

Does Thomas Berry Provide a Foundational Set of Principles For the Transition to Ecozoic Societies?

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I have always felt that Thomas laid out a foundational set of principles for the transition to ecozoic societies. Much attention has been given to his work on the universe story, but not so much to his guidance on the transition to ecozoic societies. In this paper I would like to present what for me are the most important principles Thomas gave for this transition.

When attention has been given to Thomas's vision for social transformation, it seems to me the focus has most often been on eco-communalism.¹ I'll use Paul Raskin's definition of eco-communalism to explain what I mean by the term: Eco-communalism involves a "vision of bio-regionalism, localism, face-to-face democracy, and economic autarky." "Economic autarky" refers to local or regional economies that are self-sufficient without the need for imports. Eco-communalism does not have to be understood as rigidly adhering to bio-regionalism, localism, and economic autarky, rather as holding these as being of high value. Eco-communalism differs from our present globalized economy where when you pick up something as small and ordinary as a pencil you may be holding something with inputs or processing involving several continents.

As I sometimes point out, Alibaba, the largest Chinese on-line-retailer, sold \$17 billion worth of goods on Singles' Day, the Chinese equivalent of Valentine's Day.² Consider how many people were involved in producing these goods, how their livelihoods depended

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1. Paul Raskin et al, *Great Transition: Promise and Lure of the Times Ahead* (Boston, MA: Stockholm Environment Institute, 2002), 14.
 2. In May 2014, when this talk was given, Alibaba's sales on Singles' Day were \$5 billion. Alibaba's sales on Singles' Day (November 11) in 2016, topped \$17.7 billion. Yue Wang "Alibaba Smashes \$14 Billion Sales Record on Singles' Day." *Forbes*, November 11, 2016, accessed April 14, 2017, <https://www.forbes.com/sites/ywang/2016/11/11/alibaba-smashes-sales-records-on-singles-day-hype/#22ffd6114b2e>.

on this work, the resources that were used, the many consumers who purchased the goods, the experiences they had in buying and using the goods, and the effects of the production, transportation, sale, and consumption of the goods on the environment. These goods are the fruits of industrial development. In a world of 7 billion people on the way to 11 billion by the latest UN estimates,³ is humanity to forgo industrial production and inter-regional, interstate, and/or international commerce?

We need the Genesis farms, examples of how to live in harmony with nature on small scales. Meanwhile there is this world happening. For the first time in the history of humankind, more than 50% of the world's people live in urban areas.⁴ When I traveled in India and China over the last decade, I was astonished to learn of all the cities with over a million people of which I had never heard. In China new cities in excess of this size are built and populated in a matter of years. There are 20 million people in the metropolitan area of Lagos, Nigeria, the largest city in Africa. There are 38 million people in the metropolitan area of Tokyo, Japan, the most populous in the world. For the foreseeable future we will live in an urbanized, globalized world. Does Thomas give guidance to this world?

Paul Raskin of the Tellus Institute and his co-authors produced a

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3. United Nations Department of Economic and Social Affairs, Population Division, *World Population Prospects the 2015 Revision: Key Findings and Advance Tables* (New York: United Nations, 2015), 2, accessed July 17, 2016, https://esa.un.org/unpd/wpp/Publications/Files/Key_Findings_WPP_2015.pdf.
 4. According to the 2014 revision of the *World Urbanization Prospects* by UN DESA's Population Division: "54 per cent of the world's people live in urban areas, a proportion that is expected to increase to 66 per cent by 2050. Projections show that urbanization combined with the overall growth of the world's population could add another 2.5 billion people to urban populations by 2050, with close to 90 percent of the increase concentrated in Asia and Africa, according to a new United Nations report launched today." United Nations Department of Economic and Social Affairs, "World's Population Increasingly Urban with more than Half Living in Urban Areas," July 10, 2014, accessed April 18, 2017, <http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html>.

book called *Great Transition: Promise and Lure of the Times Ahead*.⁵ It talks about three scenarios for the future. One is business as usual—just taking care of things as they are, making things more efficient, and continuing on the present trajectory of development with or without policy reform. Another is of barbarism involving two sub-scenarios of fortress world and breakdown. We must wonder if we are not heading to the barbarism scenario, because business as usual can't serve all the people of the world and conditions will worsen as environmental degradation continues. We see a movement to fortress world—regions of prosperity and protection in the midst of an impoverished world. And in significant areas of the world, we are seeing breakdown. The third scenario is of “great transitions” to a sustainable world and there are two sub-scenarios. One is eco-communalism and the other is the “new sustainability paradigm”—the latter being change in the ordering principles of society but retention of a complex, globalized, urban societies. Raskin and his co-authors take the position that eco-communalism will not be the dominant form of the great transition without first passing through some form of barbarization.⁶ I interpret this as meaning that if there is widespread collapse or repression (in fortress world), most of the world's people may be forced into self-sufficient, subsistence communities and this is the only way the authors see eco-communalism becoming prevalent. Is Thomas preparing us for such a wrenching transition? There are writers on the left who foresee breakdown and a move to survivalist modes. Or does he provide guidance that would support the “new sustainability paradigm”?

