

\$10.00 US

# THE ECOZOIC READER

*Critical Reflection, Story and Shared Dream Experience of an Ecological Age*



*If we are moving into an ecological age . . .*  
***How Do We Get There?***

*"The historical mission of our time is to reinvent the human-at the species level, with critical reflection, within the community of life systems, in a time-developmental context, by means of story and shared dream experience."*

—Thomas Berry

# The Great Work

We are about the Great Work.

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

We have a variety of occupations.

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

That is the work of moving on from a terminal Cenozoic<sup>1</sup>  
to an emerging Ecozoic Era<sup>2</sup> in the story of the planet Earth . . .  
which is the Great Work.

—Thomas Berry

<sup>1</sup>Our current geo-biological era, the Cenozoic Era, began 65,000,000 years ago following the mass extinction of dinosaurs and many other species. Now Earth is undergoing another mass extinction of plant and animal species, this time caused by the impact of human activity on the community of life systems. The Cenozoic Era is ending.

<sup>2</sup>That another geo-biological era will follow the Cenozoic Era is not in question. What is in question is whether humans and other forms of life as we know them will continue to flourish. Will we achieve a viable mode of human presence on the Earth? The "Ecozoic Era"—a time of mutually enhancing relationships among humans and the larger community of life – represents the hope that we will.

---

## Center for Ecozoic Studies

---

Ecozoic Reader Editorial Board	Officers and Directors	Advisory Board		
Jennie Baumeister K. Lauren de Boer W. Malcolm Byrnes Herman F. Greene Ellen LaConte Ann Loomis Alice Loyd	Herman F. Greene, President* Tim Watson, Vice President* Laura Watson, Treasurer Mary Dalton, Webmaster  *Director	Margaret Berry Thomas Berry Jane Blewett John B. Cobb, Jr. K. Lauren de Boer	Lewis Ford John Grim Stuart Hart Jay McDaniel Warren Nord	Dennis O'Hara James Peacock Brian Swimme Carolyn Toben Mary Evelyn Tucker

### Membership and Subscription Information

A subscription to *The Ecozoic Reader* is a benefit of membership in CES. Membership in CES means a personal commitment to research, education and artistic expression concerning the Ecozoic Era and how to bring it about.

Dues are \$25.00 US per year for individuals or families (outside of the USA, Mexico and Canada, add \$10.00 US). Sustaining memberships are \$125.00 US. (Reduced cost memberships are available for \$15.00 US per year.)

Membership forms and a description of member benefits may be found at [www.ecozoicstudies.org](http://www.ecozoicstudies.org); or contact CES as indicated on the back cover.

### Submissions for Publication

We invite you to share with us your thoughts, poetry, art, music, dance, ritual, meditation, story or dream experience of the Ecozoic Era and your insights on how to realize it.

To submit an item for publication, e-mail it to [ecozoicstudies@mindspring.com](mailto:ecozoicstudies@mindspring.com), or mail a printed copy and the electronic file(s) on diskette (formatted for PC) to Center for Ecozoic Studies, 2516 Winingham Road, Chapel Hill, NC 27516, USA. Please send your contact information and a brief biography. Publication and copyright guidelines are available at [www.ecozoicstudies.org](http://www.ecozoicstudies.org).

### Statement of Purpose

The purpose of the Center for Ecozoic Studies (CES) is to contribute through education, research and the arts to the realization of the Ecozoic Era. CES emphasizes critical reflection, story and shared dream experience as ways of enabling the creative advance needed to bring into being a new mode of human civilizational presence, and also discerning the practical steps leading toward the Ecozoic. CES is dedicated to the principle that we live in a meaningful, continuously evolving universe. In such a universe, the Ecozoic Era is a process concept—not something to be arrived at, but rather something ever to be created. Its hallmarks are inclusiveness, interdependence, and appreciation; communion, differentiation, and subjectivity; and sensitivity, adaptability, and responsibility. It crucially involves more just and cooperative relationships among humans, as well as transformed relationships of humans with the larger natural world.

## **Gardens of the Universe: A Cosmic Chronicle**

By Tom Keevey

*(Dedicated to Thomas Berry on his 92nd birthday, November 9th, 2006, His works inspired by childhood memories of a meadow garden.)*

A divine garden, infinite grandeur and mystery  
Pulsing, throbbing with blazing lights, caves of darkness.  
A cosmic forest, unending landscape, awesome liturgy  
The universe, scriptures of God's great wilderness.

In a single moment, life begins, continuous journey of diversity  
Dark matter, mystical night so pregnant, nurturing, a bed of fertility.  
Stars and planets, galaxies exploding, stretching, expanding  
From one to many, sacrifice and compassion, all communing.

A small garden of the cosmos, tiny, blue, floating in a galaxy  
The Milky Way, unique, bursting with life, Gaia by name  
Billions of years becoming, composing its own symphony  
The Earth, such a marvel to gaze upon, God's singular flame.

Spending seven long days, tilling the soil, still evolving  
Cool nights, stories, all creatures with Eve and Adam, praising.  
The Lord of the universe, delighting in his beautiful garden  
Sabbath celebration, God and creation rest, all sing Amen.

Truly, a home for all life forms, a place of beauty and wonder  
Mighty oceans, restless streams, winds with no boundaries, fertile pasture  
Fire brightens the day, distant lights the night sky, ever so somber  
Mountains with memories, silent stones and fields, a Eucharist of nature.

Years pass, Wisdom Incarnate enters the garden, walks the earth  
Reading the book of creation, teaching the way, truth, new birth  
Seeding it with goodness, love and compassion, mystical forces  
With stories, preaching and healing, a gospel of resources.

Disciples listen, jealousy grows, rulers and religion conspire  
Eliminate this teacher, destroy, uproot, tear down, crucify  
Captured, tortured, death on a cross, planted deep, reaching high to inspire  
A cosmic tree, now shading creation, shows the way, all glorify.

Risen Lord—a stranger, gardener, pilgrim—recognized in bread and wine  
A divine word to believers, echoing God's love, mystical vine  
Calling men and women to cultivate, companionate the land  
Creation renewed, the Spirit's presence in every grain of sand.

Yet his passion continues, earth now bears a heavy cross  
The same greed extinguishes life, how regain the loss?  
Suffering, pollution and disease, all for human gain.  
How remember what we've dismembered? Can Earth dream again?

During winter's sleep of long nights and blankets of white  
Frozen days, stillness, nature sleeps, the soil revives.  
Spring, metaphor of hope and peace for all, longer light  
The vigil ends, music fills the air, growth arrives.

Our garden mirrors the cosmic story, cultivating earth's life  
Chanting birds, silent fish, quiet prayer, all companions, little strife.  
Flowers and trees, herbs and fruits, surround a bubbling pond  
A place of belonging, of beauty, reaching beyond.

The garden's presence fills the air, a world beyond compare  
It welcomes soft rain, feels the sun, offers shelter, bears many scars,  
It sings a melody of death and life, songs for daily prayer,  
When the symphony's over, garden keepers we, will rest among the stars.

At last, beholding with awe the divine in all creation  
No space or time, peeking through thin places, a cosmic vision.  
An old friend appears, takes our hand, once a dreamer in Earth's meadow  
His "Great Work" coming to completion, now like Dante, leads us to the rose, the rainbow.  
Then, we meet the Eternal Gardener, goodness and love, constantly birthing  
The wild Universe, a garden of wonder and peace, infinite wandering.

## Finding a Path to the Ecozoic Era

By Gerald O. Barney

### Introduction

When Herman Greene asked me to write an article on how to reach the Ecozoic Era, I was reluctant. I don't know the way. He persisted, however, and asked for an *opinion* on the way, plus a bit on my previous efforts and plans for the future. *Opinions* I have aplenty, so I agreed. I will focus on my guess at the path and plans; the past is covered in a brief annex.

### Our Epoch

The 65 million years of the Cenozoic have been characterized by a gradual punctuated, global increase in biodiversity. The Millennium Ecosystem Assessment reports, however, that species extinction rates have climbed 1,000 times over rates typical of Earth's history, and that 10-30% of mammal, bird, and amphibian species are now threatened with extinction.<sup>1</sup> Future extinction rates are projected at more than ten times the current high rates.<sup>2</sup> In short, the Cenozoic Era has ended.

"So what? Who cares!" some are saying. "There are millions of species! A few less won't matter one bit." This kind of reasoning is like saying a few lost rivets in the jumbo jet don't matter. Well, the plane might have enough resilience to fly with some rivets missing, but keep taking them out, and at some point . . . . And how are we to stimulate the imagination and curiosity in our children without for example, butterflies, and humming-birds?

Okay, if the Cenozoic has ended, what epoch are we in? In 2000, Professor Paul Crutzen, the Nobel-prize-winning atmospheric chemist, and Eugene F. Stoermer proposed the term "Anthropocene epoch." They suggested this term to emphasize the central role humankind has played in global geology and ecology since the latter part of the 18th century.<sup>3</sup>

Currently Earth is certainly human dominated.<sup>4</sup> Already a decade ago, Peter M. Vitousek and his colleagues reported in *Science* that the impacts of human activity now dominate all of Earth's ecosystems. We directly control much of Earth, and our activities affect the rest. In a very real sense, the world is in our hands. How we handle it will determine its composition and dynamics—and our fate. For the foreseeable future, humans must monitor and manage the systems of Earth.<sup>5</sup>

The Ecozoic Era, by contrast, is not yet. It is an era envisioned by Thomas Berry as a time of a mutually enhancing relationship among humans and Earth.<sup>6</sup> The transition from the current Anthropocene epoch to the

envisioned Ecozoic is by no means assured. The scenarios simulated with the World3 computer simulation model for *Limits to Growth: The 30-Year Update* do show the possibility of achieving something like the Ecozoic provided humans can recover from their addiction to economic growth. But the scenarios also show the possibility of continued deterioration and collapse.<sup>7</sup> Jared Diamond provides many historic examples of the collapse of civilizations that abused their environment.<sup>8</sup>

### Anthropocene to Ecozoic

Attempting to suggest a path for this transition feels a bit like trying to answer the frequently asked question: What should I do? So, let's begin with this question. My favorite answers come from others: Center for the New American Dream,<sup>9</sup> the late Donella Meadows,<sup>10</sup> and Jared Diamond.<sup>11</sup> Meadows, who was a systems modeler, offers a provocative list: visioning, networking, truth-telling, learning, and loving.

I want to focus on her learning suggestion. In essence she says that none of us know what to do, but it is important that we think through how we can help, try something, stick with it long enough to test our idea, and learn from our experiment. My major experiments and lessons are described in the annex. But I want to focus here on what for me has been a new insight.

The insight comes from Thomas Berry.<sup>12</sup> It is that we don't have a climate change problem, or a peak oil problem, or . . . (name your favorite worry).<sup>13</sup> Rather what we are up against is that our largest institutions implicitly or explicitly endorse our ruthless exploitation of Earth. We are suffering from a cultural disorder—a cultural pathology—that has roots very deep in our history, religion, and sense of identity.

Such a cultural disorder is a really bad problem. It makes the problems of food, or water, or population, or energy, or climate, or population, or poverty look simple. But understanding our real problem helps us understand why the shocking Millennium Ecosystem Assessment is not featured "front page" news. Our culture—including the media—is quite comfortable with our continuing to do what we have been doing. As a result, the end of the Cenozoic is not exactly "news" in our culture.

Where does one even begin to address such a cultural pathology? Again, Berry has what seems to me to be a very simple but profound suggestion: We need to change our culture by working with and through our culture-shaping organizations. He suggests four establishments: religious, political, economic, and educational.

These establishments are huge, solid, established, and designed not to change. So, ask yourself, “How are we going to make significant changes in them and do so quickly?”

What comes to my mind is a group of eight or ten sumo wrestlers. Each one is leaning up against the others. Collectively, they are all comfortable and have no interest in changing positions. Then we ask a child to go move them.

How does a child move a group of sumo wrestlers? I think the answer is with a feather? A little tickle with a feather can move a sumo, and when one moves, the others will change their positions too.

### Finding “Feathers”

Okay, the analogy isn’t perfect. But suspend the disbelief for a minute and ask yourself: What “feathers” do we have? What can we do that will make an institution the size of a sumo want to change? You can probably think of several, but let me mention a few that come to my mind.

I think first of *values education*. Remember that each of these sumo establishments is a fictitious person under the law—a corporation—with the same rights as any real person. And they all have their schools of values—seminaries, business schools, war colleges, etc. If we can get new information on Earth into the values education for the sumo establishments, it can provide an institutional tickle. For example, I remember well the moral searching over mission caused at one of the plants building U.S. nuclear weapons by a week-long course for managers on “Global Problems and Their Implications for National Security.”

All of the values education needs to be based on a *functional cosmology*. This is why the work on learning the New Story—its scientific basis<sup>14</sup> and its expression as story<sup>15</sup>—is so important and needs to be furthered. When a seat mate on a flight asks about the New Story, each of us needs to be ready to tell the Story from beginning to end and explain its spiritual significance. And think what a difference it would make if students in every college and university in the world began their studies with a course on the new cosmology as suggested by Berry in Chapter 8 of *The Dream of the Earth*.<sup>16</sup>

And of course our religious and spiritual traditions are the *keepers of our values*. From his many studies of cultures that have faced environmental collapse, Jared Diamond found that ability to reassess long held values made a big difference between those who survived and those who did not.<sup>17</sup> Diamond’s call for values assessment seems to me closely related to Thomas Berry’s injunction to “reinvent the human at the species level . . .”<sup>18</sup> As best I can tell, our deepest value at present is that humans (especially men) have all the rights, and the other-than-human beings have none. Interspecies (and

inter-gender) ethics are an essential part of reinventing the human.

Then there are *the models*. We know from ecology that everything is connected to everything else, and managing the behavior of complex systems is well known to be beyond the capability of any unaided human mind.<sup>19</sup> This is why the skills of dynamic modeling are so important, not only to understand ecological systems, but also to understand the sumo establishments themselves. Every institution today has a computer simulation model. Governments have them. Corporations have them. Religious organizations have them. And the models all contain assumptions about human relations with Earth. The world’s reigning development planning model—the World Bank’s RMSM-X model<sup>20</sup>—assumes that with continued investment, economic growth can continue indefinitely and never require a bucket of water, a barrel of oil, a tree, some topsoil, or even an educated, healthy labor force. Whenever such a model is used for national planning, social and environmental considerations are easily and regularly neglected. Skills in evaluating and improving models are essential for tickling the sumo political establishments.

*The “losers”* can help a great deal too. Who are they? In addition to the other than human beings, the “losers” are our children and our grandchildren. The Anthropocene era is generating intergenerational injustices on a massive scale. We need to help our youth communicate their hopes and fears for the future to their parents and grandparents generations. We need to help our young people share their vision of the world they would like to inherit. We need organizations to represent the interests of our young at least as well as other organizations represent the interests of other species. If young people today put together a thoughtful proposal for their parents’ and grandparents’ generations on how they would like to reach the Ecozoic, I believe their parents’ and grandparents would listen and help. After all, today’s youth are going to inherit Earth, and their parents and grandparents want a place—and love—in that new world.

Then finally there is *the feather of vision*. As Donella Meadows puts it, “[T]he vision is what you really want. No compromises. No plan b.” Let’s think about what the Ecozoic can be. I hope it can be a celebration of the universe and all the near disasters that we humans have gotten through together over the past fourteen billion years. How can even a sumo establishment resist the vision of what the Ecozoic could be?

### Plans

There are so very many things that need to be done to bring us safely to the Ecozoic. And as Thomas Berry says, no one is excused. What one does depends on one’s interests and skills.

---

My skills and experience have been with analytically oriented non-profit organizations. I am retired from one and have recently incorporated another one, Our Task, Inc. “Our” is for all of us; no one is excused. “Task” is to facilitate the transition from the Anthropocene to the Ecozoic Era.

Our Task (OT) is a charitable, nonprofit (501(c)(3)) organization incorporated in Virginia. Its program (a) encourages dialog with and among our culture-shaping establishments, (b) facilitates interactions among change-agent organizations, and (c) supports youth in their advocacy efforts to their parents’ and grandparents’ generations.

There are many ways to categorize culture-shaping institutions. After conversations with many people, we at OT have decided to use the following categories:

- Religious and spiritual institutions
- Governmental institutions
- International organizations
- Corporate organizations (including labor)
- Scientific and technical organizations
- Communications media (including the arts)
- Educational organizations
- Civil society organizations

We have searched for umbrella groups in these areas and have found at least one for each area. For example, the Organization for Economic Cooperation and Development (OECD) is an umbrella group for governments. The Coalition for Environmentally Responsible Economics (CERES) is an umbrella group for business corporations.

As a next step, we are searching for published strategy statements addressing the following question: *How are we to meet the legitimate needs of the growing human community without destroying the ability of Earth to sustain the whole community of all life?* We have found several dozen such strategy statements, some of them many hundreds of pages.

We are preparing four-page summaries of the strategies and will make the summaries available on our web site along with other useful information for people interested in the transition from the Anthropocene to the Ecozoic. The summaries—and much additional information is available at [www.OurTask.org](http://www.OurTask.org).

## **Annex A: Past Experiments and Lessons**

“Experiment” well describes my path to date. I was born in rural Oregon and majored in physics and mathematics at Willamette University and have a PhD in fusion energy physics from the University of Wisconsin, Madison. I selected this field out of a concern for world energy prospects. By the time I had finished, however, I was convinced that humans faced bigger problems than energy.

So, I left physics and began to broaden myself out doing economic studies and large-scale models for the Center for Naval Analyses, a post-doctoral year of systems studies at MIT and Harvard, technology assessment at the Council on Environmental Quality in the Executive Office of the President, and grant administration at the Rockefeller Brothers Fund (RBF). I was at MIT studying System Dynamics when the *Limits to Growth* project of the Club of Rome was being done and followed it closely. At the RBF, I continued to follow the *Limits* issues, the work of the New Alchemy Institute,<sup>21</sup> and the work of Willis Harman<sup>22</sup> and his colleagues.<sup>23</sup> It was also in these years (1975-77) that I first met Thomas Berry in Riverdale, New York and began reading his essays. The Limits work persuaded me that humans collectively are facing massive, growing, and interconnected problems, and the work by Harman and Berry persuaded me that the root of the problems is the images humans have of themselves and nature.

I was then asked to direct two study projects, a book on the overall agenda of the environmental and population groups in the United States<sup>24</sup> and a 25-year projection of social, economic, and environmental conditions throughout the world—*The Global 2000 Report to President Carter*.<sup>25</sup> I undertook the Global 2000 project not to produce another global study (there were already five), but to improve the foundation for the government’s long-term planning, as President Carter had requested in his study directive.

The three-year Global 2000 project integrated the long-term (25-year) global thinking and analysis from 14 government agencies ranging from the Department of the Interior to the Central Intelligence Agency. The report was written from the perspective of a concerned human being, not from that of a chauvinistic American. The result (in one sentence) was that if present policies were to continue, the world would become increasingly crowded, more polluted, less stable ecologically, and more vulnerable to disruption. Furthermore, careful analysis of the government’s global model showed systematic, optimistic biases in the projections. In short, executive agencies of the US Government were not capable of providing the President with a consistent set of projections for social, economic, and environmental future of the world,<sup>26</sup> and the foundation for the Governments longer-term planning needed much improvement. The report sold 1.5 million copies in nine languages, and stimulated many domestic and international actions. Unfortunately, President Carter left office before he could act on the findings of the report.

Following the Global 2000 project, I founded Millennium Institute (MI),<sup>27</sup> which developed the Threshold 21 (T21) national sustainable development computer simulation model. The T21 model integrates

the social, environmental, and economic aspects of national development. T21 has been customized to more than twenty developing and industrialized countries, most recently to the United States. A lesson from the experience at MI is that changing the simulation model used in national planning around the world is a long, difficult undertaking.

Millennium Institute ([www.Millennium-Institute.org](http://www.Millennium-Institute.org)) is now led by a new president, Dr. Hans Herren, who plans to transform MI into an international organization.

Copyright © 2006 by Gerald O. Barney

<sup>1</sup> Statement from the Millennium Ecosystem Assessment Board, *Living Beyond our Means: Natural Assets and Human Well-Being*, 15; available at <http://www.maweb.org/en/Products.BoardStatement.aspx>; Internet; accessed 24 October 2006; For the full report, see [www.maweb.org](http://www.maweb.org); and [www.millenniumassessment.org](http://www.millenniumassessment.org); Internet; accessed 24 October 2006.

<sup>2</sup> Ibid.

<sup>3</sup> Crutzen, P. J., and E. F. Stoermer. 2000. The “Anthropocene,” *Global Change Newsletter*. 41: 17-18, May 2000; and also see <http://courses.eas.ualberta.ca/eas457/Anthropocene.pdf>; Internet; accessed 24 October 2006.

<sup>4</sup> See, e.g., Johan Goudsblom and Bert de Vries, *Mappae Mundi: Humans and their Habitats in a Long-Term Socio-Ecological Perspective, Myths, Maps and Models* (Amsterdam: Amsterdam University Press, 2000).

<sup>5</sup> Vitousek, Peter M., Mooney, Harold A., Lubchenco, Jane, Melillo, Jerry M., “Human Dominated Ecosystems,” *Science*, Volume 277, 486-499 (Washington, D.C.: American Association for the Advancement of Science, 25 July 1997), [www.sciencemag.org](http://www.sciencemag.org).

<sup>6</sup> Thomas Berry, *The Great Work* (New York: Bell Tower, 1999).

<sup>7</sup> Donella Meadows, Jorgen Randers, and Dennis Meadows, *Limits to Growth: The 30-Year Update* (White River Junction: Chelsea Green, 2004), 269-84.

<sup>8</sup> Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Viking, 2005)

<sup>9</sup> See [www.newdream.org](http://www.newdream.org); Internet; accessed 24 October 2006..

<sup>10</sup> Meadows, Randers, and Meadows, 269-84.

<sup>11</sup> Diamond, 556-60.

<sup>12</sup> Berry, *The Great Work*.

<sup>13</sup> Another way to make this point is that we have all these problems and they are all interconnected in what Aurelio Peccei, founder of the Club of Rome, called the “Global Problematique.”

<sup>14</sup> S. Liebes, E. Sahtouris, and B. Swimme. *A Walk through Time: From Stardust to Us: The Evolution of Life on Earth* (New York: Wiley, 1998).

<sup>15</sup> Brian Swimme and Thomas Berry, *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era* (San Francisco: Harper, 1992).

<sup>16</sup> Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club, 1988).

<sup>17</sup> Diamond, 432-34.

<sup>18</sup> Berry, *The Great Work*, Chapter 14.

<sup>19</sup> John D. Sterman, *Business Dynamics: Systems Thinking and Modeling for a Complex World* (New York: Irwin/McGraw-Hill, 2000).

<sup>20</sup> For a purely economic criticism of the RMSM-X model (aka the Harrod-Domar model) see W. Esterly. *The Elusive Quest for Growth* (Cambridge MA: MIT Press, 2001), 28-29.

<sup>21</sup> Search the web for “New Alchemy Institute” and look at some of the sites, and if you can find copies in a good library, look at some of the New Alchemy Institute annual Journals. They are priceless and heartwarming.

<sup>22</sup> See: [http://twm.co.nz/Harm\\_bio.html](http://twm.co.nz/Harm_bio.html); Internet; accessed 24 October 2006.

<sup>23</sup> My favorites are Harman’s *An Incomplete Guide to the Future* (Stanford: The Stanford Alumni Association, 1976) (out of print but available on line used for as little as 80 cents) and O.W. Markley and Willis Harman, *Changing Images of Man* (Oxford: Pergamon, 1982) (also out of print, but I found one copy on the Internet).

<sup>24</sup> Gerald O. Barney, ed., *The Unfinished Agenda* (New York: Crowell, 1977).

<sup>25</sup> Gerald O. Barney, Study Director, *The Global 2000 Report to the President* (Washington: Government Printing Office, 1980), three volumes.

<sup>26</sup> Ibid. vol. 2, chapter 14.

<sup>27</sup> [www.millennium-institute.org](http://www.millennium-institute.org)



## **Creating a Sense of Place**

*By Fred Lanphear*

When I think of my early childhood (65 years ago), it is the physical surroundings that are most vivid, not the people. I was born and grew up near the coast of southern Rhode Island, where my first backyard was a swamp that was fed by a nearby saltwater cove. I was in walking distance of the beach, with its sand dunes, coarse beach grass, and the North Atlantic Ocean, in which I learned to swim and ride the waves. In my later childhood I lived on what had once been a farm, but most of the farm buildings had been destroyed during the 1938 hurricane. It provided me the opportunity of exploring and connecting with the land, its stone walls, bayberry and scrubby red cedars. It is not only the visual images that I have of those natural surroundings, but the smells and the experience of dampness from the early morning fog that make my childhood memories as vivid as if I had been there yesterday.

Wendell Berry says that if you don't know where you are, you don't know who you are. It is that sense of place that contributes greatly to defining our identity. We are living in a time when each of us is beckoned to discover a personal relationship to the land and our natural surroundings. For some of us, the challenge is to participate in shaping and/or sustaining the immediate landscape that connects us with the natural world and our rightful place in it. For others, it is daring to immerse oneself in the natural world that is accessible to them and to become intimately related. For still others, it is reflecting and recreating the memories and images of childhood, or other times in their lives, when they were most "in touch" with the natural world. For all of us, it is a time of recognizing the impact we as humans have on the planetary ecosystem and to work towards more sustainable patterns that respect the delicate balance of nature.

We live in a mobile society where "place" may be experienced as transient. How do we ground ourselves in place and time when there is no sense of permanence or personal connection? My father felt most "at home" when he was on his fishing boat, navigating by a sense of direction, currents, tides and weather that constantly amazed me. When he traveled away from his home place near the sea to visit us in the mid-west, he would become agitated and anxious until he became directionally oriented, or in his words, "get my bearings." I believe many of us have the experience of being disoriented and disconnected to our natural surroundings. Most of the time we live in sterile, managed environ-

ments that protect us from experiencing nature. Even the gardens around our homes feature exotic plants and seldom highlight the beauty and natural association of native plants.

Around 1990, after 20 years of living in six different locations across the United States, as well as four years in Kenya and six years in India, I found myself longing to put my roots down, to recover a sense of place. The values I was holding was to live in an intentional community, be able to pursue a right livelihood, have shelter and to be on a plot of land that I could commune with—to appreciate, cultivate and shape in ways that the sacred quality of the landscape would become a part of who I am. I found such a place and it is called Songaia<sup>1</sup>, which means "song of the living earth." It is a cohousing community, a form of cooperative living, in which each family has its own residence but share common land and gather for some meals, work parties, dialogue and other activities that provide opportunities to share our lives together

I've also come to realize that a sense of place takes on a deeper meaning when the plot of land on which I live is perceived as part of a watershed or bioregion that is defined by natural features and boundaries, and has been formed over millions of years, developing intricate, web-like relationships and interdependencies along the way. It becomes even deeper when the bioregion in which I live is recognized as one of many bioregions on the continent known as North America that also define my sense of place. What would it mean to acquire an indigenous relationship to this continent, as did the Native Americans?

My ancestors came to this continent from Europe about 350 years ago. Does that make me an immigrant nine generations removed? Native Americans also immigrated from what is now Siberia 13,000 years ago. Other than the length of time in which our bloodlines have lived on this continent, why are they perceived as indigenous and I am not? Perhaps it is their intimate relationship to the land and all its inhabitants. So the question is not how long our bloodline has occupied this soil, but how intimately are we connected to it. What would it take to establish an indigenous relationship to this continent? I believe if we tap into the wondrous evolutionary story of North America we will begin to experience that intimacy in learning about the formation of the land and waterways, the comings and goings of various fauna and flora, and our own interdependency with the physical and living landscape.

Connie Barlow's article "Goodbye Eternal Frontier" in a recent issue of *The Ecozoic Reader*<sup>2</sup> was a fascinating and beautiful introduction and invitation to learn about the story of North America. It is an exciting chapter in the unfolding Universe Story, but it has special meaning, as it is my continent, my home place. What would it mean to have the sense of connection to the fauna and flora of our continent that we are expected to have for our nation?

A sense of place begins with an intimate connection with nature as it shows up in my immediate location. Yet, the intimacy can be enhanced and deepened as that location is perceived as an integral part or microcosm of a larger place that has evolved over time. The intersections that connect and re-enforce my sense of place are my immediate location in relation to the watershed, or bioregion, of which it is a part; the bioregion in relation to the continent; the continent in relation to planet earth; planet earth in relation to our Milky Way galaxy; and our galaxy in relation to the universe.

Perhaps the most challenging question that has to be addressed in discovering a sense of place is "What allows us to establish the sense of intimacy or connection with nature that fosters an indigenous relationship?" Thomas Berry<sup>3</sup> describes this relationship as "understanding the universe as composed of subjects to be communed with, not as objects to be exploited." David Abrams describes in depth what will be required to recover the reciprocal relationship with our world; "For it is only at the scale of our direct, sensory interactions with the land around us that we can appropriately notice and respond to the immediate needs of the living world."<sup>4</sup> Ursula Goodenough suggests ways in which an in-depth "scientific understanding of Nature can call forth appealing and abiding religious responses—an approach that can be called religious naturalism."<sup>5</sup> I have found each of these resources to be critical primers for a journey that is just beginning.

Each of us is called to take the journey of authentically discovering his or her sense of place in the unfolding universe. What is the ecological niche or "fit" for humans and each of us? There are many pathways open to explore. One of the ways I have chosen is to live in a community that is exploring what is required to live in harmony with Earth. This is a real challenge, because we have so much to learn—and to unlearn. We try to involve the whole community through discussions, engagement in caring for Earth, Earth rituals and celebrations. This past year we established a kid's garden and family garden plots to encourage greater participation in gardening.

The Songaia children are drawn to the land as if by genetic coding. They have created small stream-like diversions of our natural spring water and an outdoor structure they call Fort Canby made from branches and

available building materials. They have four acres of woodland with trail and a tree house along with three acres of open meadow to explore, which they do with passion. They study the anthills and do ceremonial burials for dead birds and animals. Some of them plant, harvest and save the seeds for replanting the next year. The children have the great advantage of their identity being defined by the land and its inhabitants at an early age. Our challenge is to create a culture that sustains that sense of place for them.

The adults have a greater challenge which requires unlearning habits that have been established through years of cultural patterning. How to encourage community members to go to the garden to harvest ripe vegetables when it seems more "natural" to go to the grocery store or pick produce from the pantry shelves. Our gardens are too large and intimidating, so we are trying to make gardening user-friendly. We are creating a landscape in which the sacredness of this space becomes our heritage. This has taken the form of intimate gardens around individual homes and a peace garden, labyrinth, woodland trails, native plantings and a variety of vegetable, herbs and fruit gardens for the community. We are working at creating a sense of intimacy with the land that re-connects us in a rightful relationship, not just for our community, but as a microcosmic way of healing the planet.

Another path I have chosen is to design and co-create nature connections. In a part-time job, I work with elders in an apartment complex for seniors, engaging them in propagating, planting and caring for flowers and vegetables, as well as creating a bird sanctuary and native plant garden. A project I am designing and building in partnership with a colleague in Mexico is a memorial healing garden by the sea. This large plot of land, which was once boulders and brush, overlooks the Pacific Ocean. It is being transformed into five areas based on an ancient natural system, the Five Elements of Chinese Medicine—Earth, Wood, Water, Metal, and Fire—that relates wellness and healing to the balance of energy that is inherent in nature. Each of the five areas of the garden will utilize the existing natural features of boulders, moving them with crow bars and brute strength when feasible, to create unique sacred spaces such as water features, solitary and gathering nodes, contemplative areas, all connected by walkways and plantings that combine ornamental and medicinal plants. Each area creates a unique connection with nature and natural cycles—like placing stones that designate the movement of the sun across the horizon from the Summer Solstice to the Winter Solstice, as well as its position at the Equinoxes. I never would have imagined that I would become so intimate with stones as I have in this garden by the sea. In this new vocational path, some projects are smaller in scale, like backyard terraces and

---

planting beds, yet each is designed to provide an intimate connection with nature. Whenever possible, I encourage those who will be using the space to become involved with its creation, whether that is participating in the design, selecting and planting the plants, or even helping to move the boulders. Perhaps it is like giving birth to a child. There is that special intimacy after the months of carrying the baby, going through labor pains, and then the ultimate joy and communion after the delivery, which is truly a sacred time.

In this recent pursuit of my life's work of creating a sense of community and place, I have had the experience of "coming home." Much of my young adult life was involved in forging a career path in the art and science of horticulture, later to become focused on social action. I am now integrating these earlier experiences and learnings on a path of discovering who I am by co-creating a sense of place in the universe.

<sup>1</sup> See Fred Lanphear, "Songaia: An Unfolding Dream," *The Ecozoic Reader* 3, No. 1 (2003): 24-26.

<sup>2</sup> Connie Barlow, "Goodbye Eternal Frontier," *The Ecozoic Reader* 4, No. 2 (2004): 7-11.

<sup>3</sup> Thomas Berry, *The Great Work* (New York: Bell Tower, 1999), x.

<sup>4</sup> David Abrams, *The Spell of the Sensuous* (New York: Vintage Books/Random House, 1996), 268.

<sup>5</sup> Ursula Goodenough, *The Sacred Depths of Nature* (New York: Oxford University Press, 1998), xvii.

---

*Aiseayew, an Iowa farm girl at heart, turns an urban eyesore into an ecological parking lot*

---

## **An Ecological Parking Lot**

*By Margaret Aiseayew*

Yes, it sounds like an oxymoron, but that may be something we will have to get used to in these times. While we all grew up with the adage, "You can't have it both ways," perhaps a part of the larger story, the emergence of a new age is dependent upon our putting forth the time and energy to figure out how that is possible. We know that negotiation is the fine art of give and take, yet we tend to resist both the giving and the receiving.

The task as outlined was to manage all the contracts and expenditures of a State of Illinois grant for \$200,000 covering six facility projects that had been pre-bid and amounts allowed within the grant could not vary by more than 10%. One of the more complicated projects was to rebuild our parking lot: three asphalt covered lots opposite the Institute of Cultural Affairs (ICA) building that had been an eyesore in the community of "Uptown" Chicago for over 30 years. The amount allotted for this renovation was \$40,000.

Kemper Insurance Company gave the parking lot to ICA with the building in 1971. The entrance was on Lakeside, a one-way, block-long street that dead-ended into Sheridan Road. Since all pedestrians leaving the parking lot were coming to the ICA building on Sheridan Road, the walking exits were on Sheridan.

Neighborhood foot traffic cut through the lot at an angle from the driveway to the Sheridan walking exits, dropping their garbage and doing their business or their mischief on the way through. As the facility transisted from the international training center for the ICA to the Community Service Center for Uptown, the Department of Streets and Sanitation provided critical assistance to move the driveway to Sheridan Road. (As a city department they were able to simply overlook things like changing the address(es) of the lot or the tax status of the driveway.)

At the time of the State proposal (two years prior to the grant) oil was under \$24/barrel. At the time of actual bidding, it was over \$32 (the year was 2002). Asphalt is an oil by-product. At the time of the proposal, the City of Chicago had not yet voted in its new landscaping ordinances. Initial research on the parking lot project made it abundantly clear that it could not be rebuilt at all within the parameters of the grant as written.

Of the six projects, the parking lot was clearly the most visible. What if you decided to do a real demonstration with the parking lot? What if you decided not to create another scab on the surface of the earth? (The Iowa farm girl in me has always detested asphalt parking lots. I have watched over time, as they have become

the norm. In a terrible rainstorm north of Chicago, about fifteen years before, I was trapped for nearly three hours in an asphalt parking lot flood.) We began to explore alternatives by raising the question of an ecological parking lot. This is what we did.

All the asphalt was stripped off the three lots and recycled. Beneath the asphalt we found a layer of ash that had been laid from coal furnaces. We collected the ash for reuse. Ash is a natural filter and does not hold water like soil. Therefore, it does not expand and contract with cold and heat. It will not create either bubbles or birdbaths in a finished surface.

We took out the chain link fence surrounding the parking lot and recycled for use in the building. It was used to create secure personal storage units for tenants of the building in three rooms of the basement. This was part of a huge additional (unfunded) project to renovate the use of basement space and bring it into fire code compliance.

The dirt was then excavated and pieces of old foundation broken up. The better dirt was mounded at the edges of the lot for landscaping use. The balance was hauled away for recycling. An eighteen-inch bed of sand was brought in and tamped into place. Concrete curbing was poured to distinguish four islands and the edge of the lot to be landscaped. Conduit was buried for electrical cable. The ash was spread on top of the sand. We had enough for a layer that varied between one and two inches. Another inch of sand was brought in and leveled. Then oversized landscaping brick was hand laid into the sand. A brick saw was brought in to downsize or reshape brick as necessary to fit to the concrete or old sewer drains. Another layer of sand was brought in and both mechanically and then manually tamped down between the bricks as mortar.

Landscapers brought in 23 new trees, 40 rosebushes and even more spirea. (This piece of the project was severely complicated by the fact that the lot fell within the Asian Long-Horned Beetle quarantine zone—the most recent plague to devastate the tree population of Chicago.) Six trees and all the roses went into the four islands around the starlights. The remainder of the trees and spirea border the lot. The starlights are designed to give maximum illumination to ground surface and reflect not at all up into the atmosphere. They do not add to the urban glow and enable people in the city to actually look up at the stars. These lights were equipped for future outlets so that cars could be plugged in.

So what does all this mean in terms of an ecological parking lot? There is enough green to convert carbon dioxide into oxygen equivalent to the needs of all those coming and going from the lot, with some left over to counter the emissions of the vehicles. The specifications indicate that 60% of all rainwater is taken directly back into the earth through and between the bricks, filtering

it on the way. In practice, with the exception of a three inch in two hours downpour, we see little or no water going down the storm sewer. There has been no basement flooding along Lakeside since the installation of the parking lot. Downpour flooding on the streets of Lakeside, Sheridan and Marine due to drain backups has been diminished.

The brick serves as a complete heat abatement island. The brick absorbs the sun's heat rather than reflecting it back into the urban atmosphere. This has made as much as a ten degree difference in summer on the corner of Sheridan and Lakeside. No salt is ever needed in the winter. Initial plowing with heavy snows allows the brick to absorb sufficient sun warmth to radiate and melt remaining snow. Ice storms create an immediate problem, but sand dispersed for traction will absorb enough heat eventually to melt the ice and the sand works its way down between the bricks refreshing the mortar and adding to the filtering system.

In addition, the neighborhood has the gift of beauty and a new security. The fence is a wrought iron look alike that requires far less maintenance. Security guards can see from the building lobby through to what is happening in the lot and in the alley behind the lot. Drivers parking in the lot can see what is going on in the streets before they exit their vehicle. The trees are two varieties of ash that compliment the city trees in the parking margins. (This variety is a requirement of new city landscaping codes to prevent the kind of denuding of whole neighborhoods that occurred with Dutch Elm disease. What you can plant is largely determined by what is already growing.) The roses bloom all summer and the spirea color varies over the course of the year, but does not deteriorate to nudity over the winter.

How has this participated in greening Chicago? This was the first parking lot of its kind in the city. Weeks were spent at City Hall getting the variety of permits needed. Many of the permits initially required were bracketed or approvals were made dependent on other approvals. We could not get a brick laying permit because they were all dependent on the type of mortar to be used and sand is not an approved brick laying mortar. Without a brick laying permit, we could not get a brick cutting permit and ended up having to pay a \$100 fine for unapproved dust creation when cutting the brick in around the sewer drains. Finally, to accomplish this whole project, we had to get the right people at city hall clear on our vision. It was such a new idea. Once they caught the vision, many went out of their way to carve a path for us from one office to the next. We had two aldermen to assist as the building was in a different ward than the parking lot. Both of them were thrilled that the lot has advanced their vision of restoring the old brick alleyways, which were largely asphalted over in the last fifty years. Many of the alleys still have the orig

---

inal brick down under the asphalt. Obviously since the original \$40,000 in the State of Illinois grant was not going to cover new asphalt, it didn't cover this either. An additional \$80,000 grant from the Chicago Department of Environment made the difference. When I left

Chicago, our primary contractor who had never done a project larger than a suburban driveway or patio had been asked to bid on new Soldier Field parking areas. Amazing, isn't it?

---

*Huilin Rao, distinguished Chinese urban planner (recently deceased), dreams and designs the ecological garden city*

---

## **Constructing Ecological Garden City with Adjusted Measures to Local Conditions<sup>1</sup>**

By *Huilin Rao*

### **Ecological Garden City: The Ideal Goal of City Development**

As the environment, resources, and ecology world-wide deteriorate, the idea of sustainable development becomes more and more popular. Sustainable development is, however, impossible without Sustainable Cities. The Peking Charter passed at the 20th meeting of International Architects Association held in 1999 in Beijing stated:

*During the 21st century, the luster of metropolises will dazzle the eyes of the people. Inhabitants in the cities will exceed those in the country for the first time in the coming century, which will be worthy of the name of "the Urban Age."*

*We have seen, however, that problems follow urbanization. Since the middle of the 20th century, urban populations have exploded, and concurrently the way of life of the peasants was deemed obsolescent and their land was taken, and the ills of the city like urban poverty and traffic jams worsened.*

*Today, environmental disasters threaten human beings. We are heading in a direction that deviates from common sense. Human beings are on a collision course with the limits of nature.*

Against this background, the notion of the Ecological City is developing and being extended. It has profound content and meaning. The Ecological City includes three aspects: ecology of economy, ecology of society, and ecology of nature. Ecology of economy means that the conversion and flow of material, energy and information inside and outside the city require a

benign cycle of the whole economic functioning process, which is to say that the whole process of extracting material from nature, putting it into production, consuming products, and finally returning consumption waste to nature is linked up in equilibrium, develops in harmony, and achieves the lowest external side effects and the highest benefits. Ecology of society concerns the state of existence of human relationships and whether they are harmonious. It requires uplifting urban populations, advancing life quality and improving inter-relationships so that people of different types and levels can sense adaptation, contentment, and safety of working and living in cities, therefore inspiring the enhancement of spiritual civilization and the feeling of ascription, honor, and pride for their city communities. This is what we refer to as building harmonized urban society. Ecology of Nature means that the natural substances within the scope of urban space, such as air, water and earth should combine with man-made production and building of human habitat to form an organism. It requires the harmony and the unification of urban man-made and natural environment, in order that a benign cycle system of biology and animal and plant species and humans can be formed, which is to say the harmony between human beings and nature. This is the supreme goal of the construction of Ecological Cities.

What I want to emphasize here is that the above three-tier or three-aspect ecology is an interconnected, interdependent, and inter-restricted compound system. When constructing city ecology, one cannot favor one of the three while neglecting the other two. For example, it is incorrect and cannot be successful only to attach importance to the construction of ecology of economy while ignoring the construction of the ecology of society and nature, and it is likewise true that one cannot only

favor ecology of society or nature. We claim that the three tiers or three aspects of the ecology should be developed synchronously, harmoniously and healthily, which is the ideal goal of urban construction.

### **Garden City: The Only Way Leading to Ecological City**

The meanings of Ecological City and Garden City are essentially consistent, while their emphases differ. The former mainly describes and conveys a long-term goal of a city's sustainable development, which is idealistic and theoretical. The latter mainly describes and conveys the approaches and measures of a city's sustainable development, which is realistic and operative.

The construction of Garden City obviously bears a vision effect. It signifies the combination and unification of the following five facets:

- 1) It is the construction of a city's material objects with the key focus on green areas and gardening;
- 2) It is the construction of awareness that there must be harmonized development of a city's ecology of economy, society, and nature;
- 3) It is the construction of conquering the modern city's sickness by eliminating the city's pollution, improving the city's environment, and enhancing human life quality as a whole;
- 4) It is the construction of amalgamating city and country, narrowing and finally eliminating the gap between them, with the cement forest and natural forest merged, the merits of city and country maintained, and the defects of city and country discarded; and
- 5) It is also the construction of the broad road towards the realization of the "back to nature" dream of the human being. The aim of the human being to go "back to nature" is not attained when it is exhibited only by the richest moving toward the country to enjoy a life with a fine landscape. We human beings yearn to realize the collective goal of "back to nature," which is exhibited by the construction of the Garden City. And this is the holy task.

For the Garden City's construction, we need to pay attention to two combinations. One is the combination of modern and age-old factors, which is to inherit and carry forward the treasured Chinese traditional cultural heritage in the construction of the Garden City as a special emphasis on one the hand, and to accommodate the practical needs of the modern city on the other. It should bear not only the passion of "enjoying the mellowness of landscape without going outside the city, and the ele-

gance of forest and spring residing inside the downtown area," but also living conditions suitable for modern life and convenient transportation consistent with a fast life rhythm. The other is the combination of Chinese and Western factors, which is to combine smoothly the advanced Western experience and the practical needs attendant to the construction and development of Chinese cities. Especially those urban centers that will function as international cities should not only match the appetites of Chinese inhabitants, but also be such that international friends adapt easily to them and commend them. Note that to inherit the age-old and to revive the old dream are not to stick to the age-old and replicate antiques; nor is learning from the West and observing the trends of modern development to imitate and copy solely. The spirit of innovation possesses the decisive significance and true innovation builds on the combinations of old and new and Chinese and Western experience.

