), 220–23.

⁹ Thomas Berry, CP with Thomas Clarke, SJ, *Befriending the Earth: A Theology of Reconciliation between Humans and the Earth*, (Mystic, CT: Twenty-Third Publications, 1991), 143.

¹⁰ Thomas Berry, *The Great Work: Our Way into the Future* (New York: Bell Tower, 1999), 3.

¹¹ John Grim, “Time, History, Historian in Thomas Berry’s Vision,” <http://www.thomasberry.org/Biography/grim-bio.html> (accessed August 24, 2008).

¹² Mary Evelyn Tucker, “Biography of Thomas Berry,” <http://www.thomasberry.org/Biography/tucker-bio.html> (accessed August 24, 2008).

¹³ Claude Cuénot, *Pierre Teilhard de Chardin : Les grandes étapes de son évolution* (Paris : Librairie Plon, 1958), 325–28.

¹⁴ Berry and Clark, *Befriending the Earth*, 5.

¹⁵ Berry, *The Great Work*, ix.

¹⁶ Berry and Clarke, *Befriending the Earth*, 5.

¹⁷ *Ibid.*, 118.

¹⁸ *Ibid.*, 109.

¹⁹ Berry, *Dream of the Earth*, 112–13.

²⁰ Brian Swimme and Thomas Berry, *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era—A Celebration of the Unfolding of the Cosmos* (San Francisco, CA: HarperSanFrancisco, 1992), chap. 12, “The Modern Revelation,” 223–38. In this chapter, the authors briefly describe the rise of modern science leading to the present state of scientific knowledge.

²¹ *Ibid.*, 237.

²² Berry, *Dream of the Earth*, 112–13.

²³ Ian G. Barbour, *Religion and Science: Historical and Contemporary Issues* (San Francisco, CA: HarperSanFrancisco, 1997); and Ian G. Barbour, *When Science Meets Religion: Enemies, Strangers, or Partners?* (San Francisco, CA: HarperSanFrancisco, 2000). Especially chapter one “Four Views of Science and Religion.”

²⁴ Barbour, *Religion and Science*, 96.

²⁵ John Hart, *Sacramental Commons: Christian Ecological Ethics* (Lanham, MD: Rowman and Littlefield, 2006).

²⁶ J. Matthew Sleeth, *Serve God, Save the Planet: A Christian Call to Action* (Grand Rapids, MI: Zondervan, 2006).

²⁷ Anne Lonergan and Caroline Richards, *Thomas Berry and the New Cosmology* (Mystic, CT: Twenty-Third Publications, 1987), 107–8.

²⁸ Berry, *The Great Work*, 25.

²⁹ Lonergan and Richards, *Thomas Berry and the New Cosmology*, 107.

³⁰ Berry, *Dream of the Earth*, 218.

³¹ Holms Rolston III, *Conserving Natural Value* (New York: Columbia University Press, 1994), 203–36.

³² Hans Jonas, *The Imperative of Responsibility: In Search of an Ethics for the Technological Age*, (Chicago and London: University of Chicago Press, 1984), 38–50.

³³ Berry, *Dream of the Earth*, 119.

³⁴ *Ibid.*, 219.

³⁵ *Ibid.*, 120.