5. Paul Raskin et al, *Great Transition*. An update of this book was published in 2016. Paul Raskin, *Journey to Earthland: The Great Transition to Planetary Civilization* (Boston, MA: Tellus Institute, 2016). The update retains the three scenarios.

6. While popular among some environmental and anarchistic subcultures, it is difficult to visualize a plausible path from the globalizing trends of today to Eco-communalism that does not pass through some form of Barbarization.” *Ibid.*, 15.

Here are some of the characteristics of the three scenarios and their sub-scenarios⁷:

| Worldview | Antecedents | Philosophy |
|--------------------------------|---------------------------------------|---|
| <i>Conventional Worlds</i> | | |
| Market | Smith | Market optimism; hidden and enlight- ened hand |
| Policy Reform | Keynes Bruntland | Policy Stewardship |
| <i>Barbarization</i> | | |
| Breakdown | Malthus | Existential gloom: population/resource catastrophe |
| Fortress World | Hobbes | |
| <i>Great Transitions</i> | | |
| Eco-communalism | Morris and social Utopians, Gandhi | Pastoral romance; human goodness; evil of industrialism |
| New Sustainability Paradigm | Mill | Sustainability as pro- gressive global social evolution |

Do we get to choose which of these scenarios we want to live in? Or are we, as Thomas wrote in *The Great Work*, thrown into a scenario by virtue only of being born in a certain time and place.⁸

7. Ibid., 17.

8. We do not chose the moment of our birth, who are parents will be, our particular culture or the historical moment when we will be born. We do not choose the status of spiritual insight or political or economic conditions that will be the context of our lives. We are, as it were, thrown into existence with

What is needed? What is possible—remember that Alibaba sells \$17 billion of goods on Singles’ Day? What guidance does Thomas give?

Professor Jim Peacock, who is here with us and teaches anthropology at this university, has students in his class on “Consciousness and Symbol” read *The Great Work*. He struggles with the questions his students ask about the book. They ask, what does Berry want us to do? I have wondered, what are the students asking when they ask this? Are they asking, how can humans live on Earth without making an impact? If so, there is no answer that Thomas or anyone else can give.

We long for a perfect answer where nature will be wild and free, pristine, untouched by civilization, and yet where we and other humans will have our needs and many or most of our wants met. When we think about sustainability even for a moment, however, we realize there can be no such answer. Thomas identified the longing for perfection as part of a millennial expectation of beatitude here on Earth. Throughout the modern period, at least since the 16th century, this has been interwoven into the idea of progress, and in late modernity, especially beginning in the latter half of the 20th century, with the vision of a technological wonderworld. Today as we enter a new 21st century phase of technological innovation in genetic technology, nanotechnology, information technology, robotics, and energy, some visionaries offer the prospect of a world where, through these technologies, abundance not scarcity will be the problem and humans will live virtually (pun partially intended) forever.⁹

Thomas would call this the technozoic vision of the future, one he regarded as false and dangerous...dangerous in the sense that he believed it was leading humanity on the wrong path. The modern period has been a journey of liberation from old authorities and restraints. Bruno Latour says that modernists revel in the escape

a challenge and a role that is beyond any personal choice. The nobility of our lives, however, depends upon the manner in which we come to understand and fulfill our assigned role. Thomas Berry, *The Great Work: Our Way into the Future* (New York: Bell Tower, 1999), 7.

9. See, for example, Ray Kurzweil, *The Singularity is Near: When Humans Transcend Biology* (New York, Penguin Books, 2006), and Peter Diamandis and Steven Kotler, *Abundance: The Future Is Better Than You Think* (New York, Free Press, 2012).

from the bondage of the past and move to a Utopian future without realistic content.¹⁰ In contrast, he says that ecologists seek a practical vision of the future and in this future the new name for humans is “Earthbound.” Thomas gives guidance for the Earthbound. Yet technological innovation will not stop, what guidance does Thomas give for the use or control of technological innovation?