Each element of the planning and designing of the Garden City, no matter what it concerns, such as the texture, configuration and composition of any building, construction, flower, grass or tree, should be the embodiment and consolidation of four values. They are the practical value, the appreciative value, the cultural value, and the ecological value. The Garden City should be regarded always as an invaluable artwork to be sculpted. The arrangement and development of all factors composing the city should be in harmony essentially, in concert subtly, in daedal<sup>2</sup> variety, and integrated in mass, and should make the city concretionary<sup>3</sup> music, solid drawing, and flowing scenery line.

### **Constructing Ecological Garden City with Adjusted Measures to Local Conditions**

The development of anything should be within a certain time and space, and, thus, be characterized not only by the spirit of the times, but also by the spirit of the locality. So it must be thus with the construction of the modern Garden City. It is restricted by the level of modern productivity and conditioned by the scale, economic activity, area and industrial function of the city. Therefore, the construction of the Garden City must be practical and realistic and adjust measures to local conditions. Two points are to be given special attention: Firstly, from the time angle, we cannot seek for "one step to the finish line." We cannot attempt to complete all the good things in one morning, and cannot crave for greatness and success in a sudden moment. On the contrary, we must operate with plans and approaches for achieving goals in the course of time. Therefore, indices like quality of environment, ecological footprint per capita and national income per capita will improve gradually by implementing measures step by step and check-

---

ing up on how well we are doing every few years for the sake of adjusting further work toward gradual improvement. While different standards will apply to cities of different economic power and stages of development, in every city the integrated benefits of the city should be the central concern and actions should be taken in accordance with actual circumstances. Secondly, from the space angle, any city's construction must not seek after "one pattern common to all," rather it must be "this one" for the construction of this particular city. It cannot be like that for any other city, and it can not be copied from any other city. Cities in different areas should bear their own given features—the natural ecology along the sea is different from that inland, and the natural ecology around the water belt is widely different from that in loess<sup>4</sup> altiplano.<sup>5</sup> Further, China is a country with people of many ethnic groups. Different ethnic areas should embody their own features as well. Also, different industrial activities and structures in cities place additional requirements in city construction. And every city located in China ought to bear Chinese cultural specialties. Bear in mind the art apothegm<sup>6</sup>: "The more of the nation, the more of the world."

The present problems, the cannot-be-neglected obstacles and difficulties, facing the construction of Garden Cities in China are three fold: Firstly the cross-currents of material desire and commercialism; secondly the pursuit of high positions through personal achievements with hungering for merits and aspiring for benefits; and thirdly the sparse and blind designing ideology. The combination of these three is resulting in more destruction than construction. For example, in the so-called construction, there are people who sometimes in fact destroy natural ecology and natural scenery by means of cutting and filling on a large scale and by clearing land on a large scale to make way for new development; there are people who sometimes in fact cause severe losses because they leave reality by setting

too high a standard or pursuing a large and "foreign" style; and there are also people who make great losses by building "new and strange" things that copy the latest fad aimlessly without any taste, or by building in a rough and slipshod way. If these obstacles are not overcome soon, there will be a huge waste of constructive resources, urban modernization will be delayed and the sustainable development of cities will only be remembered as a fairytale.

As Chinese cities are rapidly growing, a new generation of local masters of planning, designing and administration are in urgent need. These masters must possess the following characteristics: a high understanding of city construction art (not only building art), a comprehensive mastery of city economic rules (not only common economic rules), and a profound capacity for humane caring.

This conference is a pleasing step for creating such conditions and providing such opportunities. In closing, I give my heartfelt wish for its success and the persistence of its aims.

<sup>1</sup> Lecture by Professor Huilin Rao at the International Conference on "Toward a Sustainable Urbanization," October 5-17, 2005, Suzhou, China.

<sup>2</sup> *dae-dal* (déd<sup>1</sup>l) *adjective*. 1. Ingenious and complex in design or function; intricate. 2. Finely or skillfully made or employed; artistic. *The American Heritage Dictionary of the English Language, Third Edition* (Boston, MA: Houghton Mifflin Company, 1992).

<sup>3</sup> *con-cre-tion* (ken-krê<sup>1</sup>shen) *noun*. 1. The act or process of concreting into a mass; coalescence. 2. The state of having been concreted: *a concretion of seminal ideas in her treatise*. *American Heritage Dictionary*.

<sup>4</sup> *lo-ess* *noun*. A buff to gray windblown deposit of fine-grained, calcareous silt or clay. *American Heritage Dictionary*.

<sup>5</sup> The high plains.

<sup>6</sup> *ap-o-thegm* *noun*. A terse, witty, instructive saying; a maxim. *American Heritage Dictionary*.

## **A Home-Grown Ecovillage on Our Street**

*By Jim Schenk*

The seeds of Enright Ridge Eco-Village actually began 31 years ago as a compromise between my wife Eileen, who was city born, and myself, a native of a small rural town. We struggled to find a home that would nourish both of our souls. I wanted a neighborhood that valued green living, with protected land, organic food, resource conservation, alternative energy, and cooperative relationships with happy children and older people. Eileen supported these same values, but insisted that the urban neighborhood she lived in was the perfect location. She pointed out an urban environment offered the best chance for creating a village-like community because of the numbers of people there with their proximity to each other, public transportation, and options for employment. So we moved to a dead-end street in Cincinnati's Price Hill neighborhood. While Enright Avenue is a half-mile street on a ridge surrounded by 200-plus acres of woods, it's only minutes from downtown Cincinnati and our places of work.

Price Hill, an inner-ring neighborhood in Cincinnati built in the early part of the 20th century, was one of the last areas of local farmland to become urban, but once building began, soon reached a population of 40,000. Price Hill was the last of the neighborhoods in Cincinnati in which houses began to age and deteriorate, followed by speculators buying them up and renting them out. The real estate practices of predatory lending, lease-options to buy, and ramped property foreclosures further degraded the housing and quality of life in the neighborhood.

In 1978, Eileen and I founded Imago, a nonprofit educational organization in Price Hill. Our idea was to look at how we would live if we held the Earth and its people as sacred, and offer workshops and conferences about sustainability. Imago eventually purchased eight acres of wooded area about a quarter mile down the street from our house on Enright Avenue, and began an outdoor Earth center which helps 10,000 school children annually connect with the natural world.

In 1993, 15 residents of Price Hill came together to look at how Imago might take a step toward actually walking its talk. We decided to develop a model for revitalizing a transitioning neighborhood into an ecological neighborhood. With suburban sprawl destroying huge tracks of land, we concluded that the human population would be more beneficially located in urban areas. For this to happen, urban areas needed to become very liv-

able places. An ecological neighborhood would be that type of place.

Through brochures, a video, and community presentations, this group of neighbors started promoting this concept throughout Price Hill. We received a six-year grant in 1998 to work to develop the Seminary Square Ecovillage in Price Hill, a 50-block area at the entrance-way to the neighborhood. The concept was that developing an ecovillage in this 50-block area would serve as a model for the rest of the community.

Over a six-year period much was accomplished in the Seminary Square project—block clubs were formed, street trees planted, parks improved, the facades of many businesses improved, and six houses and three office buildings were eco-rehabilitated.

However, despite the many improvements, the ecovillage never came to fruition. A study of the project concluded that it didn't happen for four reasons:

- The project began in the most deteriorated area of Price Hill.
- There was a huge influx of relatively transient renters into the neighborhood during this time.
- The 50-block area was too large.
- The project began without a large group of residents in the area being committed to the ecovillage concept.

After reviewing these conclusions, it became obvious that the ideal place to begin an urban Ecovillage project would be in the very area where Imago began and where its Earth Center was located. Along with the extensive woods, 25 of the 90 households on this street have ecological values. The housing is stable, moderately priced, with the majority of houses owned by their inhabitants. Through a program that Imago initiated in the early 1990s, two-thirds of the houses were insulated, and many were also improved with installation of energy-efficient, double-glazed windows, low-watt florescent light bulbs, and energy-efficient furnaces. Most households on our street recycle. Two bus lines run within a few minutes walk from the street. A solid business district is nearby and downtown Cincinnati is a seven-minute drive or fifteen-minute bus ride away.

In June of 2004, after Eileen and I had lived on the street for 30 years, we and 17 other residents met, and using a process called Appreciative Inquiry, began looking at what we liked about our street, and from this



---

assessment, brainstormed what we would “like to see more of” in our lives on the street. After coming up with a list of 38 items, we prioritized them into four areas, and set up working committees to accomplish these goals. The four areas were:

- An improved image of the street both among residents and those off the street.
- A walking trail through the woods around the street.
- Shared meals with residents on the street.
- A better relationship between children and adults.

A professional photographer and a graphic artist, both of whom are involved with the project, developed a brochure for our retrofit community, which we decided to call Enright Ridge Eco-Village. We wrote “Enright Ridge” on large street planters and placed them at the entrance to the street to slow traffic into this dead-end street and help define the area. We created a two-mile walking trail through the woods behind houses on both sides of the street and encircling the ridge. We began hosting monthly meals, inviting all residents on the street. The Imago Earth Center, with funds collected from residents on the street, provided a staff person to offer after-school and summer, outdoor programs for children on the street. We wrote a mission statement: “Enright Ridge Eco-Village, a community inspiring Earth-friendly living, nurtures an intimate and prosperous neighborhood within its uniquely forested urban setting in Price Hill in Cincinnati, Ohio.”

Soon afterwards we decided we needed to bring together the other people in the Enright Ridge area to support the ecovillage concept. One of our members had been studying with Peter Block, a national organizational consultant located in Cincinnati. Peter Block’s underlying principle is “Contact comes before content.” In other words, people need to know each other before they can start working together. We began with a series of dialogues that brought an average of 15 people from the street together to get to know each other better, both as neighbors and in their relationship to the street neighborhood.

After four meetings with this group, the content began to emerge. One of the difficulties with an urban ecovillage project with people who already live in an area is how to involve all residents in the process. We started to involve others by distributing four issues of an Enright Ridge Eco-village newsletter and the Eco-village brochure to all residents. People welcomed these efforts. People were open to this mainly because homeowners feared a major decline in housing values if our neighborhood didn’t do something to reverse the trend of decline. We decided to further involve the neighborhood through a process called Treasure Mapping, in which residents

would reveal the treasures of our neighborhood by making a collage together. We built a box with four sides, each four feet by four feet. Each side had a focus: Our Homes, Our People Our Children, Greening Our Neighborhood, and Promoting Our Neighborhood. We divided our street into 10 sections. We recruited two host families from each section to invite and draw people to participate in the collage. On a Saturday in September, 2005, starting at 10:00 a.m., the collage box, loaded on a truck, began its move through the neighborhood. At every section along the street we unloaded the collage box off the truck onto a table so people could reach all four sides. We laid out a stack of old magazines, markers, and scissors along with food and drinks. The host households drew people out of their homes and invited them to visually express their dreams for the neighborhood by cutting out images from the magazines to paste on the four sides of the collage or draw or write on it. As the collage evolved, moving along the street throughout the day, an incredible array of ideas and thoughts emerged on the four sides of the box.

We consider the collage the jumping-off point for the next level of involvement in further developing our street as a retrofit urban ecovillage.



## Why Urban?

We’re frequently asked why we’re going to this effort to create an urban ecovillage in an existing street with existing neighbors, given the good reasons for creating a rural ecovillage as a whole new project. It’s so much easier to develop sustainable homes, alternative energy systems, constructed wetlands, and so on from scratch on raw land. Rural areas often have fewer zoning regulations and building codes than urban areas where many alternative materials or wastewater systems are illegal or at least frowned upon. And the site plan of a new ecovillage can encourage and support human interaction and a sense of connection along paths and in common areas where people will naturally congregate. Ecovillage projects which develop from scratch and have shared property ownership and membership criteria can also make sure that residents are like-minded and committed to the community’s common vision, purpose, values, and goals.

In an “urban retrofit” ecovillage with existing neighbors, however:

- Usually the houses were built many years previously with unsustainable materials and no awareness of energy- or resource-conservation.
- Streets are laid out in such a way that encourages car use and anonymity and reduces the likelihood of meeting or conversing with neighbors, so it’s difficult to get to know everyone.

- Because any resident can sell or rent their house to any buyer or tenant of their choice, there is little to no control over who will live in the neighborhood.

On the positive side, however:

- It is not necessary to begin building on raw land using newly harvested or manufactured materials—the dwellings are already here.
- For that reason, no time is spent struggling to agree on a site plan, design and build buildings and alternative systems, etc. The focus is on improving the present situation.

- Retrofitting existing buildings costs far less than building from the ground up.
- The neighborhood is located minutes from a business district and close to job opportunities.

Possibly the most important reason for developing an urban retrofit-neighborhood ecovillage is that the majority of people in our country and in the world now live in urban areas. Urban sprawl and the destruction of habitat, excessive energy consumption, and loss of community can be reversed if we can make our urban neighborhoods life-sustaining. We can change the face of our cities and our countryside if we are successful. This is the dream of Enright Ridge Eco-Village.

---

*“Eden was a forest in the Piedmont of North Carolina . . .”*

---

## Wild Flowers

By Katherine Savage

If we even suggested  
a barter—I’ll trade you  
a room for a room—  
that would be one thing.  
But even then, who  
could ask a lady  
slipper for her place—  
knowing her beauty regimen  
is a finical chemistry  
of needle sifted  
sun, and acid peat draughts?

I learned this and more  
from another lady,  
who cried as she  
desperately dug—bull  
dozers approaching—saving  
pink and yellow ladies  
with other native kin.

Their home  
had been the day rooms  
of my childhood—  
known to me  
by a play spot featured—  
the tree throne stylized  
by a lightning wand,  
a habitation of luminescent lilies,  
a curve in the creek  
that carved deep water  
for crawdaddies that shared  
a love for bologna sandwiches.

Eden was a forest  
in the Piedmont of North Carolina.  
Its purity was  
indifference—to anything  
but the perfect pairing  
of life and death. I played there  
with my fear  
of being wild, until each  
evening’s darkening woods  
sent me out  
of the gates and behind  
locked doors.

Edens are always known  
in retrospect, and the knowing  
nullifies return.  
We cannot trade  
the tameness of knowing  
for the wildness of  
unknowing. Outside  
of the gates, there are only  
gestures of atonement  
like my mother’s tears,  
falling that day  
like beads from a rosary, broken  
because no one would pray  
to stay out  
after dark.  
The gates are ajar  
through my memory of them—  
a reverie  
of uninhabiting.

---

## The Ecozoic — From an Earth Scientist’s Perspective

By Heloise Bloxsom Lynn, Ph.D.

James Lovelock (1986) offered the scientific world the Gaia concept, which is now often termed “Earth System Science” (McKenzie and McKenzie, 1995). It is a very fruitful and lively arena of inter-disciplinary studies, and forms the basis for much of the computer-based climate modeling that is being done at the national level. Thomas Berry (1999) and many others have accepted much of the Gaia vision, and expanded the concept the “Ecozoic Era,” which I find to be a worldview, or mind-state, of the next evolutionary step for homo sapiens. I suggest that those human beings who choose to participate in the Ecozoic are actually becoming “homo sapiens co-operans,” which is where I think humans are headed, evolution-wise. The placing of the eco-system’s health and the environment as the top priority for the community effort is one of the ways that I personally try to be the change that I long to see in the world. The functioning of the biosphere is so intertwined with the atmosphere, the hydrosphere, and the lithosphere (soil, rocks, dirt, etc.), that the four must be considered together, as Lovelock has proposed with his Gaia concept.

I attest that we find ourselves in a stage of very significant climate change, wherein those who adapt beneficially with the change will thrive; while those who refuse to adapt to the new way of being will not thrive. By climate, I mean both physical climate (long-term weather) as well as physical reality of our planet. It is necessary to change to sustainable (organic), functional, adaptable ways of living in thriving ecosystems, and do one’s part to keep the ecosystem thriving. There are many different forces at work in the planet today, all of which must be kept in awareness (monitored): avian bird flu, disaffected elements of (religious) fundamentalist societies, the traditional economic-political-corporate forces, and especially “peak world oil”, as in, we have passed it. The civilizations and lifestyles that require hydrocarbons will find out that decade-by-decade, we are pumping less hydrocarbons, and the cost of hydrocarbons is increasing.

The shift to post-hydrocarbon energy resources (wind, water, sun, geothermal) will come to pass with a grass-roots effort, by individuals who recognize the folly of persisting with hydrocarbons. Hydrocarbons are a mere stepping stone to the next energy-stepping-stone. First, humans discovered fire, and burned wood and trees. This “works” only if you plant a sapling and grow a tree for every tree you cut down, **and** you leave enough other trees standing so that the soil remains intact, **and** the biosphere is not harmed, **and** the moisture breathed out by all the other trees can still form the

clouds that bring the rains, that keeps the ecosystem healthy. Then, humans discovered whale oil, and killed the whales: I am really against that. Then the steam engine was invented, and the fossil fuels, like coal, gas, and petroleum, began to power activities. I would rather burn rock oil than kill whales. However, burning rock oil is a mere stop gap procedure until one gets one’s act together enough to harness sunlight (solar cells), and wind (wind turbines) to generate electricity (to power your home and to run battery-cars or at least hybrids). It is not necessary to live in the hydrocarbon age, technology has advanced sufficiently to build one’s own infrastructure of the post-hydrocarbon age.

Vehicles do not have to run solely off petroleum. My Ford 350 pickup, which pulls my horse trailer, is hybrid with straight (used) vegetable oil. Charles Anderson of Greasel, or Golden Fuel, in Drury, Missouri, upgraded my diesel pickup to be a hybrid, and now I can get 15 miles per gallon from diesel or 15 miles per gallon from (used) vegetable oil, in the city. The used vegetable oil comes from Chinese, vegetarian, seafood, or Thai restaurants. My drive to a January endurance ride (my equine sport), pulling a horse trailer, burned 56 gallons in traveling 450 miles: 10 gallons of diesel and 46 gallons of vegetable oil, so my pickup truck average 45 miles per Diesel gallon.

As a professional hydrocarbon worker for the last 30 years, I can say with authority, it is time to shift one’s personal energy resource consumption **off** of fossil fuels of all types (oil, gas, coal, etc.). The time to build one’s own renewable-energy infra-structure is *Now*, when things are calm, and supply is limited only by your financial budget. One builds with up-grade (swap-out) capability in mind, because the renewable energy resource technology is continuing to evolve: at any given moment, we use the method that is currently available, but in 5 years or 10 years, there will (hopefully) be a less expensive, more efficient way to obtain energy (electricity) from wind, water, sun, and geothermal. Then one upgrades one’s system. Naturally, if you can build it yourself, one gets to have the fun of a do-it-yourself-Science Fair, but perhaps only scientists like that sort of thing. There are off-the-shelf technology and panels and turbines you can pay an expert to install, so that you don’t have to invent the whole thing yourself (Cole and Skerrett, 1995). My father (also a scientist) and I are building experimental wind turbines in the windy meadow beside our home on a mountain in southern Colorado, where I hope that my husband and I will live some day soon. We plan to install solar panels and batteries and shift to off-grid living. Naturally, you

would want to catch the rainwater off the roof, and store it in cisterns. Water filters to remove impurities are then needed, if you wish to drink the water. Significant insulation to reduce temperature swings is important. Building materials that are “green” should also be considered.

Even though the grass roots efforts are more important than the national efforts, I will cite the fact that Denmark, Norway, and Germany are using hydrocarbon dollars to build the post-hydrocarbon age infra-structure—wind turbines, etc. Iceland has already shifted to a mostly geothermal energy economy.

The post-hydrocarbon age will be cited, in years to come, as starting on 9-11-2001, because the destructive shock dealt to New York City, the United States, the Western world, and the ripple effects from there, acted as the catalyst that caused people to change the way they think about themselves and others, and the way they view the world, and what are they going to do next. At least, for Heloise Bloxson Lynn, the post-hydrocarbon age began on September 11, 2001. It caused me to deconstruct my entire world view and construct a new one, which is admittedly a rather painful growing process. In this process, I have found the writings of Thomas Berry, Connie Barlow, Brian Swimme, and many others to be lights upon the path.

Thomas Berry (1999, 176-95) has correctly identified the four wisdom traditions that we all can access. I testify that I access the known science of the West (have been for the last 30 years, to earn a living), and the religious and cultural traditions (I love Mozart and Beethoven, Shakespeare, Leonardo da Vinci’s works, and the wisdom from the Buddhist, Taoist, Hindu, Christian, Islamic, and Jewish traditions), and the wisdom of the aboriginals. My pilgrimage was to Australia, last fall, where I visited the eldest living organisms we know of



on Earth—the stromatolites—to learn their wisdom. The photo above is from Hamelin Pool, Western Australia, which is a saline bay with stromatolites growing along the shore line. Stromatolites are rock-forming colonies of cyanobacteria, which are recognized in 3.5 billion year old rocks. These primitive one-celled organisms of cyanobacteria (blue-green algae) grow, capturing sediment and sand, binding sedimentary particles together, and increasing in size layer by layer in extremely slow

fashion. The stromatolites above look like rocks, but they are actually alive. The wisdom of the stromatolites is: live in a spot that predators don’t like, and don’t have a lot of stuff that predators will come to kill for. The stromatolites in Hamelin Bay have no predators of which we know, and live a very peaceful life. They, having survived in unbroken lineage and unchanged morphology for 3.5 billion years, are the most stable and persistent of all living organisms on Earth. No other living organism can state this. Also, they grow at an exceedingly slow rate, which, depending upon your viewpoint, is either attractive or not. We homo sapiens also consider that we have an unbroken lineage of 3.8 billion years back to the first life on planet earth, or 580 million years (back to the Cambrian): however, we have changed our morphology in response to changing climate conditions and evolutionary pressures.

I also learned from the Australian Aborigines how they view their land and the Dreamtime wherein they participate. The Dreamtime lies heavy on the land in Australia—that’s one reason I went there, so that I could experience it. I respect tremendously the wisdom of the Aborigines and their conveyance of the Dreamtime, for it has enabled them to survive 2.5 Ice Ages (~60,000 years), as well as the unmitigated catastrophe of Western civilization’s descent upon them, a claim no other human culture or society on earth can make. The fourth wisdom tradition is the woman’s wisdom, that experiences the universe as maternal, spinning forth from one’s self all that is, and caring for all that is, albeit in a hands-off “you-make-up-your-own-mind you-get-your-own-choices you-get-your-own-consequences” tough love manner.

It is possible, since the Internet is up and running, for many information-processing professionals to live wherever electricity and internet access is obtainable. Therefore, it is also possible for individuals to shift their primary residence to a place in the country, with good potential for renewable energy (sunshine, wind, running water), and build an energy-self-sufficient home, suitable for retirement. Villages where the eco-system is taken seriously as important are being built. One could choose to live in such intentional communities. After one’s renewable-energy home is built, the materials and knowledge could be posted on the Internet so that other interested people can benefit from your experiences. Education at the local schools as to how the renewable-energy devices work can then be offered, as well as how eco-systems work. The materials provided to the local school can also be posted on the internet, to help others.

In past ages, knowledge (education) was tightly held and dispensed only to those born to know (noble families) or who paid to know. Now, however, knowledge can be given away for the benefit of the greater community. Knowledge is power, of one form. The intent of the heart determines how the power shall be used.

---

If one finds one's self hip-deep in wet soft mud, it is very difficult to give help to others who are likewise unhappily floundering in deep soft mud. If one is not bogged in the mud, but standing on firm ground supported by a healthy local ecosystem, then help can be offered to those wishing to exit the soft deep mud. My father gave me his twelve words to live by, which are now my twelve words to live by:

*Live Love Affirm Grow Enjoy Learn Work  
Expand Try Awaken Realize Fulfill.*

*Li writes on how physics, biology and ecology, and ecozoic studies bring a harmonious understanding of Earth's dynamic future.*

---

## **A Scientific Perspective for Understanding Process and The Ecozoic**

*By Li Shiyan*

**W**ith the serious ecological crisis of the community of the Earth, Thomas Berry's thoughts about the Ecozoic bring an understanding of human history as being part of the process of the development of the Earth story and the universe story. Within the history of Earth, the Ecozoic is the era that follows after the Paleozoic, Mesozoic and Cenozoic Eras. This means the evolutionary development of Earth is a continuing process. Science helps in understanding this process. Science opens the door to nature for us humans and helps us understand nature and communicate with it. Physics gives an understanding of the process of the universe. Biology and ecology bring an understanding of the evolutionary process of life on Earth. Ecozoic studies bring an understanding of the geo-biological process of Earth and the human place in it.

### **To Understand the Development of Process by Physics**

The universe as a whole is an interacting community of beings inseparably related in space and time.<sup>1</sup> Modern physics gives to all humankind the same **universe story**. This story begins with the primordial flaring forth that brings time and space into being; then come nebula, galaxy, star and planet, this is the development process. The Earth is one planet among many. It is this beautiful one in the solar system of Milky Way Galaxy. It is the home of our human society which has come to understand this story of process. The universe expresses itself

### **References:**

- Berry, Thomas. *The Great Work: Our Way into the Future*. New York: Bell Tower, 1999.
- Cole, Nancy, and P.J. Skerrett. *Renewables Are Ready: People Creating Renewable Energy Solutions*. Chelsea Green Publishing Company: White River Junction, VT, 1995.
- Lovelock, James. *The Ages of Gaia: A Biography of Our Living Earth*. Rev' & updated ed. New York: W. W. Norton & Company, 1995.
- Lovelock, James, *Gaia: A New Look At Life on Earth*. new ed. New York, Oxford University Press, 2000.
- MacKenzie, Fred T., and Judith A. MacKenzie. *Our Changing Planet: An Introduction to Earth Systems Science and Global Environmental Change*. 2d ed. Upper Salle River, NJ: Prentice Hall, 1995.

at all levels and in all things from the time of the primordial flaring forth.

To understand the development process by science, we need to know the **essence of matter**. Einstein's theory of relativity tells us that as speed increases, time slows and objects become shorter—the density of matter, movement, time, and space are all related. There is no absolute time and no absolute space, it is all integrally one—matter, movement, time and space combine into one whole during the development process. Matter exhibits itself by being in time, space and movement in process.

The first law of thermodynamics tells us that energy is conserved in the universe, this means process is forever. Energy is the power of development. Energy is that which gives matter the capability of movement. Conservation of energy means that matter moves forever; energy changes its form from this to another form; energy cannot be created and cannot be annihilated, so that process cannot be broken up. It is forever.

The essence of development is energy flow in the process. Solar energy is carried by photons (light) and reaches Earth. When light strikes an object on Earth, its temperature rises. Plants absorb this solar energy and it is transformed into the tissues of plants where it is stored. When animals eat the plants, this energy flows into the bodies of the animals. When we humans eat plants and animals, this same energy also flows into our bodies. Therefore, for plants, animals and humankind

the essence of development is energy flow, energy transformation, energy storage and energy exchange. Every expression of life is related to the transformation of energy. The essence of life is the process of growing, propagating, producing and reserving energy.<sup>2</sup> This is a development process. Even the development of human society and human culture depend on the natural process in which energy increases by solar energy flowing and being reserved for use.

The entropy law (the second law of thermodynamics) tells us that entropy always increases in an isolated system and this means there is a direction of development in process. Entropy is a measurement of the diffusion of energy within the system and the direction of the entropy process is from concentrated forms of usable energy into diffuse forms of unusable energy. For example, water can only flow from a high place to low place. The energy potential of water in the high place is usable, but it is used up and becomes unusable energy when water descends to the low place. Water in a low place cannot flow to a high place by itself. This gives directionality to the development process. We see the seeds of plants germinate; plants grow from the seeds, come out of the land, become young plants, and grow until they reach maturity, not the opposite direction. We see people grow from children to youths, adults and elders. We do not see an old man or woman become young. Any development process is in a direction. This means time cannot flow backwards—it is irreversible and flows unceasingly onward.

### **To Understand the Evolution Process of Life by Biology and Ecology**

Darwin's theory of evolution reveals the development of life. Plants, animals, humans and human society, this order is of a development of life from simple to complex. This is different from the flow of the entropy law from complex to simple in an isolated system. Evolution teaches that each life form is related to every other life form. Ultimately all life forms have the same progenitor. In Darwin's understanding life is competitive and the fittest survive, therefore there is an evolution from low to high. Later biologists have highlighted the importance of cooperation and synergy in development. Human beings also come out of this process of evolution.

The capacity to obtain energy is the key factor in the development of life. As the complexity of life forms increases, the capacity to obtain energy also increases. Plants obtain low energy from the sun. Grasshoppers eat the plants to get energy and become a more concentrated form of energy. Frogs eat grasshoppers to get energy for living, salmon eat frogs to get energy, and humans eat salmon for living. Solar energy flows from plants to

grasshoppers, frogs, salmon and humans in this process. All these beings exist in a relational, open system not an isolated, closed system. In an isolated system this evolution to higher forms could not occur. A relational, open system is needed.

Ecology is the study of the interrelations of organisms and their environments.<sup>3</sup> This can be understood as the study of the interrelations in nature. As Berry says, however, ecology should not be thought of as a course or a program, but rather as the foundation of all courses, all programs, and all professions.<sup>4</sup>

According to ecology, the ecosystem provides the necessary relations to sustain life. In the ecosystem, the living and non-living elements are inseparable. Eugene P. Odum, using an example of a small pond, said, no matter how complex an ecosystem is, there are the following parts:

- **Inorganic substances:** inorganic substances, such as light, water, carbon dioxide, oxygen, amino acid and so on. They are necessary for life.
- **Producers:** the producers are the plants that absorb energy from the Sun and get nutrients in water or earth, and thereby produce food for the consumers.
- **Consumers:** primary consumers eat plants and obtain energy for living. Other consumers who are predators eat primary consumers or other predators and obtain energy for living.
- **Saprophytic lives:** these are often called decomposers, such as fungi and bacteria. They attack dead plants and animal bodies and eat them to obtain energy for living. They convert organic compounds into minerals and clean the environment.

We can enlarge this small pond to a big ocean. Just like a small pond is an example of ecosystem, the ocean is an ecosystem; similarly, land is also one; even the whole Earth is an ecosystem. Humans are members of these ecosystems, and have close relations with the environment. The Earth is a vital ecosystem. In a broad sense, our humankind, human technology, human culture and human society all are part of the processes of these ecosystems. The essence of the development of the human world is also energy flowing. The life world exhibits its order by energy flowing, substance flowing and information transferring.

### **To Understand the Geo-Biological Process of Earth by Ecozoic Studies**

We have come to an understanding of the development process of the universe and life on Earth by science. We learn from science of the essence of matter, of

---

our common origin, and the nature of life systems. There is also a scientific basis of Ecozoic thoughts. From the formation of the universe, the development of Earth, the evolution of life, to the emergence of humans and their social advancement, this is an irreversible process toward orderliness, complexity and consciousness. In this process, the first law of thermodynamics says that energy is the power of development and is conserved; the entropy law says this is the process of time that moves in one direction; evolutionary biology and ecology say that the basic condition is to maintain the extensive relations needed for life to flourish. Geography is a study of the functioning of Earth in its larger structure, and it is even more useful in appreciating the integral functioning of the various regions into which the planet is divided. In this manner it provides the context for ecological understanding of our planet.<sup>5</sup> From Paleozoic, Mesozoic, Cenozoic to the emerging Ecozoic Era, this is the process of Earth and its community of life. The power for the development of Earth comes from the energy of the universe that comes to us from the Sun.

Ecozoic studies brings the understanding that nature understands itself, that is, it is the nature (or “Self”) of nature to understand itself. There is a chain of development from radiated energy, substance, nebula, galaxy, star, planet (the Earth), life to humankind—our humankind evolved from nature. So our cognition of nature is also nature’s cognition of itself. When our science understands nature, nature understands itself.

Ecozoic studies understand the nature of the universe and deeply understand nature as a whole. It understands that nature is an inter-dependent community composed of individuals.<sup>6</sup> The Ecozoic is in the geo-biological process of Earth to pursue the harmonious order of Earth’s community, which is common development.

This is nature to understand it-Self. The Earth as a self-emerging, self-sustaining, self-educating, self-governing, self-healing, and self-fulfilling community of all the living and nonliving beings of the planet should have an extraordinary future.<sup>7</sup>

To go to the Ecozoic is the great work that our humankind must undertake in the community of the Earth. This is the understanding we humans must come to for ourselves. Human beings are the sons and daughters of nature; human creativity is also the creativity of nature. It is our human responsibility to set up harmonious relationships of humankind with nature and enable the community of Earth to move to the Ecozoic.

In the geo-biological process, the entire human community is involved not only in the human order, but also in the entire geo-biological order of the planet, and as well in a mutually enhancing relationships of humans and the larger community of life systems. Our humankind must make wise choices for our living and developing, and also for the developing of the ecological systems of Earth as a whole in a healthy way.

<sup>1</sup> “Twelve Understandings Concerning the Ecozoic Era,” *The Ecozoic Reader*, Vol. 3, No. 1 (Winter 2003), 14. The “Twelve Understandings” are presented on the inside, back cover page of this edition of the Reader.

<sup>2</sup> Eugene P. Odum, *Ecology* (Beijing: People’s Education Press, 1982), 37.

<sup>3</sup> *Ibid.*

<sup>4</sup> Thomas Berry, *The Great Work* (New York: Bell Tower, 1999), 85.

<sup>5</sup> *Ibid.*, 86.

<sup>6</sup> “Twelve Understandings.”

<sup>7</sup> Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988), 107.

## **Innovative Technologies for Future Cities\***

*By Timothy E. Eastman, Ph.D.*

### **Networks of Relationships and Emergence**

Alfred North Whitehead emphasized the importance of networks of relationships in his philosophy of organism, and developed a comprehensive, speculative philosophy providing for both reduction and emergence in a way that is highly consistent with contemporary research results. For many scientific fields (including biophysics, non-equilibrium chemistry, electrostatics and plasmas, ecology, atmospheric chemistry, nonlinear dynamics, complexity and nanotechnology) quantitative research has demonstrated the importance of networks of relationship, which is essentially the same as Whitehead's perspective. These networks of relationships include examples of intrinsic structural elements, self-regulation, and emergent properties even though the scientific process leading to such results emphasizes methodological reduction. Further, many interpreters of science have continued to argue for forms of ontological reductionism even while the evidence for genuine emergence continues to rise. Examples of such emergence include the quantum Hall effect, superconductivity, phase transitions, crystallization, collective instabilities, and hydrodynamics, among others (Laughlin, 2005). Ellis (2005) adds quantum measurement, DNA coding, social creations, and economics. To this list, I would add plasmas.

### **Plasmas**

Plasmas, sometimes referred to as the fourth state of matter, are systems of charged particles, neutrals, electric and magnetic fields that can carry electrical currents and exhibit collective effects (which is to say emergence is built into the very definition of plasmas!). More than 99% of the visible universe is made up of plasma (Peratt, 1991). In addition to the study of space plasmas, fusion plasma studies have pursued the long-term goal of creating energy the way the Sun does, which would provide a relatively clean and practically unlimited source of energy. Practical fusion energy, however, remains several decades in the future and will always remain just one among several options for energy supply. For the needs of future cities, the most important aspect of electromagnetism and plasmas is the recent major expansion in plasma-based technologies that cover a broad range of applications including air, water and surface cleaning, waste processing, and lighting, among others. At the websites [www.plasmas.com](http://www.plasmas.com) and [plasmas.org](http://plasmas.org),

I maintain a comprehensive list of about 200 plasma-related topics and applications (see also Eastman, 1998). In many cases, the same characteristics that make plasmas difficult to control and model are the same features that provide high potential for important applications: anisotropy or directionality, electrical currents, responsiveness to magnetic fields, non-equilibrium particle and fields distributions, and high energies per particle.

### **Technologies for Future Cities**

Here is a list of some innovative technologies with important potential for future cities, some of which are discussed in more detail below:

#### **Infrastructure**

- Embedded systems monitoring; self-annealing infrastructure
- Carbon nanotube reinforcement
- Robotics
- Adaptive control systems
- Microclimate management

#### **Energy Supply**

- Superconducting transmission lines
- Solar and wind power
- Fusion power

#### **Conservation**

- Hybrid vehicles
- Fuel preprocessing (such as plasmatron)
- High-efficiency lighting
- Energy conserving technologies
- High-density, mixed-use land usage

#### **Waste Management**

- Plasma-enhanced waste processing; elimination of landfills
- Surface cleaning and modification (such as plasma spray)
- Air and water cleaning (such as plasma-enhanced systems), including electron scrubbing of flue gases
- Hazardous chemical processing
- Convection towers for power and pollution reduction
- Desalinization

#### **Communications**

- Global cellular communications
- Automated channel links
- Broad-band internet



---

XML-based, web-enabled electronic publication  
Interoperable, UNICODE-based search capability  
Knowledge discovery

### **Transportation**

High-speed electromagnetic rail  
Multi-scale transportation network with efficient links to avoid excessive dependence on any one mode (such as auto)

### **Embedded Systems and Adaptive Control**

One of the great revolutions of our time is the smallest. Micromechanical components are now being fabricated by etching away parts of silicon wafers or by adding layers to form micromechanical or electro-mechanical device components. Such micro-machining is done compatible with the fabrication of electronics using integrated circuit process methods. These Micro-Electro-Mechanical Systems (MEMS) make possible sensor nets that provide spatially and temporally dense couplings to any physical system in which each microsensor can be untethered with storage, control and telemetry functions. Combining such sensor nets with networking for self-organized, power-sensitive communication to carry out higher-level tasks results in an integrated, embedded system. Embedded systems technology is just beginning but has great promise in a wide variety of fields, many of which are relevant to sustainable cities.

Just a few such applications are the following: (1) infrastructure monitoring and response systems (buildings, roads, water and air), (2) environmental monitoring for response systems (efficient water management, heating and cooling control, precision agriculture), (3) real-time adaptive systems (elder care, vehicle safety, security...), and (4) integrated robotics.

### **Carbon Composites, and Carbon Nanotube Technology**

Carbon composites and carbon fibers are rapidly growing in applications requiring high strength with low weight (airplanes, cars, buildings). For example, The architect Peter Testa has designed a 40-story skyscraper that would use a carbon fiber lattice instead of steel for the structure. Even stronger carbon nanotubes are under development and theory indicates that they would be lightweight yet 100 times stronger than steel, which would even more dramatically affect options for building and infrastructure design. For example, such materials could enable urban designs that provide for efficient above- or below-ground level transportation systems or imbedded convection towers that remove air pollution and simultaneously provide supplementary electricity.

### **Superconducting Transmission Lines**

Continued research in zero-loss superconducting transmission lines is critical because 10% to 15% of generated electricity is dissipated by resistive losses in

standard transmission lines. Brookhaven National Laboratory, for example, has demonstrated with a prototype that 1000 MW of power, the entire output of a large power plant, can be transported within one 40 cm diameter transmission line. Such a system could operate with low-voltage DC versus conventional high-voltage AC, which requires large transformer banks and high-voltage transmission lines.

### **Energy Conserving Technologies**

Important energy saving technologies include hybrid vehicles; heat pumps; efficient heating and cooling; infrared camera checks; controlled-spectrum windows; housewrap; architecture; multi-scale, efficient transportation networks (such as urban design to encourage walking, bicycles or light rail). For example, infrared camera images revealing heat loss locations systematically applied to homes and commercial buildings and combined with low-cost repair or corrections of such heat loss can substantially reduce heating bills.

### **Desalinization**

Only about 1% of Earth's water is fresh water and increasing human water needs are continuing to create great demands for water than can be met by the supply. Although direct distillation is too costly in energy for converting salt water or sea water into drinkable fresh water, a variety of new techniques are emerging that promise to significantly reduce the net cost relative to direct electrolysis methods. Examples of such technologies are reverse-osmosis (RO) membranes; electro dialysis (combining a membrane and electric potential gradient); and convection and diffusion towers.

### **Plasma-enhanced Systems for Sustainable Cities of the Future**

#### **Fuel preprocessing**

A plasma-boosted fuel reformer has been successfully tested that operates on less than one kilowatt. This "plasmatron" system converts diesel, kerosene or any hydrogen-rich biocrude fuel in a hydrogen-rich gas, which then can be used to increase engine efficiency and reduce key pollutants. For example, NO<sub>x</sub> is reduced by more than a factor of 100 (or a factor of 10 if a catalytic converter is already being used). Optimum efficiency appears to be obtained if about 25% of the gasoline is converted into hydrogen-rich gas. The goal of researchers at MIT is to have the plasmatron in production and in vehicles by 2010.

#### **Lighting**

The high efficiency of plasma lamps, such as fluorescent bulbs, has led to their prominent use worldwide. Such lamps are usually based on mercury, sodium and

metal halide gas. However, recent developments in plasma lighting have led to even greater efficiency and versatility for applications. For example, electronic ballasts reduce power consumption by 10 to 15% with reduced flicker, less weight and noise than standard magnetic ballasts. Using inductive coupling of radio frequency power, new electrodeless plasma lamps provide for high-efficiency, long lifetimes, and natural light spectra.

### Waste processing

Typical fossil fuel incineration generates temperatures of about 1500 degrees C or less; in contrast, core temperatures of plasma plumes can exceed 10,000 degrees C. Whereas conventional furnaces cannot destroy dioxins and other PCBs, plasma furnaces operate on little or no oxygen and generate temperatures that completely dissociate the molecules of waste materials. At the same time, plasma-enhanced systems generate a synthesis gas that can run high-efficiency turbines, which is an option available for most municipal solid wastes and can eventually eliminate solid-waste landfills.

### Materials processing

Plasma-aided manufacturing has rapidly advanced within the past decade with applications in thin- and thick-film deposition, surface modification, plasma etching, and other materials processing technologies. Welding (both DC and AC) methods sometimes utilize and always create plasmas as part of the welding process, and welding is critical to the world's infrastructure. Plasma-enhanced materials processing includes the following techniques, among others: plasma spray coating of metals, ceramics and composites; plasma thin-film coatings, including diamonds; plasma chemical synthesis, including synthesis of Fullerenes; surface cleaning and modification (such as plasma spray); plasma electrolysis for surface engineering; air and water cleaning, including electron scrubbing of flue gases; and hazardous chemical processing.

### Envisioning a Sustainable City of the Future

The best designs for a sustainable city of the future need to reflect the networks of relationships that constitute the real world of finite energy, resources, and pollution. Solutions need to reflect an organic interplay of living spaces at the individual, family, group, and regional levels analogous to the interplay of life between family, group, and regional levels that is central to Chinese traditions.

Some of the new technologies that I have summarized provide important possibilities for sustainable cities. Although Western countries have developed some technologies and efficiencies that are worthy of consideration, many mistakes have also been made (such as excessive use of automobiles!) primarily due to false assumptions about resources and sustainability issues

(Daly and Farley, 2003; Daly, 1996; Daly and Cobb, 1994). I hope that Chinese citizens and planners will learn well from both our mistakes and our successes. In turn, we can all learn from the organic, correlative approach that I understand is such a deep tradition in Chinese culture (Hall and Ames, 1995).

\* Lecture by Dr. Timothy Eastman at the "International Conference of Toward a Sustainable Urbanization," October 5-17, 2006, Suzhou, China.

### References

#### Examples of Emergence in Physics:

Robert Laughlin, *A Different Universe*, New York: Perseus Books, 2005.

George F. R. Ellis, Physics and the Real World, *Physics Today*, July, 2005, pp. 49-54. (2005)

#### Plasmas and Plasma Technology:

Coalition for Plasma Science publications: <http://www.plasmacoalition.org/>.

Eastman, T. E., "Plasmas: Diversity, Pervasiveness and Potential," *J. Fusion Energy*, 17, No. 2, 95-98, 1998.

Fridman, A. and L. Kennedy, *Plasma Physics and Engineering*, Taylor and Francis, 2004.

Manheimer, W., L. Sugiyama, and T. Stix (eds.) *Plasma Science and the Environment*, AIP Presses, 1997.

Peratt, Anthony, *Physics of the Plasma Universe*, Berlin: Springer-Verlag, 1991.

#### Plasma Lamps:

[http://uigelz.ece.iastate.edu/Projects/RAD\\_TRAP/rad\\_trap.html](http://uigelz.ece.iastate.edu/Projects/RAD_TRAP/rad_trap.html).

Plasma Technology: <http://www.plasmas.org/references.htm>.

Plasmatron: <http://web.mit.edu/newsoffice/1997/plasmatron.html>.