Before going into Thomas’s guidance, to guard against the tendency to wander back into a golden age of an agrarian past, I would like to offer an example to ground ourselves in reality. Let’s consider India and China, each with a population of more than one billion people, but for this example let’s say one billion. If each of those one billion people were to acquire and burn one 60-watt light bulb, it would take (without counting the manufacturing and shipping of the bulbs, or the delivery of electricity to them) 60 billion watts to power those light bulbs. So just to power one 60-watt light bulb for each of these people, there would be a need for an additional one hundred twenty 500-megawatt power plants, which would likely be coal powered.¹¹ This illustrates the impact of only one small modern amenity when multiplied by one-seventh of the world’s people. We know that within only a few more years another billion people will be added to the human population and then the illustration would have to be multiplied by eight to see the global impact. Fortunately, LED’s and other efficiencies reduce the impact of the individual amenities—for example an LED may only require 15 watts of power—but even 15 watts multiplied by 8 billion is a huge number and this is for only one small modern amenity. Sustainability on a global scale is quite a puzzle.

10. Bruno Latour, “Facing Gaia: Six Lectures on the Political Theology of Nature,” (Gifford Lectures on Natural Religion, Edinburgh, Scotland, February 18-28, 2013), 106, 117, accessed December 5, 2013, http://www.bruno-latour.fr/sites/default/files/downloads/GIFFORD-SIX-LECTURES_1.pdf.

11. I borrowed this example with modifications from Thomas Friedman, *Hot, Flat and Crowded* (New York: Farrar, Strauss and Giroux, 2008), 31. According to the World Bank, in 2014, 75.1% of India’s electric power was generated by coal, up from 49.1% in 1971. In China in 2014, 72.6% of its electric power was generated by coal up slightly from 70.1% in 1971. The World Bank, “Electricity Production from Coal Sources (% of Total),” referencing International Energy Association statistics, accessed April 30, 2017, <http://data.worldbank.org/indicator/EG.ELC.COAL.ZS>.

So it is fitting that Thomas's first guidance for the transition to ecozoic societies is that we have a great big job ahead, a "Great Work" to do. Then he follows this guidance with the counsel that we will be supported in the Great Work by the powers of the universe. He writes, "We must believe that those powers that assign our role bestow upon us the ability to fulfill this role. We must believe that we are cared for and guided by these same powers that bring us into being."¹² And he gave these words of hope:

The basic mood of the future might well be
 one of confidence in the continuing revelation
 that takes place in and through Earth.
 If the dynamics of the universe from the beginning
 shaped the course of the heavens,
 lighted the sun, and formed Earth,
 if this same dynamism
 brought forth the continents and seas and atmosphere,
 if it awakened life in the primordial cell
 and then brought into being
 the unnumbered variety of living beings,
 and finally brought us into being
 and guided us safely
 through the turbulent centuries,
 there is reason to believe
 that this same guiding process
 is precisely what has awakened in us
 our present understanding of ourselves
 and our relation to this stupendous process.
 Sensitized to such guidance from the very structure
 and functioning of the universe,
 we can have confidence in the future
 that awaits the human venture.¹³

12. Thomas Berry, *The Great Work*, 7. Page references in this section are to *The Great Work*.

13. Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988), 137.

As to the nature of the Great Work, Thomas described it in two ways:

The Great Work...is to carry out 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. (p. 3)

The Great Work [is] the task of moving modern industrial civilization from its present devastating influence on the Earth to a more benign mode of presence. (p. 7)

As to the magnitude of the work, he wrote, “[The] transition has no historical parallel since the geobiological transition that took place 67 million years ago when the period of the dinosaurs was terminated and a new biological era began.” (p. 3) He said that the Great Work is an arduous task, one exceeding in its complexity that ever offered to humankind. He, also, said the Great work was of epic dimensions, one surpassing anything heretofore described under that term.

He observed, “The deepest cause of the present devastation is found in our mode of consciousness that has established a radical discontinuity between the human and other modes of being and the bestowal of all rights on the humans. [The other modes of being] have reality and value only through their use by the human.” (p. 4)

His most concise statement of what needs to be done is given in this one sentence with seven phrases: “The historical mission of our times is

1. to reinvent the human—
2. at the species level,
3. with critical reflection,
4. within the community of life-systems,
5. in a time-developmental context,
6. by means of story and
7. shared dream experience.” (p. 159)

Each of these phrases is important. I have heard Thomas say “within the community of life systems” is most important. For purposes of this Colloquium, however, I want to emphasize “through critical reflection.” I think most followers of Thomas have generally emphasized story and shared dream experience. Note that Thomas puts “with critical reflection,” before “story” and “shared dream experience.”