Roth, J. Reece, *Industrial Plasma Engineering*, Vols. 1 Principles, 2 Applications, IOP, 1995, 2001.

Waste processing: [http://www.suip3.com/pwd\\_qs.html](http://www.suip3.com/pwd_qs.html),  
<http://www.inentec.com/>.

#### Embedded Systems and Adaptive Control:

Berkeley WEBS: <http://webs.cs.berkeley.edu/>.

#### Carbon Fiber and Nanotube Technology:

Carbon Nanotube Site: <http://www.pa.msu.edu/cmp/csc/nanotube.html>.

Extreme Textiles: Designing for High Performance: Exhibit at the Smithsonian Cooper-Hewitt National Design Museum (4/8-10/30/05) <http://ndm.si.edu/>, including carbon fiber woven building designed by Peter Testa of the Emergent Design Group <http://web.mit.edu/edgsrc/www/>.

#### Convection Towers:

Page, Douglas, "A physicist says he can clean the air the same way you get dirt off your car-by washing it," *Metropolis by design* Dec 1997 / Jan 1998. Available from [http://www.metropolismag.com/html/content\\_0198/ja98bd.htm](http://www.metropolismag.com/html/content_0198/ja98bd.htm).

#### Superconducting Transmission Lines:

HyperPhysics, Georgia State University: <http://hyperphysics.phy-astr.gsu.edu/hbase/solids/scapp.html>.

#### Energy Conserving Technologies:

##### Energy Savers:

[http://www.eere.energy.gov/consumerinfo/energy\\_savers/](http://www.eere.energy.gov/consumerinfo/energy_savers/).

Energy Conservations & Renewables: <http://www.ecoiq.com/energy/>.

##### Desalination:

##### DOE list:

[http://www.eere.energy.gov/consumerinfo/reading\\_resources/vf8.html](http://www.eere.energy.gov/consumerinfo/reading_resources/vf8.html).

---

### Envisioning a Sustainable City:

Daly, Herman, and Joshua Farley, *Ecological Economics*, Island Press, 2003.

Daly, Herman, *Beyond Growth*, Beacon Press, 1996.

Daly, Herman and John Cobb, Jr., *For the Common Good*, Beacon Press, 1994.

Hall, David, and Roger Ames, *Anticipating China: Thinking Through the Narratives of Chinese and Western Culture*, Albany: State University of New York Press, 1995.

International Centre for Sustainable Cities: <http://www.icsc.ca/>.

Learning for Sustainable Cities Project: <http://www.dep.org.uk/cities/>

Leitmann, Joseph, *Sustaining Cities: Environmental Planning and Management in Urban Design*, New York: McGraw-Hill, 1999.

Sustainable Cities:

<http://www.rec.org/REC/Programs/SustainableCities/>.

Sustainable Cities Research Institute: <http://www.sustainable-cities.org.uk/>.

Sustainable City Website: San Francisco: <http://www.sustainable-city.org/>.

Sustainable Urban Design and Climate: <http://www.bom.gov.au/climate/enviro/design/design.shtml>.

Urban Design Group: <http://www.udg.org.uk/>.

USC Center for Sustainable Cities: <http://www.usc.edu/dept/geography/ESPE/>.

Walter, Bob, L. Arkin and R. Crenshaw (eds.) *Sustainable Cities: Concepts and Strategies for Eco-City Development*, Los Angeles: EHM Eco-Home Media, 1992.

---

*Luceigh asks “What if our choices came from a redefined conviction that our own expanded personal awareness serves as preparation for a collective enlightenment?”*

---

## Planetary Consciousness

By Betty Luceigh

I wonder if a monk in a dreary cave mistranslated an ancient text or the tip of his feather twitched on the paper and he wrote planet instead of plan it. Or maybe it was a punctuation mistake, the typo of a misplaced period, maybe a speak-o in some interplanetary language, or a teardrop landing on fresh ink, never corrected. Was planet Earth really planned in advance, all its evolutions part of a “to do list” written at the Big Bang? Has matter all this time just been the field laborer for the pre-set intentions of the Divine?

If there were such a plan for the planet, why would it have been made so difficult for humanity to understand its own role within it? Perhaps we humans have not yet reached that sector in the Consciousness Map of the universe. We have acted out of our beliefs, established our values on them, constructed societies around them, yet have discovered and rediscovered flaws in their foundations, and then have fought wars not to change them, killed more brutally than a wolf pack its prey, all rather than realize that any belief is a temporary ordering to provide a temporary meaning. Is it through the defaults on our planetary obligations that we must learn to realign or redefine or recreate our principles to embrace that which is greater than the planet itself?

What if it's true as some physicists suggest that reality is a wondrous and strange integration of idea-fields

that become actualized when a choice enables matter to give them form? Would not humankind then participate in choosing an evolving plan for Earth? Have we, in fact, already been doing so but from stagnant beliefs based on ignorance that our choices are only for our self-enlightenment, and that our self-enlightenment is only for ourselves? How many of us have joined the “Cult of the Binge” to outsize our neighbors with our cars and houses and bank accounts and our unquestioned dogmas?

What if our choices instead came from a redefined conviction that our own expanded personal awareness serves as preparation for a collective enlightenment and a connective wisdom that would create a sphere of consciousness gently accessible to all on the planet, impossible to deplete from its Divine Source? Would we then share in co-evolving plans we have not yet known how to dream alone? Would we then realize that we need not be victims of limited resources, but co-creators of an empowered future? Would we then be able correct the teardrop of humanity fallen on the current page of planet Earth?

For could it be, after all, just this: consciousness of our planet includes within it a plan from our consciousness.

## The Atlas Chronicles

By Michael Mielke

### Prologue

The challenge to construct something that will really have a chance to take us to an Ecological Age is an intimidating one for myriad reasons. First, in the current extraordinarily destructive modality within which modern industrial society operates, the scope, scale and complexity of the destructive factors are so many and so intense as to give us only a handful of years in order to turn the ship around. Next, because of this reality, avoidance, projection and rationalization are far easier routes.

A mere mortal facing such obstacles, I go where angels fear to tread. I pick up the challenge knowing that picking it up is necessary. I have read whole libraries about environment and ecology over the last two, now almost three decades, and what I present will have to break through my own bleak assessment of the prospects. I am not without hope, because I, also, know there is movement and momentum occurring that bring new possibilities into being. These are what we must latch onto, and foster, and follow, and join with in burden-laden joy.

Now may I say a bit about how I came to write these “Atlas Chronicles.” I recalled Thomas Berry’s thoughts: “We might think of a viable future for the planet less as the result of some scientific insight or as dependent on some socio-economic arrangement than as participation in a symphony or as a renewed presence to the vast cosmic liturgy”;<sup>1</sup> and also, “[The transition to an Ecological Age] might possibly be considered as a metareligious movement.”<sup>2</sup> With such thoughts in mind, I felt what I needed to offer on how to get to an Ecological Age was something that could connect or come from Spirit/Source and offer inspiration (Spirit-in). And as I considered this, I remembered the story of the Spirit Titan, Atlas, and decided to hang my work on this story.

In my writing I was enriched by a new mythological treatment of Atlas by Jeanette Winterson, *Weight: The Myth of Atlas and Heracles*. I begin the chronicles with a quote from her book. Then, I cast Mother Earth as a combination, a communion of life and Spirit. She, dreaming the stream of Life which flows from her loins, is activated in full Psycho-Spiritual Splendor. I focus on the North American first peoples who managed for

countless millennia to live without overwhelming Mother or their support systems. Eagle Man and his magical and wonderful *Nature’s Way* guide me in this part. And then, with these three inputs, I present the now activated Atlas.

These Atlas Chronicles are only a beginning, they are not finished. They will need to be re-worked.

### Introduction to *The Atlas Chronicles*

We have broken the long Covenant humans have held with Mother Earth. So many people are taking scores of times more than Mother Earth along with Sun renews to us each year. We “wrongly” treat the surrounding world as a cornucopia from which we can limitlessly take. This is wrong, not only in the physical sense of deluded excess, but also in the spiritual sense of treating the surrounding world as an object without its “own” relationship needs from the human. The human exists in a circle of morality that excludes the surrounding world of other-than human beings. Humans do not respect and celebrate these beings and threat them as actors with equivalent value.

All of this is detailed and described thoroughly in the long, complex and eloquent analysis of Thomas Berry in his several books. Prescriptively, here following, is created a requirement for our culture to confront collectively that wrongness, and turn our minds and hearts and ways of living around. Our steps are:

- Invoke and engage Spirit/Source to make a meta-religious movement.
- Recovenant with Mother Earth.
- Name the extent and degree of the crisis facing us.
- Commit to mutual support and mutual self-limiting relationship to life.
- Demand the same from the larger culture.
- Employ a “whole-body” dramatic weekend as a vehicle for the physical and psychical metanoia that is required. We must live, exemplify and engender a movement that transforms, within a handful of years, the real relationship of the human to the surrounding world.

All of this must be plainly stated and put forward.

---

## So Begins the Atlas Chronicles:

### I

#### ATLAS MUSES

*My father was Poseidon. My mother was the Earth. My father loved the strong outlines of my mother's body. He loved her demarcations and her boundaries. He knew where he stood with her. She was solid, certain, shaped and material. My mother loved my father because he recognized no boundaries. His ambitions were tidal. He swept, he sank, he flooded, and he re-formed. Poseidon was a deluge of a man. Power flowed off him. He was deep, sometimes calm, but never still. My mother and father teemed with life. They were life. Creation depended on them and had done so before there was air or fire. They sustained so much. They were so much. To each other they were irresistible.*

*Weight: The Myth of Atlas and Heracles,*  
by Jeanette Winterson

#### Atlas speaks:

“The name you have given me, mortals, is Atlas. And so begins anew my story. For me, it is wonderful that a mortal female word artist has brought me again to mortal view. It has re-minded me. So, in the era you call the 21st Century, a reckoning of time that has no meaning to me or to my kind, I will give myself, the self you have known and honored, voice once again. I will remind that in your ancient stories we are flesh of the same flesh, both flesh of the same mother, Mother Earth, and related in Spirit, related in Source.

“Let me not be tedious to you: your listening, even how you listen, to my Spirit is shallow. Catch the last best image you made of me here:  
[http://en.wikipedia.org/wiki/Atlas\\_\(mythology\)](http://en.wikipedia.org/wiki/Atlas_(mythology)).

“You made me bronze, the classic metal. You put me in the center of your Universe and did not even know the irony. For you mortals, it was a huge joke, but you must figure it out yourselves.

“I am your stories of me, and I am not your stories of me. Perhaps you will care to stand under that Truth. Perhaps not. For another time. Yet I have seen the unfolding of the major rivers of your stories not yet

ended. Perhaps when you hear the end rivulets of your stories, now unwrapping like a bad dip into pretty Pandora's box, you will write a different stream of possibility.

“First, let me tell you some about you about me. If you picture that image of Atlas holding up the celestial spheres, shouldering all the aspects of the cosmos that is how you bronze cast me. I know for you it was a noble rendering . . . a giant of a man holding up the cosmos for your benefit. So, for you mortals, the rendering, even of Spirit does have to be all about you, doesn't it? Or so it has seemed. This is a clue.

“I know the pockets of negative infinity, those things you call black holes.

“You are burning creatures—I say burning creatures because you are fire creatures. You made me a brother, named him Prometheus and cast him in your eyes to eternal suffering for giving you the boon of fire. Yet, you know you burn and burn precious oxygen, given to you by Mother, part of my flesh. . . . Mother Earth gave you the sacraments: all fruit, grains, grasses and beans. Her Covenant with you was embodied by the plants. Listen Fire Ones embodied, as in given body, flesh and blood! There was and is a communion of you and the sacred plants that feed you life and oxygen so you may move and experience Spirit. Given as a sacred Trust, by our Mother. You mortals made Prometheus, as you made my bronze image and stories about me.

“Life giving fuller life to give a Chance for more fine and complex Life—Life building, enriching and making itself more interesting, an inverse pyramid of burgeoning love. A fount of ecstasy teemed forth for you to eat the Sun itself. Now, that was a miracle! Miracle upon Miracle came as gifts from our Mother. But my Mother and our common flesh by your rendering, that Flesh gave you more!

“It took flying creatures and rapturous flowers to prepare for what you have become. Can any mortal begrudge the long and infinite care with which those miracles were brought to be? A sand grain . . . Miracle of sand grain piled upon sand grain until a Granite Castle of Potential and Possibility were made for you, for you to enjoy, for you to employ. Mother's Work it was, and what incomparable beauty! When you see the flying, preening, prancing works of art that hens make of their selections, their mates, it puts to shame your artists and engineers. We immortals appreciate what you call birds of paradise, as an example, far beyond your tawdry buildings and renderings.

“But I know you don't know how this Speaking now entertains you. And Roman times gave me some sense of your thrall with spectacle and your preoccupations with blood lust, concupiscence and power. I know you are in a trance with yourselves, and the corner gossip, as well. I will try to relate.

“Explain your humor, mortals, because we Immortals just don’t get the joke. I know your humor sometimes relates to making fools of people, but tell me how you make *this* funny: “You burn, crack, infest, flay, burn again, and flog, your Mother, who gave you all the Sacraments. Her skin has innumerable boils, rashes, cancers, infections, flesh-exposed burns, all over her.

“Your own instruments, measurements and repeated soundings tell you that the building fever will drown and kill hundreds of millions of you and your fellow creatures, make teeming billions homeless, and bring an end to the thin gossamer line of what you, in complete hubris, call civilization, while rendering Mother a diseased deformity with which to continue Her Sacraments, Her Covenants.

“And in the face of these Truths, you respond by muttering endlessly and incessantly three guttural chants:

1. Pass the beer!
2. Nothing matters unless we have fun!
3. Let’s go shopping!

“And you say ‘Pass the beer, lets have fun and lets go shopping?!?!’ Is this just gallows humor on a species scale?

“So, tell me the joke so I get it. Or, is the joke on all of you?”

## II

### MOTHER DREAMS

*God dwells in all beings as  
Life and consciousness.*

*God is in the  
Song of a bird,  
the roar of a Lion,  
and the cry of a babe.*

*Feel his Presence everywhere.  
See God in the wings of a butterfly,  
In the murmur of a brook,  
In the sound of a bell.*

*Every breath that flows,  
Every beat that throbs,  
Every artery that pulsates,  
Every thought that arises . . . .*

*All Speak to you that God is . . .  
THERE!*

From Swami Satchinanda

**Five Billion years ago.** Spirit gazes sweetly upon newborn Mother as she dreams Her most intense dreams and Mother, almost pure dream, coupling with Spirit births Her Skin and dreams the possibilities. Life is quickened! Mother’s deepest dream launched and figuratively took wing! Literal wing followed inevitably . . . inevitably because the union of Mother with Spirit was so full of bliss.

Mother was dreaming. She is dreaming. As ocean is to water, Mother is to dreaming. She has dreamed her art, she has dreamed eyes, she has dreamed peacocks, she has dreamed humans. Human dreams are fractals of Mother’s dreams. This is literal, completely so. Humans are Her and Her alone . . . . So, if that is true, are they also Spirit, and Source?

“YES!” *contributes Atlas, “but only in relation to all.” “To be any fuller form of Spirit, many millions must link in harmony.”*

**Four Billion years ago.** Mother dreamed life so continually, she got it. She dreamed it so continuously, she got it completely.

**Two Billion years ago.** Now Mother dreams drinking the Sun. Answering, as only Spirit can answer Spirit, strange and wonderful bacteria spring forth! This couplet of Mother and distant Sun makes its own food and fuel. Elsewhere, only pure Source can make its own food and fuel. Mother’s life now drinks the Sun.<sup>3</sup> On Mother’s skin, while she dreams fruition, the pieces of the membrane of skin around her are architected!<sup>4</sup>

These membrane skin creatures<sup>5</sup> and creators, launched, with free will, by Mother on her skin, formed all of the power centers of all life. With them all life at every level can move and reproduce, without them there is no life. Mother’s skin enables multicellular plants, and within them lives the early skin creatures!<sup>6</sup>

The fecund trail of life and its blossoming is long and lovely. Life, interacting with Spirit, partook of sexuality and found it increased the possibilities. Life found, thereby, a means for flourishing complexity and diversity.

Thus were these sacraments of life dreamed by Mother inaugurated:

- The sacrament of movement for each tiny living cell, and each system of cells, no matter how large or complex.
- The sacrament of the plant community. Plants’ ability to drink the Sun make animals derivative of that ground of sacramental community.
- Potential for movement and desire for drinking the Sun made the breathing for animals possible—and the eventual trail of creatures that led to the fire creatures, we humans.<sup>7</sup>

When Mother consummated with Source and Spirit, these raw materials of everywhere were no mystery or secret. She made Them a part of Her moving temple. There was nowhere where Godness was not.

---

*ATLAS interjects: "Lost by humans is the everywhere availability of Spirit to employ, to enjoy. Wounded Mother still moves, and humans still swim, in an ocean of Spirit. Spirit shines and shimmers, ready for access: to drink, to drive, to awaken.*

*"Innocent new Mother! Her generosity and fecundity could not anticipate eventual Nemesis."*

The Era in which we live began only 65 million earth revolutions (ER) around the Sun ago. A celestial body exploded into Mother Earth and a great family of Giant and Graceful Lizards was lost to the life stream. The loss of that family allowed a small and tiny twig of Life's Tree to expand. The mammals were able to grow into a branch. When we come to the last two million ER of this 4,000 million ER Stream, then (we) humans know the rest. And we have written documentation of the last few thousand ERs.

### III

#### NATURE'S WAY

*Wolf is a misunderstood animal.  
Yes, he is a predator,  
But, as I must remind my two-legged friends,  
we are too.*

*The Sioux respect the ways of Wolf.  
They value warriors;  
But not those who would take more  
than their tribe needs.*

*Nature's Way, by Eagle Man*

Heretofore, in this tale, Atlas represents Spirit and is connected to Source. Atlas is what the human community in Greece made of Him and also what the modern human community imaged him to be in Rockefeller Center (New York City), He is the embodiment of the Transcendent. If you want to conceptualize Him as a version of the Fundamental Forces of the Universe, that is appropriate, too. The Fundament of the Universe, what Einstein called Order, is part and parcel of Spirit. The Fundament is Transcendent.

Earth did, by communing with the Fundamental Forces of the Universe, bring forth Life and its Continuous Stream. She did Dream life. All of that Life is entirely coming from the loins and sinew of Mother Earth. There is no part of Life that is not fundamentally and entirely substance of Mother Earth.

This Tale has proceed from invoking the Transcendent, through the intermediary of Mother Earth, through the long life stream of Sun, earth, air, plant, animal and human, and now we come to the modern human 21st Century stage of that stream.

In the context of the Covenants and Endowments that Mother Earth has imbued Life with, the modern human is, through a number of inappropriate and unsuitable relationships with Mother Earth, along with mistaken and incomplete conceptions about human/Mother Earth connections, damming the life stream and severing viability.

The scope, scale and complexity of the human enterprise now interfering with Mother Earth life processes are well documented. Human appropriation of excessive portions of net primary productivity, the renewing flow from the Sun, is known.<sup>8</sup> The poisons strewn into the life stream, measuring in the billions of pounds for the life-taking flourines, chlorines and bromines alone are public record.<sup>9</sup> Human induced solar dimming because of what we pitch into the air and the overshadowing of that effect by climate disrupting warming due to using the membrane of the atmosphere for carbon/methane sinks is widely discussed.<sup>10</sup>

Now its time to pause . . . . .

From the perspective of Western Industrial Consumer Society, the challenge seems overwhelming and unapproachable. The three sacred cows of radical individualism, techno-optimism and indulgent consumerism, are in the way. So, the scope, scale and complexity of the challenge to the life stream cannot even be perceived, much less discussed in the conversational conventions of our culture.

But the threats are afoot. And the Sacred cows are in the field awaiting slaughter. **To you my brothers and sisters who cannot put your heads in their pillows and cover your ears, and who know how powerfully cast are the threats, I call out!** "Let us listen to the counsel of the First Peoples of the Americas. Let us listen to Eagle Man as he speaks through *Nature's Way*." Listen deeply.

Hear of the way of the wolf . . . .

- Learning the lesson of Wolf, we need to cultivate the value of "one among many"—one of the enduring values of Nature's Way that will work toward keeping us from the fatal, over-consuming path the entire world has embarked upon.<sup>11</sup>

Meditate upon this lesson . . . .

- We humans are intimately related to the cycle of Nature's seasons—the rhythmic breathing of growth and decay. Life and breath depend upon the healthy "lungs" of a "living planet." When balance is maintained between the carbon dioxide, nitrogen and oxygen in the biosphere, the rhythmic breathing of the planet enables life to flourish. But now the imbalance is making the living planet sick. Its breath is being extinguished by global warming. It is like a person

suffering from chronic obstructive pulmonary disease.<sup>12</sup>

Listen to this lesson with your heart . . . .

- Of all the (innumerable) species alive today on the Earth, only the human lives in ignorance, not only of the consequences of our choices and actions, but also of the path that leads toward healing.

**Meditate, with your deepest Spiritual Insight, and slowly chew these Lessons!**

#### IV

#### A NEW REVELATION

We will get down the Road, the Holy Road, toward a viable Human Future if and only if we Re-Covenant with Mother Earth and engage Spirit/Source in the quest. Additionally, a personal transformational experience will be integral to the metanoia required from the tutored group engaging the Workshop.<sup>12</sup> Components must be the key information, dramatically presented, by leaders who “walk the talk,” and act as representatives and role models of the Way. The presentation must be a Whole-Body involvement of participants, and a committed experience. Two days are required.

Step back a moment now. I know what I put up there is major, but break it down. For a viable human future, we must engender a spirited movement that manifests sincere self-limiting and self-sacrificing (central) traits; a relevant historical example is the Revolutionary Troops and General Washington. So, we have an historical model.

The transformed and transformative group must be unified, coordinated and consolidated. It needs to be communitarian while aligned. Clearly it must have central, lateral and criss-cross mutual support. Its layers must operate like cells and cellular systems, and healthy organisms. Many biological analogies exist.

Consider the most pressing and unifying threats: Ecosystems are in disarray and dysfunction across all of the lower 48 states, Hawaii and much of Alaska. We have no flourishing large and healthy ecosystems. We continue to take more than an order of magnitude more than the Land and Sun can replenish.<sup>13</sup> As a nation, the United States owes more than its net total assets making financial catastrophe immanent.<sup>14</sup> Now consider the time period we live in: We are past the time interval of cheap and abundant oil. We have taken half of Earth’s endowment; the cheapest, easiest to consume and easiest to get half. Post-Peak-petroleum won’t be pretty.<sup>15</sup>

Let us consider a new Revelation, a Contemporary one:

- **Greed:** Excessive desire, avarice, selfishness, voracity, excess, piggishness, indulgence, hog-gishness, acquisitiveness, intemperance, covetousness . . . .
- **Revelation:** We live in a completely immoral culture pervaded by greed and excess. To take 10-to-50 times what Mother Earth can provide means depriving future humans of enough to live. And in the United States, an average person takes more than 7 times what the Earth provides per person.<sup>16</sup> Since the collapse of the excess bubble/delusion will uncover, or Reveal the profligacy of the Present Era, our children and descendants will judge quite harshly those who do not confront this life-destroying greed.

Greed is afoot. Undefendable greed is destroying any life viability. In human history, we have seen how, in France in the 18th Century and in Russia, China too, those who were indulging privilege and undue wealth were treated. When the very viability of human continuance is exposed, short shrift for those who do not find motive passion to confront this greed, particularly those of us with privilege and wealth, will be—along with our descendants—treated without mercy. The collapse of the excessive human endeavor will ensure this result.

Joseph Campbell, who explained what human individuals and cultures needed in metaphysical/mythical systems, was fond of saying that the two driving motives for humans were *terror* and *aspiration*. Clearly, the human experiment, pre-Revolution United States of America was most fructified by *terror*.

Modern United States of America responds to appeals to its animal appetite and consumption thrall. Entertainment and gratification are keys to the kingdom of “brief attention” from “consumer-unit” citizens. But, and this is crucial, in spite of our media drenched, always busy nation, we do report that most significant satisfactions come from family interaction and personal relationships. (*Thank goodness we are still living beings and not yet electronic chips or cyborgs!*)

Here is where we can tap the “*aspiration*,” part of basic human drivers. We each and all will need the deep and available support of the personal, the family, the small group, the larger group, the aligned congregation, and so forth, in order to function forward. Within those layers of support, Spirit/Source will need to be accessed and engaged regularly through devotion and ritual. Mother Earth will need to be loved, appreciated, **restored** and celebrated.

*Notice “restored” in the just-above paragraph. The Holy work before us not only involves “stopping*

\*The Ecozoic Era is a term coined by Thomas Berry to describe the next geo-biological era, a hoped-for period of mutually enhancing relationships among humans and the larger community of life.



---

*destructive excess,” but also restoring the trampled strands in the living and surrounding world’s web. Nowhere on our vast continent have we restrained ourselves and we have completely ruined the natural sustaining and enriching ecosystem management regimes (with the small exceptions of the Yukon and patches of the far Northwest—and these are not too far from impending ruin.)*

*From the destruction of the wetlands that could have bridled Katrina, to the wholesale genocide of our keystone fellow large mammal predators on land, to the limitless dismemberment of the keystone sharks in Mother’s waters, we all have work to do and, education and advocacy to strike.*

Importantly, those who are joining together to launch this Movement to a realization of the New Covenant, carrying Spirit, and modeling living within the Web, demanding concert from larger culture, finding support/succor/satisfaction from the echo membrane surrounding the Movement Cells/Organelles/Structures/Organisms. And from the contents within, those New Covenant individuals linked in Spirit, in Relationship, in respectful relationship with Mother Earth. We shall be in the larger culture, but not of it. We shall be living a New Covenant exhorting, leading and modeling a new mode of human culture, human endeavor, human expression.

It’s about *time!* . . . **Our** time!

**Today!**

<sup>1</sup> Thomas Berry, *The Great Work* (New York: Bell Tower, 1999), 20.

<sup>2</sup> *Ibid.*, 84-85.

<sup>3</sup> She does so through cyanobacteria. Cyanobacteria are photosynthetic. They can manufacture their own food.

<sup>4</sup> These pieces, created by the offspring of Mother Earth are the atmosphere.

<sup>5</sup> This membrane skin was in operation, almost coincident with the formation of Earth itself, if we take the long and scientific view. Also, these life forms were responsible for oil deposits; results of their own activity.

<sup>6</sup> The chloroplast with which plants make food for themselves is a cyanobacterium living within the plant’s cells.

<sup>7</sup> Chloroplast communities exhale and thereby have produced atmospheric oxygen. Most all of it that animals use (and have used) to breathe, to respire.

<sup>8</sup> “[T]oday humans consume 40 percent of net primary productivity on land; that is the total energy trapped in photosynthesis worldwide, minus that required by plants themselves for their survival.” Richard Leakey and Roger Lewin, *The Sixth Extinction: Patterns of Life and the Future of Humankind* (New York: Anchor Press, 1995), 239.

<sup>9</sup> See generally, Joe Thornton, *Pandora’s Poison: Chlorine, Health and a New Environmental Strategy* (Cambridge, MA: MIT Press, 2000).

<sup>10</sup> See generally, Anup Shah “Climate Change and Global Warming,” updated June 8, 2006; available at <http://www.globalissues.org/EnvIssues/GlobalWarming.asp>; Internet; Accessed December 31, 2006.

<sup>11</sup> Ed McGaa, Eagle Man, *Nature’s Way: Native Wisdom for Living in Balance with the Earth*, reprint ed. (San Francisco, CA: HarperSanFrancisco, 2006), 103.

<sup>12</sup> The workshop is the one described in the Introduction to these Atlas Chronicles—it is yet to be created.

<sup>13</sup> Ecological footprint film, data, and other information available at [www.footprintnetwork.org](http://www.footprintnetwork.org).

<sup>14</sup> See Laurence Kotlikoff and Scott Burns, *The Coming Generational Storm: What You Need to Know about America’s Economic Future* (Cambridge, MA: MIT PRESS, 2005), or Peter Peterson, *Running on Empty: How the Democratic and Republican Parties Are Bankrupting Our Future and What We Can Do About It* (New York: Farrar, Straus & Giroux, 2004). Both are clear, concise, and readable. Both published in 2004 and elaborated upon since.

<sup>15</sup> See William Kunstler, *The Long Emergency: Surviving the Converging Catastrophes of the Twenty-First Century* (New York: Atlantic Monthly Press, 2005). Kunstler offers a lucid account.

<sup>16</sup> See <http://www.ecologicalfootprint.org/pdf/Footprint%20of%20Nations%202005.pdf>

## An Integral Path to the Ecozoic Era

By Bill Rickard

*“The historical mission of our time is to reinvent the human at the species level with critical reflection, within the community of life systems, in a time developmental context, by means of story and shared dream experience.”*

—Thomas Berry

This prophetic statement of Thomas Berry can be coupled with an existing integral (see box) explanation of the human’s journey along the arc of evolution. By doing this we can obtain an early glimpse of the changes needed in human thinking and behaving as we grope our way forward into the 21st, facing unprecedented challenges to our long-term existence. Thomas Berry himself may be the prototypical example of leading edge humans that will arise in response to the chaos preceding the Ecozoic Era.

*“{W}hat I am proposing is that the psychology of the mature human being is an unfolding, emergent, oscillating, spiraling process marked by progressive subordination of older lower-order behavior to newer, higher-order systems as man’s existential problems change.”*

—Clare W. Graves

Clare W. Graves, former professor of psychology at Union College in New York, was the father of a comprehensive psychological and sociological theory that holds that human beings as well as tribes, groups, and even nations are at different “levels of existence”. (Futurist magazine, April 1974)

Graves: “Through history most people have been confined to the lower levels of existence where they were motivated by needs shared with other animals. Now, Western man appears ready to move up to a higher level of existence, a distinctly human level. When this happens there

**INTEGRAL**

**Integral in this sense means comprehensive and includes the non-material (mind) and material (brain) aspects of the individual as well as the non-material (culture) and material (society) aspects of the collective. In other words: inside/outside, singular/plural.**

will likely be a dramatic transformation of human institutions.”

Since his death, the work of Dr. Graves has been continued, expanded, and applied to numerous organizational, national, and international problems by his student and colleague, Dr. Don Beck, who operationalized a system built on Graves’ Theory.<sup>1</sup>

This system, called Spiral Dynamics Integral (SDi), has been applied widely—from sports teams to the tedious, delicate negotiations surrounding the ending of apartheid in South Africa without a bloodbath. Dr. Beck made over 60 trips to South Africa helping the various parties in the peace process understand the different “levels” at which each of the groups was centered and then enabling communication that could be understood by each. Beck’s websites are [www.spiraldynamics.org](http://www.spiraldynamics.org) and a newly created site called the Center for Human Emergence [www.CHE.org](http://www.CHE.org). Beck assigns colors to each level on the spiral, so it is best to refer to the graphics on the website to understand Spiral Dynamics more fully.

Spiral Dynamics follows the cultural evolutionary history of human development through two tiers. Table 1 lists the steps in each tier and some salient characteristics. Bridging between the first and second tiers may well be the beginning of the “reinvention” process Thomas Berry points to in his statement of the historic mission of our time.

vMEME Characteristics			
Color Key	Description	First Emergence (number of years ago)	Deep Concerns
<b>SECOND TIER (Being)</b>			
Turquoise	Holistic-Global	30	Living systems & harmonies
Yellow	Integrative-Principles	50	Flexibility & natural flows
<b>FIRST TIER (Subsistence)</b>			
Green	Sensitive-Humanistic	150	Equality & community
Orange	Strategic-Materialistic	300	Autonomy & improvement
Blue	Purposeful-Saintly	5,000	Obedience & stability
Red	Powerful-Impulsive	10,000	Dominance & control
Purple	Magical-Mystical	50,000	Clan well-being & custom
Beige	Basic-Instinctive	100,000	Basic Survival

Eight levels of the spiral are now in view, and a ninth is beginning to appear on the horizon. These levels describe the values and motivations of the species' upward movement along the core structure of the spiral. Each leap toward the next level reflects two major sets of parameters: external life conditions (times, places, problems, and circumstances) and internal valueMEME capacities (see box). As the human confronts new existential changes in the world, his core adaptive intelligence shifts. When a shift occurs toward the next level on the spiral, all of the ways of being at the lower levels are included within the repertoire of the new level.

It is important to point out that vMEME levels in the spiral coexist and motivate individuals and societies at the same time. So, for example, today we have clear examples of all levels of existence from the purple tribal level up to the much higher green (postmodern) level, all existing simultaneously throughout the world. At any point in time, there is a distribution of persons motivated primarily by each of the vMEME colors. In macro terms, each developing vMEME level is a reaction to its immediate predecessor.

*“Perhaps a new revelatory experience is taking place, an experience wherein human consciousness awakens to the grandeur and sacred quality of the Earth process. Humanity has not participated in such a vision since shamanic times, but in such a renewal lies our hope for the future for ourselves and for the entire planet.”*

—Thomas Berry

The shift from first tier to second tier consciousness and spirituality is really a continuous evolutionary change. However, the behaviors in the Yellow and Turquoise levels proposed by Graves and Beck (the leap to the Ecozoic Era) seem to be so advanced that it appears to be a leap when Yellow thinking and behaving first appear. In Spiral Dynamics, the six levels in the first tier are referred to as “subsistence” levels; the two currently identified levels in the second tier are referred to as “being” levels. Yellow has been in evidence for around 50 years and Turquoise, around 30. A ninth level, the Coral vMEME, is on the horizon, but its characteristics are not yet clear.

It is important to recognize the characteristics of second tier living, because they point the way to the consciousness shift that Berry projects. In the Yellow level for example, which follows and includes the Green (egalitarian, humanitarian) level, personal competence and rational systemic flow behavior are the keys to recognizing the increasingly complex behaviors needed by today's interrelated global problems. Appreciating the complex feedback loops present in the global warming

## MEME

**The term was introduced in the mid-70's by Richard Dawkins, a British biologist. “He used it to describe a unit of cultural information comparable in its effects on society to those of the chemically coded instructions contained in the gene of the human organism.”\* A vMEME in the work of Beck and Graves is a “Core value system, a world view, an organizing principle that permeates thought structures, decision-making systems, and various expressions of culture.”\*\***

\*Mihaly Csikszentmihalyi, *The Evolving Self*, 1993.

\*\*Don Edward Beck, “SDi Spiral Dynamics in the Integral Age”, a brochure of illustrations on SDi.

phenomenon gives the insight that global warming is caused by human activity (particularly, the burning of fossil fuel), which in turn gives rise to the depletion of the planet's oil reserves, radical weather shifts, sea rise, and so forth. The complex response offered by Yellow embodies the use of new energy forms, bicycles, walking and public transport as beginning solutions to the prime overarching physical problem. Yellow wants complex solutions at the core problem level. The analytic insights at this level may also give rise to the spiritual understanding that consumerism as practiced in the West and aspired to by the East and South is the real problem. Movement to the Turquoise level will deepen the sense of global community and broaden the acceptability of key analytic solutions.

The Turquoise level (which has been only been in evidence for perhaps 30 years), has been described as follows by Beck: “Sacrifice interests of self and others, as necessary, so as to reach balance and harmony among humans, the planet, and generations to come.” Whereas the Yellow vMEME focuses on the analytic and solution-oriented responses to chaotic life conditions, the Turquoise vMEME focuses on the collective blending and harmonizing of system solutions.

Another important characteristic of Yellow and Turquoise is that they recognize the levels at which others are existing and communicate and act accordingly, while different groups at the various subsistence levels frequently display antagonism, if not outright violence, to promote their worldviews. All levels can usually get along with Yellow and Turquoise. It is important to bear in mind that the purpose of Yellow and Turquoise (second tier living) is to facilitate the movement of the species through the spiral—not to judge the inadequacy of first tier vMEMES to solve global problems. Beck

provides some of the characteristics of Yellow and Turquoise thinking:

#### Yellow

- Seeks to do better but is not ambitious; measures self against self.
- Responds to competency and reason, but not to “authority and rules.”
- Fights for self but is not defensive or suspicious.
- Free from inner compulsiveness, but can enjoy best of life.

#### Turquoise

- Seeks to blend, harmonize and develop a strong collective.
- Focuses on good of all living entities.
- Sees self as part of larger conscious whole.
- Expands use of human brain/mind as tools. Seen as “right brain” with data.
- Lives in a minimalist way, so less is more.

Now is the time for the momentous leap for mankind’s leading edge to the “being” levels of living outlined in the integral psychology of Graves and Beck. Fortunately, the evolutionary shift up the spiral to the new ways—the Yellow and Turquoise vMEMES—is in sight. The characteristics and lifestyles in both second tier vMEMES seem to embrace the shift in consciousness that would permit (1) scientific and technological knowledge to be acquired and applied appropriately, (2) a worldwide sense of concern that would shape a more equitable economic system, and (3) the adoption of a minimal ecological footprint by those in the First and Second Worlds.

Graves and Beck have described the next steps in human cultural evolution. The logical questions are “What are the practices of those persons who are manifesting Yellow and Turquoise characteristics and how can persons at first tier be encouraged toward higher tiers?”

The Spiral Dynamics constellation of practitioners and students has offered a key point of advice: Find a superordinate goal that meets the needs of the people and the planet and live that vision. The characteristics of the Yellow and Turquoise vMEME are indicators of the behaviors now needed at the leading edge to draw us through the present chaos into Thomas Berry’s Ecozoic Era.

The visionary aspect of Thomas Berry’s writings, his clear overview of our cosmological story, and his precise critique of how the order of things must change reveals Yellow and Turquoise insights. Perhaps his description of the Ecozoic Era is really the superordinate goal that Beck’s constellation calls for to move up the spiral.<sup>2</sup> It is possible that Berry’s decades long appeal has been a forerunner of the systemic analysis and globally effective way of living Beck and Graves predict in second tier persons. Perhaps, the “rightness” of his writings is resonating with those who cherish his vision, write about topics based on his thought, and slowly change vMEMES and lifestyles to enter the Ecozoic Era. Thomas Berry’s life and thoughts may be for many of us a lens for glimpsing what the world must become.

As Don Beck writes, “**No more prizes for forecasting rain; only prizes for building the ark.**”

Spiral Dynamics is a comprehensive system—an integral psychology/sociology—that maps the evolutionary process of human consciousness. The system as an operational tool for transformation encompasses test instruments, change methodologies, complex cyclical movements, and so forth. This article is intended to relate this proven personal, managerial, national, and international tool to the visionary demands of Thomas Berry’s Great Work. A useful interview with Dr. Beck appeared in the Fall/Winter 2002 edition of *What Is Enlightenment* magazine. This article may be found on line at <http://www.wie.org/j22/beck.asp>. For additional information on SDI workshops, Dr. Beck can be contacted at [DrBeck@attglobal.net](mailto:DrBeck@attglobal.net).

<sup>1</sup> Don Beck and Chris Cowan. *Spiral Dynamics: Mastering Values, Leadership, and Change: Exploring the New Science of Memetics*. (Cambridge, Mass., USA: Blackwell Business, 1996).

<sup>2</sup> Thomas Berry. *The Ecozoic Era*, Acceptance speech of Annual E.F. Schumacher Award, Great Barrington, Mass, 1991.

## Art from Wonder

By Maria Termini

**M**y schoolhouse, deep in the forest, was the best studio I ever had for doing art. I was surrounded by endless subject matter, and so blessed by wonder, that quality of delight and mystical awe that cannot be described in words. The wonder felt good; it made me aware of the presence of God, the artist of all artists, and brought me closer to an amazing God. My forest was surely a sacred space for me and very much like a church. I needed all this wonder. Even my car proclaimed “wonder” with its Maine vanity plates.

Each time as I would wander in the forest, new and beautiful things would be revealed to me. I was amazed at the beauty and perfection of all things around me, from the graceful precision of unfurling fiddle heads to the ruffled edges of the fungus growths on trees. Rich details of colors and textures were given to me. Truly, the forest was God’s revelation and a living book of the bible that I read by being there and experiencing it.

Patterns everywhere inspired me. I studied with delight the veins of leaves, the crystals of snowflakes, the pointed textures of pine needles, flower petals, the tiny multiple flowers of Queen Anne’s Lace, and the fluffy seeds of dandelions. Patches of lichens bloomed in concentric circles on the weathered rocks. The changing colors of the delicious sunsets were infinite iridescent glows and touched with clouds like wisps of gold leaf. Each sunset was a unique treasure. The flickering shadows of leaves in the sun, moon shadows on the snow, and the rich fragrance of my lilacs and wild roses inspired me continuously. Here, I was rich with experiences of beauty.

Each season had its splendors. In fall, the visual magnificence of the fiery foliage and falling leaves of red, gold, orange was an endless delight. In the winter I became obsessed with painting the falling snow. I painted large globs and dots of all sizes of white on a dark background. Snow falling on snow always amazed me. The whitest white on white, the crystal purity of snow and the way soft silvery snow looked as it fell silently out of the endless sky at night. In the winter whiteness, I could see intricate patterns of dried weeds against the pure untouched snow. I observed the tracks of moose, deer, and rabbits distinctly etched into the snow. I found a bunch of beautifully patterned grouse feathers neatly stuck into the snow as darts on a dartboard. They had fallen this way as the predator killed its prey.

One bright, sunny January day, I encountered a huge white rabbit—a snowshoe hare that changes its color to brown in the summer to better blend into the environ-

ment. It was the biggest rabbit I had ever seen. It was like a vision and inspired many paintings. I was amazed at its ability to blend perfectly into the snow in silver, light gray and white tones like a ghost.

Spring came slowly in subtle ways at first and then with delicate greenness and then bursting exuberance of blossoming trees. Summer was filled with the excitement of rapidly blooming flowers. White daisies dotted fields of green touched with the yellow blur of monster buttercups. Seeking a contrast of calmness, I would often wander down my road and stare at the surface of Crocker Pond. The endless dark ripples rolling towards me hypnotized me into a state of wonderful stillness accompanied by the jingle bell sound of frogs at dusk. I always hoped this would be the time deer would come to the water’s edge to drink, but the deer kept out of my sight. Paradoxically, the more I tried to see them, the more I missed them. I saw them only by chance. At the pond, a few jumping frogs would disturb my trance. Every day is a revelation of more beauty. Even the cloudy gloomy days brought dancing mists and raindrops suspended on branches like crystal globes. I was always eager to do art.

Soon, I became moved to work artistically in the form of mandalas. These circular images represent wholeness, and since they have neither beginning nor end, they convey a feeling of endless completeness. Mandalas have been used for thousands of years in mainly eastern religions, as images enhance prayer and meditation. I did not have a complex way of thinking about them. The mandalas were very organic growing things, and I never knew how they would wind up until I was sure they were finished. The process of creating them was a real adventure. The paper is completely blank and pregnant with potential, and the images emerge slowly. Shapes I had never seen before grow outward from a central point. I am moved to use images from nature in layers of color to create a new microcosmic world on the paper. I often used flowers, leaves, snow and rainbows as starting points.

I was moved by the deep experience of a painting I did of a circular rainbow. I felt as if it was a very personal image; I internalized it and it stuck with me. I used all the colors and had slow transitions from color to color. It looks like a tree trunk with its annual rings. It is interesting to think of all the years of my life as the diverse and brilliant colors of a rainbow in ever widening, rippling rings.

In the schoolhouse, I had been given the gift of a perfect art studio, complete with a big bed and access to

coffee. In the schoolhouse, I had decent light when the sun was shining, no interruptions and lots of space in which to spread out my materials, throw things on the floor, and tape works in progress all over the walls, play the radio, dance, sing at the top of my lungs, and even talk to myself. For many years, I had to work in cramped, small rooms and with twins underfoot. Now I had space to sprawl out in the whole schoolhouse. I had three large tables around the room near the windows. In the winter, I located myself closer to the wood stove for as much warmth as possible and where I could fit my drawing board over my rocking chair. I parked myself there for hours lost in the compelling process of drawing in warm comfort regardless of the temperature outside.

I generally had very few visitors, and no need to be somewhere else or at an outside job. I had the needed solitude and time, at last, to just go deep into the world of my artistic imagination. I needed to be alone to do this. It is hard to paint when there are people around.

No matter how nice they may be, occasional guests would always disturb my concentration. Here, deep in the forest, without the chaos of life as in the city, I could more clearly hear the voices of inspiration.

In my schoolhouse studio, I continued my life-long passion to do art. I always wanted to do art ever since I can remember and was especially drawn to the excitement of colors. As a young girl, I would spend hours touching and contemplating endless fabric samples in my father's cabinet making and upholstery shop. There would be many shades and tones of colors like wine, olive, chartreuse, moss and apricot. I loved the feel of the fabrics—especially the velvets and corduroys. I would amuse myself for hours by arranging the small samples in many different color combinations. I got another dose of color rapture when I worked in a drugstore selling cosmetics in college. I was astounded to see lipsticks in over sixty shades of red, each one a distinguishable difference from the other and with poetic names like Persian Melon, Peppermint Pink and Pango Peach. Eye shadow was also in a fascinating array of shades. These experiences of color led me to create paintings and silk screen prints that were drenched in bold, brilliant color.