Let’s consider the importance of critical reflection. You have been to school and you probably remember a teacher you especially liked. You will say about the teacher, she changed my way of thinking, and 20-30 years later you’re still living out of what you learned from her. John Maynard Keynes wrote:

The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back.¹⁴

Both Thomas and Keynes made the same point: Ideas are operative in society and they exert a significant controlling influence over society. Thomas presented some powerful ideas and they need to be studied, interpreted, and applied. Further, he admonished us to do our own critical reflection to develop ideas and act on them.

Now I’d like to go through some of the guidelines Thomas gave for ecozoic societies. I have passed out the paper “Call for Ecozoic Societies.”¹⁵ In this paper I presented three pillars of ecozoic societies:

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14. John Maynard Keynes, *The General Theory of Employment, Interest and Money* (1936), 383-84.
 15. Herman Greene, “Call for Ecozoic Societies,” a CES Foundational Paper, accessed April 23, 2017, <https://www.ecozoicsocieties.org/wp-content/uploads/2016/09/Call-for-Ecozoic-Societies.2003-01-12.rev.2014-06-05.pdf>.

- The universe story (knowing)
- Bioregionalism (doing)
- Ecological spirituality (being)

With regard to the universe story, I state that it has important mythic and ritualistic aspects, but I also emphasize it has a knowing aspect. The universe story calls us to be Earth and universe literate. Each time we come to know about the dynamics, processes, flows, and materials of Earth, we engage the universe story. With regard to bioregionalism, Thomas says that a bioregion is a naturally occurring geographic area of Earth that contains an interacting community of life functioning as a relatively self-supporting system within the ever-renewing processes of nature. He further states that Earth sustains itself in its bioregional modes of expression. If this is true and we want to live sustainably, then we need to understand our bioregions and act in ways that support the communities of life within our bioregions. Not everything that supports a bioregion, however, is within the bioregion. For example, wind, water, and migrating animals among many other things are part of a global commons. So we also need to understand the global processes that sustain bioregions and act to support them as well. With regard to ecological spirituality, I emphasized what Thomas calls the psychic-spiritual dimension of Earth. When we have a spiritual experience of the natural world we are experiencing the spirituality that is present and operating within it, not something we are projecting upon it. Ecological spirituality has the gift of transcending spiritual and religious traditions that guide and sometimes divide the people of Earth. It is in the area of ecological spirituality that we can participate in the meta-religious mode that Thomas considers, as noted below, so important for the future.

Another paper I have passed out is “Our Way into the Future: Guides from the Great Work by Thomas Berry.”¹⁶ These are guides

16. Herman Greene, “Our Way into the Future: Guides from *The Great Work* by Thomas Berry,” accessed April 23, 2017, <https://www.ecozoicsocieties.org/wp-content/uploads/2016/09/Thomas-Berry-Guides-to-the-Future.2010-07-05.pdf>. For a fuller explanation of these guides, see Herman Greene, “Thomas Berry’s Great Work,” accessed April 23, 2017, <https://www.>

to the future I identified in the book, *The Great Work*. I ordered the guides under three headings, which give rise to three questions:

- We need to develop a viable mode of human presence on Earth; so when we act we should ask “Is it viable?”
- We need to form a single community of life with the other Earth components; so when we act we should ask “Does it favor intimacy/community?”
- In our special mode of self-conscious awareness, we need to celebrate the universe; so when we act we should ask, “Does it celebrate the universe?”

The word viable is very interesting. It is based on the Latin word, *vita*, which means “life.” The meaning of viable that is pertinent to Thomas’s usage is “Capable of success or continuing effectiveness; practicable: *a viable plan; a viable national economy.*”¹⁷ The word also means capable of living or survival. Thomas guidelines are not guidelines for a Utopia, they are guidelines for life in its fullness, imperfections, and limitations. From a more somber standpoint, Thomas’s guidelines are given to reorient a mode of civilizational presence that is not viable.

With each of these three main guides, Thomas offered three paths:

Viability

- We need to be Earth-centered, not human-centered
- We need to become self-limiting and accept creative discipline
- We need organic, ever-renewing economies, not extractive, terminal economies

ecozoicsocieties.org/wp-content/uploads/2016/09/Thomas-Berrys-Great-Work.2003-01-12.pdf.

17. “Viable,” *The American Heritage Dictionary of the English Language*, 3d ed. (Boston, MA: Houghton Mifflin Company, 1992).