I had been an artist in the Boston area for many years. I taught art and actively exhibited in many places. I had some large mural commissions in the city of Boston but had worked mainly as a printmaker, specifically in silk-screening. I was in love with this medium and authored the book, *Silkscreening*. I created many editions of original silkscreen prints—and learned ways to do this simply and with a very minimum of technology which would have been too expensive for me. For me, there was always magic in the process of pulling a squeegee loaded with ink across a screen stretched with

silk to produce multiple impressions of an image. The smell of ink was like nectar to a bee. I especially loved the thick inks used in the printing process and being able to mix, experiment and invent all kinds of colors—especially variations of purple, magenta and cerise. In my art, I invented imaginary landscapes, fantasy flowers, apples that morphed into valentines reflecting my experiences of my environment and life. I reached a high level of technical proficiency when I did a print that had eleven colors requiring great accuracy in the printing process to align the colors precisely.

I experienced creative growth when I began to work in my schoolhouse studio. I was now immersed in the deep beauty of nature. My inspiration was everywhere and closer to me than ever before. I knew that I needed a new way to express this, so I started working with new things that were not too evident in my previous work. I used tones, shadows, light and dark, and went deeper into the well of my imagination and used more time consuming techniques slowly shading shapes and using innumerable progressive tints of paint. For the first time in my life, I had seemingly unlimited time in which to work. I could freely follow my instinct and intuition. I began to enjoy experimenting and working with new materials such as chalk pastels and pencils. I loved making scales of light and dark. It was exciting to see how shapes on paper could appear rounded and take on the quality of celestial outer space landscapes with amazing depth according to the way I placed the smooth gradations of lead pencils. I worked intensely with colored pencils blending colors and creating delicate veils of transparent tints.

In the schoolhouse, I managed, at last, to find my own way of working with the wild, slippery medium of watercolor. The more I worked with it, I realized that I did not want to control it. I got out of its way. I did not want to paint in a precise rigid manner. I began to enjoy splashing around in this medium and reveling in its wetness and exuberance. Being in my schoolhouse studio led me to these exciting changes and artistic growth as I strove to express in new ways my wonder and reverence for creation through my art.

Living well in the schoolhouse was also my art work. Art was everything and not confined to what I did with paint and pencils. I remembered what Picasso had said when someone asked him what art was. His simple answer was another question: "What isn't?" Indeed, I have always known that there is the supreme art of living with attention to balance, contrast, harmony and unity just as there is in the design of an art work. I arranged the schoolhouse to create a peaceful and efficient environment that was a place of beauty for me. My artistic impulse also led me in how I defined paths and planted flowers and created a vegetable garden. I

---

arranged rocks on the granite ledge in front of the schoolhouse to form humanoid sculptures. I would stack rocks of varying sizes upon each other like the rock cairns used to mark trails on summits where there are often no trees. It was like making snowmen.

The creative urge is always with me. I am always thinking of translating my experience and inspiration into the tangible form of art. It is what I have to do and what I am called to do. I believe it is what I do best. But the reality of selling my work and connecting it with others has been very difficult, frustrating and seemingly impossible at times. At the schoolhouse I was remote from any art scene and removed from all that questing to be famous so I could sell my work. Being here in the woods, there were no local galleries and absolutely no way I could have sold my work. So I did not worry about that so much then. I just sank myself into enjoying the joyous process of doing art in an atmosphere of lavish inspiration and creative solitude.

Being an artist here was very solitary. I knew that I did not create art that people would find familiar and comfortable nor did I want to do so. Making art for me is a leap of faith into the unknown. It has to be an unpredictable adventure. Anything else would be a false way of working and extremely boring. I knew that most people away from the urban centers wanted art they were comfortable with and art that was mainly representational. Sailing ships, horses and light houses were popular themes in Maine. My art had no chance of being popular here. My art came from deep inside me and my

own impulses. I was not interested in showing the precise position of a shadow or doing exact portraiture (which I could do). Being an artist was lonely even though the process of doing it was mainly joyful and pleasurable.

But I continued thirsting for and drinking in the wonder of this forest. So many images of its beauty still crowd my mind. One afternoon in early April, I walked in slushy snow to Crocker Pond. I was alone but with my camera as my constant companion. The road was still blocked with snow, so no other human had been here in months. The pond surface glimmered with still large areas of thawing ice shimmering in the sun. Patches of bubbling foam contrasted with smooth mirror like water. Small bushes bordered the pond's edge ready to bloom with buds. I circled slowly around the pond delighting in patches of bright green moss and clumps of rusty pine needles now revealed as the melting snow shrank. At the water's edge, I could see fat tadpoles chugging through the water like helicopters. Around the shore birch trees stood tall in their intense silvery whiteness. The surrounding mountains are doubled in their magnificence as they are perfectly reflected in the smooth parts of the pond along with the vertical splendor of the birch trees. This beauty has no price. If it is destroyed by man, clear-cut, bulldozed and paved with asphalt, it cannot be duplicated. From living here, I know more and more this work of art, this planet Earth, is so very fragile. I still look, pray for the Earth, and am *so blessed by wonder!*

---

*Marshall teaches the dramatization of the drama of ordinary life.*

---

## **EcoTheater—A Theater for the Ecozoic Era**

*By Joyce Marshall*

**T**he Ecozoic Era will include a new culture to undergird a new polity and a new economy. That new culture will include a new human being. This new human being requires being who we already are in our own deep nature, being who we are in our own local history, and being who we are as members of a natural community of people, animals, plants, and microbes.

To enable us to realize this new humanity, we will need, among other things, a new art. And a new art will include a new theater. EcoTheater is such theater.

EcoTheater is an art movement that is already in history with considerable sophistication. The name EcoTheater means a place for seeing (Theater) home (Eco)—a place for seeing home. EcoTheater provides a venue for seeing our home—who we are and where and how we actually live our lives.

The name EcoTheater often causes people to assume that it is out to further ecological causes or “grind axes” of some sort. EcoTheater, however, is art, which is to say it is not propaganda for any cause no matter how good we might consider it to be. It is concerned with protect-

ing the authenticity of its productions so that each is a purposeful, concentrated communication revealing the mystery of our connectedness.

### A Brief History of EcoTheater

I discovered EcoTheater through an article in a 1984 issue of *CoEvolution Quarterly* (later renamed *Whole Earth Review*) written by EcoTheater founder, Maryat Lee. Theater was my minor in college and I resonated immediately with Lee's dissatisfaction with theater as it is usually presented. In the article she said, "The words 'acting' and 'actor' have an association with pretension for most people outside the theater. I want something different. I just want people simply, and not so simply, to be themselves. When that happens, there is a beautiful unspoiled quality of truth and an authority that nourishes me and makes it all worthwhile." She went on to explain that this approach does not mean the actors play the same "being" in each play. Any one person's capacity to be many people with different aims, habits, and accents, is amazing. In casting, it is important that the actors find within themselves the character they are playing.

Lee's idea of theater as a mirror and a window for seeing one's own home was also captivating. She had come upon the method in 1951 in Harlem, when, as a student at Union Theological Seminary, she created a play called "Dope!" based on interviews with residents and with local non-actors. Performed on the streets for thousands (many on fire escapes), it was featured in *Variety* and *Life* magazines. Lee went on to develop SALT (Soul and Latin Theater) in the 1960s which played in New York City streets from a hay wagon. In the 1970s, Lee returned to her native Appalachia and led a number of productions featuring the life of the people there. By 1984, Lee had incorporated EcoTheater and was beginning to teach others to be playwright/directors and to use her method of showing local people how real, significant, and precious their life experiences are. I was fortunate to do the full training (six week-long workshops) with Lee before her death in 1989. Since that time I have trained others to be playwright/directors and directed local performing troupes.

### The Methods of EcoTheater

The fundamental role of EcoTheater is to encourage the development and performance of original theater created by local people. This includes the understanding that theater is a natural, simple, and universal ability in everyone and that the telling of your own story has a powerful and life changing impact. Many EcoTheater scenes are developed from oral history—the stories of local people about their lives and times and their relations to their communities, domestic and wild. Lee discovered a method of collaboration between playwright and actor that allowed the natural talk of the region to flow uninhibited. EcoTheater is committed to bringing theater back home, to honoring local speech and idiom. This means trusting the power of that local voice which does not "talk down" to its audience, and which, in fact, does not "act" at all, but simply reveals that which is usually hidden.

The co-creation between playwright/director and actor involves the necessity of learning to take authority as a whole and to "flip" it. Lee discovered an important life truth: Authority is not cut up in little pieces and shared. One must grasp full authority in order to keep it whole to flip to others. The playwright/director takes authority to write a script, then "flips" the authority to the actors to improvise and make the script their own. The playwright/director then rewrites the script, judiciously using the actual words of the actors. The result of this collaboration is that the scripts are made to fit the performers, not the other way around. Another result is that in performance the scenes feel real. Audiences of EcoTheater are aware that there is no invisible wall between them and the actors and they are often moved to laughter and to tears. A central aim of EcoTheater is to create "moments of being" when we know our connectedness with each other and with our home to allow us to experience our common humanity.

Another aspect of EcoTheater is its commitment to a theater stripped down to its essentials, to what is basic and real, even if crude. This means it does not try to imitate the gloss and polish of professional productions. It is a theater from the bottom up, which can operate on low budget or no budget. We avoid getting involved in creating fancy effects with lights, staging, costuming, and makeup. This means that a performance can happen with a simple statement: "Okay. Here is the stage. The characters are —."\*

\* Editor's note: For information on EcoTheater training, contact the author of this article at [jgmarshall@cableone.net](mailto:jgmarshall@cableone.net).



## **The Longing**

*By Betty Luceigh*

In the beginning, did the Universe so long to expand  
that it could not restrain from bursting forth,  
exuding its contents into the emptiness of potential,  
allowing energy to shape-shift into matter,  
birthing laws as it birthed forms,  
permitting energy to establish the cosmic rules of order  
to balance the drive to disorder,  
all the while exhaling the great Question  
relentlessly surging ahead of its Answer.

Did freedom only become aware of itself  
as it selected out of the swirling choices,  
to create a galaxy or something other,  
a star or something other,  
a planet or something other,  
until flecks of matter were confined into a ball among balls  
so the story might continue to unfold the longing, still unscathed,  
within more subtle forms of violence.

Did our humanity evolve in response to this longing,  
so it could be reached for with arms, followed with steps,  
reflected upon, written about, argued over.  
Did this longing organize our DNA to yearn for it,  
or reserve a secret cell within our hearts to receive its signal,  
so we might one day recognize its intimacy.

We dreamed up our myths  
to acknowledge this longing that never ceases,  
so we might be sustained  
until science could measure and explain  
the what and how and when and where.  
Knowledge of facts and theories expands so fast  
we feel bereft of our humanity's childhood  
and strive to translate our magic beliefs  
into even more contorted shapes,  
rather than risk transforming ourselves into something more profound.

What a force this longing is to never tire of its Question.  
How patient this longing is to wait for us  
as we evolve through our ignorance and misguided substitutes for truth;  
as if the longing already realizes  
our enlightened freedom will one day  
discipline our own consciousness into its next expansion;  
as if the longing already realizes  
we have been participating since the beginning  
in the creative unfolding of the eternal Answer.

What could we become that has never yet been,  
if we would only integrate what knowledge provides and spirit guides?  
What could we become,  
if we would gently embrace all we have passed through  
rather than grab tightly at our most recent manifestation?  
What could we become,  
if we would transform beyond our self-imposed restrictions,  
and make a leap in development of such magnitude  
that it surpasses the day the first light shone out of the darkness,  
the day the first star was born,  
the day the first cell came to life?  
What could we become  
if we did not restrain our own bursting forth?

---

*Loyd finds religion under foot—in the sprout.*

---

## **The Religion of the Sprout**

*By Alice Loyd*

**Y**esterday, after reading an alarming report about the loss of ocean life,<sup>1</sup> I sent it out to six people carefully selected for their desire to know and their stamina to withstand the news. I wrote, “We who care and are alive at this time must have a function other than to grieve.” I’m searching for that function.

I’m pondering how centuries and centuries of people could go so wrong. I think deliberate choices have been made, and not altogether in ignorance. The path by which we have come to this dangerous moment follows a cohesive vision, one God did not ordain. The vision is a device to enhance human power not for the many, but for the few. It is a religion of exploitation, and its commitment to exploitation brought it into dominance. It stands averse to the realm of God, in which even a sprout has strength, which it employs in humility.

In my eyes the sprout has come to represent God’s way in the world and our proper response. Born of dust, it emerges vulnerable but full of promise. As with the young of every species, it has influence only with those who sense its value and respect its needs. Its duty and delight is to bloom into its full potential, and it will do that with amazing vigor when conditions lend support. In maturity it returns the investment, providing food, shade and moisture-holding roots while it lives, and humus when it dies.

While contemporary faiths talk about rejecting the exploitative way of culture, they rarely teach the alterna-

tive model except as private behavior. To bring about change, collective action is required, based on aggregated will. What vision is powerful enough to move us together out of the culture of domination? For me, it is the spell of the sensuous.<sup>2</sup> The cure is to embrace the bliss of this Earthly life, a perspective so foreign in our era that I hesitate to present it either in environmental or religious settings. The environmental community appreciates nature more than the church does, but it doesn’t experience God there. Scientists working on climate or biological systems may admire life as a powerful whole, but in their analytical roles they stand apart from it.

The life-changing vision sees the “Thou”<sup>3</sup> in all members of the biologic fabric and lives among them in intimate engagement. All humans and all else are granted soul. This garden of Eden/gatherer’s view of the world was replaced when “civilization” began.

Remembering that many of the major spiritual influences in our day originated in deserts, I understand, to some degree, why the relationship with nature has been regarded as antagonistic. I also remember the church’s centuries-old war against the nature religions. The Israelites coming out of Egypt warred against the Earth religions of the Canaanites whose lands they took, and the Christian church sought to stamp out the Earth religions first in Europe and then on all continents where humans live. In the industrial world, most churchgoers have become city people and have little contact with

---

nature except as scenery. Now it is religious dogma that nature is not God's sanctuary.

We have traveled far away from unity with Earth, but now, in this time of peril, a broad-scale reunion is the only hope we have. The consensus view of climatologists is that in order to preserve the ecological community in its current form, human activities causing global warming must be reduced substantially within ten years, yet we see the opposite happening. Because the risks we are ignoring are so great, I can only explain the fervor with which we cling to this destructive path as religion-based. It is a religion on whose altars we sacrifice future generations.

To express my anguish, I reach for the strongest language. I could make the case for a devil. Wouldn't it require a Satan to sustain with such strength a lost cause through centuries? Aren't the principalities and powers of this world being obedient to the forces of darkness? In near despair, I ask myself, "Are we victims of dark powers? Will the power of the sprout be overcome in the end by brute force?"

I experience myself as good. I'm confused, but not filled with impulses to destroy. I know how I came into the world—I came as love, just as God is love. Genetic life calls for cooperation rather than control, and the mystic vision sees us all connected in light. So how can this conspiracy have been successful to the point that in our era humans bring about their own destruction?<sup>4</sup> We are setting in place the forces that may bring life as we know it almost to an end.

So the question I asked my close circle of advocates was on point: Don't we have a function other than to grieve? I have to think we do. I'm feeling the furor amounting to a battle against our genes that has pressed down against Earth's life for millennia. What appears to me as an anti-life—even diabolic—oppression<sup>5</sup> has gained favor to the extent that few resist successfully, or dare to. Even the gentlest of humans as a rule see themselves as better than and different from the rest of the fabric. I get nervous seeing myself outside the safe fold of conformity, yet I feel more in tune with ancient beliefs uncovered in artifacts that seem to echo in my sensory and empathic memory. Is this what the Wiccans are saying? Were the fairies of Celtic and Old European folk bringing messages of a better way?

In *The Secret Garden*<sup>6</sup> two sick children found health by restoring health to nature, and their celebration amounted to a religious revival. What we need is mass-movement evangelism spreading respect from one organism to another. Our enmeshment in globalization means we must move together into a conservation ethic. For any of us to wriggle free, the net must be cut. Personal virtue is not enough to save Earth life. It is not even a possibility as long as our bonds remain intact. To

live "on the grid" of fossil-fuel-based electrical generation is to support climate deterioration, as is driving any personal auto, as is earning wages that result from exploitative practices. Solutions will involve changes in our public policies and in our corporate actions.

The temptation to hide my distress is great. I'm raging against a paradigm that I don't know how to refute, and my logic may fall short. I work with religious people in North Carolina on climate change, and sometimes I hear, "We must maintain the distinction between the Creator and the created world." Why? How does honoring nature dishonor nature's God? The other distinction I'm told to maintain is human from animal. I read statements of religious groups on protection of the environment that plead, "Save the environment for humanity's sake." Whose interest do these divisions serve? Is this hierarchical understanding of God-then-human-then-nature cast in stone?

If, on the other hand, God as Creator is not a being apart from Creation, then Earth life is sacred, revelatory and in concrete ways volitional. Nobel Laureate in Medicine, Barbara McClintock,<sup>7</sup> tried to explain her work with the corn plant by saying, "Animals can walk around, but plants have to stay still to do the same things, with ingenious mechanisms. . . . Plants are extraordinary. For instance, if you pinch a leaf off a plant you set off electric pulses. There is no question that plants have [all] kinds of sensitivities . . . . They can do almost anything you can think of. Every time I walk on grass I feel sorry because I know the grass is screaming at me."

How can her comprehension of nature's sentience best be conveyed to our public? The Pet Chaplain<sup>8</sup> ministry is a quiet way that might serve as a model. Granting a spiritual connection between people and their pets blurs the distinction that some see as important. Another means of tearing the net might be the "Face on Global Warming" project<sup>9</sup> that my organization is planning. Many of the early-impact communities suffering from ice melt and ocean rise are indigenous groups who experience nature as a living presence. Perhaps when we hear them speak, we will learn of a more satisfying religious vision. They may share with us what we need to have in order to resist effectively, rather than merely to grieve.

The green movement that began in the sixties<sup>10</sup> needs to access the spiritual vitality at its core. A green prophet who would come through towns preaching from the Book of Nature would generate great excitement. I think this happens all the time, in fact, but the wonder doesn't gain momentum because it isn't invested into ritual and therefore is not replicable. It is also not translated into theory and so is not protected from defilement by anti-life brutality. The sprout's religion must be tied to ritual,

theory and, most of all, to ethics. The circle of worship needs the firm line of justice.<sup>11</sup> Without the line of justice, the love in circle religion may lapse into sentimentality.

My daughter told me last week that forgiveness is the primary spiritual action. I see how this statement may be true. First, we have to forgive 5000 years of being victimized—the entire history of civilization. We must make peace with it, because this is the instrument of our humanness . . . whatever that means when its goal is to alter our hearts. We need to make peace with our human predicament, with having been wronged, wronged, wronged. There are also millions of wrongs to be tallied of our own commission, so many that nobody gets to be right unless we are all viewed through the lens of forgiveness.

Looking at human grief today during a memorial service for a twenty-year-old boy who took his own life a few weeks back, I forgave every wrong that has ever occurred. My heart took in the faces of the beings who are his holy family. To keep my composure, I sat tall and straight until friends came to sit with me, and friendship, rather than my spine, made me calm. His mother, holding me later, cried, “This was a child I thought would change the world!” I responded, “Maybe he did.” Maybe grief and forgiveness are the tools with which we neutralize evil.

We also have anger. “Anger is what wakes me up each day!” an environmental attorney told me recently. As I awoke this morning aware of the multitudes of every species awaking to a perverse world, I thought, “The world that doesn’t love God in flesh must change!” This anger rises out of a love that seeks to protect us all from the harm we are causing. Our world needs conversion.

And we who want to change it are in need of religious inspiration. If we don’t address the spiritual problem displayed by the crisis, even if we should fix the climate—happy day!—we’ll destroy something else; the plunder will go on. The story of human life will continue to turn the story of Earth life into tragedy.

For an instant I think Earth should wipe out our species and start all over again. Human beings are born good, however, and not perverse. The young get bent by society’s goals, child after child, one at a time until almost every one has been hammered into a new shape complicit with the anti-biotic campaign. Why does this molding take place? When did it start? Surely turning a person against his or her own genetic coding is the worst thing one can do.

These are religious questions. People who ask them are religious people. At least the church is the place where people sometimes ask important questions: not “What is the price of oil?” but “Why do cultures demand destructive behaviors of their members?” “Why don’t humans favor social systems that promote peaceful cooperation and love of the Earth?”

“Why is it that the church has not been caring for Creation?” a student asked me the other day. I haven’t stopped wondering how the church would answer. WHY has the church NOT been protecting Creation?

I picture myself at the table of a church council, trying to fit in. The convention is to regard “the environment” as one of many concerns, and I don’t want to challenge that view in this meeting. I can’t sit there without representing Earth’s interests, though—the values that religion has tried for centuries to stifle and stamp out. I am the sprout—the new blade, because I am one with its life. I oppose the blade’s domination by humans, by those who step upon the grass unmindful of its aliveness, of its divinity.

I feel the hostility to my agenda, the resentment of the fact that this topic now pops up in every conversation, where it rightly belongs, but from which it had been banished. I am the illegitimate child claiming my inheritance. I’m not only doing that, but I’m saying with Joseph, “Look, I wear the coat of many colors! You must bow down before this reality.” Yet I am thinking of *The Secret Garden*, in which the garden had to be kept secret in order to survive. If people find out that the children are playing there with Life, that they’re dancing around the Maypole, that they are loving the sprout and worshipping God as the sprout does, then the people—the gardener—the owner—will not only close up the garden, but will tear down its wall, bulldoze it, scrape the ground clean and pave it over with concrete.

Of course, paving is a futile act. Those who pave won’t live to see this happen, but one day a green shoot will burst through, because what is pavement except stolen Earth recombined? Then the pavement will disappear. That which cannot be sustained by nature, nature will overcome. I represent nature’s dying and its overcoming. I sit at the table saying, “I will live in nature’s way.” We do not sustain nature, nature sustains us.

I am single-minded about Earth life, for its blood fills my veins. I view my Earth-creature role as a sacred gift, loving death as well as life, and preferring no un-Earthly heaven. Seated at the church council table, I am startled awake. The life that I contain threatens to become visible. I feel the bubble of my skin breaking open at each pore. Sprinkles pop out and turn into creatures! The grass, the centipede, the bacterium leap forth! The toad hops onto the table, the hawk flies and cries around the room. Fear-provoking in its aliveness, all Creation speaks and decorum is lost. The meeting is adjourned, but Life goes on.

When I join the creatures in their worship, my sorrow is lessened, and my courage to confront the unacknowledged hostility toward Earth that manifests in the world’s priorities is bolstered. I bear more weight more gracefully, feeling it as joyous devotion. Like the last Bachman’s warbler, I will sing on my branch until my

---

species goes extinct or I die, but I will not fiddle while Rome burns. I will not waste one hour being anything other than the bird, the squirrel, the spider that I'm privileged to be, other than Bear, other than Ocean. I'll wear my bright colors and join in the chorus of justice and celebration

So may it be. Amen.

<sup>1</sup> Julia Whitty, "The Fate of the Ocean," *Mother Jones*, March/April 2006.

<sup>2</sup> In *The Spell of the Sensuous*, David Abram laments the loss of the shamanic understanding of nature's multi-dimensional presence. David Abram, *The Spell of the Sensuous: Perception and Language in a More-Than-Human World* (New York: Pantheon Books, 1996)

<sup>3</sup> Martin Buber in *I and Thou* describes the alternative: seeing holiness in the Other. Martin Buber, *I and Thou* (New York: Charles Scribner's Sons, 1970).

<sup>4</sup> See James Lovelock, *Revenge of Gaia: Earth's Climate Crisis and the Fate of Humanity* (New York: Basic Books, 2006).

<sup>5</sup> See Mary E. Clark, *In Search of Human Nature* (New York: Routledge, 2002).

<sup>6</sup> Frances Hodgson Burnett, *The Secret Garden*, reprint ed. (New York: Harper Trophy, 1998)

<sup>7</sup> Keller, Evelyn Fox, *A Feeling for the Organism: The Life and Work of Barbara McClintock*, 10th anniv. ed. (New York: Times Books, 1984), 200.

<sup>8</sup> Robert Gierka of Raleigh, North Carolina, a CPE certified hospital chaplain, has formed a non-profit ministry to pets and their owners. See [www.petchaplain.org](http://www.petchaplain.org).

<sup>9</sup> Climate Connection plans to connect North Carolina's faith communities with communities already being uprooted by global warming impacts.

<sup>10</sup> Rachel Carson's book *Silent Spring*, published in 1962, is often credited with starting the modern environmental movement.

<sup>11</sup> *The Mystery of Love*, by Mark Gaffney, traces the Goddess presence in the Hebrew Bible. He maintains that the prophets introduced linear ethics into pagan cyclical thinking intending to rectify but not destroy it.

---

*Packer's mantra "compassion first for all things" leads to miracles.*

---

## **Nature's Secret Rising: A Journey Toward the Miraculous Power of Compassion**

By Bill Packer

*"Nothing can live well," said Black Elk, "except in a manner suited to the way the Power of the World lives and moves to do its work."*

*And as he spoke of understanding, I looked up and saw the rainbow leap with flames of many colors over me.*

*Black Elk Speaks*, John G. Neihardt

For twenty-five years I have known that human beings possess miraculous Powers of Compassion. I have known that one way to manifest these Powers involves a deep and sincere desire to open the heart; a deep and sincere desire to feel compassion for any human or animal pain and suffering. For twenty-five years I have known one very good reason why human beings are here on Earth, but until recently I never really knew how to activate this miraculous Power. In the beginning and off and on throughout the years, I made attempts, but I always gave up without serious effort. It did not seem to live well to go after this Power. I seemed unable to scratch the surface of duplicating the sincere

desire to open the heart; the sincere desire to feel the compassion I had experienced was necessary.

So I told myself: "Well, I didn't go after this miraculous Power in the first place. I didn't know that any such Power existed. It wasn't any conscious effort on my part that led to this miraculous experience, but now I'm trying to make something happen. Now I'm trying to manipulate Nature to fit my agenda." I reasoned, "Maybe that's wrong; maybe that's unsuited to the way; maybe this miraculous Power will only come in Nature's good time, not mine." So, for the most part, I quit trying.

Instead, I continued to be taught, guided and humbled by Black Elk's Law and the natural government it revealed. I continued to live and experience the incredible journey of awakening that Black Elk's Law had introduced into my life.

Black Elk's Law had delivered me to understand and experience three profoundly important things: Nature's Government, Nature's God, and Nature's Secret. I started to write about these important truths, but I was not a writer and could not write at all. I could not even write

a letter. However, I had something to say, something to write about that forced me to keep trying. I was convinced the things I had come to understand were vitally important to the whole human race. I knew it from the deepest place inside of me.

But try as I might, I could not propagate these important truths. I wrote many little books to many different groups of people. I passed the books out freely, here, there and everywhere. I submitted them to many publishers with little success. None of the seemingly appropriate people paid attention.

The first paper I wrote was three pages entitled "Nature's Government." Then I went to the Oglala Sioux reservation in South Dakota where I spoke to classes gathered in one of the biggest high schools. I spoke about Nature's Government, Black Elk's Law and Black Elk's Great Vision. I was surprised to discover that none of these Native American students, in two sessions of class assemblies, had read *Black Elk Speaks*, the true story of one of their own visionary people.

Upon returning to my hometown in Massachusetts, I put together a little handwritten "Nature's Government" book. I distributed copies of the handwritten book to about 200 people who came to hear me speak about it. Never satisfied for very long with anything I wrote, I revised the book several times during the next year or so. I felt like a feeble and inadequate spokesman who never did justice to the profound truths I had come to understand. But I always kept trying.

A few weeks after I spoke about Nature's Government, Bill Plante, a former editor of my hometown newspaper wrote an article entitled "Packer's 8-Page Book Contains Wisdom Beyond Its Size." It was published in the *Newburyport Daily News*, March 5, 1983. The next little book, entitled "To the Ministers and the Churches," I distributed for a whole year to ministers and churches all over the country. A few of the ministers were noticeably touched as I talked to them about the creation being God's living Body. Only one minister, Otto Sotnak, from the Lake of the Isles Lutheran Church in Minnesota, ever responded in writing. He found the little book to be "one of the most interesting interpretations of the book of Revelation I've ever seen." Otto asked me many profound questions and we became good pen pals for a few years.

Then one year I wrote an article entitled "Understanding the Human Family." It was published in *Timestream*, an independent home town newspaper. Some time later I was surprised to discover that the same article had been published in *The Rainbow Nation Guide Book*. I sometimes attended Rainbow Gatherings over the years and gave away my little books or papers to many of the 20,000 or so people who gathered in the National Forests to camp and network.

"Putting the Earth First" was written when I became involved with the Earth First! movement. I went to jail twice defending what little remains of the ancient redwood forests in northern California, and felt honored to be a grandfather taken down the mountain in handcuffs with all the young "superstars," as I called the young people whose concern for Earth was deep and sincere and heartfelt beyond anything I had ever run across. When the Ancient Forest Bus Brigade, an Earth First! group I co-founded with Robert Amon, shifted our efforts from California to Idaho to defend the biggest unlogged virgin wilderness left in the lower 48 States, I did not want to go to jail again. Instead, I decided to hand out "Putting the Earth First" by going door to door in the logging towns and cities surrounding the virgin wilderness jewel that was about to be destroyed. Fisherman friends from my hometown donated the money for me to print the books. God bless them because I had no money at the time and my books were free for the taking.

Sometime during the next few years I traveled to Israel for the second time to deliver a paper written with a Jewish friend, Michael Bridge, whom I considered a wonderful writer. It was a remarkable paper revealing God's identity and a little of Nature's Government, among other things. One of the things the paper said was that the living Body of God is the living body of the wilderness creation, and that we have to love and put the wilderness creation first with all our hearts, souls and minds, or nothing else can live well.

I delivered this paper to people on the street, to various religious groups, and door to door for about three days. One day a young man came running up to me in Jerusalem's Old City, holding a paper I had given him the day before. "Bill," he said, "your paper is true but it's going to take some time to get it established here in Jerusalem. You can stay at the Greek Church where I stay. They provide one meal a day and they'll give you a place to sleep." I thanked him, but never took him up on it.

As I was leaving Jerusalem, I met a remarkable man at the bus station. He worked for Israeli security or Israeli intelligence, I forget which. At the time he impressed me more than anyone I had ever met. He spoke seven different languages and we sat together and talked for three hours during our bus trip. When we parted I gave him a copy of the paper Michael and I had written.

A few months later I received a letter from this impressive man. He told me that he had translated my paper into Hebrew and asked for my permission to distribute it in Israel. He also told me, "I found the paper to be clear and wise, but only because I talked to you for three hours before reading it. Otherwise I find the

---

paper to be too short for readers to understand. It exposes ideas and conclusions without showing the way and the struggle.” He continued, “Perhaps you should teach, very practically, how to adore the creation. Nowadays people from the cities are so separated from the wilderness, how can you expect they could love a thing they barely know?” He also wrote that he could envision me gathering people in a beautiful place of God (the wilderness) where it would be easier for people to understand my message. I never forgot his words even though I did not have any idea, at the time, of how to teach people, very practically, to adore the creation. That was to come later.

The last little book I wrote was written to Black Elk’s people, the Oglala Lakota (Sioux) of South Dakota. *The Daybreak Star of Understanding* was the longest booklet at twenty-four pages I had yet written. Once more, door to door in many towns and villages scattered throughout the sprawling Pine Ridge Reservation, I gave away the book. I believed the book would help Native American people to feel better about themselves. I also was convinced that many Native Americans *could* and *would* pray the prayer that leads to miraculous Powers of Compassion better than I could.

Many of these Native Americans really liked the book. In one town a small group of Lakota women came running over after they read the book. “Can we have some more copies,” they asked. “We want to give them to friends.” I gladly complied. It took several days to deliver the books to the whole reservation.

My task completed, I returned to Massachusetts. A few months later I received a letter from Bernadine Elk Boy of Porcupine, South Dakota. She was one of the women who read my book. She started her letter, “Dear Bill, Your book is awesome and super . . .” I, having received surprisingly little response from the thousands of free books distributed for over twenty years, greatly appreciated her words. Bernadine and I have exchanged letters ever since. In one letter I admitted to her how I had been convinced when I wrote *The Daybreak Star of Understanding* to her people that some of them could pray the prayer for compassion better than I. She told me I was wrong in a way. She said, “It will take hard reality to make my people turn to prayer.”

I didn’t know what Bernadine meant by “hard reality” until September 11, when I heard about someone who was talking on a cell phone from the floor above where a plane had crashed into one of the World Trade Center buildings in New York City. This person was describing how everyone was lying on the floor holding hands and praying as they felt the floor heating up under them. This tragedy helped me understand what Bernadine meant by “hard reality.”

For more than twenty years I have delivered my little books to publishers, churches, schools, people in Israel, Rainbow people, environmental activists, loggers, fishermen, Hopi, Sioux, and many others to numerous to mention. Nothing seemed to have any profound or lasting effect. Even people who were most interested seemed to fall by the wayside after a while. So I remained alone in my efforts to propagate Nature’s Government, Nature’s God and Nature’s Secret. I felt like a pathetic spokesman, to be perfectly frank. I kept trying anyway. What else could I do? Black Elk’s Law and all that it led to was my life.

For more than twenty years I had been unable to effectively propagate an understanding that I knew with all my heart, soul and mind to be the solution to all the world’s problems. So, I finally began to lose faith in my ability with the written word. I finally began to focus my mind on Nature’s Secret, the miraculous Power of Compassion, which I knew was true and mighty beyond anything I could ever write or say. Only the Power of Compassion can attract people’s attention, I thought. Only the Power of Compassion can effectively recruit people to help. All the best words in the world will accomplish nothing. So I came to believe.

I finally made a firm and heartfelt decision to go after this miraculous Power with every ounce of energy I could muster from my frail, sickly, aging body. I started repeating the prayer I knew led the way:

*Compassion first for all living things.  
Please open my heart. Please help me to feel.*

Sometimes I repeated the prayer over and over, hour after hour. Eventually it started to “live well” to do this. Sometimes repeating the prayer over and over would deliver me to such a state of joy that a spontaneous melody would burst from my heart. This hauntingly beautiful melody affected other creatures, too.

Once I was singing it on top of a mountain and a squirrel climbed down to a branch so close I could almost touch him. Then he crossed his front paws like a pillow, lay his head to one side on his paws, closed his eyes and went to sleep.

Once as I prayed on top of a mountain, the joy erupted into the same melody and birds came from every direction, landing in the few trees around me. Another time as I sang this melody a mule deer followed me down the mountain. As I walked down the grassy logging road, the mule deer disappeared into the woods, time and again, but every hundred feet or so he would reappear, waiting by the side of the road for me.

Praying by a stream in the Arizona desert, the incredible feeling of joy came over me giving birth to the very same melody. After I had sung to the desert wilderness for about fifteen minutes, a string of native wild

boar walked right up the stream to me. I had never seen such creatures before. Then the sky filled with ducks and geese. “But where had they come from?” I thought. “This is the desert!” Then I looked over toward my tent and there were two large owls sitting in a nearby tree. They had not been there before.

All kinds of animals responded to the beautiful melody and to the prayer when I prayed out loud, sometimes directly to them, asking for their help in opening my heart.

The first time I ever sang the melody in front of anyone, my wife Phyllis and I were on our way to Idaho as full-time environmental activists. We drove through the mountains in Wyoming on a lonely road that followed a small stream. As we rounded a bend, we came upon a huge buffalo bull munching grass by the stream. We stopped in wonder and watched him for a while. He was so stately, so awe-inspiring and beautiful—and huge. We drove on for another mile or so before we stopped to camp for the night.

There was a light misty rain in the air, but with a promise of clearing. We ate dinner and sat talking when suddenly the huge buffalo bull came into view, munching his way up stream. When he got close to our camp he stopped to graze about eighty feet away. All at once the sun came out and a double rainbow appeared right over the buffalo’s majestic head. It took my breath away. For the first time in front of another human being, the beautiful melody burst out of me and I sang to the buffalo for ten or fifteen minutes while Phyllis stood by watching and listening. When I stopped singing, the huge buffalo bull calmly munched his way upstream and disappeared into the forest.

Darkness fell, revealing a sparkling night sky so beautiful that we decided to sleep out under the stars. At gray dawn, Phyllis woke me with an urgent voice. “Bill, Bill,” she said, “when I woke up I saw this huge boulder beside me, but it wasn’t there last night. Look! Look!” she said and pointed next to her. It was the huge buffalo bull! He had come back during the night and lay down beside us to sleep. I was awestruck. I felt so honored, so grateful, so loved. I loved that buffalo with all my heart and soul. I felt like he knew it, and that was why he had come back to sleep with us.

But maybe there’s a different reason. Judith Niles, a wise spiritual friend of mine recently told me that the spontaneous melody is “the voice of the soul.” The minute she said it I knew she was right. Now I feel sure that the creatures responded to “the voice of the soul” amplified through my body. When we human beings finally get it together, the natural world is going to respond to us in more wonderful ways than we can ever begin to imagine.

Little by little, during the past four or five years, I came to know from countless experiences that repeating

the prayer for compassion lives well in many incredible ways. It made me feel wonderful. It produced an awesome joy I have never known before. From this joy a beautiful melody, “the voice of the soul,” sometimes burst forth and affected the creatures in a powerful way. It was all new and mysterious to me. I was not really sure what was happening, but I knew it was something big.

Repeating the prayer also dramatically increased my love and compassion for all living things: for *all* creatures, for *all* people, for *all* Creation. At times it produced a profound oneness with God, Nature, Creation, that was deeply humble, all-loving and absolute. Sometimes Bill Packer, my lower self, the separate self,<sup>1</sup> the conditioned mind self,<sup>2</sup> would disappear and the Higher Self, the God Self, the True Self, the Great Self, would be there; one part of God’s Body was praying to the whole of God’s Body; one part of the Creator’s Body was praying to the whole of the Creator’s Body; one part of Creation was praying to the whole of Creation.

This experience of oneness with God, Nature, Creation, was so profoundly unspeakably wonderful, peaceful, humble, loving and all-encompassing, that I wanted Bill Packer, the lower self, the false self, the conditioned mind self, to be gone forever. I wanted the True Self, the God Self, the Great Self, to take over permanently.

*Nothing can live well, said Black Elk, except in a manner suited to the way the Power of the World lives and moves to do its work.*

Praying to put compassion first for all living things lives well. Praying to open the heart and to feel compassion is so suited to God’s Way, Nature’s Way, and the way the Power of the World lives and moves to do its work, that it had given birth to mountains of wonderful, captivating experiences that are precious beyond anything I can say. And I know the best is yet to come.

*Compassion first for all living things.  
Please open my heart. Please help me to feel.*

For the past three years, mostly during the winter, I have been repeating the prayer more single-mindedly than ever before. I wrote an article about it and submitted it to many publications. Most of them rejected it, as usual. Then one day I received twenty-five copies of the July 2003 issue of *The Messenger* magazine, “one of America’s leading African American magazines.” They had published my article! I could hardly believe it.

A few weeks later I received a letter from The Salvation Army. They were going to publish the same article in their national publication, *The War Cry*.<sup>3</sup> After twenty-five years of apparently getting nowhere; after twenty-five years of rejection by publishers everywhere, one of the most important things I had come to understand and experience through Black Elk was finally being published.



---

In the early fall of 2003, I headed back to the Big Cypress Swamp in southern Florida to resume my prayer quest. Late at night and close to my destination, I pulled into a roadside rest area to sleep in my usual traveling bedroom, a foam mattress in the back of my tiny car. The next morning I woke with a simple dream fresh on my mind. In the dream I was saying to a man, “Thanks to talking to you I know what to do; go to the people just like Jesus used to do.” That was the end of the dream.

I had no idea what the dream meant. After twenty-five years of trying to go to the people, after twenty-five years of rejection by publishers and churches and practically everyone, I had no faith in my ability to reach out at all. The only thing I had faith in was God’s Prayer. So I resumed my trip to the Big Cypress Swamp. “If the dream means anything,” I thought, “I’ll find out more about it while I’m praying and camping in my same old spot.”

When I arrived at the remote Bear Island Campground it was empty, as is often the case. I set up my tent in the same place as always. It felt good to be back. I washed up in a pool, watching out for alligators, ate dinner and went to bed. In the middle of the night I woke up with a terrible headache. By morning I felt sick and weak. I wanted to leave, but did not have the strength to break camp. So I drove the thirty miles into Everglade City, ate breakfast and, feeling much stronger, returned to camp, packed up and left for home.

A few days after my return to Massachusetts, I received a phone call from Herman Greene, Director of the Center for Ecozoic Studies and Administrative Director of the International Process Network. He requested my permission to publish “The Great Understanding from Black Elk,” which I had written in 1997. It would be published in the upcoming *Ecozoic Reader*,<sup>4</sup> a publication I had seen but never read. I was thrilled!

Now the full understanding that my life had been devoted to for twenty-five years would finally reach some of the appropriate people. I could hardly believe my good fortune. It was all happening so quickly. It was a good thing I had come home, that I was there to receive Herman Greene’s call. It was a good thing I had the dream about going to the people, too, because except for that dream I would not feel right about doing anything other than repeating God’s Prayer.

When I started reading the articles in the *Ecozoic Reader* I was astonished, to say the least. I had never

seen anything like them. I was thrilled to discover that such a publication existed. I felt like I had found my family, my home, my people; I didn’t feel alone anymore. These people were “about the Great Work . . . of moving on from a terminal Cenozoic<sup>5</sup> to an emerging Ecozoic Era<sup>6</sup> in the story of the planet Earth,” to quote Thomas Berry. These people were about “The Great Work”<sup>7</sup> of changing the world, to put it simply.

What a perfect match. Now I discovered a group of people I had much in common with. We were all working to bring about a compassionate new world. We understood Carl Jung and the validity of dreams. We knew the creation was also the Creator. We knew that all living beings are sacred and precious and have the inalienable right to life and habitat. We all understood that “reinventing the human” is “the historical mission of our time.”<sup>8</sup>

It has been twenty-five years since I started working to overcome my faults and bad habits and to reinvent myself in accordance with Black Elk’s Law and the Prayer for Compassion. One day a lifelong fisherman friend said to me, “Billy, you’ve changed more than anyone I know.” Buzza knew well the incredible change that Black Elk’s Law had introduced into my life. I had been reinvented dramatically. Nature’s Government and the Prayer for Compassion are powerful medicines indeed.

<sup>1</sup> separate from God and Nature

<sup>2</sup> The separate self that is the product of a conditioned mind created by the circumstances into which one is born, raised and subjected

<sup>3</sup> At the time of this writing, The Salvation Army article has not come out. They said they would send a copy when it does.

<sup>4</sup> *Ecozoic Reader*, Volume 3, Number 3, 2003

<sup>5</sup> “Our current geo-biological era, the Cenozoic Era, began 65,000,000 years ago following the mass extinction of dinosaurs and many other species. Now Earth is undergoing another mass extinction of plant and animal species, this time caused by the impact of human activity on the community of life systems. The Cenozoic Era is ending.” *Ecozoic Reader*, Vol. 3, No. 3, inside front cover.

<sup>6</sup> “That another geo-biological era will follow the Cenozoic is not in question. What is in question is whether humans and other forms of life as we know them will continue to flourish. Will we achieve a viable mode of human presence on the Earth? The “Ecozoic Era” – a time of a mutually enhancing relationship of humans and the larger community of life systems – represents the hope that we will.” *Ibid.*

<sup>7</sup> Thomas Berry, *The Great Work: Our Way into the Future* (New York: Bell Tower, 1999).

<sup>8</sup> Thomas Berry, front cover of *Ecozoic Reader*, Vol. 3, No. 3.

## **Sea Around Us, Sea Within Us: Returning to the Source for Guidance\***

*By K. Lauren de Boer*

I'm staring straight up at the underbelly of the Golden Gate bridge. I've seen the bridge often, always with a sense of delight at its towering grace, but this is a new vantage point. The sway of the boat beneath me forces me to look down again to keep from getting too queasy, and when I do, spray shoots up over the prow, misting my face. I taste salt as I gaze up again, this time at the sheer rocky shoulder of the Marin headlands. They rise above us, draped with a green shawl of heather, looming like some great elder who silently watches over our passage across the threshold of the Golden Gate. We're swept outward into the huge expanse of the Pacific, headed for the Farallon Islands.

I'm on the New Seeker, a fishing boat. My preoccupation with the fate of the world's oceans has brought me here. I wanted a way to be at sea for a day, to feel the oceans' presence directly, to get beyond my bookish sense of them. For me the Pacific Ocean has been a vast field for the imagination, stretching without end, a global titan, like the god Oceanus, who with the age of charting and discovery came to represent the stranger, unknown waters to the Western mind. And beneath the surface, a story of death, birth, and remarkable vigor and fecundity, relentlessly enacted. Often, standing on a seashore, sensing the depth and the expanse before me, I've felt a longing that I've always thought rivers might have to reach the sea: the desire for return, for union. I used to fantasize about having the power to freely navigate the underwater universe. It seemed endless and the beings inhabiting them numberless. The wonders I would encounter, from deep sea caves, to luminous blue water, to delicate comb jellies, to the formidable leviathan! The oceans—so huge as to be untouchable, impossible to bring totally under human sway. Our destructive powers stopped at the cusp of land and sea. Or so we've thought.



There is a cacophony on deck as grown men turn into boys in free abandon, forgetting themselves, babbling their excitement to each other with each new catch. We're drifting just off the Farallones, fishing for rockfish and ling cod, using small flounder called sand dabs for bait. The action is quick. The scene has the feel of play, but instead of tire swings and merry-go-rounds, there is blood on the deck, seawater and slime, and giant ling cod writhing. The great maws of the fish open as if in astonishment to be yanked into another element, and close again in consternation to be so duped. When I look into the eyes, there is something so cold and

ancient, I can't quite grasp it, although it feels familiar. I can only translate it into more human terms as a kind of silent reproach, a reprimand from the deep. It's not the killing, but an absence of something. There is no prayer, no ritual marking the giving and taking. Some old pact of sacrifice and remembrance seems violated.

I look out in the direction of the Farallones, and the moment I do, something I've never witnessed unfolds. A dozen or so sleek brown bodies burst from the grey water in unison. They glide for several yards, then plummet again. Barely a splash in their wake as they reenter the waves, nor in their reappearing. Sea lions, leaping the way dolphins leap, with the grace of a single body. As I watch them, rapt, the riot on deck sinks to a muffle and the rock of the boat beneath me, rising, falling, swelling, dipping, as I grip the rail, seems to correspond in some way to the rise and fall of the sea lions. For a moment, I'm in a dance with them. The gulls and murrelets, the islands, the sea lions leaping in unison, are all centers of life converging into a breathtaking vibrancy. I soar off the deck, backward in time, outward in space, then as quickly I plunge beneath the surface into the depths, lost in my longing again.

I'm jolted back on deck by a loud shout just to my right: "I see color!" This is the signal to the crewman with a net that a big fish someone is fighting is close enough to the surface to be visible. I look down and see a deep orange surge of flesh underwater that quickly sinks out of sight as the fish flees the light and the air in one last desperate plunge. A giant red rockfish, a bocaccio, known to diners as red snapper, brought up from the depths. A boy next to me, perhaps ten, reels and reels, holds on tightly, grimacing, reels again. Occasionally he looks up to find his father's face, as if for reassurance. A long-handled net plunges down and back up, and the fish is up on deck. The flesh flares like a sunrise, the scales glisten, the eyes bulge grotesquely from the massive head. Amazed shouts issue from the boy's father. The child seems oddly quiet, almost passive, as if reserving judgment about the value of this experience. It was to be the largest catch of the day. Big reds like this one are rare now, I realize, illegal to keep in some places. The grief, the excitement, the absence of ceremony, all mill around me on deck. I try to read the boy's mood and I can't. What will he remember? Will there be a rockfish like this when he is grown into a man? Is this a passage, or merely another diversion to be inventoried among his net surfing and I-pod world? What will mark this for him?

---

There are around 70 varieties of rockfish in the northeastern Pacific. Most of them are slow growing and some kinds, like the bocaccio, can live to be 200 years old, placing them among the longest lived vertebrates on the planet. Based on its size, this fish could be over 100 years old. With a mix of feelings, I look at the burlap bag hanging from a post on the railing, that holds my limit of rock fish and ling cod. Blood drips onto the deck beneath and flows beneath our boots. The bodies of sand dabs lie strewn about the deck. The boat rocks and dips, the gulls cry, and I sink and rise along with them, riding the tension of excitement and grief, like waves. Seawater surmounts the railing and lashes the fisherman. My rod, set in its socket on the railing, bends double. I reel in another rockfish. Someone exclaims that it's an "olive." I hold the fish in my hands, take in its stunning olive green flesh. With a silent bow, surreptitiously, I slip it over the edge, back into the gray water.

### Balancing a New Tension

The wildness of millions of square miles of ocean seemed inviolable to me, and thus, as a comforting touchstone to return to for guidance, they loomed large in my imagination. The great swell of the sea would always conceive and give birth. They were an endless well and vista for conceiving thought too, and for the imagination. The god Proteus, from Greek mythology, was a shape-shifter who could foretell the future, but only if someone were able to capture him. To be "protean" means to be versatile, adaptable, capable of assuming many forms.

Our destiny as a species could always be defined from the great womb of the sea. It's where we came from; humans, and other species, were ultimately safe within her embrace. She is the great mother, "the river girdling the globe," holding Earth's community, regulating the planet's temperature, weather, oxygen, carbon dioxide, and nutrient flows so that life can flourish. Our own imagination has been nurtured by that embrace. To an extent, our identity grew out of the tension created when we evolved out of that embrace long ago, although we never fully left it: A human embryo is 97 percent water, a newborn 77 percent, a full grown person 60 percent. Human blood has the salinity of seawater. As writer Peter Steinhart aptly describes it, we are "miniature oceans, dressed in skin and gone exploring the arid world that rose out of the ancient seas."

Throughout time, people have had to live with tensions that are contingent on conditions due both to human agency and to forces beyond human control. Part of being human in my own country in the post-World War II era was to ride the tension of a burst of optimism brought by material prosperity with the grim revelation of the human capacity to perpetrate violence. Other eras brought other revelations, giving rise to new tensions in

their time. Copernicus brought Earth out of the center of the universe and caused a revolution in human thinking, along with the tensions of uncertainty. Today, we face an unprecedented tension, one that vacillates between celebration and loss. We who share the Ecozoic vision are exhilarated by the promise of a new human identity emerging from a new-found knowledge of our common universe story; we're grief-stricken at the number of species we're sending to extinction.

For nearly ten years, as editor of *EarthLight* magazine, I faced news of the industrial impact of the planet on an almost daily basis. But a recent five-part series in the *LA Times*<sup>1</sup> brought home to me a sense of the human as a planetary power like never before. It was what compelled me to go out to sea. A few highlights:

- Industrial activity is turning the oceans acidic. Massive amounts of carbon dioxide pumped into the atmosphere is absorbed by the oceans. The seas, more acidic today than they have been for 650,000 years, are literally dissolving marine snails, sea stars, sea cumpers, sea urchins, and other animals that support other creatures higher on the food chain.
- 1,000 miles from the nearest city, at the Midway Atoll, albatross chicks are dying, their bellies full of plastic. Adult albatross, foraging at sea for food, encounter vast expanses of floating plastic debris. Mistaking it for food, they feed it to their chicks. This tide of plastic debris has spread throughout the world's oceans creating "garbage patch" areas stretching for hundreds of miles. These giant swirls of plastic debris spin about the globe. One scientist who has studied the Eastern Garbage Patch, midway between San Francisco and Hawaii, has likened it to tracking a beast.
- Toxic algae, blooming from a torrent of nutrients unleashed by farming, deforestation, and urban development are being linked to dead and dying whales, dolphins, seals, sea lions, and other mammals. The neurotoxins in the algae can kill sea mammals outright or cause seizures and tumors. The California sea lion, a species with "as warm and strong a maternal instinct with a newborn as you can see in any animal," according to a government biologist, are showing no interest in their young, even turning against them, the result of neurotoxic poisoning.
- We are returning the oceans to a more primeval state. Millions of tons of fertilizer, human and animal waste, and other farm runoff are creating dead zones where rivers run into the sea. Dead zones actually do contain life, but most of

it is bacteria and ancient creatures that evolved in a very different kind of ocean. Over 150 dead zones around the world are actually vast areas of a primordial white slime where the more highly evolved sea creatures can't survive.

The Millennium Ecosystem Assessment, a UN-commissioned report compiled by over 1,300 scientists worldwide, gives dire warning. An estimated 90% of the total weight of the ocean's large predators—tuna, swordfish, and sharks—has disappeared in recent years. Since 1980, 20% of the world's coral reefs have been destroyed and another 20% badly degraded; 35% of mangroves are gone. In many areas of the sea, the total weight of fish is less than a tenth of levels before the onset of industrial fishing. At least one quarter of marine fish stocks are over-harvested. Newfoundland's cod stocks have collapsed and may never recover.<sup>2</sup>

These are some of the findings of the report related to the oceans. The extinction of species and the degradation of the planet continue unabated in all ecosystems planet-wide.

The poet Stanley Kunitz writes, in "The Testing-Tree":

In a murderous time  
the heart breaks and breaks  
and lives by breaking.  
It is necessary to go  
through dark and deeper dark  
and not to turn.

In another poem, "The Layers," he asks: "How shall the heart be reconciled to its feast of losses?"<sup>3</sup> Can grief be a feast from which our hearts grow and we find the energy to stay engaged? How do we transform loss into creativity? Loss is natural, an inevitable part of our stay on Earth. Senseless loss, to a conscious self-aware species, is a violation of the divine revelation pouring out to us from the natural world. Much of our decimation of Earth is senseless loss.

### How Do We Live in an Ecozoic Way?

Living in an Ecozoic way isn't simply about following an inventory of green initiatives. Those actions come out of a deeper intention, one that comes out of a capacity to live in the great tensions of our time with equanimity. That is where the creativity resides. I was concerned for the oceans and so I tried, in my own way, to go to the ocean for guidance. Literally "at sea," without any answers, what I found on that fishing boat was the very tension we live. Wonder and slaughter, exhilaration and grief were all played out. I found that answers have more to do with asking the right questions than knowing anything with certainty. To live, to eat, we kill. We do damage. Something dies. It's an ancient human drama we enact within the Earth community. Because

we are consciously self-aware, we need rituals that foster gratitude and that give us the strength to let the mystery and the terror of the conditions of our existence sweep over us. We allow our hearts to break and we allow them to become bigger. Altering our "mode of consciousness" to that appropriate for the Ecozoic will require reconditioning ourselves, and that may require a willingness to go face to face with darker primordial powers, acknowledging that we need guidance from a greater source.

Aldous Huxley's novel *Brave New World* draws the picture of a human-created Eden where people are conditioned, not only to be placid and content, but to feel an aversion to the natural world. People drawn to the charms of the countryside, the architects of this world discovered, don't make productive, consuming citizens. Huxley's brave new world is one where consuming is a high virtue, the noblest civic duty one can perform. In a scene where the character Bernard makes a blind attempt to break free of the trance of Eden, he pilots his helicopter within 100 feet of the dark, churning sea. His date, Lenina, reacts with horror:

"But it's horrible," said Lenina, shrinking back from the window. She was appalled by the rushing emptiness of the night, by the black, foam-flecked water heaving beneath them, by the pale face of the moon, so haggard and distracted among the hastening clouds. "Let's turn on the radio. Quick!" She reached for the dialing knob on the dashboard and turned it at random.<sup>4</sup>

Bernard, in a rare fit of frustration with their placid existence, has taken her out beyond the comforts of their predictable, fabricated world, to the liminal zone. He feels more alive, "more himself," when he looks at the dark sea. The prescience of Huxley's vision tells us that our ideal state is not a conditioned and placid domesticity but in the wild creativity at the edges, the tension, the uncertainties and surprise that the universe brings us. To face them with courage (from the French *coeur* = heart) means to be big-hearted. As with Huxley's sanitized and streamlined Eden, we have been so conditioned by our wonder-world so as to numb us to the very source of what might guide us. Instead of being enthralled by the powers all around us, we are enthralled by our own cleverness. In a state of sleep, we often fail to feel their presence bodily. We are prisoners of our own ingenuity. It's not cleverness and ingenuity that will guide us into the future, but humility and openness, a willingness to bear witness. Where we can, and when we are so moved, to take a stand. At the boundary between numbness and aliveness, we maintain the gaze, not as voyeurs of our own demise, but to keep our vigor and not sink into despair.

---

## A Practice To Guide Us

Still contemplating the oceans, I am on spiritual retreat in a remarkable area of the California coast and I'm out for a walk. With each step, I feel a deepening stillness grow within me. A falling maple leaf catches my eye. I stop. It falls softly to the ground at my feet and for a moment I'm unaccountably transfixed by this event. Quadrillions of leaves have fallen, are falling. Why is this feeling of presence I have to this one leaf important? Because in the moment it falls, I am aware, fully, of the falling. I'm conscious that I'm watching it fall. Its yellow color tells me its lifeblood of chlorophyll has drawn back into the tree, that it's completing its journey from birth to death, returning to Earth, from whence it came. Its death brings forth a new beauty. I let my fingers follow the green striations that follow the leaf's veins, an accent left by chlorophyll that hadn't yet been pulled back into the mother tree. Transformed seawater in the veins of my hand, in the leaf's veins—one carrying chlorophyll, the other carrying blood. The change of a single ion, from magnesium to iron, and chlorophyll becomes blood; we are so close. I feel the leaf's connection to the story of photosynthesis, thus to the relationship of Earth and Sun, and back through time to the birth of stars. My stillness is now linked to some greater equanimity that began with the first flicker of earlier suns, to some embrace from beyond that my mind will never fully grasp.

Stillness, an inner peace, is the first step in what I call the practice of spiritual ecology. In this sense, I mean Spirit as consciousness. Our practice is to apply ecology in a conscious way to our lives not only through the gifts of science, but through respectful presence, through the breath, by being watchful whenever and wherever we are able. To be the witness of our own unfolding in communion with all that is. Our exterior lives will follow, whether it be activism, or building green cities, or educating in Earth literacy, or mentoring a younger person into the Great Story.

The late poet William Stafford wrote, in the poem "You Reading This, Be Ready:"

Will you ever bring a better gift for the world  
than the breathing respect that you carry  
wherever you go right now? Are you waiting  
for time to show you some better thoughts?<sup>5</sup>

Our actions, emerging in this way, will be marked by a great spirit of generosity. We find that our own gifts unite us to the creative powers of the cosmos because that is their source. In a time of great tension and uncertainty, it is necessary to surrender ourselves to what we don't understand, to accept that there are mysteries not fathomable by the conscious mind. Far from a passive state, this involves an active patience, alert to possibility and surprise.

In this stillness, we must let ourselves long. Longing is what will draw us to the core of who we are, to our unique gift. At that core, we find that we are Earth herself longing. To return time and again to Earth for guidance, to let the quality of stillness feed our inner intention, is to find faith in the powers that brought us into being. And so we find faith in ourselves, as the planet evolves. The seas around us and within us, as the source of life, can also be a source of faith, if we go back to them for guidance. Viewed from space, they embrace the planet, as if holding our swirling imagination in a protective membrane, waiting for the next great birth.



The crew cleans the catch all the way back from the Islands. A riot of gulls appears out of nowhere, feeding on the entrails of the fish cast overboard. I watch them with gratitude. Usually I am several steps distant from the harvest of fish I eat from the supermarket and wielding a filet knife isn't in my repertoire of skills.

As the New Seeker crosses back through the threshold, and we return from the Farallones into our daily lives, I gaze once again at the span of the Golden Gate above us and realize for the first time why I am so moved when I'm in its presence. The bridge represents to me a quality we have for working with, not against the natural world. Despite the uglification of the world brought by the industrial thrust of recent decades, the human imagination can be the architect of great beauty and grace, of contributing, not detracting from, the positive arc of evolution. The Golden Gate is one reminder to me of this capacity in our species. Today, it means something more to me, as a virtue we need to live in the Ecozoic Era, on a new Earth, as a reinvented species.

We began our return to the sea, restless and wild-eyed, long ago. We now need to be bridge-builders, to return to the sea in a different sense, clear-eyed and with humility, for guidance. Our way into the future draws from balancing the tension between our longing for conquest and transcending life's conditions and finding our deepest identity within the Earth community that sustains us. Turning toward the ocean is turning toward the source, asking the universe for guidance, for primary revelation. If we ask the right questions we may feel our way into the answers of how to live.

\*A shorter version of this article was published in *Parabola*, Spring, 2007.

<sup>1</sup> Kenneth R. Weiss, Usha Lee McFarling, "Altered Oceans," *Los Angeles Times*, July - August, 2006 (five-part series).

<sup>2</sup> Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC.

<sup>3</sup> Stanley Kunitz, *The Wild Braid: A Poet Reflects on a Century in the Garden*, (W.W. Norton & Co., 2005), 32, 82.

<sup>4</sup> Aldous Huxley, *Brave New World*, (Bantam Books, NY, 1932), p. 60

<sup>5</sup> William Stafford, *The Way It Is: New & Selected Poems*, (Graywolf Press, 1999), 45.

## **A Binding Back to Origin**

*By Sr. Gail Worcelo, CP*

I have been reading the *Foundations* of St. Teresa of Avila, 16th century Doctor of the Church, Spanish mystic, and foundress of multiple Carmelite monasteries. Her biographers say that Teresa with her classic determination, her “muy determinada determinacion,” embraced the vision that roared through her in an era that called for change and reform.

I am reading the work of St. Teresa because of the vision roaring through me in the founding of Green Mountain Monastery, an Ecozoic monastery for the 21st century. It is as if the hand of Teresa stretches through the ages and clasps my hand tightly in a gesture that says, “Bringing the Ecozoic Era forward will require muy determinada determinacion!”

While all of us will need much determined determination to bring this new era forward, the question still remains, “But how do we get there?”

For ourselves, as a new 21st century monastery rooted in the ancient tradition of Benedictine monasticism, and inspired by the prophetic message and challenge of Thomas Berry, there is a sense that in order to “get there,” we need to curve backwards!

By taking the backward curve, we have discovered our founding impulse as a new monastery. It can be summed up in one sentence: *A Binding Back to Origin*. This phrase comes from the Latin translation of religion or re-ligare (to bind back).

First, we “bind back to origin” by seeking to understand ourselves within the comprehensive context of an unfolding universe, a 13.7 billion year old story which is revelatory of the Divine. We do this through study, contemplation, sacred activism and direct and sustained experience with the natural world. This combination helps us to begin to identify ourselves as both universe and planetary beings.

Second, through deep engagement in the spiritual path of our Christian mystical tradition, we “bind back to the Mystery” and “bind back to the Christ”.

Here at the monastery, we commit ourselves to a process we call “Christ Fusion,” which is the transformation of the self into higher levels of truth, integrity and authenticity. We give ourselves to this evolution in Christ so that our very consciousness becomes Christed with the knowledge of its own meaning and purpose.

We understand, however, that it is not enough for this to happen individually. In an evolutionary context, “Christ Fusion” or “Christ Consciousness” has to explode in the collective. This means that we need to

grasp our extraordinary potential to participate in the unfolding process of the universe together with many others from a place of heightened consciousness and profound integrity.

Thomas Berry, reflecting on this challenge, said to us one day, “In the emerging future, the great work of this monastery, as it joins with many others is not simply to preserve the planet but to awaken the deep religious sensitivities needed to guide and energize the cosmological process as it unfolds.”

One of the ways we can potentially move into the Ecozoic Era is by awakening our religious sensitivities through what Brian Swimme calls, “the powers of the universe.” There are multiple powers of the universe, but I would like to mention three of them.

Allurement is the first. This is the power of attraction that enables us to become passionately absorbed in the world around us. As we consciously allow ourselves to be drawn into that which most deeply attracts us, an internal matrix of adoration, joy and care will arise and begin to create the structures for an Ecozoic consciousness to emerge; one in which we will know the universe as a place of mutual enhancement and evocation.

Emergence is another power of the universe. It is the way in which the universe seeks to find creative ways to surpass itself. The universe is always seeking new domains of emergence and it does this through a process of groping, chaos and confusion. When we are able to bear confusion and move forward, while not having a clear idea of how to proceed, we participate in the power of emergence. There is a sign over our monastery door which says, “You are Entering into a Domain of Creative Emergence.” It is here to remind all of us that through the power of Emergence we can begin to reinvent ourselves and our presence on the planet. A hallmark of the Ecozoic Era will be the capacity to establish those inner structures of consciousness that can remain steady in the midst of disequilibrium.

A third power of the universe is radiance. We are surrounded by beings crowded with billions of years of radiance compressed into them. As we move into the Ecozoic Era, we will need to develop those inner structures of consciousness that will enable us to become contemplative containers allowing the radiance that is flooding the universe to stream forth and be held.

Through the powers of the universe we are gifted with a new sense of responsibility for the future unfolding of the planet. Here at Green Mountain Monastery,

---

we work to transform those conditions that are destructive to life on Earth, beginning with those same conditions present within ourselves that diminish and separate us out of the sacred community of life.

I would like to close this reflection with a poem by Teresa of Avila entitled “Eficacia De La Paciencia” (on the efficacy of patience). She writes, in part,

Let nothing disturb you  
Let nothing frighten you  
All is fleeting,  
God alone is unchanging.  
Patience endures.....

Perhaps these words from a 16th century mystic and saint are just what we need to take with us as we enter the Ecozoic Era!

---

*Zhang untangles and unites science, religion, deep ecology, creativity and process in a new understanding of the spirituality of nature*

---

## **The Role of Spirituality in Eco-Wisdom**

By Nini Zhang

### **Introduction**

After the Indian Tsunami in December, 2004, a debate arose in the Beijing media about whether humans should or should not revere nature. On the pro side, some environmentalists proposed the conquering attitude toward nature had led to the crisis of the eco-system and livable environments, and “revering nature” might be the way to overcome this crisis.<sup>1</sup> On the con side, some scientists argued that “revering nature” is “animism” which regards nature as a conscious and personified agency, and it does not fit the scientific way of thinking.<sup>2</sup>

This debate raises important questions. For example, does “revering nature” definitely mean acceptance of the ideas of a conscious and personified nature? How should we understand a spiritual nature? And is acceptance of a spiritual nature anti-scientific? In this paper, I will address these questions through a discussion of three cases of eco-wisdom, by considering the relationship between eco-wisdom and spirituality and examining the effective meaning of a spiritual nature, and by discussing how a spiritual nature is supported by postmodern science.

### **How Eco-Wisdoms Deal with Spirituality: Three Cases**

#### **Deep Ecology**

Arne Naess, the founder of “deep ecology,” and George Sessions, an important figure in the deep ecology movement, gave serious attention to the pantheism of Spinoza. In the 1960s, Naess, while living in the cabin he

built on Hallingskarvet mountain in central Norway and watching, climbing, and adoring the mountains, read Spinoza and Gandhi.<sup>3</sup> Later he wrote “Spinoza and Ecology,”<sup>4</sup> and “Through Spinoza to Mahayana Buddhism, or Through Mahayana Buddhism to Spinoza?”<sup>5</sup> Like Naess, Sessions also regarded the philosophy of Spinoza as a powerful theoretical resource for understanding nature as an integrated whole of which humans are a part. Human freedom could be realized only by recognizing the larger reality of nature. For Naess and Sessions, Spinoza gave an organic and spiritual understanding of nature. They claimed that Spinoza’s pantheism could advance ecology from shallow to deep, and transform the paradigm of anthropocentrism to an organic and spiritual worldview, which would lead to a sense of respect and sympathy for non-human life on Earth. With this orientation, we would regard the diversity and evolution of nature with appreciation rather than seek to conquer, control and manipulate it. This transformation of attitude would also mean the development and maturation of human personality in its spiritual dimension.<sup>6</sup>

#### **Ecofeminism**

Ecofeminism is eco-wisdom from a woman’s perspective. Spirituality is a central concern of this eco-wisdom. The earliest ecofeminist literature, written in the 1970s, involved discussions by feminist scholars about such matters as “women’s spirituality” and “goddess” worship.<sup>7</sup> Beginning in the 1980s, as different branches of ecofeminism emerged, women’s spirituality remained important for the development of ecofeminism. Many feminists delightedly re-discovered religions which honored women. These religions regarded nature per se as

the Holy Bible. They claimed that gods are around us, even within us, instead of outside of us. The re-discovery of the goddess was also an awakening of consciousness of Earth. Women's spirituality also challenged patriarchy in the Jewish-Christianity tradition. Karen Warren wrote, "Spiritual ecofeminists agree that earth-based, feminist spiritualities and symbols (such as Gaia and Goddess) are essential to ecofeminism."<sup>8</sup>

### The Ecozoic

One more case is the theory of the Ecozoic, which was proposed by the American ecological thinker, Thomas Berry. The Ecozoic theory comes out of a review of human culture and history. Thomas Berry claims that if humans want to deal with the eco-system and environment crisis, they have to change their cultural pattern and go into the Ecozoic Era in which all species of lives are in mutually enhancing relationships of respect. He criticizes the modern pattern of culture in which humans and nature are separated and suggests true humanity is integral with nature. Therefore, being in awe of wildness is the best way for humans to re-connect with the larger living world of Earth. Earth is a community in which the community as a whole and each component member have ultimately a wild aspect, a creative spontaneity that is its deepest reality and its most profound mystery. This being so, nature is beyond human control and nature has its own spirituality. Berry writes, "For we will recover our sense of wonder and our sense of the sacred only if we appreciate the universe beyond ourselves as a revelatory experience of that numinous presence whence all things come into being."<sup>9</sup> It might be right that we connect Berry's "wild nature" with a spiritual nature, because when he speaks of the wild dimension of existence, he is speaking of the reverence and holy fear associated with the wild.

### The Religious Dimension of the Spirituality in Eco-wisdom

Regarding the spirituality in eco-wisdom, we can approach to it in two dimensions. One is the religious dimension we discern on the surface of eco-wisdom. The second is the dimension of creativity in nature, which is beyond the religious dimension and extends to cosmology. Now let's begin with the first dimension.

In reference to the relationship between humans and nature, eco-philosophers agree that humans are a part of the natural world. Given that humanity is nurtured by the natural world, we human beings ought to cherish it; since the natural world has its own independent value distinct from its use value, we humans ought to admire and glorify it; and because the natural world is always beyond our knowledge and control, we humans should be in awe of it. The spiritual relationship between

humans and nature covers the moral, aesthetic, and psychological relationships.

This kind of understanding is totally different from that of modern science. Generally speaking, modern science treats nature as an object that humans should seek to know and reform. Within this relationship, the material attribute of nature and the rational attribute of human beings are affirmed. Nature, as an object of human reason, is lifeless and passive, while human reason is active. So, the objects of material nature, in their existence, are inferior to humans, and the objects of nature with no aspect of spirituality, fail to commune with humans in the spiritual dimension. In fact, the progression of modern science occurred in concert with the diminution of "backward" animism. Ancient religions were usually animistic and the divinity of nature was affirmed by humans accessing the spirituality of nature. In modern religion, such as Christianity, humans are superior to nature and the divine is found in a transcendent God, not in nature. The progression from ancient religions to Christianity is the decline of the divinity of nature. That postmodern eco-philosophers in their resistance to modernity searched for their inspiration in the pre-modern seems understandable.

So we can see that the religious dimension is very important in these eco-wisdoms. Bron Taylor, a scholar of religion and nature, states:

Deep ecology is a new religious movement that believes Western Civilization's anthropocentric (human-centered) religion and philosophy is the root cause of a currently unfolding ecological catastrophe. Deep ecologists believe that for humans to halt this apocalypse and live harmoniously with nature they must reject anthropocentric worldviews and resacralize their perceptions of nature, recognizing that nature has intrinsic value (value apart from its usefulness to humans). Contemporary pagans accurately view deep ecology as a kindred form of nature religion.

Naess insisted that there are plural paths to a deep ecological perspective. Indeed, a wide range of religious perspectives, especially Native American and other indigenous religions, Buddhism, Taoism, and Neo-Paganism have influenced those drawn to deep ecology. It is, however, personal experiences of a spiritual connection with nature, and related perceptions of nature's sacrality, that ground deep ecological commitments; a secular rationale is almost wholly absent.<sup>10</sup>

And Starhawk observes about ecofeminism: "Ecofeminism is a movement with an implicit and sometimes explicit spiritual base."<sup>11</sup> Thomas Berry writes,



---

“We might think of a viable future for the planet less as the result of some scientific insight or as dependent on some socio-economic arrangement than as participation in a symphony or as a renewed presence to the vast cosmic liturgy.”<sup>12</sup>

### **The Cosmological (Creative) Dimension of Nature in Eco-Wisdom**

If we examine further, we might go beyond the religious dimension into a more profound field which is called “cosmology”—the field of the creativity of the natural world. We deduce this from the details of spirituality on which eco-wisdom puts emphasis. We look at the specific content which eco-wisdoms admire and revere in nature.

#### **First, there is awe and admiration of life.**

Some eco-feminists define women’s spirituality as “earth-based spirituality.” Its value is completely different from the value of patriarchal ideology:

What we are doing . . . is attempting to shift the values of our culture. We could describe that shift as one away from battle as our underlying cultural paradigm and toward the cycle of birth, growth, death, and regeneration, to move away from a view of the world as made up of warring opposites toward a view that sees processes unfolding and continuously changing.

This Earth-based spirituality embraces the cycle of life: the seasonal cycles of the year, the moon’s phases, and human, plant and animal life from birth to death. This spirituality of nature is, thus, first represented in the life system of Earth, nature is alive. This life-based spirituality is immanent, and it is a testimony to the vitality of all beings on Earth due to its confirmation of the intrinsic motivation which enables each and every natural being to engage in the evolutionary processes.

#### **Second, there is awe and admiration of a mutually enhancing relationship.**

Since the earth-based spirituality has affirmed the value of intrinsic vitality for each and every being on the planet Earth, the pluralism of value, therefore, should be acknowledged. Ecology has already shown that the higher the diversity within a particular system, the greater the vitality of various species within the system. Lives are in mutual relationship, and are mutually enhancing.

#### **Third, there is awe and admiration of the self-creativity of nature.**

The intrinsic vitality and mutually enhancing relationship of natural beings constitute the basis of the self-creativity of nature. The cosmos is a process full of creative lives in relationship. They make decisions and

evolve by themselves. And all of these build up the possibilities which inspire human beings to feel empathy and sympathy with nature, to admire and appreciate nature, and to revere nature. On this ground eco-ethics and eco-aesthetics emerge and these move spiritual humans far into the spiritual nature or spiritual cosmos. Gradually, humanity’s material conquering attitude toward the natural world will be changed into a spiritual non-conquering attitude.

In general, cosmos or nature is an active, alive and self-creative community. It is in this dimension that humans commune with nature, and establish integral relations with nature of nurturing, appreciating and respecting one another.

### **The Disenchantment and Re-enchantment of Nature in Science**

To emphasize the role of spirituality in eco-wisdom is to respect and appreciate the creative ability of the natural world. Such a perspective changed the concept of nature away from the mechanistic view of modern science, to a re-enchanted nature in postmodern science.

Postmodern philosophies of science, including Whitehead and process thinkers, claim that modern sciences disenchant nature. According to modern science, nature is constituted of material entities which are passive, confined to a certain space and time, and move following mathematical laws. This disenchanted worldview is regarded as having been both the premise and effect of modern science.

Yet what is the meaning of disenchantment? Generally speaking, it means the denial to nature of all subjectivity, all experience, all feeling. The result it brings up is serious, because if there were no experience, then no aims or purposes could exist in natural entities, and any creativity in the sense of self-determination or final causation would disappear. With no self-determination aimed at the realization of ideals, no value could be achieved.<sup>13</sup> Otherwise, absence of creativity and lack of subjectivity would deny the internal relations among natural beings. In modern science, motion and relation are the result of powers external to the objects of the natural world, and the divinity of nature is threatened. “In these ways, nature was bereft of all qualities with which the human spirit could feel a sense of kinship and of anything from which it could derive norms. Human life was rendered both alien and autonomous”<sup>14</sup> The aim, value, ideal, and possibilities of the cosmos were rendered insignificant, and there could be no freedom, creativity, contingency and divinity within the cosmos. The cosmos was meaningless.

The sciences in the 20th century changed this mechanistic view. The seemingly necessary connection between science and disenchantment began to be broken

off. On the one hand, the new developments provided us new possibilities to know nature. Quantum mechanics, the theory of relativity and the theory of complexity presented a wonderful cosmos and nature. The evolution of nature was seen to be grand and always out of our expectation and imagination. On the other hand, the new developments offered new ways to know science itself. It came to be understood that science is not a value-free enterprise. It presents a spiritual communication between scientific agency (humans or scientists) and the objects of science. The communing relationship is a relationship of equality and mutual enhancement, with no intent to control or conquer. In the process of scientific activity with reenchanting nature, scientists themselves made an ascent.

Some scientists realized the new “enchantment” of the cosmos. For example, the General Evolution Research Group, which was sponsored by Ervin Laszlo in 1986, renewed the understanding of evolutionary theory along with across-disciplinary studies. This group connected natural evolution with cultural evolution, and as a result, they developed a new theory of evolution which was based on an intrinsic creativity. Though emergence and natural selection are still regarded as important aspects of biological evolution, the more important and crucial factor is creativity, namely the constant transition into new species. In this understanding evolution is seen as a self-creation of lives in the cosmos and a co-evolution between lives and environments. In the biological world, evolution should not be explained alone as the sense that living beings conform to (fit) their environments, but also environments change due to the creativity and adaptations of the living beings. So, we cannot say who fits whom, instead they fit mutually.<sup>15</sup> Mae-Wan Ho, in her “Organism and Psyche in a Participatory Universe,”<sup>16</sup> gives a model of the cosmos as organism in which beings interrelate themselves together, and love is the bridge. Love is a yearning for integrity, a desire for resonance and intimacy, and a wish to be embedded in a larger wholeness. Mae-Wan Ho sees individual organisms as spiritual beings also. Organisms contain spirit which is represented in the process of life.

### Conclusion—Beyond Dualism: Redefining the Concept of Spirituality

The concept of spirituality comes from the concept of spirit. In modernity “spirituality” has been interpreted as some spirit apart from materials. It has been seen either as a mystical object, like a god in religious worship, or as secular spirit. The concept of spirituality within eco-wisdom is different. Spirituality as conceived in eco-wisdom is often expressed as a religious understanding, especially by recourse to the various natural religions in pre-modern times. Yet with further observation, we

realize that spirituality in eco-wisdom does not need to be restricted to the appearance of “gods” which are worshiped by eco-people in particular rituals and practices. In the contemporary world, some pre-modern styles have less strength to compete with modern sciences. The greater strength of the spirituality in eco-wisdom derives from the subjectivity and creativity of nature. Nature is full of vitality and independent value, and it is a valuable agency which should be respected and appreciated. It consists of those resources which always inspire and encourage our curiosity and imagination.

Such a spiritual nature is neither material alone, nor spiritual alone in the traditional meaning of those terms. The concept of spirituality in eco-wisdom overcomes this dualism, no longer is spirit apart from materials. In Chinese concepts, we might call spirituality “ling chi” (灵气) and understand spirituality as “jing chi shen” (精气神) which represents the subtle vitality of all kinds of life. While people communicate with nature at the level of “ling chi” or “jing chi shen,” we say, in Chinese art and culture, “chuan shen” (传神). So, the non-dualism in eco-spirituality is apparent when we examine it in the context of Chinese culture. This non-dualism is also expressed by the ecofeminist scholar, Starhawk, when she says, “Ecofeminism is a movement with an implicit and sometimes explicit spiritual base. Yet to use the term ‘spirituality’ is itself almost misleading, for the earth-based spirituality that influences ecofeminism has nothing to do with systems of thought which divide ‘spirit’ from matter.”<sup>17</sup> In the same manner, Thomas Berry, the father of Ecozoic theory, says while examining the spiritual dimension of the Earth:

It seems best to consider that mind and matter are two dimensions of the single reality that comes into being in an immense diversity of expression throughout the universe by some self-organizing process. We begin to appreciate this reality in the wonders of its achievements, although it will remain forever beyond expression in any scientific formulation or humanly constructed equation.<sup>18</sup>

Thus, these eco-wisdoms offer spirituality “beyond dualism.” This spiritual concept informs us of the vitality of natural beings which brings nature a creativity and intrinsic value.

It is with such a concept that we humans can appreciate nature emotionally, respect nature morally, and bring curiosity and imagination to nature in our seeking for knowledge. The slogan “revering nature” we mentioned in the beginning of the paper could also be understood properly in such a context.

As I was completing the writing of this paper, my 16-year-old, high school daughter brought me a poem. I was surprised how she could write such a nature-loving

poem with the mountain of homework she had. Yet she said “I love it.” I felt “a spiritual nature” in her poem which I thought people could enjoy:

When the sun sank into the mountain,  
The fairies of the forest began to spin.  
They flew through the deep emerald green,  
Each waving a little wand as small as a pin,  
The trees and flowers came to life  
To show off their branches and talk and play.  
Followed by their tender children and  
    willowy wives,  
All cheered and screamed as the fairies dived.  
Gradually darkness covered the sky  
Stepping forward, an old tree spoke,  
“My gracious fairies, you are the ones on whom  
    I can rely,  
Could you make the night different by your  
    design?”  
Suddenly the darkness vanished out of sight,  
All the leaves were shining in red and gold light,  
And the king and queen of flowers began to  
    dance so bright.  
Both of them wore crowns glowing in the  
    undark night  
They danced faster and faster,  
More flowers joined them in the circle.  
Soon the forest was filled with laughter,  
A tree in jest recited something like an actor . . .  
When the natural dawn came to the forest side,  
All the trees and flowers again stood petrified.  
Fairies had already found places to hide,  
And the secret of the night, all kept in pride.

<sup>1</sup> See, e.g., Wang Yongchen, “Revering Nature Is Not Anti-Science,” in *New Beijing*, Jan. 13, 2005; Liao Xiaoyi, “What’s Wrong with Revering Nature?,” in *New Beijing*, Jan. 24, 2005; Liang Congjie, “Revering Nature Is Definitely a Rational Attitude,” in *New Beijing*, Jan. 26, 2005. All the foregoing were published in Chinese.

See, e.g., He Zuoxiu, “Humans Do Not Need to Revere Nature,” in *Around the World*, Issue 1, 2005; and Fang Zhouzi, “Revering Nature Is an Uncivilized Idea Not in Accord with Reason,” in *New Beijing*, Jan. 13, 2005. All the foregoing were published in Chinese.

<sup>2</sup> See Stephan Harding, “What is Deep Ecology?” *Resurgence*, Issue 185 (1985); available at [www.resurgence.org/resurgence/185/harding185.htm](http://www.resurgence.org/resurgence/185/harding185.htm); Internet; accessed December 16, 2006.

Arne Naess, “Spinoza and Ecology,” in S. Hessing, ed., *Speculum Spinozanum 1677-1977* (London, 1978).

Arne Naess, “Through Spinoza to Mahayana Buddhism, or Through Mahayana Buddhism to Spinoza?” in J. Wetlesen, ed., *Spinoza’s Philosophy of Man: Proceedings of the Scandinavian Spinoza Symposium 1977* (Oslo, 1978).

<sup>3</sup> See George Sessions, “Arne Naess & the Union of Theory & Practice,” *Trumpeter* (1992); available at <http://trumpeter.athabascau.ca/content/v9.2/sessions.html>; Internet; accessed December 16, 2006.

<sup>4</sup> The related references include: Rosemary Radford Ruether, *New*

*Woman, New Earth: Sexist Ideologies and Human Liberation* (Boston: Beacon Press, 1975); Susan Griffin, *Woman and Nature: The Roaring Inside Her* (New York: Harper and Row, 1978); Carol P. Christ and Judith Plaskow, eds., *Womanspirit Rising* (San Francisco, CA: Harper San Francisco, 1979); Elizabeth D. Gray, *Green Paradise Lost* (Wellesley, MA: Roundtable Press, 1979); and Starhawk, *The Spiral Dance: A Rebirth of the Ancient Religion of the Great Goddess* (New York: Harper and Row, 1979).

Karen J. Warren, *Ecofeminist Philosophy: A Western Perspective on What It Is and Why It Matters* (Lanham, MD: Rowman & Littlefield Publishers, 2000), 31.

Thomas Berry, *The Great Work: Our Way into the Future* (New York: Bell Tower, 1999), 49.

<sup>5</sup> Bron Taylor on Deep Ecology; available at [www.religionandnature.com/bron](http://www.religionandnature.com/bron).

<sup>6</sup> Starhawk, “Feminist, Earth-Based Spirituality and Ecofeminism,” in Judith Plant, ed. *Healing the Wounds: The Promise of Ecofeminism* (Philadelphia, PA: New Society Publishers, 1989), 174.

<sup>7</sup> Berry, 20

<sup>8</sup> Starhawk, “Feminist, Earth-Based Spirituality and Ecofeminism,” 174.

<sup>9</sup> David Ray Griffin, “Introduction: The Reenchantment of Science,” in David Ray Griffin, ed. *The Reenchantment of Science: Postmodern Proposals* (Albany, NY: State University of New York Press, 1988), 2.

<sup>10</sup> *Ibid*, 3.

<sup>11</sup> See Fritjof Capra, “Evolution: the Old View, and the New View,” in David Loye, ed. *The Evolutionary Outrider: The Impact of the Human Agent on Evolution* (London: Adamantine Press Limited, 1998), 39-48.

<sup>12</sup> Mae-Wan Ho, “Organism and Psyche in a Participatory Universe,” in Loye, 49-66.

<sup>13</sup> Starhawk, “Feminist, Earth-based Spirituality and Ecofeminism,” 174.

<sup>14</sup> Griffin, “Introduction,” 2.

<sup>15</sup> *Ibid*, 3.

<sup>16</sup> See Fritjof Capra, “Evolution: the Old View, and the New View,” in Loye, 39-48.

<sup>17</sup> Mae-Wan Ho, “Organism and Psyche in a Participatory Universe,” in Loye, 49-66.

<sup>18</sup> Starhawk, “Feminist, Earth-based Spirituality and Ecofeminism,” 174.

<sup>19</sup> Berry, 25-26.

## Natural Theology

By Jack McKinney

Psalm 19 in the Bible is a beautiful poem that describes the daily sermon given by nature without a word spoken. The poem begins this way:

*The heavens are telling the glory of God;  
and the firmament proclaims God's handiwork.  
Day to day pours forth speech,  
and night to night declares knowledge.  
There is no speech, nor are there words;  
their voice is not heard;  
yet their voice goes out through all the earth,  
and their words to the end of the world.*

What I wouldn't give if just once in my life I could write a few lines of poetry as perfect as that.

In 1888, the Gifford Lectures began in Scotland. Lord Gifford was a judge who cared more about religion and metaphysics than the law, so upon his death he endowed a lectureship that has become the most important theological lectureship in the world. Lord Gifford's sole aim in setting up this series was to prove that God could be known through natural theology without any reference to the miraculous. Over the decades great philosophers and theologians were awarded the Gifford Lectures. People like William James, Alfred North Whitehead, Albert Schweitzer, Karl Barth, Reinhold Niebuhr, and Paul Tillich have all spoken to Lord Gifford's quest to discover a natural theology based on observation and reason. However, in ways that might make Lord Gifford spin in his grave, many of these scholars have determined natural theology is a dead end. In 2001, Stanley Hauerwas of Duke Divinity School was awarded the Gifford Lectureship. Hauerwas declared that the God one would discover through natural theology was not a God he could worship.

And why should we care about any of this? Because right now our world is bitterly divided between those who believe the poet's universal vision in Psalm 19 and those who believe God and the truth can only be known in our sectarian communities and traditions. The poet of Psalm 19 sees each day declaring in silence the beauty and power of a creator who is open to all. On the other hand, the world is filled with religious extremists who declare God and the truth can only be known through their interpretation of the Quran or the Bible. We see political operatives insinuating that God and the truth are on their side. We see disputes in the public schools pitting people of different faiths and worldviews against one another. And increasingly we see the polarization of faith and politics and international affairs because we

are so certain that our particular tradition or our particular religion or our particular worldview has all the answers. And what I fear is that the vision of the poet in Psalm 19, and the hope of Lord Gifford, is dying. The idea that we can observe the silent witness of the created order, and from that witness deduce universal truths that draw us together, is not an idea that holds much sway right now.

And we are paying a terrible price for ignoring the universal truths that are preached each dawn and each dusk. Even the most basic universal lessons are being pushed aside in favor of brutal sectarian aims. Suicide bombers destroy innocent lives in the name of Allah. Smart bombs are dropped from the skies onto the heads of innocent people in the name of freedom. Torture is not only tolerated, but has become a tool of the United States to secure our liberty. How absurd is that? Can there be a more basic universal truth than it is wrong, immoral, indecent, and obscene to torture other human beings?