Single Community of Life

- We live in a communion of subjects, not a collection of objects
- We need to understand our integral relation with Earth community through intimacy and ecology
- We need to reform comprehensively our cultures and institutions in light of this understanding

Celebrate the universe in a special mode of conscious self-awareness

- We need to celebrate the universe through story and shared dream experience
- We need to participate in the vast cosmic liturgy
- We need to join with others in a worldwide meta-religious movement of renewal

There are two other sets of broad principles that Thomas offers. The first set he called “The Determining Features of the Ecozoic Era.” These principles provide his essential guidance for the transition to the ecozoic. In a similar fashion to the way the above guides were taken from Thomas’s book *The Great Work*, these “determining features,” were taken from a lecture he gave to the E.F. Schumacher Society in 1991, called “The Ecozoic Era,” and a book by him of the same year, *Befriending the Earth*.¹⁸

Here are the features¹⁹:

1. Earth is a communion of subjects, not a collection of objects.

18. Thomas Berry, “The Ecozoic Era,” Eleventh Annual E. F. Schumacher Lectures, October 1991, Great Barrington, Massachusetts, edited by Hildegarde Hannum, accessed January 31, 2016, <http://www.centerforneweconomics.org/publications/lectures/berry/thomas/the-ecozoic-era>; and Thomas Berry and Thomas Clarke, “Conditions of the Ecozoic Age, in *Befriending the Earth: A Theology of Reconciliation between Humans and Earth*, eds. Stephen Dunn and Anne Lonergan (Mystic, CT: Twenty-Third Publications, 1991), 96-103.

19. Handout from the library of Santa Sabina Conference Center, San Rafael, California, 2004, except that Item 7 is from a similar list presented by Thomas Berry at an annual conference of the Center for Reflection on the Second Law held in Chapel Hill, North Carolina.

2. Earth exists and can survive only in its integral functioning. It cannot survive in fragments any more than any organism can survive in fragments. Yet, Earth is not a global sameness. It is a differentiated unity and must be sustained in the integrity and interrelations of its many bioregional modes of expression.
3. Earth is a one-time endowment. It is subject to irreversible damage in the major patterns of its functioning.
4. The human is derivative, Earth is primary. Earth must be the primary concern of every human institution, profession, program, and activity. In economics, for example, the first law of economics must be the preservation of the Earth economy. A rising Gross National Product with a declining Gross Earth Product reveals the absurdity of our present economy. It should be clear, in the medical profession, that we cannot have healthy people on a sick planet.
5. The entire pattern of functioning of Earth is altered in the transition from the Cenozoic to the Ecozoic era. The major developments of the Cenozoic took place entirely apart from any human intervention. In the Ecozoic, the human will have a comprehensive influence on almost everything that happens. While the human cannot make a blade of grass, there is liable not to be a blade of grass unless it is accepted, protected and fostered by the human. Our positive power of creativity in the natural life systems is minimal, while our power of negating is immense.
6. Progress, to be valid, must include the entire Earth in all its component aspects. To designate human plundering of the planet as progress is an unbearable distortion.
7. The Ecozoic can come into existence only through an appreciation of the feminine dimension of Earth, through a liberation of women from the oppressions and the constraints that they have endured in the past, and through the shared responsibility of both women and men for establishing an integral Earth community.
8. A new role exists for both science and technology in the Ecozoic period. Science must provide a more integral un-

derstanding of the functioning of Earth and how human activity and Earth activity can be mutually enhancing. Our biological sciences especially need to develop a “feel for the organism,” a greater sense of the ultimate subjectivities present in the various living beings of Earth. Our human technologies must become more coherent with the technologies of the natural world.

9. New ethical principles must emerge which recognize the absolute evils of biocide and geocide as well as the other evils concerned more directly with the human.
10. New religious sensitivities are needed that will recognize the sacred dimension of Earth and will accept the natural world as the primary manifestation of the divine.
11. A new language, an Ecozoic language, is needed. Our language is radically inadequate. A new dictionary should be compiled with new definitions of existing words and an introduction of new words for the new modes of being and functioning that are emerging.
12. Psychologically all the archetypes of the collective unconscious attain a new validity and a new pattern of functioning, especially in our understanding of the symbols of the Tree of Life, the heroic journey, death and rebirth, the mandala, and the Great Mother.
13. New developments can be expected in ritual, in all the arts, and in literature. In drama especially, extraordinary opportunities exist in the monumental issues that are being worked out in these times. The conflicts that until now have been situated simply within the human drama are magnified considerably through the larger contours of conflict as these emerge in this stupendous transition from the terminal Cenozoic to the emerging Ecozoic. What we are dealing with is in epic dimensions beyond anything thus far expressed under this term.
14. Mitigation of the present ruinous situation, the recycling of materials, the diminishment of consumption, the healing of damaged ecosystems—all this will be in vain if we do these things to make the present industrial systems acceptable.

They must all be done, but in order to build a new order of things.