Of course there are other crucial points the natural world makes to us each day in its silent speech. Surely we can see that the desecration of our water, air, and land is a sin according to the magnificent sermon that comes with the break of day. We shouldn't need virtually every reputable scientist telling us that global warming is real, and that environmental abuse is the great holocaust in our future. We should simply witness the proclamation of day and night and want to preserve this treasure that has been handed to us.

But truth be known, it is hard for us to hear this sermon without words. Technology has allowed us to fill the night with light, and to fill every silence with sounds, and to fill every empty space with video pixels. We are busy and productive and affluent, but we are also anxious and exhausted and empty. Our inability to hear the silent sermon of nature, and its universal truths, not only means we are committing atrocities against one another, it also means our personal lives are decadent and dead.

In this world ablaze with sectarian violence, and divided by narrow self-interest, and filled with non-stop noise and clutter, there is a way out of our splintered, empty ways. It is through the daily sermon of nature that begins at dawn with a beauty that can move us and a power that can shake us. This silent proclamation is open to all without regard to nation, creed, race, or religion. And if we will stop, and pay attention, and recognize the universal truths contained in this wordless speech, we can be healed, and we can be whole, and we can be one.

## **Soulcraft: Crossing Into The Mysteries Of Nature And Psyche** by Bill Plotkin

*Reviewed by Greg Futch*

The most profound insights of spirituality cannot be adequately expressed in words. This is an ancient truth. The deepest truths require special means of transmission—puzzles with no logical answers (koans), images (whether verbal, like poetry, or dreams, or great art), personal communion with sages or saints, or, of course, experience itself, which transcends intellectual constructs and can *potentially* give one direct access to the Transcendent. In every spiritual tradition, there are various rituals, pathways, techniques, or “means of grace,” which offer the possibility of contact with Ultimate Reality.

A further commonality among wisdom traditions is a correlation between *self-awareness*, and awareness of the Infinite. In other words, to know the deeper levels of one's own being is to be more conscious, in some way, of the Divine. The relationship between the soul (or the deepest being) of the individual and the Ultimate is a much thought about and debated issue in religious history.

In his fine book, *Soulcraft*, Bill Plotkin writes about techniques for what he calls “soul encounter”. These are methods of altering our everyday consciousness, so that “aspects of ourselves hidden from everyday awareness” may be revealed. These methods are sometimes familiar and sometimes strange. They include dream-work, trance dancing (similar to Sufi whirling), roaming in nature, the vision quest, and many others. Their common goal is a glimpse of our deeper, more authentic selves, which are covered over by conditioning, the ego, habit, and fear. Thomas Berry expresses high praise for the book in his forward: “In the substance of what he [Plotkin] has written, in the clarity of his presentation, and in the historical urgency of the subject, he has guided us far into the new world that is opening up before us.” (p. XVI)

Dr. Plotkin is a psychologist who has become passionate about the need for what he calls “soul encounters.” These are moments in a person's life when the ego or the socialized self collapses, or is overwhelmed, or is left behind. An experience of the deeper self happens, and one is usually stunned, transfixed, or altered by the event.

Dr. Plotkin presents an idea of spiritual experience which allows for two very different types of encounter. On one hand, a person may, figuratively speaking, descend deep beneath the ego and the surface persona, into the realm of the soul. On the other hand, one may transcend the individual consciousness and find communion with universal Spirit. For myself, at least, these

distinctions are not critical for the study of the paths presented in the book for learning about, and moving closer to, our most authentic selves.

The majority of these paths, as reflected in the subtitle of the book, “Crossing into the Mysteries of Nature and Psyche”, are *nature-based*. As Plotkin writes, “Nature—the outer nature we call ‘the wild’—has always been the essential element and the primary setting of the journey to the soul.” (p. 15)

The over-all message of the book is perfectly in line with the ancient theme of spiritual pilgrimage. Whether looking at Joseph Campbell's hero journeys, the quest for the Holy Grail, Homer's *Odyssey*, or Arjuna's talks with Krishna in the *Gita*, we see the core story of learning about one-self, the Great Unknown, and the relationship between them. Thus, in Plotkin's scheme, we have the “leaving home” (the home of our familiar world and self-image), the descent into the underworld of soul, and the return to the everyday world, carrying what one has learned and experienced as a gift to others.

This is very powerful stuff and perhaps one should tread lightly in assimilating the many insights and visions presented in *Soulcraft*. It behooves the seeker to maintain humility in the face of the Transcendent. For those of us whose experience of God is of benevolence and love, there may be joy and even adventure in the search for communion. At the same time, the awesome nature of the Great Mystery should make any serious pilgrim reverent and respectful.

My own experience with *Soulcraft* has been very gratifying. At the United Methodist Church I attend in Austin, there is an on-going series of Wednesday night classes for adults. I have been happy to lead and co-lead a variety of these classes. Last year, after having read the book, I volunteered to lead a class on it, and my associate pastor took me up on the offer. For six weeks, a group of usually nine or ten of us had rich discussions centering on the book and our various experiences relative to its subject matter. We did some council work, talked about dreams, related stories of nature connection, and shared a fine bond of spiritual community. Everyone found something in the book that spoke directly to them.

In this time of existential crisis, with environmental and economic issues so entwined with our way of life, a book like *Soulcraft* is extremely relevant. It appears that our own spiritual growth as individuals, but also as societies, and even as a form of life on this planet, will

determine both our very survival, *and* the quality of that survival. We should become more symbiotic with the life-systems of earth, or our consumerist and materialistic life-style could produce a deadly “correction.”

Accessing deeper levels of our spiritual being, with aids like *Soulcraft*, can alter our priorities, give us a taste of our authentic gifts and talents, and perhaps lead to a better world.

---

*Taylor follows Dunlap’s argument that environmentalism has led to deeper religious values*

---

## **Faith in Nature: Environmentalism as Religious Quest** **by Thomas R. Dunlap**

*Reviewed by George Taylor*

Progressives ask serious questions about how we can captivate the hearts and minds of Middle America. Thomas Dunlap’s book, *Faith in Nature*, proposes a powerful solution: the idea that environmentalism is a religion. He suggests that people who love the environment can help progressives articulate powerful truths that will touch Americans, if they can utilize the ethics and language of a religious sensibility.

Thomas Dunlap quotes William James’s famous definition: “[Religion is] the belief that there is an unseen order, and that our supreme good lies in harmoniously adjusting ourselves thereto.”<sup>1</sup> What is the “unseen order” that environmentalists believe in? Dunlap proposes that deep ecologists, bio-regionalists, and anti-globalization activists all possess some part of the answer to this important question.

Only a religious consciousness can answer this question. The divine is, in a literal sense, indescribable. The good news is that we experience it. As Bob Marley sang, “He who feels it knows it.” When we are deep in the woods, at our favorite stream bed or mountain, we can connect to a sense of awe—awe in the presence of the miracle of the web of life, of how generous and diverse it is. This awe is like the feelings churchgoers experience in a cathedral. It is the presence of the holy. (Indeed, some think the arches of Gothic cathedrals were inspired by the arching branches of trees in tall woods.)

Environmentalists “harmoniously adjust ourselves” to this unseen order through action in the world: by recycling, by passing laws, and by educating people about the ethics of resource use. Some of us work to develop our inner consciousness. Dunlap describes, with a wonderful sense of irony, how we meditate in our special natural places, and pray in quiet nooks of our house decorated with Ansel Adams’ photos of Yosemite.

Thirty years after the passing of the first environmental laws in the United States, Dunlap shows how

environmentalism has matured. Its practitioners continue to develop a critique of capitalism and the values that underlie it and to organize around new issues. We ask: “How much can we consume? Are we stewards of the Earth’s resources, or are we wasting them? How do communities in the First World affect and help communities in the Two-Thirds World? How is the universe organized, and how do humans fit in? How can we save the world?” Surely these questions are religious.

A strength of *Faith in Nature* is the way in which Dunlap traces the evolution of environmental ethics and spirituality through three centuries of Western thinkers, from the Romantic poets (such as Keats and Wordsworth), through Emerson and Thoreau, to Aldo Leopold and Rachel Carson. A weakness is how little he talks about the importance of Native American traditions in the development of our understanding of the relationship between the “unseen order” and humans. Since so many indigenous cultures assume and reverence the divinity of the natural world, to not pay attention to this powerful influence is a little like Columbus “discovering” the New World. There were already people here.

Besides asking these deep questions, other beliefs of environmentalism make it like a religion:

- We have created a great movement toward community, toward recognition of the beneficial interconnection between humans and all other species. (This movement is away from individuality, which is so intrinsic to the way most Americans see themselves.)
- Interconnectedness implies some humbleness before the forces of nature, which are so complex. (This humbleness is opposed to the common American idea of faith in a dominating science team of super-heroes which can solve all the world’s problems by inventing more complex gadgets.)

- Like radical Christians, environmentalists tend to believe that we are living in dangerous, troubling times. We use the language of Armageddon. The times we live in will come to an immediate end if we don't discover the ways of righteousness.

Dunlap juxtaposes the faith of environmentalism with that of "Americanism," which holds to beliefs like the following:

- Progress is always good, and science can resolve all technical and social problems it creates. Relentless optimism is required.
- Individuals in America create wealth by taking resources out of Mother Nature and converting the natural materials into products. Any restriction of the production-consumption cycle is an antisocial act.
- Americans are a chosen people and have the duty to spread our way of life, our capitalism and democracy, to others.

Americanism too has the power of religion.

Dunlap argues that the strong ethics and values of environmentalism can counter the misguided beliefs of Americanism on a common ground of spirituality. He

describes the war of words and ideas that occurred when Rachel Carson brought out her ground-breaking book, *The Silent Spring*, in the early 1960s. Carson did more than expose the dangers of pesticides on human life. She appealed to deep moral values.

Her voice, crying in the wilderness of a culture enraptured with technology, was heard. Through her evocative language, which combined science and morality, she made her message come alive. Within ten years of the publication of her famous book, social pressure had created a huge environmental movement and caused far-reaching legislation to be passed.

George Lakoff, in such books as *Don't Think of an Elephant!: Know Your Values and Frame the Debate* has given progressives important insights into how to speak their values. For me, Dunlap goes beyond Lakoff's analysis to give us the language and story that we need. Using ethical, emotional, and spiritual language, we can touch the deepest longings in the human spirit.

Our call to virtue and faith is our best way to save the world.

<sup>1</sup> William James, *The Varieties of Religious Experience*, Modern Library paperback ed. (New York: Modern Library, 1999).

---

*Quinlan reviews expressions of religious consciousness evoked by the unfolding Universe Story*

---

## **What Does God Look Like in an Expanding Universe?: An Anthology on God, Life and Death, Edited by Jim Schenk**

*Reviewed By Joyce Quinlan*

**B**e sure to put this new anthology high on your reading list for 2007. The essays will leave you with an unmistakable conviction that a new human consciousness is alive and well—even flourishing—among us in spite of these dark days of war and anxiety. As one of the contributors, Diarmuid O'Murchu, puts it: "We are going forward, lured by the future that the Creative Spirit always opens up for us. . . . This is not the same as the utopian promise of modern consumerism, on the one hand, and evangelical religion on the other. It is the hope born out of struggle and engagement, sustained by evolutionary imagination, and nourished by communities of resistance and prophetic vision."

Such expressions of trust in the creative evolutionary process of the universe pervade each of the seventy-eight essays, and with an enormous diversity of points of view. On checking the index of the volume, I discovered that the most frequently used words (other than evolution

itself) were beauty, celebration, creativity and wonder. In a book which explores what God and Life are really all about, the power of these repeated concepts shifts one into a new consciousness—out of the limitations of extreme individualism, hierarchy, and competition, into boundless awareness of unity, interconnectedness, and compassion. Moreover, that the writers of these essays live in twenty states of the United States (East Coast, West Coast, and Middle America), as well as Australia, Ireland, England, and Canada, lends power to the conviction that the same Spirit, filling all time and space, is moving everywhere to tell us the truth, through the New Story, of the wholeness of Divinity and universe.

Thomas Berry puts it this way in his interview with Jim Schenk: "The universe is the celebratory experience of the Divine and creation. Everything is here for the same reason, for manifestation and celebration. But the human articulates this . . . therefore our role is to be

spokesperson for the universe in which the Divine and the human meet.”

The authors are not only geographically diverse, but also they are diverse in culture, profession and experience. Whether well-known writers or unpublished, the writers speak from their strong personal experiences. Meg Hanrahan, a media producer, writes that we humans are key players in the “ever evolving process of creation. By immersing ourselves in reverence and respect, in awe and wonder . . . we might hope to fulfill our part in the renewal of creation.”

Peggy Logue, a member of the Grail Institute, looking out her window on a rain-soaked morning, reflects, “In the intimate moment or connection with creation, ‘God’ is. ‘God’ is the light, the dark . . . the world, the grizzly. ‘God’ is the water, the air . . . the child, the parent. ‘God’ is all. ‘God’ IS.”

Marya Grathwold OSF: “Last night I saw you for the first time. . . . Now I am seeing you everywhere, the light within the light of each being. . . . Now I am dancing within the rhythm of your drumming, putting my feet down in soil of the stars and pathways of the immense abyss. . . . What else does a person do upon meeting the Source and Mystery of All That Is?”

And Mary Brown, O.P., says. “Even if our ignorance and arrogance bring things to ruin here, the energy of life will not be undone. This does not make me work less hard. On the contrary, I feel privileged to participate actively in something wondrous.”

The odds are very good that reading this book will give you a legitimate high drive to be more engaged with all of LIFE.

---

*Watson asks the simple question, “Earth Mother, what can I do for you?”*

---

## **Earth Mother’s Prayer**

*By Tim Watson*

When was the last time we have asked the question,  
“Earth Mother, what can I do for you?”  
“How can we be of help to you this day?”

Whether for the thousandth time, or the first time, it is good to ask this question now.

To pose this question is to love Her  
this beautiful Blue Island spinning amidst the vastness  
of space.  
Our love for Her lives in this question, and offering it is like saying a prayer.

For it is love, only love, that truly heals us. It is the same with our Earth Mother, the very Being from whom we all grew, and the very Being who will someday receive us as the dust of our bodies melts back into Her bosom.

Like us, this sacred Being welcomes the love of her children. If we wish, we can hold our Earth as a living, thinking, feeling entity, for She is the source of all we experience in our bodies, and in the outer world surrounding us.

If this be true, why would we not feel reverently about Her, how could we not feel intricately woven into Her life’s tapestry?

If this be true, how could we then turn our attention away from Her?

In this darkening hour when so many of us have forgotten, who amongst us is here to love Her now?

If this be true, we each, and together, can be among the growing numbers who realize our Mother Planet’s sufferings can be eased. As we awaken to the imbalance humankind is creating in Her grand design, we empower ourselves to move towards a renewed connection with Her.

Yes, we can help Her at any time.

In the very way we walk upon Her bosom, we can offer Her gratitude.

We send Her loving admiration and healing thoughts each time we admire the shape of a flower, listen for the owl’s call, or witness the majesty of a sunset!

In this way the question “what can I do for you Earth Mother?” will be addressed, no matter who, when, or where we are, along life’s road.

In this simple way we, Her children, whom She has sustained since the beginning of time, can lighten the weight of the long journey She has shared with us all.

In this way let us give back in good measure the nurturing She has steadfastly offered us for so long, for She truly is, the Mother of us all.



## **Organic Democracy (Part 2): Adaptive, Responsive, Life-Sustaining Communities**

*By Ellen LaConte and Herman Greene*

**O**ur disregard for the dynamics that sustain life is the underlying cause of our current environmental, economic, political and spiritual crises. These dynamics are organic and democratic in both their natural and human expressions. Something is organic when it is an integral part of a whole, the whole having the characteristic of a functioning living system. Democracy is derived from the Greek words meaning “people” and “power” and may be thought of as a way of empowering people (or, as we will see in nature, organisms of all types) through collaborative learning and co-intelligent decision making. Organic democracy as advanced here is a means of living in harmony with nature, or put differently, a way of living as a viable part of the Earth community.<sup>1</sup>

Under the prevailing global economic and political order we are presently living beyond Earth’s means. This economic order is industrial and market based, largely oblivious to the dynamics of life that support it. The political order in the West, now being spread throughout the world, is nominally democratic and operates under the rule of law. This political order is, however, subservient to and subverted by the economic order. Consequently, precisely where concepts of democracy and rule of law are strongest, there is the greatest devastation of nature and increasingly, it appears, the greatest exploitation of the human masses considered on a global scale. Democracies as we know them are not organic democracies. They do not offer us the means to take the collective action needed to live as functional participants of the community of life, or even to care for our own.

We will consider here models of organic democracy in both the natural world and human society. We will begin with natural systems in order to further the understanding of the dynamics that sustain life (what we will sometimes call “Life’s rules”) and how the adaptive, evolutionary, responsive interactions within these systems sustain life (what we will sometimes call “Life,” by which term we mean to refer to the total interactions within these systems). We will then consider examples of human organic democracies that are similarly adaptive, evolutionary and responsive in relation to their human and natural environments. We will conclude with general observations on the practice, process and principles of organic democracy.

### **Life’s Rules**

#### **Diversity, Self-Organization and Communion**

In *The Universe Story*, Brian Swimme and Thomas Berry state that the whole universe develops under the ordering principles of diversity, self-organization and communion.<sup>2</sup> These principles make possible the mutuality, affinity, communication, collaboration, and co-operation that are characteristic of organic natural communities. Evolutionary biologist and futurist Elisabet Sahtouris makes this statement about how Life works. “Mature, healthy living systems show enormous diversity (there are no monocultures in nature), full employment of all members, distributed leadership and governance, equitable distribution of goods and services, and 100% recycling.”<sup>3</sup> Let’s see how life systems do this.

#### **Life Arises out of Place**

Life is not imposed on place, rather life arises or emerges out of present circumstances in response to what’s available in its immediate environment and sets up Earth-keeping there. Life encourages as many ways of inhabiting the Earth’s diverse landscapes and subsisting on Earth’s natural capital as it can. Each being relies on and reveals one of those ways of living well within Earth’s means in a particular place or, in the case of migrating species, a particular range of places. This is a positive feedback loop worth paying attention to: Living beings arise in response to and subsist on what is available in particular places. They adapt when offered less or more, or something different, in those places. That is, changes in their places cause them to change. But as living beings work out their lives, they cause changes in their places, too. There is no separation between the participants and the places in which they live. Place and participants, Life and living beings, create and maintain each other. Like dancers at their best, one can’t tell who is leading and who is following because all are doing both. In other words, Life is what the billions of diverse living beings relating to each other in particular places make of it.

#### **Each Individual Seeks Advantage**

And, “being there,” every living being seeks its advantage. Each, from the smallest bacterium to the largest gray whale, is driven to work out its own existence, to read its surroundings and fit itself into them, to tinker with its options in the particular ecosystem or range of ecosystems in which it finds itself in order to

live on and make the most of what's available to it there. Like each of us, each is unique. Each embodies a combination of traits, talents, techniques, or twists of form or function that give it identity and possibility.

### Yet Each Is Sustained by Mutuality and Community

Uniqueness and seeking advantage by themselves, however, do not sustain life. No individual entity lives on its own or simply for its own benefit. For Life, individuation is balanced with integration, self-interest with sharing, and diversity with community. Life does not divide, conquer, exclude, or rank. Independence and autonomy are incomplete states of being. They are completed in mutuality and community. Berry and Swimme write elegantly of Life's predisposition for communion. "Nothing is itself without everything else."<sup>4</sup> "To be alive means to find one's identity in the togetherness of the community. . . . [T]here, in intimacy and togetherness is the whole web of life."<sup>5</sup>

### The Leadership of Keystone Species and the Service of Foundation Species

This is not to say that there is no leadership in living systems or that all of the interdependent participants are of equal importance to the well-being of the community. Certain species are keys to their communities. Their presence or activity creates conditions that permit a community of diverse individuals to persist and flourish together. Such species are called "keystones."<sup>6</sup> If they are removed, the community goes through a crisis. Like an archway in a wall, when the keystone is removed, the wall collapses. As the ecosystem changes and its participating species and individuals change, others may take or be given the keystone-leadership role or several species or individuals may share it.

Foundation species are equally important.<sup>7</sup> These are often those whom we consider the least among species—for example, the bottom feeders that clean the water for all the other sea creatures, fungi that prepare and maintain the living soil, algae, bacteria and plants that make and maintain the air we breathe. What they contribute to Life is vital, yet they take from their communities only what they need, and they give back what others in the community need. They do not dominate an ecosystem; they are participants in it. They depend on the community for their existence, and other species in the community depend on them.

### Community all the Way Up and All the Way Down

We do not fully understand how ecosystems emerge and evolve, though it seems to have something to do with the way the members of the community share the available cosmic energies. When keystone species prepare the way in a particular setting, other very different species somehow choose to live in that setting. They net-

work in order to figure out how to cooperate and to what end. Enabled by the presence of the keystone species, they integrate themselves and their activities in order to optimize both resource use and the advantages that having diverse skill-sets give them. They organize themselves, coordinate their ways of producing and consuming, pool their unique talents and share the common wealth of resources and energy Earth affords them. In their diverse places and particular circumstances, they pull together in the direction of life, and still more life.

It is as if one of Life's rules were that living beings, beyond competition and self-interest, befriend each other. They certainly behave as if they do:

- They move in together, for example, like the complementary strains of bacteria that cohabitate cells and mouths and stomachs in a mutually supportive process called symbiosis.<sup>8</sup>
- They establish partnerships through which they work together for each other's benefit in a process called "synergy": Soil microbes, for example, partner with the roots of trees to collect and process nutrients that benefit both. In exchange for acting as eyes and an early-warning system, clear-sighted oxpecker birds get to glean ticks and lice in exchange for a degree of safety from the hides of the huge near-blind rhinoceroses with whom they partner.
- They join together in reciprocal interdependent relationships like bees with flowers.
- They provide structural support for each other as live oaks do for Spanish moss and coral reefs do for anemones, fish, eels, and hermit crabs.

By whatever means, every living being at every level—from bacterium to bioregion—collaborates and cooperates with others in mutually-supportive, relatively self-sustaining local communities and networks of communities.<sup>9</sup> This is not just a matter of assemblage, of diverse beings living separately in one place. It is a matter of what diverse beings accomplish together in their places. Where Life's organic model of organization is concerned, it's community all the way up and all the way down.

So: Cells are communities of diverse but cooperating organelles and other cellular components. Take it up a level: organs are communities of diverse but collaborating cells within tissues. In their turn, moving up another level, diverse organs collaborate in the formation of organisms. And very different kinds of organisms coordinate their requirements, integrate their efforts and cooperate in the creation and maintenance of ecosystems. Ecosystems network to create and maintain bioregions, and bioregions contribute to the continuous creation of the living Earth,

---

Gaia.<sup>10</sup> This same progression can be repeated from the Gaia level to the cell—for just as the cell creates and sustains Gaia, Gaia through the bioregion, ecosystem, and organism creates and sustains each cell.

### Life Competence

Why all this collaboration, cooperation, networking, and sharing among individuals and species that have their own interests to defend? It is because communities of diverse, integrated, interdependent and mutually-supportive individuals are more Life competent than any of the individuals in them would be if they lived alone. Life competence leads to appropriate scales of living and frugality where Earth's limited means are concerned. It leads to stability, resilience, and longevity, that is to say to sustainability. "As co-evolution proceeds," writes Ecologist founder Edward Goldsmith, "so do natural systems become increasingly self-sufficient, reducing their dependence on forces outside their control. This is an essential strategy for increasing their capacity for homeostasis and hence their stability."<sup>11</sup>

Individual cells in our bodies come and go daily, but our bodies persist for decades. Families come and go but "family" persists. Particular animals, plants and trees in a forest come and go as the system matures but the forest remains. The impermanence that is characteristic of individuals' lives is balanced by the relative permanence of a community's life. This makes Life long, though lives are short. And because communities are Life competent and relatively stable, the individuals that inhabit them are given habitat and sustenance and the opportunity to attain their fullest identity and achieve their highest purpose. The community is the individual's first line of support, best defense and finest creation.

### Smart Communities

One of the reasons communities of diverse living beings are more Life competent than the individuals that comprise them is that they are more intelligent. Members of natural communities benefit from the complementary ways of knowing and living and varieties of experiences of other members. A natural community is bigger-brained and better-informed than any individual in it. By electrochemical means, among others, living beings and systems and parts of living beings and systems that are very different from each other communicate and pool their individual intelligence to the point where—together—they have a genius for Life.

Like teenagers with cell phones, living beings "talk to" each other ceaselessly in order to keep themselves "in the know" and "on the same page." Knowledge is in this way totally decentralized, horizontally as well as vertically distributed, and widely, constantly shared. The experience of every individual and species, since it might be vital to the survival of the community, is taken into

account. Consequently, life's organic communities have expanded and expansive problem-solving capacities. A forest is more "aware" of local conditions than any single tree or toad or species of tree or toad within it and they all benefit from that increased awareness. An organism is more attuned to and consequently smarter about local conditions than any single organ within it and each single organ benefits from the organism's greater knowledge. Pooled intelligence is what allows organic communities to read their circumstances, shape and size themselves and their numbers accordingly, and recognize opportunities, changes and limitations. It is what allows communities and their participants to live well and within Earth's means.

Individual living entities, however different they may be from each other, contribute (and are enabled to contribute) their intelligence, their unique and complementary skills, experiences and perspectives, to the communities in which they participate. This gives the community a superior intelligence—a survival edge. But also, in return, the community shares that superior intelligence with all of its participants so they receive the benefit of it too. Through complexity, coalitions and networks, such communities are even more resilient, stable and sustainable than any of those individuals would be on their own.<sup>12</sup>

### Human Organic Democracies

Now let's look for examples of adaptive, distributed, co-intelligent problem solving in relation to the environment in human communities, that is, human organic democracies. Such democracies are arising spontaneously around the world, especially in those places where the severest consequences of our global ecological crisis are already being experienced and where centralized governments are least effective. For example:

- Wangari Maathai, 2004 Nobel Peace Prize winner, joined with upwards of 100,000 Kenyan women to plant over 30 million trees so that their soils, waters and watersheds, children and diets could be healed and their village economies could become more self-sustaining and self-determining. Maathai said in her Peace Prize address "[A]lthough initially the Green Belt Movement's tree planting activities did not address issues of democracy and peace, it soon became clear that responsible governance of the environment was impossible without democratic space. Therefore, the tree became a symbol for the democratic struggle in Kenya. Citizens were mobilized to challenge widespread abuses of power, corruption, and environmental mismanagement."<sup>13</sup>

- In India, Vandana Shiva and thousands of villagers from scores of villages, whose livelihoods and lives had been threatened by the privatization of genetic seed stock by transnational agrochemical companies, organized a seed conservation cooperative called Navdanya (“nine seeds”) by means of which farmers asserted their collective intellectual property rights. Shiva, who is a winner of the Alternative Nobel Peace Prize (the Right Livelihood Award) explained,

Navdanya wanted to build a program in which farmers and scientists related horizontally rather than vertically, in which conservation of biodiversity and production of food go hand in hand, and in which the farmers’ knowledge is strengthened, not robbed. . . . We committed ourselves to defend and reclaim our fundamental freedoms related to land, forests, biodiversity, food, and water. That is how the movements for *bija swaraj* (biodiversity and seed democracy), *anna swaraj* (food democracy), and *jal swaraj* (water democracy) were born.<sup>14</sup>

And from this effort has evolved, as additional communities have self-organized to align themselves with Navdanya, the *swaraj* of *jaiv panchayat*, that is, living democracy.

- In Brazil, a million desperately poor, landless, jobless men and women comprising over 350,000 families engaged in non-violent protest, organized squatting, persistent mobilizations and peaceful persuasion to secure from their government their right to settle and organically farm 20 million acres of fallow agricultural land. They saw their activism as the key to the construction of a more broadly democratic political alternative in Brazil involving coalitions of agrarian settlements. Not only was the Landless Workers’ Movement “fighting for their own rights, they [were] transforming their society into a more just one—and their approach may offer the best solution yet to Brazil’s environmental problems in the Amazon and elsewhere.”<sup>15</sup>
- In the 1940s, Basques in and around the Spanish city of Mondragon suffered from General Franco’s political repression, economic recessions, a harsh, war-ravaged landscape and fierce competition. Activist-priest Don José María Arizmendiarieta with hundreds, then thousands of people responded by building what has become a “vital, successful and resilient network of more than 170 worker-owned-and-operated cooperatives serving well over 100,000 people. The Mondragon cooperatives include a large worker-controlled bank, worker-managed technical assistance and research-and-development organizations, a chain of department stores, high-tech firms, appliance manufacturers, foundries, and machine shops.” Mondragonians have built schools, hospitals, houses and community centers, “created secure and well-paid jobs, forged innovative and responsive democratic decision-making structures, and invented increasingly sophisticated forms of democratic participation, cooperation and community.”<sup>16</sup>

Their aim, well suited to shaping an Ecozoic society, has been the pursuit of what they call *equilibrio*. This not only means equilibrium or balance, but also implies harmony, poise, calmness, and composure. *Equilibrio* is a vital process that harmonizes and balances a diverse and growing community of interests: those of the individual and the co-op, the particular co-op and the co-op system, and the co-op system and the community and environment. . . . Ecology, conventionally defined as the relationship of living beings to their environment, is understood [at Mondragon] to encompass social well-being as well as biological reality and their interaction.

- Minority residents of an impoverished, violence-riddled Boston neighborhood collectively addressed their frustration with the failure of City Hall and state and federal agencies to solve their complicated range of economic, social, and racial problems by organizing themselves as the Dudley Street Neighborhood Initiative (DSNI). In 1987, DSNI instituted a democratic community revitalization process with the intention of empowering “Dudley residents to organize, plan for, create and control a vibrant, high-quality and diverse neighborhood in collaboration with community partners.” With funding from a variety of sources, participants in the DSNI collaborated in the effort to transform hundreds of blocks—177 acres—of hazardous waste sites, condemned buildings, vermin-infested and dilapidated housing, crack houses, closed businesses, and vacant lots into “an urban village: a diverse, economically viable, and neighborly community that combines housing, shopping, parks, and a community center” with pocket parks, urban organic farms and markets, environmental reclamation projects and community houses.<sup>17</sup>

### The Future of Organic Democracy

Organic democracy will arise out of these and hundreds of other examples. It will serve as a guide for fostering transformation of the destructive system in which we now live into sustainable, self-organizing, collaborative Ecozoic communities.

Organic democracy is not a movement related to a single cause or cluster of causes. It is a long-term, shared process that converts its participants into a mutually-sustaining, life-competent community in a particular place. Typically, as was the case with the Dudley Street neighbors, organic democracies will arise in response to specific challenges or constellations of challenges with the aim that their diverse participants discover in each other, develop, and deploy the complementary capacities necessary to cope with those challenges. Dialogue and deliberation training materials suited to diverse conditions and needs exist in abundance. Tom Atlee's website, [www.democracyinnovations.org](http://www.democracyinnovations.org), is a good starting place.

Better than centralized, hierarchical societies, emergent organic democracies can tackle issues in ways that are appropriate for and adapted to their particular place, and draw energy from that place.<sup>18</sup> And they can more responsibly adapt to changes in that place. This is the principle of "subsidiarity," which holds that "Power should be encouraged to devolve downward, not upward. Decisions should constantly move closer to the people most affected by them."<sup>19</sup>

Local and regional economic challenges will likely prove the most common catalysts for community organizing efforts, but over time the challenges will broaden in scope. Energy production and conservation—the way they share the universally available cosmic energies—food/fiber production, water and materials acquisition, transportation, social and educational services, and the distribution of each of these will increasingly become the catalysts for organizing as we are faced with ecological limits and declining resources in a post-petroleum world.

Roy Morrison made this observation about how organizing, once begun, continued to evolve in Mondragon:

From the beginning, the Mondragon system was based on the needs and visions of the participants in their particular situations, and not in any detailed plan. Mondragon's history is marked by an ongoing series of inspired adaptations to changing circumstances and sudden opportunities. This is not to say there was, or is, no planning, but it is planning in the context of democratic and collective risk taking . . . guided by the pursuit of equilibrio.<sup>20</sup>

## Practice, Process, Principles

Organic democracy is a practice and process. It is "not something to be arrived at, but rather something ever to be created."<sup>21</sup> Its full meaning cannot be understood only as the practice and process of effective group decision making in response to any cause; it must include its ability to be organic in relation to Earth's processes and the various human cultures of the world.

The future of democracy lies in its becoming coherent with the functioning of Earth, not simply the human economic marketplace.

The essence of organic democracy is self-governance through shared intelligence and mutual value formation.<sup>22</sup> Put another way, the reasons for engaging in the practices of organic democracy are to foster co-intelligence<sup>23</sup> and to facilitate the formation and manifestation of shared, specifically life-sustaining, Ecozoic values<sup>24</sup>. We would offer these as such values: sense of place, sufficiency, simplicity, subsistence, permaculture, co-intelligence, mutuality and the commons.<sup>25</sup>

So understood, organic democracy, we submit, is a key to how we get to an ecological age.

<sup>1</sup> Portions of this essay, in revised form, are drawn from Ellen LaConte's upcoming book, *Critical Mass*. "Organic democracy" is her term.

<sup>2</sup> Brian Swimme and Thomas Berry, *The Universe Story* (San Francisco: HarperSanFrancisco, 1992), 71

<sup>3</sup> "Skills for an Age of Sustainability: An Unprecedented Time of Opportunity," *The Bridge*, May 2002; available at [www.ratical.org/LifeWeb/Articles/theBridge0502.html](http://www.ratical.org/LifeWeb/Articles/theBridge0502.html); Internet, accessed September 28, 2006.

<sup>4</sup> Swimme and Berry, 77

<sup>5</sup> *Ibid.* 134.

<sup>6</sup> A keystone species is a species that has a disproportionate effect on its environment relative to its abundance. . . . [A]n ecosystem may experience a dramatic shift if a keystone species is removed, even though that species was a small part of the ecosystem by measures of biomass or productivity. It has become a very popular concept in conservation biology.

Wikipedia, at [http://en.wikipedia.org/wiki/Keystone\\_species](http://en.wikipedia.org/wiki/Keystone_species); Internet; accessed September 28, 2006. For example, a beaver is the keystone of the aquatic community it creates.

<sup>7</sup> "A foundation species is a dominant primary producer in an ecosystem both in terms of abundance and influence. Examples include kelp in kelp forests and corals in coral reefs." *Ibid.*

<sup>8</sup> Lynn Margulis offers the stunning example of a small sun-bathing beach creature that was once called a "plant-animal":

The flatworms of the species *Convoluta roscoffensis* are all green because their tissues are packed with *Platymonas* cells; as the worms are translucent, the green color of *Platymonas*, photosynthesizing algae, shows through. Although lovely, the green algae are not merely decorative: they live and grow, die and reproduce, inside the bodies of the worms. Indeed they produce the food that the worms 'eat.' The mouths of the worms become superfluous and do not function after the worm larvae hatch. Sunlight reaches the algae inside their mobile green-houses and allows them to grow and feed themselves as they leak photosynthetic products and feed their hosts from the inside. The symbiotic algae even do the worm a waste management favor: they recycle the worm's uric acid waste into nutrients for themselves. Algae and worm make a miniature ecosystem swimming in the sun. Indeed, these two beings are so intimate that it is difficult, without very high-power microscopy, to say where the animal ends and the algae, the plants, "begin."

Lynn Margulis, *Symbiotic Planet: A New Look at Evolution* (New York, Basic Books, 1998), 9-10.

<sup>9</sup> Elisabet Sahtouris writes, "Every being is part of some larger being, and as such its self-interest must be tempered by the interests of the larger being to which it belongs." Elisabet Sahtouris, *EarthDance: Living Systems in Evolution* (1999), available at <http://www.ratical.org/LifeWeb/Erthdnce/chapter1.html> ; Internet; accessed September 28, 2006. "All organisms large enough for us to see are composed of once-independent microbes, teamed up to become larger wholes." Margulis, *Symbiotic Planet*, 33.

<sup>10</sup> The Gaia Theory posits that the organic and inorganic components of Earth have evolved together as a single living, self-regulating system. It suggests that this living system has automatically controlled global temperature, atmospheric content, ocean salinity, and other factors, in a manner that maintains its own habitability. In a phrase, "life maintains conditions suitable for its own survival. . . . So, for instance, even though the luminosity of the sun – the Earth's heat source – has increased by about 30 percent since life began almost four billion years ago, the living system has reacted as a whole to maintain temperatures at levels suitable for life.

"Understanding Gaia Theory," <http://www.gaiatheory.org>; Internet; accessed June 30, 2006. The theory was first developed by James Lovelock and Lynn Margulis, an early supporter, worked with Lovelock to develop it.

<sup>11</sup> Edward Goldsmith, *The Way: An Ecological World-View* (University of Georgia Press, 1998), 376. This book should be one of the Bibles of the Ecozoic Era.

<sup>12</sup> "The harmony of natural law . . . reveals an intelligence of such superiority that, compared with it, all the systematic thinking and acting of human beings is an utterly insignificant reflection." Albert Einstein, *The World As I See It*.

<sup>13</sup> Wangari Maathai, "Dispelling the Myths: Linking What Has Been Kept Separate," *Green Horizon Quarterly*, Winter 2005, 7; [www.green-horizon.org](http://www.green-horizon.org).

<sup>14</sup> Vandana Shiva, *Earth Democracy: Justice, Sustainability, and Peace* (South End Press, 2005), 92, 93.

<sup>15</sup> Angus Wright, Wendy Wolford, *To Inherit the Earth: the Landless Movement and the Struggle for a New Brazil* (Oakland CA: Food First Books, 2003).

<sup>16</sup> Roy Morrison, *We Build the Road as We Travel* (New Society Publishers, 1991), back cover.

<sup>17</sup> *Ibid*, 4.

<sup>18</sup> William A. Shutkin, *The Land That Could Be: Environmentalism and Democracy in the Twenty-First Century* (MIT Press, 2001), Chapter Four, "Urban Agriculture in Boston's Dudley Neighborhood: A Modern Twist on Jefferson's Dream."

<sup>19</sup> We owe particularly to Dr. Beatrice Bruteau this insight about what she calls "characteristic energy." She would nod, in turn, to 20th century paleontologist-priest Pierre Teilhard de Chardin, whose term it is. But what seems to be the case is that she knew what to make of what she learned from Teilhard. The opening essay in her collection *The Grand Option: Personal Transformation and a New Creation* (University of Notre Dame Press, 2001) brought a higher level of meaning and understanding about the ways in which living beings create their communities around their shared use in a particular place of a common source of energy, particularly sunlight.

<sup>20</sup> The International Forum on Globalization, John Cavanagh and Jerry Mander, co-chairs, *Alternatives to Economic Globalization: A Better World is Possible* (Berrett-Koehler, 2002), 107. (See Fred Lanphear's review in vol. IV. no. 2. of the *Reader*.)

<sup>21</sup> Morrison, 47.

<sup>22</sup> From the "Statement of Purpose," Center for Ecozoic Studies.

<sup>23</sup> For more on this, see James Surowiecki, *The Wisdom of Crowds: Why the Many Are Smarter than the Few and How Collective Wisdom Shapes Business, Economics, Societies, and Nations* (Doubleday, 2004). "In physics and biology, scientists paid increasing attention to self-organizing, decentralized systems—like ant colonies or beehives—which, even without a center, proved robust and adaptable. . . . The idea of the wisdom of crowds also takes decentralization as a given and a good, since it implies that you get a crowd of self-interested, independent people to work in a decentralized way on the same problem, instead of trying to direct their efforts from the top down, their collective solution is likely to be better than any other solution you would come up with." 70. See Tom Atlee's *The Tao of Democracy: Using Co-Intelligence to Create a World That Works for All* (Cranston RI: The Writers' Collective, 2003) and [www.co-intelligence.org](http://www.co-intelligence.org) and Kevin Kelly's "God Games" in *Out of Control: The New Biology of Machines, Social Systems and the Economic World* (Addison-Wesley, 1994), 251.

<sup>24</sup> *The Ecozoic Reader* on "If we are moving into an ecological age . . . Where are we going?" (Vol. IV, No. 3) provides resources for such value formation in its summary of David Orr's "Principles of Ecological Sustainability," overviews of the Oberlin College Forum on "Envisioning a Sustainable and Desirable America," Andrew Angyal's "We Have an Obligation to Endure," The Jo'burg Memo: Fairness in a Fragile World, and selected articles on Sustainable Development from *Rachel's Environment & Health News*

## **. . . with Liberty and Justice For All**

By William Grow

I remember when I was an elementary school boy in Southern California saying the Pledge of Allegiance every morning. I was largely unconscious of what I was saying. I was completely unaware, for instance, that “liberty and justice for all” were largely the prerogative of those of my own status, privileged-white-male-humans. As I grew up, I just took for granted the purity of our democracy and the noble intentions of our founding “fathers.” In more recent years I have gradually come to realize American democracy is not the model I assumed it was.

For instance, did you know that the Federalists secretly created the Constitution to protect the rights of landed aristocracy and did not make their plans public for 53 years?<sup>1</sup> Or that several New England villages had stronger democracies before the Revolutionary War than they have had ever since?<sup>2</sup> These were not mentioned in my high school civics class, nor do they seem to be taught anywhere today. No one asked, as Ellen LaConte did in the previous issue of *The Ecozoic Reader*, “What if democracy as we know it has been a series of trial runs in preparation for the real thing?”<sup>3</sup>

What if the “real thing” were liberty and justice for ALL? Then rights would have to be guaranteed for all creatures and for the earth, air and water that sustain them. If the vision of eco-justice and the integrity of democracy are inextricably bound, then the urgency of our present environmental crisis demands we cease analyzing our condition and, instead, make the next “trial run” in democracy by taking concrete action. Here is one possible scenario of how we might align ourselves to the coming Ecozoic Age.<sup>4</sup>

### **Step One: Wake Up to Government by and for the Few**

The first step is the most difficult and unpopular: to wake up to the fact that we do not govern ourselves and to face the reason why.

My wife and I were awakened in a Democracy School we attended in Chambersburg, Pennsylvania in June of 2005. The School was initiated by a courageous cadre of lawyers, teachers and local citizens in central Pennsylvania sponsored by the Community Environmental Legal Defense Fund (CELDF).<sup>5</sup> Its curriculum focuses with laser-like precision on the underlying contradiction in our political life: *The lore and structure of Constitutional law favor the “Few” to dominate the “Many.”* The “Few” are presently symbolized by the

approximately 8,000 corporation board directors who govern America at the core of the corporate state in collaboration with the military establishment, our elected officials and appointed judiciary. The “Many” are the rest of us, including our entire natural habitat. An example of “lore” is the assumption that corporations have the same rights as natural persons under the law (which has never been adjudicated in a court of law).<sup>6</sup> An example of “structure” is the framework of law that requires a publicly-held corporation to return a steady stream of profits to investors regardless of how they externalize their costs to labor, the tax-paying public or the environment. Consequently, every local municipality is bound under state laws to accept its share of unsolicited toxicity, and the accumulated effect of the actions of environment protection agencies is to extend the time it takes polluters to kill us.

Our system of jurisprudence is an ingenious legal culture designed to prevent the distribution of ownership of wealth and the guarantee of Earth’s intrinsic rights. How do we legally protect the “Many” when every avenue in our current political and legal structures is commandeered by the corporate state? As Paul Hawken, a U.S. leader on business and the environment, aptly remarked, “We cannot protect communities, jobs, and the environment within a system that is designed by default to destroy them all.”<sup>7</sup> However, if we focus on the “Few” who have usurped power or on the “Many” who have lost or abdicated their rights, then we will not address the underlying problem: the very myths and structure supporting our current democratic experiment.

This first step is difficult to take because most of us are deluded by the idea that since Rachel Carson sounded the alarm our environmental activism has worked, when reality contradicts it. This step is unpopular because we think it is more expeditious to beat up on the “Few” (harmful corporations) or chastise the “Many” (a consumer-oriented public that has gone uninspired by our environmental message), than take a bold new step beyond our familiar patterns and challenge the (sacrosanct) lore and law of the land.

### **Second Step: Look Locally for Stage of Action**

The second step begins in taking a step backward from our penchant of expectation and blame of the Feds and look locally for our stage of action. To attack the major contradiction on a state or national level will end in defeat from the hands of the corporate state, which LEGALLY owns the courts, the legislatures, the

Congress and the military. Thomas Jefferson anticipated it correctly in this 1814 quote: "I hope we shall crush in its birth the aristocracy of our moneyed corporations, which dare already to challenge our government to a trial of strength and bid defiance to the laws of our country." And President Eisenhower got it right half a century ago in a well known State of the Union speech warning of the threat of the military-industrial complex.

A small aperture of opportunity at the municipal level offers a strategic vehicle for challenging corporate rule directly. Exemplifying Fred Lanphear's discussion of the Principle of Subsidiarity<sup>8</sup> in the prior *Reader*, this aperture is an under-publicized provision in 43 state constitutions that provides for a local municipality to create a form of self-rule known as a home rule charter.<sup>9</sup> This tool, while still vulnerable to attack, gives a way for "We the People" to confront corporate tyranny pre-emptively instead of pursuing futile reactions to it.

A home rule charter is essentially a local constitution that can serve as the basis for local control. It includes elements like the right of petition, which aims to prevent the corporate state from dismantling home rule. It also can contain provisions that would preserve farmland, wildlife habitat and defend waterways and other natural systems that are so important to residents' "quality of life." But the most revolutionary use of a home rule charter would be to acknowledge and attempt to constitutionalize the intrinsic rights of nature herself at the grassroots level. This use of home rule charters could initiate a journey toward anchoring into law, among other legislation, Thomas Berry's "Bill of Rights for Nature."<sup>10</sup>

Unfortunately, a thorough scan on the Internet and available literature reveals that all reported home rule charters in existence fall short of legally ordaining the intrinsic rights of nature. The Volusia County, Florida, charter perhaps comes nearest to articulating an Earth protection statement.<sup>11</sup> Even Volusia County contexts its article in terms of the security of citizens' property rights, however, instead of based on the intrinsic rights of Earth herself, which is a characteristic shortcoming in all relevant sources examined.

Similarly, the recently established Windsor Township Home Rule Charter Committee in York County, Pennsylvania, believes their effort is a necessary step toward the protection of the natural environment, albeit for the sake of the residents' quality of life.<sup>12</sup> Nevertheless, this fledgling consciousness reflects a start in the struggle of a local community under assault from urban sprawl to even consider that nature has rights along side of and independent of people.

### **Step Three: Use Laws of Trusteeship to Promote the Intrinsic Rights of Nature**

The third step, which is on the verge of being taken in several Pennsylvania townships under the tutelage of

CELDF, is to use the well-settled laws of trusteeship as leverage within or independent of home rule charters to promote the intrinsic rights of nature. An ordinance, still in a proprietary state, is in the process of being modeled that acknowledges "the inalienable, fundamental rights of nature" and would attempt to codify an enforcement system "whereby people and communities can protect and vindicate the rights of nature against actions taken by corporations and other business entities."<sup>13</sup>

Perhaps the most creative challenge in this step presents itself to us as local citizens organize under both external and internal threats to reconstitute themselves and struggle to overcome their anthropocentrism through the articulation of Earth's rights. To help accomplish this task, an important ally already at work in codifying Earth's rights is the Science and Environment Health Network (SEHN).<sup>14</sup> Founding Director, Carolyn Raffensperger, and her associates have a vision based on the premise that rights must be guaranteed for the future generations of all species. SEHN bases its work on the settled laws of trusteeship and on the "Precautionary Principle," defined as "the ethical mandate to take protective action against likely harm, even when the science is still uncertain." It is especially helpful for ordinance creation by using language that reverses the burden of proof from a threatened party to the agent of a potentially harmful activity before it is allowed to occur. As a result of SEHN's legal assistance, the Board of Supervisors of San Francisco (city and county) became in June 2003 the first U.S. government body to use this principle as the basis for legalizing its environmental policy. Among critical Earth rights subjects, this policy includes exemplary ordinances such as environmentally preferable purchasing, resource conservation, healthy air and smog protection, and tropical hardwood and redwood bans. A case argued before the supreme court of Hawaii in 2000 was settled citing the Precautionary Principle and in favor of environment protection against the decisions of a state regulatory agency under the influence of corporate interests.<sup>15</sup>

For the Precautionary Principle and other protective concepts to stand against direct court challenges by harmful corporations, however, depends largely on the results of concerted victories of many municipalities struggling to wrest their governance out of the tentacles of the corporate state.

Discouraged by the destructive quarry scars and hillside housing development massacres near my home in York, Pennsylvania, and inspired by the pioneering work of Thomas Berry, CELDF and SEHN, this author ventures with trembling hand a layman's rendition of several elements that might be considered part of an experimental draft of an Earth rights ordinance for my municipality. This is done with the understanding that whatever is finally drafted is automatically illegal and unconstitutional because "We the People" lack the governing



---

authority to drive it into law under our present system of democracy.

**Name.** The name of this ordinance shall be “The East Manchester Township Rights of Nature Ordinance.”

**Authority**

- (1) The founding documents of the United States, which recognize that governments are created to secure and protect inalienable and fundamental rights;
- (2) The Constitution of the State of Pennsylvania, which recognizes (a) the fundamental right of present and future generations of all citizens of this state to a clean and healthful environment and (b) that Pennsylvanians are trustees of the natural world;
- (3) Pennsylvania Statutes which authorize East Manchester Township to enact ordinances necessary for the proper maintenance of health and welfare of the Township.

**Findings and General Purpose**

- (1) Under the duties of trusteeship, it is the responsibility of the citizens of the Township of East Manchester, through their elected officials, to protect and preserve natural communities and ecosystems;
- (2) The natural environment, including all its species, share common primary and inalienable rights by virtue of their existence as the foundation of all life on our planet;
- (3) Natural systems in the lower Susquehanna watershed, including East Manchester Township, are being steadily destroyed by increased pressure of land developments which, among other harms, are denuding hills and valleys basic to natural erosion control and interrupting wildlife patterns essential to the ecological balance of the region.
- (4) Environmental regulatory processes at best only minimize the degree and rate of harm to these natural systems rather than protect them. Consequently, these ecosystems have no recourse to legal protection and their trustees are prevented from fulfilling their legal mandate.
- (5) It is necessary to create a process of legal enforcement of the intrinsic rights of the natural communities of East Manchester Township.

**Specific Purpose.** The specific purpose of this ordinance is to acknowledge the inalienable rights of nature and establish an enforcement system whereby the natural communities of East Manchester Township (including land, air, vegetation, bodies of water, ecosystems and their natural creatures) can be protected against harm

from any human or artificial source such as a corporation or business entity.

**Statement of Law.** In pursuance of their intrinsic and inalienable rights, the natural communities of East Manchester Township shall have the right to protection of their pristine state of functionality. No human or artificial entity shall deny those rights or interfere with the vitality of those communities.

**Enforcement.** Present or future utilization of these natural communities for any purpose, including the purpose of maintaining a clean and healthful environment for its citizens, will be compensated by an equal degree of improvement of these communities’ capacity to endure or by a complete restoration of these communities to their original condition once the invasive acts have fulfilled their purposes. Entities responsible for said invasive acts shall be required to bear all costs for the restitution of the affected communities and associated habitats. Their failure to do so will result in punitive and compensatory damages against them and/or the managers of those entities.

(Note: such ordinances can include multiple statements of law and also must include sections on severability and effective date of the ordinance.)

For citizens who care about protecting the rights of their natural environments before their pending destruction occurs, now is the time to form a study committee, meet with elected officials, secure legal advisors, and participate through the locally proscribed procedures in the creation of local legislation. Their study would greatly benefit by their attending one of the many CELDF Democracy Schools available across the country.<sup>16</sup> In only three years, over 76 Democracy Schools from Massachusetts to Alaska have graduated 1,000 participants.

#### **Step 4: Long-Term Struggle to Fight Legal Battles and Change the Constitution**

Step 4 is where the heat is turned up and commitment to a long-term struggle begins. It requires fighting the inevitable legal battles that challenge our local ordinances as a result of their threat to the corporate state. But it also brings some welcomed publicity that lifts our Earth freedom movement up for examination by the “Many.” A significant example is the St. Thomas Township (Franklin County PA) Frost case aired by David Brancaccio on PBS’ “Now” in February 2005.

This step will require 7,000 league boots. Like those freedom movements before us that won women’s enfranchisement and Black’s civil rights, it will take decades of persistent, ingenious and courageous reorganizing and

reframing efforts that are mobilized by the very attacks and counter-attacks of the corporate state in defense of their usurpation of Constitutional rights. As of the present time, over 100 townships in Pennsylvania have passed anti-corporate farming and sludge-spreading ordinances that have placed them in the direct line of fire from the corporate state. This activity has already provided the impetus for the initiation of home rule charter committees in three Pennsylvania Townships.

There are at least two more steps before “the next experiment in democracy” is in place. Suffice it to say, these involve 50 state constitutional conventions and then the process of re-writing the U.S. Constitution. Then we will have the real thing, “Liberty and Justice for ALL.”

<sup>1</sup> Richard Grossman, “Corporations, Accountability, and Responsibility,” *Defying Corporations, Defining Democracy*, ed. by Dean Ritz for POCLAD (Program on Corporations, Law & Democracy) ( New York: Apex Press, 2001), 150.

<sup>2</sup> Ray Raphael, *The First American Revolution: Before Lexington and Concord* (New York: The New Press, 2002).

<sup>3</sup> Ellen LaConte, “Organic Democracy,” *The Ecozoic Reader*, Vol. 4, No. 3 (2005), 37.

<sup>4</sup> The Ecozoic Age is envisioned as an era of mutually enhancing relationships among humans and the larger community of life.

<sup>5</sup> For a description of CELDF, see <http://www.celdf.org/cdp/cdpdesc.asp> .

<sup>6</sup> For a resumé of how the fiction of corporate “personhood” became assumed by the U.S. Supreme Court, see “Timeline of Personhood Rights and Powers” of the *Women’s International League for Peace and Freedom*, 12 (between 1877 and 1889), at [http://www.wilpf.org/issues/ccp/corp/ACP/CP\\_article+timeline.pdf](http://www.wilpf.org/issues/ccp/corp/ACP/CP_article+timeline.pdf) .

<sup>7</sup> *The Ecozoic Reader*, Vol. 4, No. 3 (2005), 39.

<sup>8</sup> *Ibid.*, 27.

<sup>9</sup> States that have some type of constitutionally-based “home rule” provision:

Alaska, Arizona, California, Colorado, Connecticut, Hawaii, Illinois, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Utah, Washington, West Virginia, Wisconsin, Wyoming

States with legislative home rule statutes:

Arkansas, Florida, Georgia, New Hampshire, New Jersey, North Carolina.

<sup>10</sup> Thomas Berry, “Ten Principles for Jurisprudence Revision,” *Evening Thoughts: Reflecting on Earth as Sacred Community* (San Francisco, CA: Sierra Club Books, 2006), 145-47.

<sup>11</sup> See Section 202.2, Volusia County Charter, <http://www.volusia.org/countycouncil/charter.htm> .

<sup>12</sup> <http://www.windsortwphomerule.org> .

<sup>13</sup> A proprietary document of CELDF. For further information contact CELDF at [info@celdf.org](mailto:info@celdf.org) .

<sup>14</sup> For information about SEHN and other references to topics in this paragraph, see [www.sehn.org](http://www.sehn.org) .

<sup>15</sup> Carolyn Raffensperger, “Constitutional Experiments: Protecting the Environment and Future Generations,” *Conservation Biology*, Vol. 17, No. 6 (Dec 2003),. 1-2. Available at [www.sehn.org/rtfdocs/futuregeneration.pdf](http://www.sehn.org/rtfdocs/futuregeneration.pdf) .

<sup>16</sup> For a schedule of Democracy Schools, see [www.constitution411.org/natl\\_dem\\_schl/main/schedule\\_ds.html](http://www.constitution411.org/natl_dem_schl/main/schedule_ds.html)

## **Moving Beyond the Triple Bottom-Line**

*By John Marc Dreyfors*

**I**ncreasingly, business schools, corporations and consultants have been joining the movement to “green” their image through promotion of the “triple bottom-line.” This concept attempts to balance social and environmental goals and considerations along with economic sustainability in decision-making, programming and corporate structures. Importantly, this comes at a time when globalization is changing the social, economic and environmental landscape; and multinational corporations are coming under greater scrutiny as “engines of change.” In addition, conservatives, corporate lobbyists and trade officials have pushed for less regulation, to emphasize the use of free-market, trading systems to solve our social and environmental ills. The goal of triple bottom-line (“triple bottom-line” means economics, equity, and environment or profits, society, and ecology) thinking is to soften the ravages of capitalism and corporate controlled society, by shifting from “bottom-line” driven motivations of profit and greed, towards more benign models, inclusive of other, important societal values that have been excluded to date. This model, however, is also flawed and requires a more thorough review of its strengths and weaknesses.

Programs, such as the Center for Sustainable Enterprise at Kenan-Flagler School of Business at University of North Carolina-Chapel Hill, one of the world’s most highly respected alternative business programs initially led by Dr. Stuart Hart (an Advisory Board member of CES), have adopted this model of the triple bottom-line. At first glance, it has much appeal in convincing upper and middle management of the need to include broader goals that represent community and worker issues as well as environmental sustainability in the decision-making processes. These concerns have been neglected, as return on equity, shareholder value, market position and other economic indicators that are a function of profit have been primary to the point of exclusion.

It has been relatively easy for corporate leaders to accept the idea of triple bottom-line accountability. Yet, given the history of near “psychopathic” corporate actions (see the documentary *The Corporation*, or the documentary *Who Killed the Electric Car?*), “green-washing” for marketing and public relations sake, and the duplicitous tendencies to say one thing and do another (for example, publish environmental code of ethics in stockholders’ annual reports, while conducting lobbying efforts to undermine environmental regulations, or conducting field operations with unabashed ruthlessness), it remains to be seen whether this accountability will result in changed behavior.

At times it would seem to be to their advantage. For example, research shows that improving labor benefits and working conditions actually increases worker productivity and loyalty. In a tight labor market, this makes sense. Globalization has, however, actually increased downward pricing pressures on costs of labor, as corporations seek to improve profitability and competitiveness, and with outsourcing likely to take a greater portion of both manufacturing and high-tech, and even professional, positions in the future.

This economic, or single bottom-line pressure may negate a corporation’s good intentions. Yet, some corporations have “seen the light” and truly believe in being good corporate citizens, as represented in foundation donations without “strings attached.” The self-interested sensitivity to public sentiment may drive this, particularly for those corporations that depend on their corporate name, brand or image for marketing. While many come to social responsibility through crisis management and public relations manipulations, some have seen the value in doing more for their workers and communities. Research has shown that people matter, and there is immediate connection and growing interest with consumers and customers to issues of fair trade.

As far as environmental sustainability, this may be a much harder target. Certainly, corporations have come a long way from the days of point source, command-and-control, and regulatory pollution prevention. Today, engineers design systems that produce less waste and use less energy. Wastes are now traded or recycled. And conservation of energy and other resources have resulted, to the chagrin of some executives, in improved margins, immediate cost reductions and long-term efficiencies that have benefited the economic bottom-line and shareholder value. Sadly, most corporations have had to be brought to these solutions under legal threat or action, while attacking regulatory branches, lobbying for tax relief, paying off politicians and/or through avoidance by endless litigation in the courts. Such delaying strategies are often accepted as part of the cost of doing business.

A few companies have taken leadership positions in their markets by moving their business model to one that looks less at “production of goods” and more at the provision of services, maintaining control over the “life-cycle” of a product from “cradle to grave,” or even better, as Bill McDonough advocates, “cradle to cradle.”<sup>1</sup> Businesses will need to mimic life-systems<sup>2</sup> to be competitive in the future, moving beyond efficiency models towards becoming restorative. Inspired chiefly by Paul Hawken’s book, *The Ecology of Commerce*,<sup>3</sup> Ray

Andersen of Interface carpets had an epiphany in the early 1990's, and, since then, has been an outstanding leader in this movement to achieve these goals.<sup>4</sup>

Each component of the triple bottom-line has been promoted as creating a simple web of interaction that can be optimized to maximize value and will result in doing the "right thing," while making money in the process ("doing well, by doing good"). This has been an "easy sell" that seems blissful—"having our cake and eating it too." Yet, there is something missing, a disconnect in perception that is obvious and very disturbing in its simplicity as it is in its apparent oversight. This triangular model fails to recognize that natural systems are the bottom-line. Natural capital, as Hawken and the Lovinses have so well written, is "the source from which all other forms of capital are created."<sup>5</sup> All aspects of the economy, whether finance, capital, labor, or technology, are dependent on the planet for their formation and recycling in the closed loop model that is our natural world.

If, in the triple bottom-line calculation, the environment is balanced against the other two variables (profits and society), what are seen as optimum values may in fact be unsustainable. For instance, nuclear energy has a high probability of having no optimum level if the long-term, real costs of waste disposal are internalized at net present value (taking into account the "intergenerational effect"). The short-term benefits of electricity, employment, and so forth, with a low carbon "footprint" may be outweighed by the burdens to human and environmental health. The nuclear power industry ultimately may need to end, as the Princeton Professor, Dr. Ted Taylor, an activist against both nuclear power and weapons, has come to realize.<sup>6</sup> Investors, employees, vendors may all to lose their jobs and source of income as we transition away from similar foolish and decadent economies. And does such logic extend to the fossil fuel, defense and petro-chemical industries? Can they really optimize a triple bottom-line?

This concept of the triple bottom-line may be a further manifestation of the neo-classical economic theory that has been dominating our policies for decades. Neo-classical economics has produced excellent econometric models of various components of our socio-economic interactions. Yet, it is notoriously remiss in leaving out inputs, like natural resources, and outputs, such as waste pollutants, from Classical Economics or other models. These failures have been most thoroughly exposed by Herman Daly, Professor Emeritus of Economics at the University of Maryland and ex-World Bank economist, and Robert Costanza in their books on "ecological economics."<sup>7</sup>

Ultimately, there is no triple bottom-line, but only one bottom-line, that of our closed Earth systems, where it is impossible to continuously "grow our economy," and where there are limits to carrying capacity and non-renewable resources. We may be able to "transform"

economies, but it is physically impossible to continuously grow in a closed Earth system where entropy and the other laws of thermodynamics dominate.<sup>8</sup> Many would say that this smacks of "eco-imperialism," as we remove people from parks and protected areas, limit population growth, production and consumption in alignment with the capacities of our planet. "Freedom," they cry, "to produce and consume what they want." But our current model is the real imperialism, the real "utopia," which degrades our ecology and will sink our economy.<sup>9</sup>

We are already seeing the impacts from statistics related to GNP and GDP in comparison to those generated from National Income Accounting systems. Fundamental global and national development policy based on unsustainable production and consumption can no longer be the dominant paradigm. Corporations will have to adjust to offer products and services of sustainability. This will require governments' involvement to create a "level playing field" to allow competition to work to increase desirable outcomes in markets where externalities are internalized. This can best be done with greatest efficiency by internalizing externalities to the market, such as clean air and water, reduced carbon emissions, moral values of increased time with family, the importance of good teachers and a host of other ethical and moral values to which we can agree. Using market trading systems in conjunction with command and control regulatory systems, as well as improved and efficient market information for consumers, can go a long way toward achieving these goals. Topped with an investment in education (and education in investment), great things can be achieved that will allow us our perceived "freedom," and provide employment and opportunity.

If these changes are made, we can no longer expect that the increasing wealth of the industrialized will trickle down to the poor to the benefit of all. The wealthy economies, and the vehicle of our cultural domination, the Corporation, must be willing and be able to transfer the needed technologies to help the South and lesser-developed nations achieve a standard of living where there is no want of basic needs. Advanced industrial societies must also learn that simply "less stuff is more" and promulgate this cultural value in a way that others want to emulate it (the real "war of ideas"). We all must do more to "live simply, so that others may simply live," and develop the system of "sustainable livelihoods."<sup>10</sup> We, as employers, consumers and shareholders must make the decision to move our economies towards sustainability, and build and demand systems of measure and accountability. Though the triple bottom-line may be viewed as an important incremental movement toward a "green" economy, we need nothing less than a "sea change" in the way we do business. The sooner we realize this, the faster we will get there.

---

Though this essay uses economic valuations, these are simply an imaginary system of measure to which most can agree for argument and debate. It is certain that purely economic arguments will not be enough to bring about the degree of change needed in our societies. Spiritual changes are needed and are well described by the works of Thomas Berry, who teaches “intimacy with the natural world,” and that Earth is a “communion of subjects, not a collection of objects,” and we are a part of the interconnectedness of Earth’s life systems and unfolding creation.<sup>11</sup> These ideas are critical as we move from our macro- to our micro-economies in which we work, and even the economies of our homes, as we move from our head to our heart and, finally, to a place of balance and connection.

<sup>1</sup> William McDonough, *Cradle to Cradle: Remaking the Way We Make Things* (New York: North Point Press, 2002).

<sup>2</sup> See Janine M. Benyus, *Biomimicry: Innovation Inspired by Nature* (New York: William Morrow, 1997).

<sup>3</sup> Paul Hawken, *The Ecology of Commerce: A Declaration of Sustainability* (New York: HarperCollins, 1993).

<sup>4</sup> See Ray Andersen, *Mid-Course Correction: Toward a Sustainable Enterprise: The Interface Model* (Atlanta, GA: Peregrinzilla Press, 1999).

<sup>5</sup> Paul Hawken, Amory Lovins and L. Hunter Lovins, *Natural Capitalism: Creating the Next Industrial Revolution* (New York: Little, Brown and Company, 1999).

<sup>6</sup> See Joe Holley, “Theodore Taylor Dies; Tried to Redirect Nuclear Power” available at <http://www.pugwash.org/reports/nw/taylor.htm>; Internet; accessed October 13, 2006.

<sup>7</sup> See, for example, *Steady State Economic: The Economics of Biophysical Equilibrium and Moral Growth*, 2nd ed. (Washington, D.C.: Island Press, 1991); Robert Costanza, *Ecological Economics* (New York: Columbia University Press, 1991).

<sup>8</sup> See Nicolas Georgescu-Roegen, *The Entropy Law and the Economic Process* (Cambridge, MA: Harvard University Press, 1971); Herman Daly, *Beyond Growth: The Economics of Sustainable Development* (Boston, MA: Beacon Press, 1996).

<sup>9</sup> See Wolfgang Sachs, *Planet Dialectics: Explorations in Environment and Development* (London: Zed Books, 2000).

<sup>10</sup> See, for example, “Livelihoods Connect,” available at [www.livelihoods.org](http://www.livelihoods.org); Internet; accessed October 13, 2006.

<sup>11</sup> See Thomas Berry, *The Great Work: Our Way into the Future* (New York: Bell Tower, 1999).

---

*Dickinson observes that the Market Economy obscures and degrades the Household Economy and the Core Economy.*

---

## **The Core Economy: Where Our Futures Are Intertwined and Interdependent**

*By Spence Dickinson*

In America there are three economies that affect people’s lives, the Market Economy, the Household Economy and the Core Economy.

We are most familiar with the Market or Monetary Economy. Corporations, private companies, and governments work through the principles of contracts, specialization and competition. Today’s business outlets supply all our needs, but to access them one must have money, money which can only be obtained by working in the Market Economy, and we must pay the market price, whatever is asked. In fact, there are many who do not have equal access or even the ability to get enough money to have a decent life.

The Core Economy is based in a region or a village and is energized by exchanges based on mutuality and reciprocity. People’s futures are intertwined, and everyone is included. The extent to which much of the Core Economy exists today is a measure of the degree to which a particular region still has the capability to pro-

duce all the products consumed and the services needed by all its inhabitants. Products can be produced with zero money when local resources are value-added through time trading.

The Household Economy of earlier generations was managed by the women, and everyone in the extended family networks had jobs according to each person’s ability to contribute. There was full employment in the community—children, and the elders of the community had responsibilities that were just as important as any job that was needed to help support the families’ various needs. In the Market Economy, elders and children became liabilities, expenses of the community, where in the Household economy they had always been positive contributors. The Household and the Core Economy are overlooked today and are “invisible”. Both of these economies operate on different principles than the Market Economy: sharing, trading, loyalty, love, and pitching in. In the Household and Core Economies, the

supply outlets are reciprocal. Individuals are producers and consumers, and they trade what they produce for what they consume. Little or no cash is needed; only time is needed.

The Market Economy and the Core and Household Economies operate on entirely different principles but are interdependent. While the Market Economy needs individuals, families and communities, the Core Economy needs goods and services that the Market Economy so effectively produces. The problem is that the Market Economy picks and chooses the people, the communities, and the specialized skills it wants. The Market Economy is known for being an extractive economy. The Market Economy extracts a region's resources, which are then sold on the global market. The market place is competitive by nature and pays the least possible wage to the region's workers who produce these marketable resources. Neither the region nor the communities involved are ever fully compensated for their labor or the loss of their region's resources. Often laborers are not even able to purchase the products that they produce for export. There are many other people in a community who have neither money nor marketable skills—the poor, the frail, the uneducated, the elderly, and the children and adults who are without money to be consumers—these are rejected and discarded by the Market Economy. The social fabric tears apart when individuals and communities are depleted by such dis-investment. Human service programs are inserted to repair the damage, but they, too, function in the specialized mode of the monetary economy. *Until we study the implications and effects of the Market Economy with and without a functioning Core Economy, we are not studying sustainability; we are merely exploring different forms of unsustainability.*

A sustainable economy cannot be achieved while we continue to depend on conventional money. When a community relies only on conventional money, it is driven to patterns of production and consumption of natural resources that are internally and externally destructive. In our current economic situation, which has no functioning Core Economy, people who have become consumers need money to participate, and they will get it however they can. People do damaging things simply for the money.

Money is just an agreement, a measuring device, which we use to measure the value of our real exchanges. We exchange time, resources, products and services. Money can be the measuring device we use to relate all these things together so we can trade one for the other. We tend to think of money as the only thing that is real, and when we do, time, resources, products, and services cannot exist without it. In the Core

Economy, time, local resources, locally produced products and locally produced services exist without money. Complementary currencies (to money), like time banks create ways to measure and translate the different values of time, resources, products and services, at the local level, so individuals can easily trade one for the other without the need for money.

All citizens have the right to food, shelter, health care, educational advancement opportunities and a good life. If we had a local production network and we created a significant number of sustainable energy applications, we could produce a large quantity and variety of food, affordable housing, useful natural resources, and services at huge savings. Through creating a local Time and Energy Exchange Banking System, individuals could contribute community service hours that would reduce production costs. There would be essentially no labor costs, no taxes on labor, minimal distribution costs, and maybe we could do this without pollution. People volunteer many hours, but when their hours are recorded and they receive benefits, they generate many more hours. What is special is that everyone is part of the collective ownership of time. We all owe the community some time to ensure a good life for all. "We can't afford any losers."

Edgar Cahn developed "Time Dollars" and the concept of "Co-Production", which redefines the clients or consumers of social welfare initiatives as "Co Producers. At its most fundamental level Co-Production is the idea that welfare and social services only work effectively when both professionals and beneficiaries jointly produce them. He states that beneficiaries of social services owe service hours to the community for the benefits they receive. This includes school students of all ages, homeless shelter and community kitchen recipients, and users of publicly owned facilities. When they pay back their hours to the community, they become more a part of the community and take greater ownership in it and in their own futures. Co-Production concentrates on using the talents, capacities and energies of those being served. This invites them to be Co-Producers of their futures. Co-Production is a part of the Household and Core Economies, and through it, we can help rebuild these Core Economies. We can give children and adults credit in a time bank for their volunteer hours, and this will allow for abundance where there has been scarcity. There is a call for action that rebuilds the core economy, which leads to a genuine and basic system change. What is needed is to level the playing field where we are all competing for the scarce resource "money". We can decide that there will be no losers and everybody can win and have the basics they need to have a good life.

## Time to Start Counting Carbs

By Mary Dalton

While the planet as a whole is at the end of the Cenozoic era, we humans are at the end of the first half of the age of oil. Petroleum, or “rock oil,” was created during a one-time, geological event. Chemically, oil is so incredibly precious, that some scientists have remarked that burning oil is “like burning a Van Gogh painting to run a car.” Not a food, plant or life form constantly replenished by solar activity, this gift is set into geological time like a mountain range. This “excessive free energy released from fossil sunshine” is not a fundamental law of physics that is ongoing, like gravity. In fact, the exact opposite is true. It was created during a one-time geological event and its intrinsic characteristics are very specific and rare, needing to be carefully measured. Colin Campbell writes:

The bulk of the world’s current production comes from deposits formed in two brief epochs of extreme global warming 90 million and 150 million years ago. Algae proliferated in warm sunlit waters, providing the raw material that eventually became oil. It was preserved and trapped in places having the right combination of geological conditions.

There is an urgent need for modern humans to become more intimately familiar with the aspect of time involved in the creation of all the elements extracted from the planet that run our hyper-industrialized lives. Fossil fuel extraction and consumption, especially the liquid fuels, will need to be carefully measured, prioritized and adjusted. Naturally, these precious commodities can only be used when absolutely necessary, and as a last option.

Technology does not produce energy, it consumes it. Inevitably, we must confront the urgent need for reduction and conservation. Sometimes the simplest ideas are the hardest to consider. Like an alcoholic who is told they must stop consuming alcohol to save their lives, it is a simple step, but far from easy. Similarly, rampant consumerism has confused our orientation to space/time, and created demented and pathological behavior.

Willingly or unwillingly we will experience a form of collective sobriety. Some will be relieved at the idea that the party—of turning our planet into a junkyard—is over. Most will resist, frustrated with the culture shock of a drastically changed system. Our technology is seductive and anesthetizing. Fossil fuels have nurtured our psychological needs and compulsions, as well as physical ones. In the near future, our ability to escape

present reality, either by hopping in the car or buying another gadget, in essence to “check out,” will be missing or radically altered.

Perhaps the need for a “carbon diet” is more accurate than full-scale sobriety. It is impossible for most to consider using zero fossil fuels at this point. Weight-loss diets can be more challenging for some than the concept of total abstinence, where, when practiced correctly, there are no decisions to make. The former user does not pick up a drink/drug under any circumstances. A food diet can be trickier, the temptation to overindulge is always there and moderation has to be practiced with every meal.

Industrial society must go on a carbon diet. “The Oil Depletion Protocol” is such a plan put forth by Colin Campbell and Richard Heinberg.<sup>1</sup> In the plan, everyone ranging from individuals to entire nations would voluntarily sign up to reduce petroleum consumption by the annual world wide depletion rate of 2-3% per year. Projects like the Oil Depletion Protocol can act as a model for those needing guidance once blindsided by unforeseen energy shortages.

Post Carbon Institute is a think tank set up with the recognition of the highly unusual situation we humans currently find ourselves in regarding fossil fuels. Created just three years ago, PCI has hit the ground running. “Global,” for PCI, means that change needs to happen everywhere, “relocalization” getting needs met locally. The two keys for PCI are Reduce (consumption)/Produce (locally).

Post Carbon Institute has set up a network of autonomous local groups that use a common web presence to skill share, information share and connect to other relocalization communities. Each group/outpost is autonomous and has individual goals and projects, but is broadly connected by the theme of relocalization: bringing consumers and the products they consume closer together, getting daily needs met by products and services produced within the locale, and generally weaning communities off fossil fuels.

There are now 120 outposts nationwide and 11 internationally, with new groups signing up steadily. Inventory taking, education, emergency preparedness, energy audits, asset maps and community discussion groups are tools offered for communities to use to discover and articulate their needs. Community Supported Manufacturing, Local Energy Farms, Energy Backed Currency and the Oil Depletion Protocol are ongoing projects promoted by the Institute.

Our next task is to awaken to where and when we are in planetary history.

In order to have a “sense of place” so critical to our navigation, we must know exactly where we sit in relation to all the chemical compounds on the earth and their history.” —*David Holgren*

As part of our new collective diet, many of us will need to become aware of where our food comes from at the very least, and grow our own food at the very most. In the plant world, evolution happens more through cooperation than competition. Forming connections is how plants solve their needs. In mimicking this system, greater abundance and intimacy with the natural world will result. Creative interaction with the natural world through the art of permaculture design and bioregional practices is taking seed in scattered regions across the globe.

Permaculture design...is not something generated in isolation, but through continuous and reciprocal interaction with the subject. — *David Holgren*

Our unique mental capacity for planning, foresight, and envisioning future scenarios is what differentiates us from other species. By engaging this uniquely human ability to precisely measure and carefully adjust and combining it with intense objectivity and imagination, humans can activate the critical inner resources needed during the upcoming lower energy, design intensive, plant encouraging, ecozoic period. Physical, spiritual and creative efforts will be tested over and over. Constant adjustments will have to be made. Fresh bursts of creative energy will be released and help burn off the guilt and calories accumulated from the last 200 industrial years.

Creativity involves extremes. —*Brian Swimme*

<sup>1</sup>The Oil Depletion Protocol is an initiative and operating unit of Post Carbon Institute. Post Carbon Institute is a think, action, and education tank offering research, project tools, education, and information to implement proactive strategies to adapt to an energy-constrained world. The protocol is available at [www.oildepletionprotocol.org/](http://www.oildepletionprotocol.org/); Internet; accessed 12 October 2006. The present Oil Depletion Protocol, with slight changes in wording, has been previously published as “The Rimini Protocol” and “The Uppsala Protocol.”

---

## *Sadler engages a lion's death.*

---

### **A Lion Died Today**

By *Lynn Veach Sadler*

A lion died today  
far afield in Guatemala's Chapín Park.  
Not prey to hunter, fire, famine, flood . . . .  
Loneliness for lionesses and cubs  
in another man-made veldt?  
Old age?  
Hopelessness?

A vestige of his mightiness still stirred.  
He blocked our bus's way,  
sprawled across its path.  
Bus waited, giving majesty its due.

Our driver at length  
raised a raucous din.  
The once-great creature,  
disdaining to look our way,  
slowly stood and shook himself.

And then I saw  
the damaged forepaw.  
He bent it, tested earth gently, gingerly  
before he'd let foot take it.  
I wished the ailment merely thorn  
that I could play the saint to.

He padded slowly,  
favoring that foot,  
until he was just off the road,  
then lay back down,  
head between front feet.

In every tree around,  
vultures waited,  
watching, too, only quietly.  
Quite still.  
They knew a lion would die today.

The cut bamboo used to hide  
the fences' stolid iron  
is sending shoots in some few places.  
The lion will not renew.

When I looked back,  
the vultures had mounded upon him.

It was not *El Dia de los Muertos*,  
no “Day of the Dead.”  
Nor had I *mano de león* (lion's paw) flowers  
to decorate *ofrenda*, offerings, for him.  
A lion died today.  
Today, a *lion* died.



## **A Movement of Earth Elders: Learning, Living and Empowering Others to Live the Great Story**

By Fred Lanphear

*The task before us now, if we would not perish,  
is to shake off our ancient prejudices and  
rebuild the Earth.*

—Pierre Teilhard de Chardin

It is not too late, as Teilhard de Chardin reminds us, “to shake off our ancient prejudices and rebuild the earth.” Each of us, now standing before our individual mortality as well as the potential extinction of many species, is confronted with the question, “How do we meaningfully engage in ‘rebuilding the earth’?”

It seems pertinent to identify the “we” in this question. Does it refer to the membership of CES or to anyone who reads this publication, or does it refer to us generically as a species. I believe it refers to those who acknowledge the notion and concepts of the emerging Ecozoic Era and our role as co-creators in the unfolding universe. CES is a vehicle created to be a midwife in the transition into this new era. The mission of CES is to offer a vision of an ecozoic society and to contribute to its realization through research, education and the arts. One can either choose to be an active participant, an interested or disinterested observer, or an opponent. My answers to the question are from the perspective of an active participant.

The transition to an ecozoic society provides the opportunity for an evolutionary leap. In his classic book, *The Human Phenomenon*, Teilhard de Chardin proposed that evolution in the future would not be marked by external changes, but instead would be characterized by interior changes marked by deeper levels of consciousness. A recent book by John Stewart proposes that evolution has a direction and that the next stage of evolution will be seen as a deeper level of cooperation, perhaps evidenced increasingly by a collective consciousness.

### **Strategies and Pathways for a Movement of Earth Elders**

What are the strategies and pathways that are called for in this transition? I believe a force that needs to be tapped is the elder population, especially considering the new “elder boom” coming out of the “baby boom” generation. I envision a movement of Earth Elders.

The journey of an Earth Elder is 1) to learn the “Great Story” of the evolving universe and its implications, 2) to appropriate or live the implications of this story, and then 3) to empower others to do the same.

### **Learning the Great Story**

The emerging perspective and role of Earth Elders may offer a direction for the 21st century as we transition into the Ecozoic Era ([www.ecozoicstudies.org](http://www.ecozoicstudies.org)). It is time to recover the legacy of traditional cultures throughout the world in which elders are invited to speak for Earth and future generations. We need a perspective that is history-long and planet-wide. Nothing less than the story of the universe from its primordial beginnings to our present age will be required to guide us into this new era. This story is the story of each of us and all our fellow creatures. Elders have been the traditional story-tellers and this new story is waiting to be told. As Thomas Berry points out, “It’s all a question of story. We are in trouble just now because we do not have a good story. We are in between stories. The old story, the account of how we fit into it, is no longer effective. Yet we have not learned the new story.” (Berry 1988, 123)

As we prepare to tell the Great Story ([www.thegreat-story.org](http://www.thegreat-story.org)), it is critical that we discern “what the new is” and how this changes our way of knowing, doing and being. We need to allow our old assumptions to be informed and transformed by this new story. I have selected four understandings from the Great Story I believe are basic to being in alignment with and responsible participants in this emerging ecozoic society.

- 1) **We live in an expanding universe that continues to evolve.** In the new story, creation was not completed in the past. Rather we now know it took billions of years of creativity to get us to this point and the universe is still a work in progress. Creation continues and will continue in the future as the universe continues to expand.
- 2) **We are participants, or more specifically, co-creators of the unfolding universe.** As a species, humans now have a direct impact on the evolutionary process. Through a geometric increase in population, resource exploitation and technology’s impact on the environment, we are witnessing major biological and climatic shifts, such as extinction of multiple species and global warming. Our decisions, individually and collectively, effect the future of planet earth. Now we must ask, “What is the role of humans in the community of life?” and act on our answers.

- 3) **We are in an interdependent relationship with all beings.** Our future depends on a new understanding of “the universe as composed of subjects to be communed with, not as objects to be exploited.” (Berry 1999, x-xi). I am challenged daily, as I strategize how to redirect the activities of slugs and moles in the garden, in relating to my fellow creatures as my kin. We must re-evaluate how we sustain the natural world which sustains us and let go old images of controlling and/or dominating nature.
- 4) **Our future survival is not based on competition but on our ability to cooperate.** There is a new understanding that has emerged in this past century as scientists have studied evolution. It is that cooperation or symbiosis, and not competition, is the critical driver of evolution. New modes of cooperation arise in response to major crises, and evolutionary shifts occur. For example, 3.7 billion years ago, when deadly levels of oxygen produced by photosynthesis threatened the earliest life forms, oxygen-loving bacteria merged with larger cells, forming nucleated cells that protected them from the oxygen and, indeed, enabled them to live off of it.

### Living the Great Story

Probably the greatest challenge we face as we take on the role of Earth Elder is how that shapes the way we live our daily lives, how we live in a way that sustains the planet and all its creatures. Each of us has to discover his or her particular way of relating to Earth.

Becoming conscious of our activities in terms of the impact we have on the environment can be a rigorous discipline. We need to know where our food comes from, how many miles we travel in our autos, and how each of us can reduce, re-use and recycle. By joining the increasing number of individuals and groups that are making their voices heard, there are opportunities to speak for Earth as advocates.

One way I have chosen is by helping to form and live in an intentional, cohousing community, Songaia Cohousing Community ([www.songaia.com](http://www.songaia.com)), where we support each other in striving to be more sustainable. Some of the practices that contribute to sustainability are shared resources, such as having a common laundry, purchasing bulk food (organic and locally produced where possible), sharing meals in our common house, and providing guest rooms for use by all our members. We have 15 families, a total of 36 people including 12 children. We grow many kinds of vegetables and fruit, and recently we began to raise chickens. We support and encourage recycling, reduction and re-use in our interactions with each other.

Undergirding these practices are cultural patterns that are intended to inform, enhance and sustain a more caring approach to the environment. Seasonal celebrations that recognize the solstices and equinox are a part of the community’s traditions. Earth Day and Thanksgiving are celebrations we invite others to share with us. This past year we incorporated the beautiful Iroquois Thanksgiving Ceremony into our celebration. We work at creating sacred space and providing opportunities for connecting with nature, including a labyrinth, a peace garden and woodland trails. Children are encouraged to engage in gardening, save seeds and explore nature.

### Empowering Others to Learn to Live the Great Story

As Earth Elders, we will be motivated to invite others to learn and live the Great Story. We will be called to be mentors who communicate the Great Story and spirit guides who facilitate its celebration.

*By Mentoring* — Probably no elder role brings more excitement, challenge and fulfillment than being a mentor. The sharing of wisdom and skill gained in our life experience with those younger than ourselves is a contribution that is vitally needed. It is a way of bringing continuity to community.

Mentoring as an Earth Elder includes passing on life skills. Mentoring is discovering effective ways of telling the stories and myths that convey the deeper meanings. Mentoring is also about asking the questions “Are we on the right track?” and “How do we do this?”

Our community has a mentoring program that encourages our children over 10 to connect with an adult. I mentor a 13 year-old youth who is intellectually gifted and socially challenged. Finding common ground for connecting, other than going to a local taco shop, has been difficult. He wanted to work with tools—but what to build? He finally decided he would like to make a shield to go with his wooden sword. We did it together and a working relationship was established. The next project was to make improvements in the tree house up in the woods, which we accomplished. I can now ask him to help me on a hands-on project and he will generally join me. One of the projects he expressed interest in was to create “A walk through time” in our woods. That will be our next project.

There are many resources available for sharing the Great Story. Those I have found most helpful are listed at the end of this article under “Resources Consulted” and are identified by an “•”.

*By Celebrating* — We stand before the wonder and beauty of the universe, its unfolding story, and we are lost for words. And yet, that is what we are called to do—celebrate the universe with words, in poetry, song, story and myth. This is not just a task for Earth Elders,

---

but it is one they can do and help others to do as well. We all need permission to see and describe the story of the universe as our sacred story. Earth Elders can be instrumental in this role.

Just as we celebrate transitions in our personal lives and nations have holidays to mark major events in their histories, all people on Earth can celebrate collectively the significant evolutionary shifts that have shaped the planet and all of its creatures. These are the events that brought us in our present form to this moment in time. The Cosmic Walk ([www.threeeyesofuniverse.org](http://www.threeeyesofuniverse.org)) is one way of ritualizing the universe story from its primordial beginnings to the emergence of Hominids 4 million years ago to the beginning of the Ecozoic Era.

One of the challenges is integrating the new story of the universe with our great religious traditions. It does not replace them, for each gives a story that expresses the meaning of creation and the human place in it. The new story does, however, provide a common story by which people can compare their insights and dialogue on the place we have in common in this great unfolding drama. Those of us who live out of one of these traditions have the opportunity of facilitating the appropriation of the Great Story and its implications for a new relationship to Earth and all its creatures as a common story for interfaith dialogue. Helpful resources for the Jewish, Christian and Muslim faiths are listed in Resources Consulted and are identified with an “\*”.

## The Movement of Earth Elders

The time is ripe for elders to reclaim their rightful role of speaking for Earth and future generations. Those of us who are willing to accept the challenge need to come together in local groups, connect via the internet, and periodically gather in council to share our experiences, learnings, and emerging vision of our role.

As I face my mortality, I feel a sense of urgency in taking steps to help build the movement of Earth Elders now. This is not something we can put off to another time, as many of us are in or approaching the final time of our lives. It is urgent because of impending planetary shifts that may be irreversible, such as global warming and the accelerated extinction of species.

Currently, there are pockets of Earth Elder activity across the continent. One manifestation, Earth Elders, “an emerging global network connecting midlife and older persons dedicated to helping bring about a just, sacred and sustainable future for our children, grandchil-

dren and future generations,” was started in 1998 (see [www.earthelders.org](http://www.earthelders.org)). It is not a membership organization, but rather a vision that exists free for all who choose to claim the name and honor the vision. The website has been administered by Second Journey ([www.secondjourney.org](http://www.secondjourney.org)) for the past few years. Another manifestation has come through Imago, which has conducted EarthSpirit Rising conferences and created “EARTH ELDERevolution: An Interactive Discussion Course to Re-Vision the Role of Elder as Earth-Keeper” ([www.imagoearth.org](http://www.imagoearth.org)). Imago has also created a listserv for Earth Elders to share announcements and relevant information. Without doubt, there are many other Earth Elders who carry on through projects and programs of which I am not aware.

Someone told me once that when young people bought trees for their yards, they tended to buy the biggest trees they could afford in order to replicate a mature natural setting as quickly as possible, but older people were more willing to plant young trees they would never see mature. I don’t know if this is a true story, but it speaks to me at least in this way: It is time for us, Earth Elders, to care for the young trees.