These are such a profound set of principles that it is almost overwhelming to get into them. Where should one start...Earth is a communion of subjects?...Earth is primary, the human is derivative? All of these features serve to reorient humans within the community of life. They make clear that humans are integral with and dependent on Earth, and yet how humans, in what must be described as hubris, have come to lord over the other Earth components to the detriment of all. There are calls to become coherent with the functioning of Earth, for the way Earth functions is vital to life processes. We can't claim human success if the functioning of these life processes are declining.

When I read these features, I am always captivated by the 5th feature and the 14th feature. In brief the 5th feature is a description of the Anthropocene—humans have become the primary geobiological force on Earth and are involved in all aspects of Earth's functioning. The 5th feature ends with this warning: "Our positive power of creativity in the natural life systems is minimal, while our power of negating is immense."

The 14th feature also ends with a warning: All the things we do like recycling, environmental remediation, and reduction of consumption "will be in vain if we do these things to make the present industrial systems acceptable. They must all be done, but in order to build a new order of things."

Upon reading these 14 features, many will find them easy to accept as wise counsel, but they will likely, also, find them difficult to live by and act upon, because they are not self-explanatory. What is this "new order of things"? What is this post-industrial society? Surely it is neither what is meant when people talk of the United States as a post-industrial society, nor a world of ecovillages where everyone presses mud bricks and lives off the land.

Further, while we may like the idea of an ecozoic dictionary and enthusiastically repeat Thomas's call for this dictionary, where is this dictionary more than 25 years after Thomas's call for it? How long is your personal list of words that would go into it?

To say it is difficult to understand these principles in practical terms and apply them is, however, in no way a criticism of them. What I am advocating is to move beyond repetition of these words to a more thorough understanding and explication of them, and beyond that to creative applications of them. Searching Thomas's texts for their meanings is an important starting point, but the primary task is to conduct your own study of them and expand upon them.

The second set of principles Thomas calls "Twelve Principles for Understanding the Universe and the Role of the Human in the Universe Process."²⁰

Here are those principles²¹:

1. The universe, the solar system, and the planet Earth in themselves and in their evolutionary emergence constitute for the human community the primary revelation of that ultimate mystery whence all things emerge into being.
2. The universe is a unity, an interacting and genetically-related community of beings bound together in an inseparable relationship in space and time. The unity of Earth is especially clear; each being of the planet is profoundly implicated in the existence and functioning of every other being of the planet.
3. From its beginning, the universe is a psychic as well as a physical reality.
4. The three basic laws of the universe at all levels of reality are differentiation, subjectivity, and communion. These laws identify the reality, the values, and the directions in which

20. Anne Lonergan and Caroline Richards, eds., *Thomas Berry and the New Cosmology* (Mystic, CT: Twenty-Third Publications, 1987), 107-108.

21. Thomas Berry would continually revise papers he wrote. There are multiple versions of the "the Determining Features of the Ecozoic Era," and of "Twelve Principles for Understanding the Universe and the Role of the Human in the Universe Process." For another version of the latter see Thomas Berry, "Twelve principles for Understanding the Universe," Appendix 1 to *Evening Thoughts: Reflecting on Earth as Sacred Community*, ed. Mary Evelyn Tucker (San Francisco: Sierra Club Books, 2003), 145-47. The version presented in the text above is my preferred version.

the universe is proceeding.

5. The universe has a violent as well as a harmonious aspect, but it is consistently creative in the larger arc of its development.
6. The human is that being in whom the universe activates, reflects upon, and celebrates itself in conscious self-awareness.
7. Earth, within the solar system, is a self-emergent, self-propagating, self-nourishing, self-educating, self-governing, self-healing, self-fulfilling community. All particular life systems in their being, their sexuality, their nourishment, their education, their governing, their healing, their fulfillment, must integrate their functioning within this larger complex of mutually dependent Earth systems.
8. The genetic coding process is the process through which the world of the living articulates itself in its being and its activities. The great wonder is the creative interaction of the multiple codings among themselves.
9. At the human level, genetic coding mandates a further trans-genetic cultural coding by which specifically human qualities find expression. Cultural coding is carried on by educational processes.
10. The emergent process of the universe is irreversible and non-repeatable in the existing world order. The movement from non-life to life on the planet Earth is a one-time event. So too, the movement from life to the human form of consciousness. So also the transition from the earlier to the later forms of human culture.
11. The historical sequence of cultural periods can be identified as the tribal-shamanic period, the Neolithic village period, the classical civilizational period, the scientific-technological period, and the emerging ecological period.
12. The main human task of the immediate future is to assist in activating the inter-communion of all the living and non-living components of the Earth community in what can be considered the emerging ecological period of Earth development.

These principles present key points in Thomas's philosophical

understanding of the nature of the world. To an extent these principles are based on empirical investigation, but others are presuppositions on which empirical investigations and action are to be based. The philosopher E. Maynard Adams explained this distinction this way:

Although much of what is taken for granted in our efforts to know and to cope with reality is no doubt subject to empirical confirmation or correction, the most fundamental assumptions and beliefs that constitute the mind of the culture are not. They pertain to the categorial features and structures of experience and thought as well as to the basic constitutive features and structures of whatever the subject matter of our experience and thought may be, including a comprehensive view of the world. *We do not discover these features and structures of things by an empirical investigation of them in the way in which we discover contingent features and structures; rather, the way we empirically investigate and think about any subject matter presupposes commitments about its categorial features and structures. These presuppositions govern the outcome of empirical investigations rather than being the products of such investigations.* This is not to say that our empirical findings may not generate problems that call into question our categorial commitments, but these problems are of a different order from the logical problems among empirical beliefs that force revisions to keep them faithful to reality.²²

The modern worldview has been dominated for centuries by an understanding of the nature of the world as being mechanistic, in other words as being composed of inert matter in motion. The higher capabilities we see in living beings to sense, feel, and be conscious, are said to be attributable to emergent complexity. Change in nature is deterministic, the product of antecedent cause and effect relationships...except when chance mysteriously comes into play. As Adams in his writing often states, in this mechanistic conception value,

22. E. Maynard Adams, "The Mission of Philosophy Today," *Metaphilosophy* 31, no. 4 (July 2000): 356 (italics added).

meaning, creativity, and purposeful action are excluded from explanations of the universe.²³ Further, in this conception, even humans are ultimately to be understood as fully determined machines.

Berry's 12 principles are incompatible with this mechanistic view. Principle 3 holds up the psychic dimension of the universe. A definition in the *Merriam-Webster Dictionary* helps in understanding what Thomas meant when he used this term: Psychic means "lying outside the sphere of physical science or knowledge; immaterial, moral, or spiritual in origin or force." Another meaning of psychic in this dictionary is "is of or relating to the psyche,"²⁴ which can mean all the elements constituting the human mind including emotion and morality. Thomas extends the psychic beyond humans when he says in Principle 1 that the universe is composed of subjects—in other words all beings in the universe have experience and some creativity. To understand this refer to my first lecture²⁵ where I talked about Teilhard's view that everything has an inner (psychic) and an outer (physical) aspect, Whitehead's ontological principle that the universe is composed of subjects, and indigenous and other traditions that understand the universe as in some sense living.

You might consider Thomas's 12 principles of the universe as being extraneous to an environmental ethic. With the exception of feature 1 in the "Determining Features of the Universe," you might, also, say there is no necessary relationship between those features and the 12 twelve principles. For Thomas, however, they were not extraneous and the two lists were necessarily related. As I stated in my first lecture, Thomas was concerned with the human phe-

23. Science...eliminated, normative, value, and meaning concepts, the fundamental categories of the humanities and humanistic thought in general, from its descriptive/explanatory conceptual system because they cannot be funded with meaning by sensory experience, and so statements containing them [could] not be confirmed or falsified by scientific methods of inquiry. Thus, according to the presuppositions of modern science, there are no normative laws, values, inherent structures of meaning, ends, or teleological causality in nature—only existential and factual structures and elemental and antecedent causes that engage them. *Ibidl*, 353-54.

24. "Psychic," *Merriam Webster Dictionary*, accessed April 30, 2017, <https://www.merriam-webster.com/dictionary/psychic>.

25. "Taking Thomas Berry's Thought Seriously," in this issue of *The Ecozoic*.

nomenon: not just the human phenomenon as it related to human beings, but the human phenomenon as it related to how the universe developed from the beginning through both psychic and physical processes.

This aspect of the universe was recognized in indigenous traditions who experienced a living universe, but it was also identified by Teilhard de Chardin in his analysis of the evolutionary dynamics of the universe and by Whitehead in his metaphysics. Further even some naturalistic scientists, as they have come to understand the fine tuning of the universe in the earliest period of its emergence that made Earth and humans possible, speak of an “anthropic principle.”²⁶

The 12 principles were also needed because of Thomas’s understanding of humans as cultural beings. Thomas, a cultural historian, knew that humans seek ways of understanding the larger structures of the universe and based on this, in part, they shape their societies. He also knew that humans have a psychic connection with the universe—an example is the wonder you may feel when you gaze at the Milky Way on a dark night. Thomas saw the need for connection with the psychic dimension of the evolutionary process as a way of empowering humanity for the stupendous task of the transition to the Ecozoic era. These 12 principles foster this connection.

Based on my own extensive conversations with Thomas and my reading of his work, I believe Thomas would say the 12 principles are at the base of his work and they are essential to the transition to ecozoic societies. Before leaving the 12 principles I would add that, like the features of the universe, the 12 principles need to be studied, developed, and applied.

So I have presented some of Thomas’s key guidance for the transition to ecozoic societies. These I believe are the most important ones, but there are many more.

26. The anthropic principle means “either of two principles in cosmology: a : conditions that are observed in the universe must allow the observer to exist—called also *weak anthropic principle*; b : the universe must have properties that make inevitable the existence of intelligent life—called also *strong anthropic principle*. “Anthropic Principle,” *Merriam Webster Dictionary*, accessed April 30, 2017, <https://www.merriam-webster.com/dictionary/anthropic%20principle>.

I will close by reflecting on the question I asked earlier, whether Thomas's guidance applies to an urbanized, globalized world. I will answer this by reference to guidance given by two other authors. The following were identified as areas where transformational leadership is needed in books by David Orr²⁷ and D. Paul Schafer²⁸:

- (i) creating a new theoretical, practical, historical and philosophical framework for the world of the future (with an emphasis on the importance of the cultural dimension of life and of strengthening this dimension);
- (ii) dealing with the intimate relationship between people and the natural environment;
- (iii) providing uncommon clarity about our best economic and energy options;
- (iv) helping people understand and face what will be increasingly difficult circumstances; and
- (v) fostering a vision of a humane and decent future.

If you believe that modernity provides an adequate framework for the future, then you will not see the need for Thomas's 12 principles. If you don't and you find deconstructive post-modernism helpful but as not providing an adequate philosophy, then perhaps you will, especially if Thomas's writing is supported by philosophies new and old that give his writing support.

If you believe in the singularity and that abundance will become our problem and not scarcity, then you will not see the need for Thomas's vision of a viable future that is Earth-centered and involves self-limitation and creative discipline. If you fear environmental and social collapse, then you may find Thomas's realism challenging but nonetheless refreshing.

If you believe we face increasingly difficult circumstances and will need a shared psychic energy to move into the ecozoic, then you

27. David Orr, *Down to the Wire: Confronting Climate Collapse* (New York, Oxford University Press, 2009).

28. D. Paul Schafer, *Revolution or Renaissance: Making the Transition from an Economic Age to a Cultural Age* (Ottawa, Quebec: Ottawa University Press, 2008).

may find Thomas's work insightful.

Applying Thomas's work to an urbanized, globalized world is not easy. For example, the "precautionary principle"²⁹ might be thought of as a way of implementing that part of feature 5, which states: "Our positive power of creativity in the natural life systems is minimal, while our power of negating is immense." Yet applying this principle is difficult and its status in practice is limited at present.³⁰ The Great Work depends on it, however, and when it is pursued with the understandings of Thomas as background, the work on the principle gains relevance and becomes more urgent.

Does Thomas provide guidance to an urbanized, globalized world? I will conclude by saying yes, but we must first understand that Thomas's work is fundamentally a judgment of that world. In his last years he said that the 21st century must reverse the course of the 20th century. I think it is a mistake, however, to interpret Thomas's guidance as backward looking and as calling for a return to an agrarian past. While Thomas offered little regarding how his work provides guidance to this urbanized, globalized world,³¹ I

29. "The precautionary principle, proposed as a new guideline in environmental decision making, has four central components: taking preventive action in the face of uncertainty; shifting the burden of proof to the proponents of an activity; exploring a wide range of alternatives to possibly harmful actions; and increasing public participation in decision making." D. Kriebel, et al, Abstract, "The Precautionary Principle in Environmental Science," *Environmental Health Perspectives* 2001 Sep; 109(9): 871–876, accessed April 30, 2017, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1240435/>.

30. The authors of the above article, hastily add:

We examine the implications of the precautionary principle for environmental scientists, whose work often involves studying highly complex, poorly understood systems, while at the same time facing conflicting pressures from those who seek to balance economic growth and environmental protection. In this complicated and contested terrain, it is useful to examine the methodologies of science and to consider ways that, without compromising integrity and objectivity, research can be more or less helpful to those who would act with precaution.

Ibid. The authors are right: This is difficult—it is the Great Work

31. One place where Thomas did provide such guidance was when he affirmed

think taking Thomas seriously requires application to that world simply because it is the world in which we live. It is the world in which most of the 7 billion people on Earth live, and it is the world that brings us into the Anthropocene and affects all of life.

Thomas was a profound thinker, a seminal thinker. He passed the torch to us. Now his work must be ours.

“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.” Thomas Berry, *The Great Work*, 110.