### Sources Consulted:

- \* Bernstein, Ellen. *Ecology and the Jewish Spirit: Where Nature and the Sacred Meet*. Gretna, LA: Pelican Publishing Company, 2000.
- Berry, Thomas. *The Dream of the Earth*. San Francisco, CA: Sierra Club Books, 1988.
- \_\_\_\_\_. *The Great Work: Our Way into the Future*. New York: Bell Tower, 1999.
- Liebes, Sydney, Elizabeth Sahtouris, and Brian Swimme. *A Walk Through Time*. Hoboken, NJ: John Wiley & Sons, Inc., 1998.
- \* McDonagh, Sean. *To Care for the Earth: A Call to a New Theology*. Santa Fe, NM: Bear & Company, 1986.
- \* Nasr, Seyyed Hossein, *Man and Nature: The Spiritual Crisis in Modern Man*. Rev. ed. Chicago, IL: Kazi Publications, 1997.
- Swimme, Brian and Thomas Berry. *The Universe Story*. San Francisco, CA: HarperSan Francisco, 1992.
- Stewart, John. *Evolution’s Arrow*. Australia, The Chapman Press, 2000.
- Teilhard de Chardin, Pierre. *The Human Phenomenon*. Sarah Appleton-Weber, trans. Portland, OR: Sussex Academic Press, 1999.
- [www.ecozoicstudies.org](http://www.ecozoicstudies.org)
- [www.thegreatstory.org](http://www.thegreatstory.org)
- [www.imagoearth.org](http://www.imagoearth.org)

## **The Geography of Childhood: Why Children Need Wild Places** **By Gary Paul Nabhan and Stephen Trimble**

*Review by Lynda Cock*

Natural history writers Nabhan and Trimble in their book *The Geography of Childhood* have created a palette for reflection about parenthood, education, and exploration of nature. They are not environmental educators, rather, they are both fathers who are discovering their own way as they observe their children’s experiences of the wildness to which they are exposed. Their reflections help the reader to recall his or her own experiences in the wild and the development that seemed to come from such experiences. Such reflections lead the reader to a heightened awareness of the role that wild places hold for nourishing in children an intense relationship with Earth as well as for nurturing their self-esteem.

The essays relate that crammed schedules of after-school learning activities, compact urban dwellings, and parental fears of children being out of sight have made experiences of the wild somewhat of a rarity. Many children’s only intense experiences of nature are from Discovery Channel and visits to the zoo. Some children have the luxury of summer camps and outdoor wilderness adventures that help fill the gaps of knowledge about nature. Children, however, need more expansive opportunities of exploration of life’s big questions: where do we come from and where are we going? They need to experience that Earth is their home and they are a miniscule but important part of this place. They need to see the complexity and inter-relatedness of all things and how birth and death are part of the ongoing cycles of life. They need to experience the wonder and delight of discoveries that they unearth or that are revealed to them in their own secret places as they play.

One father shares his frustrations with his children’s not appreciating the wondrous vistas and complexities that he was trying to show them on a camping adventure. Instead, they were more anxious to share their little hideout that they had made under the trees. He observed in that instance that their sense of intimacy with small spaces, building their “nest,” was developing their intimacy with Earth. They were sheltered by the branches of a low hanging tree; the pine needles provided them a soft dry bed. The pine cones became play food. Wildflowers became the decorations marking the entryway. He contrasts such explorations of play in the wild with the paved and prefabricated “jungle” gym playgrounds that are major play space for many children, devoid of secret places and niches that help children define their boundaries and territories.

I was reminded of the wonderful adventures that our grandchildren have had this summer building their “fort” from a couple of fallen trees over a little backyard creek. This became for them a place to exercise their creativity in designing the various rooms, a place for them to establish rules for what each child’s responsibility was in caring for the fort, for establishing what was safe and unsafe behavior, and for envisioning what it means to care for this creek and its banks.

One essay cites a frightening fact that over 50 percent of all children born this decade in developing countries will grow up in urban slums. In the United States, a frightening one-fourth of children born will begin their lives in slums and most of them will never know the land that produces their food, much less have experiences of other species, unless it is cats, dogs, cockroaches, and starlings. Their world will be more concrete and asphalt, places designed by people for people. They will miss the interspecies connection of plants, animals, and trees. In the relationships with frogs and tadpoles, birds and trees, vast expanses and hidden places are born the seeds for care, for vocation, for poetry, for love, and for philosophizing about life.

Another essay entitled “Going Truant” relates the educational frustration of its author, who left high school when he was sixteen. He recounts that even though his high school was near the Indiana Dunes, he recalled less than six uninterrupted hours in that marvelous natural laboratory. He calculates that for every thousand hours spent cooped up in the classroom, there was one hour spent in the field. Even in his biology classes, the natural world was taught through flip charts, books, films and dissecting scopes. His real experiences with nature were learned when playing hooky.

Children who grow up on a farm have an everyday opportunity to experience nature as a teacher. Farms and farm children, however, are no longer the norm. We look to other opportunities to expose children to the wild side of life: camps, vacations in out of the way places, trips to rural relatives provide a few. Fortunately, urban planners are beginning to build green spaces into new developments—that give children a sense of the wild in the midst of their suburban neighborhoods.

While learning about leaves and acorns and squirrels seems to be accepted for younger learners, one of the authors relates that he experienced that outdoor education for adolescents was looked upon as “dillydallying.” After students dropped out of school, however, it was

---

an outdoor survival course that offered new direction. Programs like Outward Bound, Vision-Quest, and the Institute of Cultural Affairs' "Rites of Passage" program have helped many youth gain the discipline and internal insights required to complete their schooling as well as to enable them to become emotionally and mentally whole in relation to their inner world and the outer world. Many years ago, nearly all adolescents went through rites of passage in the wilderness. Here they learned necessary survival skills and learned the importance of nature as a lifetime teacher.

Children who grow up with pets learn the companionship and responsibility of caring for their animals. Non-domesticated "critters" are, however, often looked upon with a different set of values. They frequently are seen as something to be squashed at first sight. One particularly memorable essay related how a prankish experiment with launching a little lizard onto a firecracker rocket had been a dramatic lesson in compassion.

This collection of essays put me in the frame of mind to return to childhood experiences that have meant so much to me: the honeysuckle "jungle" hideout in the vacant lot across from our house, the sagebrush field down the street where we would crawl on our bellies to hide in the tall grasses, the bicycle track that we cleared on another vacant vine-covered lot, the big rock in the ditch down the street where we could lie on our stomachs and watch the tadpoles.

I would highly recommend this book to parents, grandparents, and educators as they look for ways to educate the whole child. Even with all the extra-curricular learning experiences that many children have, this book serves as a reminder of the need for time and space to explore whatever wild is around them. I would also recommend it to community planners as they seek to create living environments that are conducive to living in harmony with nature. As Thomas Berry says, "It takes a universe to educate a child. A universe to fulfill a child."

---

*Bruce Lanphear, researcher on children's environmental health, looks keenly at the chemicals that compromise the lives of children.*

---

## **Children's Environmental Health: An Interview with Bruce Lanphear, MD, MPH**

*Interviewed by Fred Lanphear*

*Your research for the past few years has been focused on children's environmental health. What have been some of the most important findings from your research?*

We and other scientists have found that we can measure a variety of environmental chemicals or toxins in virtually all pregnant women and children, including mercury, lead, tobacco, plastics, DDT and newer pesticides. At the same time, we are finding that exceedingly low levels of exposure to the most widely studied chemicals are associated with learning problems and behavioral problems, such as reading deficits and ADHD, and pre-term birth.

These findings are worrisome because over two-thirds of the chemicals that are marketed—including pesticides and plastics—have never been tested to find out if they cause behavioral problems, learning problems or complications of pregnancy. By default, then, we are allowing industry to profit by using our children as uninformed research subjects of a vast experiment.

*Are these findings taken seriously and how are they being addressed?*

With few exceptions, such as mothers who are trying to understand why their child has a learning disability, the public is largely unaware of the hazards of envi-

ronmental chemicals. Indeed, most of us assume that if we buy a product at the market it has been tested to make sure it is safe when used as directed.

In contrast, the chemical industry is fully aware of these studies and is actively trying to discredit them. This is one of the biggest challenges for this type of research.

*How do we avoid introducing chemicals into the environment to later discover they are toxic?*

We need to ensure that chemicals are evaluated for various types of toxicity before they are marketed or disseminated in the environment. Similar to the European Union, we need to evaluate the toxicity of environmental chemicals, ban chemicals that appear to be toxic and identify safer alternative products. Finally, for persistent chemicals that are already widely disseminated in the environment, such as DDT, we need to carefully examine the consequences of these past or ongoing exposures.

*What do you see as the underlying contradictions that prevent us from effectively addressing the challenge of ensuring a healthy environment for our children and grandchildren?*

One of the contradictions that prevent us from protecting humans from environmental chemicals is that

many of the decisions we make are based on short-term outcomes. Corporations, for example, often make decisions because they affect their quarterly earnings. If we were to think about the long-term consequences of using chemicals or of air pollution, and considered the potential health effects as part of the cost, it would dramatically shift the way chemicals would be used. It would also dramatically reduce the need for lawsuits.

*The Ecozoic Reader has been addressing a series of questions relating to our relationship to the Earth, and in this issue we are asking the question “If we are moving into an ecological age . . . How do we get there?” From your experience and perspective as a children’s environmental health scientist, how would you answer this question?*

Protecting children from environmental chemicals requires us to recognize when we contaminate Earth we are “fouling our own nest.” We cannot escape the pollutants we disperse into the environment; we invariably

absorb or inhale them. In some cases, such as with mercury, PCBs and DDT, we act as “sponges” for pollutants because they bioaccumulate or ascend up the food chain.

It will not be easy to reduce environmental pollutants. Still, by recognizing our intimate connections with the environment and shifting health policy to dramatically reduce environmental pollution, we can dramatically reduce disease and disability – including asthma, learning problems, cardiovascular disease and cancer. At the same time, this will reduce any detrimental impact these pollutants have on other life forms.

*How does this inform the direction of your work?*

Although we will always need more research, it is becoming increasingly clear that we now know enough to revise regulations to protect humans from environmental chemicals. This realization is pushing me to shift my efforts away from research to find ways to enhance the ways we communicate the science to the public.

---

*Byrnes praises the cycles of nature.*

---

## Remembering Cicadas

By W. Malcolm Byrnes

I.  
In the spring of the year two thousand and four,  
In forests and glens of the Eastern shore,  
Cicadas arose from their burrows deep,  
From seventeen years of slumber and sleep.

Eons ago, on glacier’s advance,  
They’d evolved to escape a cold snap’s chance.  
And so, their underground life is timed  
For a length in years numbered both large and primed.

II.  
One morning in May, to everyone’s surprise  
Cicadas from holes started to rise.  
They clambered and climbed up the tree trunks at night  
To create as the sun rose a most wonder-filled sight.

Brown shells were all over, attached to each tree.  
Some still held white larvae; these worked to break free,  
And fly to the treetops to round out their fate-  
To flit branch to branch in search of a mate.

Black bodies, red eyes, and gossamer wings,  
The “Brood Ten” cicadas were innocuous things.  
They were sometimes a nuisance: so many around,  
With their roaring and buzzing and “Pharaoh” sounds!

They darted in the treetops all the day long,  
Just singing and mating and carrying on.  
They made slits in thin branches, and laid their eggs  
down,  
Then, dying, descended, to litter the ground.

As the larvae did hatch, they fell to the Earth  
To continue the cycle through life, death and birth.  
Now, fifteen more years underground they’ll remain,  
To dig, crawl and forage till they rise once again.

III.  
Oh, Cycles of Nature, what comfort you bring:  
Geese flying south, and songbirds in spring.  
Great Cycles of Earth, on you we depend;  
All life would die out if you were to end.

But, what future awaits? Will cicadas return,  
If great masses of fuel we continue to burn?  
Will the warming of Earth-global temperature rise-  
Reach down to their burrows, and spell their demise?

When will we act? How much death will we cause?  
“Extinction’s forever:” will this truth give us pause?  
For, humans not master but kindred should be  
To Earth and her creatures in their great diversity!

## The “How” of It All

By Jane Blewett

Now comes the hard part . . . how do we get there? This is the final question being put to us who have been involved in *The Ecozoic Reader's* series of penetrating questions explored in Vol. 4, Nos. 1, 2 and 3 over these past two years. If the earlier three questions demanded serious analysis and reflection on the past and present, this current question propels us into the future, engages our imaginations and dreams, our deepest yearnings and hopes for the “viable human” and a flourishing Earth. It is a multi-task that none of us can dodge; a task without any single, overarching, all-encompassing answer or plan; a task that will unfold as each of us walks our talk and shapes the world that is to come.

In thinking about this “how to” question, I was reminded of a three-part schema that we used when I worked in a national social justice and peace organization some years ago. Our goal then was to bring about a more deeply human, more humane world and to do that through social change at both the institutional and personal level. We used three categories of “change agents,” individuals or groups committed to a more just social order through non-violent means. Each group approached the process in a unique manner; each was an agent of change toward a preferred future. (We readily admitted that other schemas to bring about change were available and welcomed critique of our own design.)

In this article, I'd like to explore whether the simple model we used then could serve our present need to highlight and lift up the change agents who are already leading the way toward “how to get there.” These agents are not merely focused on a more human, humane world for people, but rather, on a viable and mutually-enhancing relationship between humans and the total Earth community for the future of the planet.

### 1. Just Say No!

The first change agent we identified was the person or group that had come to a profound sense of how unjust and destructive a particular institution, a policy, a plan or direction was, and rose up to say “NO! NO MORE! NOT IN MY NAME!” They raised their voices in the public domain, took to the streets, blocked entrances, put their bodies on the line in non-violent protest and even went to prison. Racism, women's rights, war, the death penalty, abortion, policies of the World Trade Organization, the World Bank . . . the causes varied and the constituencies shifted, but the means of bringing about a desired change was much the

same: a powerful, strong, communal “NO!” More often than not, those protesting were not clear about what the future should hold, but they were united in their conviction that the present situation was no longer tolerable.

Even though these change agents did not often, if ever, achieve their full demands, there is no question that through their public outcry understanding grew, social policy shifted, laws were enacted and in many parts of the world, conditions improved significantly.

But now, the question . . . what or who are the “NO” change agents moving us into the Ecozoic Era? It is impossible to give an exact number, of course, but daily we read of groups and individuals on every continent who bear public witness to the profound dis-ease and strong objections they hold to current destructive environmental policies. They know “in their gut,” as it were, that people and the natural world are bound together and that the way things are going is leading to catastrophe. They feel they have no choice but to put their lives on the line in protest.

I think of those brave warriors in New Zealand who buried themselves with only their heads exposed above ground in front of approaching bulldozers to protect the rainforest. Or Julia “Butterfly” Hill who lived for 738 days in a 180-foot-tall, 600-year-old California Redwood to protest the planned logging of it and other magnificent ancient trees nearby. Finally, the company agreed not to log the area even while naming Julia an eco-terrorist!<sup>1</sup> How many people have been inspired by her story, and through her have come to realize their own deep bonding with forests and wooded areas!

Then there is Wangari Maathai who is known worldwide for creating the “Green Belt Movement” in her home country of Kenya, by engaging village women to restore the local eco-system through replanting thousands of acres of trees that had been cut down for firewood and construction purposes. But not as many know that at one point in her life, she was beaten, imprisoned and her life threatened because she helped mobilize huge crowds in the streets of Nairobi to protest a government plan to turn over a national park to a developer and thus eliminate much of public green space in the capitol city. The plan was ultimately defeated and subsequently she became Kenya's Environment Minister!<sup>2</sup> In 2005, Wangari was awarded the Nobel Peace Prize in recognition of her powerful voice in defense of the natural world and her persuasive message linking viable eco-systems with securing peace in the world.

Another outstanding example is the indigenous people of Bolivia who were successful in forcing their government to break a contract with a powerful, foreign multinational company in order to protect the ownership of their water rights.

No doubt, less famous “NO” agents live in our own communities. They can be found on all fronts openly opposing massive new roadways in their neighborhoods where both people and land are cast aside, and protesting the dumping of toxic waste, over-fishing in local rivers and streams, building private golf courses, opening pig and/or chicken factories in their counties, paving over rich farm lands, marketing harmful food to children, and many other activities. They may not have heard of the “ecozoic age” but they have drawn a line in the sand and refuse to accept a way of life that is no longer sustainable or desirable.

## 2. Within The Institution

A second category of change agent we held up were those who, while recognizing and opposing a corrupt institution or a destructive policy, still chose to remain WITHIN the system or structure in order to be on the side of those in need, to live and work among those who would have no means of escape. These agents were intensely committed to a very different kind of human world and longed for a time when justice and peace would reign, but they also knew that the needed changes would not happen overnight. They felt their greatest contribution could be made from within by being a presence among the oppressed and struggling tirelessly to address the inequities in the systems that controlled the lives of the marginalized and forgotten. These change agents seldom made the headlines, but their quiet determination to speak up for the voiceless and to challenge the reigning institutions was a powerful example that moved peoples’ hearts and changed unjust systems.

To translate this second category of social change agent to our present ecozoic task brings us smack into the lives of most of us reading this volume. Here we are, a network of people convinced that the four institutions of our society—religious, educational, political and economic—are dysfunctional, destructive and must be transformed for the survival of Planet Earth. Here we are, determined to “re-invent the human,” to bring about a completely altered worldview, a new mind-set and heart-set, even while we must engage daily life within our death-dealing culture. Here we are, facing the profound, chaotic and chilling changes the new cosmology way-of-life demands. We can often feel “caught” but we need not be “captured!”

Without being simplistic, there are hundreds of choices we can make that keep us faithful to an ecozoic vision and allow a degree of integrity in our daily lives. Let me name a few: We can daily open our minds and

hearts to Earth’s wonders and wisdom, live the moment awake and aware of our communion with the trees, birds, and plants, our life community; we can speak our truth, preach the New Story in season and out to our families, neighbors, churches, civic associations, clubs, at the grocery store, the laundry, the library, everywhere we go; we can write and publish to spread the word (this *Reader* is a case in point); we can create websites and blogs; circulate books, music and tapes; we can travel lightly; eat carefully; design benign buildings and draw power from the sun; we can celebrate the seasons, mark the solstices, invite the stranger, and join together in grateful song and praise; and we can insert our message in Earth Day events and Environmental Sabbaths; we can lobby for public transportation, clean air, land and forest preservation locally, nationally and internationally. In other words, we can walk our talk; we can model what we truly believe and hold most dear.

It is all there, the life before and around us with which to be engaged, each one of us a small spark of the “re-invented human.” None of us has it all, nor are all our actions totally faithful to the vision. For this, we need inner strength, constant renewal, the guidance of Wisdom people, and the power of models. And above all, we need companions in the Great Work—we need one another!

## 3. An Alternative Way

The third kind of change agent is the one who, convinced of the impossibility of achieving lasting change in the present situation, has turned his or her back, as it were, on the scene and launched forth to create a viable ALTERNATIVE. Implicit in the decision to break away and start afresh is the belief that, in taking this step, the establishment can be fundamentally altered, that the new way will undermine, dis-empower and eventually, force the collapse of what is in place. An example that comes to mind is the “back to the farm” movement of the 1960’s, those people, especially the young, who grew disenchanted and discouraged with the society around them and purposely opted out. Their goal was to depart from the accepted way of their parents or elders and create another social expression that allowed for greater freedom and simpler living. They did not want to spend their lives supporting what they saw around them. However one might judge this “hippie” movement, it did challenge the assumptions of the older generation and forced a serious discussion of many aspects of the social order . . . and changes followed. Other examples could also be cited.

With regard to the Ecozoic Era, I would like to hold up three examples of this third kind of change agent, of those individuals and groups that are giving their full energies, their time and talent each day, toward the creation of a living, breathing, viable alternative way of life



---

embedded in the New Cosmology. They cannot, of course, completely divorce themselves from the society around them, but they have definitively resigned from the reigning institutions and are intent on an alternative path. Genesis Farm in New Jersey,<sup>3</sup> the Green Monastery in Vermont,<sup>4</sup> and Earthaven Ecovillage in North Carolina<sup>5</sup> are my three models.

Genesis Farm for Earth Literacy, founded 25 years ago in Blairstown, New Jersey, by Sr. Miriam Therese MacGillis, established itself from the very start as a place where the New Story and the wisdom of Thomas Berry would carry the day. Along with a vibrant community-supported organic garden program, Genesis Farm models how we might “be and do” in an alternative system. There, each facet of the day is directed toward awakening a new consciousness through creative ritual, study, experiential exercises, work in the garden, lectures and projects, and conversation and debate. The type of food that is served, the care that is taken, the solar energy system in place, the regard that is given to all life forms . . . it is a total package with every activity leading toward another way of being human on Planet Earth. By now, hundreds of graduates from the Farm are change agents employing a wide variety of ministries and activities across the United States, in Europe, Australia, New Zealand, the Philippines and elsewhere.

Further north, in Greensboro, Vermont, two Sisters of Earth, Gail Worcelo and Bernadette Boswick, have established the Green Mountain Monastery and The Fr. Thomas Berry, cp, Retreat and Sanctuary, in order to advance the rich heritage of the monastic tradition within a New Cosmology setting. They believe that just as earlier pioneer women and men in the Christian monastic tradition broke through prevailing restrictions and created new avenues in order to be faithful to the demands of their times, so now it is urgent that the genius of the monastic way bring its unique gift to the Great Work before us. The Sisters welcome people to the Monastery to live and experience, to read and contemplate, to pray and work in a manner faithful to the religious setting and the New Story of the Universe. Although the Monastery is young, already through teaching and art, through ritual formation and seasonal projects, the Sisters have made their voices known in both the local community and across the country.

And finally, near Asheville, in western North Carolina, Earthaven Ecovillage is underway dedicated to caring for people and Earth by learning, living and demonstrating a holistic, sustainable culture. Earthaven models village-scale living inspired by and designed on principles of permaculture. The members, numbering around fifty at present, are living off the grid by producing all their own electricity through solar and hydro systems. They have built their simple residences by harvesting the surrounding forests sustainably and are in the process of clearing an area to supply their own food. The community is educating its own children and offers a variety of workshops and display models to show an alternative way to live in harmony with the natural world. It is a vibrant community where the support of all involved and the joy, as well as the hard work, of the way of life they have adopted makes it an attractive model for others to explore.

In the concluding paragraph of Thomas Berry’s enlightening essay, “The Viable Human,” he writes, “[I]n the obscure regions of the human unconscious, where the primordial archetypal symbols function as ultimate controlling factors in human thought, emotion, and in practical decision making, a profound reorientation toward this integral human-earth relationship is gradually taking place.”<sup>6</sup>

I believe the change agents outlined above bear witness to Berry’s insight and wisdom. They give us all hope that a preferred future, an Ecozoic future, is possible and is, even now, coming into being.

<sup>1</sup> Julia Hill, *The Legacy of Luna: The Story of a Tree, a Woman and the Struggle to Save the Redwoods* (San Francisco, CA: HarperSanFrancisco, 2001).

<sup>2</sup> Wangari Maathai, *The Green Belt Movement: Sharing the Approach and the Experience* (New York: Lantern Books, 2003).

<sup>3</sup> <http://www.genesisfarm.org/>.

<sup>4</sup> <http://www.greenmountainmonastery.org/>. See also Sr. Gail Worcelo, cp’s article in this Reader on “Binding Back to Origins.”

<sup>5</sup> <http://www.earthaven.org/>.

<sup>6</sup> Thomas Berry, *The Great Work: Our Way Into the Future* (New York: Bell Tower, 1999), 69.

## Co-Creating the New Earth

By Roseanne Eleanor Sands

**H**ow do we move into the Ecozoic Era? How do we co-create the New Earth? What are the steps to bridge the gap between our current reality and our vision? These are the questions awakened humanity is asking itself as we become aware that time is running out.

Our current reality consists of global warming, a dying Amazon, war in the Middle East, threats of nuclear war, increases in drug dependency and depression, and loss of meaningful existence and joy for millions of people. Wealthy countries are consuming most of the natural resources and the poor countries, suffering and starving, struggle to imitate the Western materialistic development model.

The only way we can manifest our vision is to change. We cannot continue to live our lives in a *business as usual* mode. There are four ways we simultaneously need to change. They are transforming the psychospiritual self, living in voluntary simplicity, lifting the culture of society to a higher level, and, finally, co-evolving consciously into spiritual beings.

The first step is to practice self-awareness and self-mastery including emotional intelligence. This is no easy feat and must be worked at diligently. We need to realize that the physical, emotional and mental constitute our outer nature. We usually think of ourselves as being only this outer nature, but, in reality, we also have a more essential inner being hiding behind the heart center waiting for us to be ready to identify with her. She is our soul. As we learn to control and master the outer nature, and bring forth our inner being—our soul—our whole self becomes transformed. Our ego surrenders. The way we live and the decisions we make then come from a deep spiritual place.

Secondly, we need to live a life of voluntary simplicity. This seems to also be very difficult for us to master. Many people, aware and concerned about the global situation, continue to live out of deeply ingrained habits of consumerism. It's as if they can't quite believe our situation is real, and they are hoping that somehow it will all just go away. Nevertheless, deep inside anxiety churns and causes stress, consumerism increases as a means of escape, and we are overcome by despair and disease. Others acting on their awareness strive to use less energy, buy less and seriously reduce their use of Earth's finite resources. Duane Elgin's book, *Voluntary Simplicity*, provides excellent help, needs to be in every household, and be studied with one's children.

Thirdly, we need to lift the culture out of the gutter. We've lost the sacredness in our daily living and the reverence for life and Nature. Sex is everywhere on TV and in the movies. Food, which in some cultures is considered sacred, has been poisoned, and stripped of vitality. Yet, we eat it and feed it to our young along with gallons of fat, salt and sugar. Violence is a way of life in many communities.

Perhaps the most important of these four steps toward our vision is the uplifting of our culture to a higher level through beauty, the arts, creating a new story, music, poetry, dance, drama, spending still and silent moments in the woods—whatever will lift us up and out of our ego to a higher vibration where we can see new possibility, dream beautiful dreams and believe in magic!

The cultural is the key to the economic and political in family, community, nation and world. Culture determines our worldview and our mindset. When the culture says it is not “cool” to buy name brand clothes, our teenagers won't ask for them. When the culture says that weddings costing thousands and even hundreds of thousands of dollars are outlandish and distasteful, we will not see them splashed all over TV talk shows, magazines and the Internet. When the culture says the natural look is beautiful, we will stop spending millions on cosmetics.

I'm reminded of an old television show. A woman was a patient in a hospital. She had a bandage covering her face after having plastic surgery. The doctors and nurses were all very concerned about her because she was so ugly. The whole show took place without showing the faces of the medical team. At the end when the bandages were removed, the team was horrified by her ugliness. Then the faces of the patient and the team were shown to the viewers. The patient was remarkably beautiful and all the others were hideously ugly!

That's the way culture works. What is condoned and accepted from childhood is what we believe in. The way to begin then is to become aware of our conditioning and our habits and look intelligently to see how we can change our own mindset and habits, and then those of our family, including our children still living in the home, and then be influences on those around us. We can demonstrate living in simple, natural beauty, and being creative and spiritual. We can have an altar in our house. We can make it a part of our family culture to meditate and pray.

---

Finally, we can become aware of the possibility of evolving into a Divine Being. The plan of evolution includes unconsciousness in animals, consciousness in humans, and superconsciousness in the Divine Beings we can become. This is a long and solitary journey, truly the

road less traveled. Yet for humanity to awaken to the vision of what is possible for us and live toward that vision is the way to transform our current reality of great suffering into a vibrant new reality ever to be realized of creating the New Earth.

---

*Loomis glimpses the mystical consciousness of women in The Unknown She.*

---

## **The Unknown She: Eight Faces of an Emerging Consciousness, By Hillary Hart**

*Review by Ann Loomis*

**T**he *Unknown She*, by Hilary Hart, opens by posing these questions: Is there a mystical consciousness particularly natural to women? If so, how is it affecting women's spiritual transformation and the spiritual transformation of all humanity? Hilary Hart seeks the answers to these questions through interviews with eight voices in the field of an ancient feminine consciousness that is re-emerging in a new way. This review briefly summarizes the eight voices.

### **“Entering the Spirit,” a meeting with Angela Fischer**

Angela Fischer helps women follow the thread within that leads them to the wisdom deep within their hearts. “There is a secret in women's bodies,” she says, “a gift found nowhere else in creation.” It is a secret even from women themselves, and they need to become aware of it for the sake of creation. Getting in touch with the breath is one of the ways women can awaken this sacred substance. Light then enters a woman through the throat chakra and she becomes a “light to the world,” transforming her body and the Earth.

### **“In Relation,” a meeting with Pansy Hawk Wing:**

Pansy Hawk Wing is a Lakota teacher of “Grandmother,” who is embodied through the ways of the Earth, the ways of animals, and all of nature. Working with the seven sacred directions is the key to embodying Grandmother energy. When one connects with the six directions of West, North, East, South, Above, and Below, one will find the seventh direction in the heart center. This is our human way of participating in bringing Spirit into the world.

### **“Blaze of Light, Blood of Creation,” a meeting with Andrew Harvey:**

Andrew Harvey, author and workshop leader on the Divine Feminine, makes no bones about being passionately in love with the Great Mother, the immanent face of the Divine. The divine embodies itself in the beauty of creation. “The body reveals itself as the grail,” Harvey asserts. “The reason why they couldn't find the grail is that they were actually in the grail. The grail is the cup that holds the blood of the incarnation.” Honoring the beauty of creation and the divinity of the body is the key to unity of the transcendent and the immanent.

### **“The Storming of Love,” a meeting with Jackie Crovetto:**

The Dark Feminine energy, according to Jackie Crovetto, can be negative or positive. In its negative form, it is manipulation, emotional blackmail, or some other form of distorted reality. This pattern is very fixed with old patterns firmly in place and can be very isolating. Since the feminine is primarily concerned with relationship, this isolated, cold, and frozen stance is against a woman's nature. “One has to detach in order to see the pattern of this sticky web and also what lies behind it,” says Crovetto. The key to disentangling from the web of power games and guilt trips is saying “Yes” to Spirit, “Yes” to love and creation. The Dark Feminine then becomes an unfolding of the divine within where God can enter.

### **“Twenty-Two Taras,” a meeting with Ani Tenzin Palmo:**

Ani Tenzin Palmo is a British-born nun of the Drukpa Kargyu line of Tibetan Buddhism. She advises Westerners to bring meditation down from the head to

the heart, which is the real location of transformation. Tenzin Palmo stresses the importance of generating love in the heart during practice so that the person who is meditating comes out of the ego and into a relationship of service to all beings. Praying to the dakinis, who are female angelic beings, helps remove the obstacles to the devotion of opening the heart.

**“Women’s Ways of Living,” a meeting with Sobonfu Some:**

Sobonfu Some, an African teacher of women’s initiations and rituals, teaches that at this time in history, feminine spirit is returning. More and more women are open with their power, and men no longer know their place. They see they are no longer running the world. At this critical juncture, women need to make their consciousness collective and not just individual. The resurgence of feminine spirit will help humankind take the next step in our evolution, which includes making a conscious connection to a great web of life, light, and wisdom. It is an energy that goes from Earth, to the moon, and to all the other dimensions, like a network linking all elements of life. This web of light and life contains an energy that will heal all of creation.

**“The Unknown She,” a meeting with Lynne Barron:**

Lynne Barron says that men may need mantras and step-by-step spiritual practices, but women can use their everyday experience to activate a spiritual process. A simple humming song with a repetition, for example, may start a particular kind of breathing. It may be songs from childhood or particular verses of songs that seem to fit a situation or state of mind. For women, the process unfolds from within and takes them where they need to go. The song could be “Open up Your Heart and Let the Sun Shine In” or even James Brown’s “I Feel Good.”

**“Everything Holy,” a meeting with Myosho Virginia Matthews:**

Myosho Matthews claims that women have trouble finding and trusting their inner authority. Women need to develop confidence in their perceptions and understandings. To accept one’s own authority includes a detachment that can be frightening for women because they are naturally relational. However, there is a way to be detached while still within relationship, and then one’s inner authority becomes the basis of relationship. “And in that real love, everything is holy.”

*The Unknown She* offers a look at women’s unique mystical orientation and its place in the evolution of our universal consciousness. The voices in the book have the potential to wake us up to our innate interdependence and take us beyond the duality and separateness that keep us from getting to the Ecozoic Age.

---

## Stepping Out into the Ecozoic: A Christmas Card of Newlyweds

*From Tim and Laura Watson*

This marks the first time Laura and Tim are sharing the joy of this season and year with our families and friends. We look upon doing so as a mark of stepping out of the Cenozoic Era as described by our friend, Thomas Berry whose inspirational book, *The Great Work*, has guided us, and which presently finds us stepping into what some now speak of as being the time of the new Ecozoic Era.

Truly it can be said we are no longer standing on the brink of a new world, we are all now stepping into it. It is a new world which in Laura's life, and Tim's life, is marked by great personal change. We are happily married since the Spring of this year.

Tim's work as an architect for the first time finds the majority of his clients asking for help with designing their home construction projects in a "green" earth-conscious way.

Laura's work now has shifted away from merchandising endeavors towards creating "lifescaping" designs for her landscaping clientele.

We two see our mutual interests coming together. We plan to be creating habitats that are both beautiful and inclusive in their designs for the benefit of all life forms. In so doing we are embracing ideas about energy and resource conservation in a way that promises to restore, not just sustain, biodiversity, soil, and water.

The first manifestation of our shared view has been "Green Earth Village," a design for building a village-scale development here in Hillsborough, North Carolina. We will be offering to build up to four houses in keeping with these ideas. Each house will have passive and active solar, living gardens for harvesting fruit, herbs, and medicinal plants, water management systems combined with xeriscaping, and a special focus on creating interior spaces offering intimate connections with the outdoors.

Our home is in a lovely setting: During the past 16 years Laura has transformed several acres of gently rolling hills and Appalachian woodlands into a green stage upon which she has played in a wonderfully whimsical way. Her credo, "Art in the garden," has seen her script an eclectic collection of sculpture, buildings, and plantings. During this time she has commissioned artists to produce expressions of garden art to amuse and delight the eye. Her place is known and visited by people from many places in this north central part of the state. There is an inexplicable spirit about this place.

And about our home itself—well, it can't coop us up: The centerpiece of the landscaping facilities here is not either of the two large greenhouses, it is a 200-foot long chicken coop. This 50-year-old building made of barn wood and poles is the heart of our space, for in it we have made a nest. Where once merchandise was sold, we have pieced together an apartment. We cut a hole through the roof and there made a sleeping loft only accessible by a ship's ladder. Made of redwood barrel staves and other recycled material, this sleeping space affords a view of the surrounding woods on all of its four sides.

To this we are now adding a solar water heating panel, and a water conservation system utilizing cisterns and metered drip irrigation distribution to surrounding plantings.

We feel our simple home will serve to help people see how they can create imaginative and earth friendly places in their own homes.

Blessings to All!  
Tim and Laura Watson  
(Christmas 2005)

---

## How We Get to an Ecozoic Society: Ecological Imagination/Common Sense

By Herman F. Greene

*And in my dream the angel shrugged and said, "If we fail this time, it will be a failure of imagination," and then she placed the world gently in the palm of my hand.*

"StoryPeople" by Brian Andreas

This issue of *The Ecozoic Reader* completes our four part series on:

*If we are moving into an ecological age*

... *Where are we?*

... *How did we get here?*

... *Where are we going?*

... *How do we get there?*

Each of these questions is important. The questions themselves are a large part of "how to get there." If *where* one is, is on railroad tracks in front of an oncoming freight train, then what one must do becomes very clear. If one is ten feet from the tracks, one has a different answer and if one is on the beach on a pleasant sunny day, no action at all might be suggested. When we think about the environmental situation, we must answer first, "Where are we?" If we conclude environmental disaster is imminent, we will take a certain stance, if we believe there may be environmental problems, we will take another stance. Some environmentalists argue forcefully we are on railroad tracks with a freight train coming at us. But, where should we jump when the freight train is the whole Earth?

Few of us reading this journal, as conscious as we are of the environmental situation, I would dare say, are ready to conclude that we and Earth are so imperiled that we must drop everything and attend only to the environmental problems, for example, by drastically reducing our lifestyle. Why is that? Where do we think we are?

Most of us know the story of Henny Penny and how something dropped on her head one day as she was eating corn and she went off to tell the king "the sky's a-falling." In her case, many animals joined her on the way to tell this to the king until the fox lured the group into his cave and ate most of them for lunch. Henny Penny got away, but never told the king. It would have behooved Henny Penny to have more accurately assessed where she was when the object fell on her head and whether the object really did indicate the sky was falling. It would certainly have behooved Henny Penny and the animals who joined her to have had a better understanding of where they were going and how to get there so the fox could not have persuaded them they were lost and lured them into his cave.

Will we with our alarum be as feckless as Henny Penny? Who among us blindly follows? And who is the fox and where is his den?

The concerns that bring us to the ecozoic are not so clear and imminent as an oncoming freight train, and our response is not as clear as getting off the tracks. I must admit that I can find no intellectually or emotionally satisfying answers to these questions of *where are we, how did we get here, where are we going and how do we get there* that tell me exactly what I must do . . . not even what I must do when I choose what I will eat for lunch. It is winter in North Carolina and today it will be in the mid-70s Fahrenheit. Is global warming occurring now in its catastrophic phase, or is this just a warm cycle?

Finding myself in such uncertainty, I don't know what to do except to find answers that are consistent with my own reactions, trust myself and the historical processes (geo-biological-human-and-divine) at work, do the best I can, and be as present as I can be to the wonder, beauty, intimacy and truth offered to me each day. (Can we make any sense of things if we are saying one thing but doing another?) So what I have to say about how to get there is rather personal.

When I think about how to get to the ecozoic, I begin with this understanding from an earlier article I wrote on Thomas Berry's *Great Work*:

The Great Work into which we and our children are born, [Berry] says, comes in response to the devastation of the planet caused by human activity. We are facing a breakdown in the life systems that can only be understood by comparison with events that marked the great transitions in the geo-biological eras of Earth's history, such as the extinction of the dinosaurs and countless other species when the Mesozoic Era ended and our present Cenozoic Era began (p. 3).<sup>1</sup> Our task is to move from our modern industrial civilization with its devastating impact to that of benign presence. It is an arduous and overwhelming task, one exceeding in its complexity that ever offered to humans, for it is not simply one of adjustment to disturbance of human life patterns, as, for example, that occasioned by the Great Depression or the recent World Wars, but one of dealing with the disruption and termination of the geo-biological system that has governed the functioning of the planet in the 67-million year reign of the

---

Cenozoic Era in the history of the planet Earth.

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

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

The complexity of this task, as compared with other Great Works, can be understood when we realize there can be no frontal attack on our adversary in this crusade. There is no “we” and “they,” there is no “here” and “there,” there is no frontier to cross, and no externalities that can be ignored in the name of one great cause. No, everything is in the midst; we are both on the side of this cause and against it. The transformation that is called for is both inner and outer, regional and global, national and international, economic and social, individual and collective, family and sect, and—for the first time in human history with self-conscious awareness—human and other-than human nature.<sup>2</sup>

There is a lot of historical analysis in this statement, but it is not this analysis to which I wish to draw attention here. It is such phrases as “[the work we are called to *exceeds*] in its complexity that ever offered to humans.” It is even more complex than dealing with a depression or a world war because these are just disturbances in human history, but what we are dealing with is “the disruption and termination of the geo-biological system that has governed the functioning of the planet in

the 67-million year reign of the Cenozoic Era in the history of the planet Earth.” Can you imagine that? What we are dealing with is more difficult to deal with than a world war or a global depression.

I also wish to draw attention to the phrase “there can be no frontal attack on our adversary in this crusade. There is no ‘we’ and ‘they,’ there is no ‘here’ and ‘there,’ there is no frontier to cross, and no externalities that can be ignored in the name of one great cause. No, everything is in the midst; we are both on the side of this cause and against it.”

I bought a lawn mower last summer. I know that because it (like almost all available power mowers) lacks pollution controls, my lawn mower in an hour emits pollution equivalent to hundreds of miles of driving in a car.<sup>3</sup> I fill the small gas tank on my mower . . . oh bother, the gas spills over again onto the mower deck, causing still more pollution . . . and what do I do with the spilled gas? . . . “*we are both on the side of this cause and against it.*” Guess, I’m the problem, after all . . . but wait, I’m also “*on the side of this cause.*” That’s true: I’m very much on the side of this great cause and if you are reading this article, so are you.

And to make matters worse “[t]he transformation that is called for is “*both inner and outer, regional and global, national and international, economic and social, individual and collective, family and sect, and—for the first time in human history with self-conscious awareness—human and other-than human nature.*” Or, doesn’t this make things better? Most anything I do and anyplace I am, I can be about the Great Work. It is everywhere and all the time.

So you can see, what we are dealing with is something very different than any social cause we might have been involved in before, or that *any human* has ever been involved in before. This doesn’t, however, mean we can’t learn from and apply our experience. It just means we can’t predict *this* future—the ecozoic future—from the past, and we can’t “solve” this problem of how to get to an ecological age the way we have solved past problems.

If we break this problem down, we can find solutions to the broken down problem. The problem is that every solution presents other problems. Take the problem of carbon-based energy and the proposed alternative energy solution of biofuels—biofuels cause competition between grain used for fuels and grain used for human and animal food, and growing grain for biofuels results in increased cropland, habitat loss and destruction of rain forest<sup>4</sup>. Or consider solar and wind—they provide less than 1% of energy production, installation and maintenance of solar and wind equipment produces pollution, and they may not be able to exist other than as an auxiliary to an oil economy<sup>5</sup>. The alternative energy sources of hydrogen power, nuclear power, hydropower and other sources, also, have serious drawbacks.<sup>6</sup>

But the real problem with breaking how to get to an “ecological age” into discrete problems is everything is an interconnected web and we can’t solve moving into the ecozoic in pieces. For example, we already have hybrid cars that would reduce miles per gallon, but is an automobile-based society viable even if everyone were to use fuel efficient cars? If not, how are we going to change having an automobile-based society in “real time”? I can write about it, but I will get in my car to go to work, go to the store, and even to go to play tennis. We would have to change our whole life to move away from an automobile-based society . . . and I guess that’s just the point, it’s that big.

So what are we to do? How are we to get to an ecozoic age? Here’s the way I think of this: What we are doing is something like moving from the medieval age to the modern age. People lived differently and thought differently in the medieval age than in the modern age. In the medieval period cities had walls around them for protection and everything was clustered. Who would think about building a city that looks like a medieval city today? We could also think about it like moving from pre-industrial society to industrial society. The industrial revolution which began in the late 18th century changed everything. Historians Will and Ariel Durant called the industrial revolution the only real revolution in human history. We could also think about it like moving from agrarian society to urban society. Up until the 20th century most people lived on farms or in rural villages. Now, in the advanced industrial societies, only a relative few people live on farms and most of the activity is in sprawling urban areas. In American urban areas, if one looks around almost everything one sees was built in the last 100 years and mostly in the last 50. Levittown on Long Island in New York, built between 1947 and 1951, was the first mass-production suburban community.<sup>7</sup> Look at such suburbs now.

Our world is changing faster and faster and in general is moving in the direction of more stuff, more industry, more cities, and more human impact. It is kind of like there is a GREAT BIG FREIGHT TRAIN moving across the whole Earth. What are we to do to get out of the way? The answer is something like disassemble and reassemble the freight train before it hits us and change the crew . . . and we are the crew.

In many ways this is happening. The contemporary environmental movement only began in the 1960s and now environmental consciousness is widespread. Global climate change, once widely ignored, is acknowledged as a scientific fact and at some level is a part of the agenda of governments and businesses around the world. Already great measures have been taken to increase resource efficiency in production. Care for Earth has become a concern of the world’s religions.

Still, we know if an ecological age means human activity is in balance with nature, we are far away. Let’s go back to the idea that what we need to do is kind of like moving from the medieval period to the modern period and just add in that it’s bigger because what we need to do is not just another period in civilization, we need a new civilization. In human history, there was a period of millions of years in which the capacities of the human came into being, especially important were those years from 60,000 to 10,000 BCE when art, religion, speech, advanced tool making and sociality developed. About ten thousand years ago our present “Civilization” began when humans settled in agrarian villages. Sometime around 3,000 years ago the classical expressions of Civilization arose and in the Axial Age, the millennium before the Common Era, Plato, Aristotle, the Hebrew prophets, Confucius, Lao Tzu, the Buddha and others gave birth to the great cultural and religious understandings that have guided Civilization. Later the medieval/feudal period came into being and continued for a thousand years. Around 500 years ago, the modern period began and in the last 200 years the advanced industrial period. This has now spread around Earth in what is called the globalized society.

While there have been many dimensions in the development of Civilization, a central thread has been efforts to better human conditions by increasing production of goods and services and this has depended on the invention and application of new technologies and the adaptation of social structure for the maximal use of these technologies. This has especially been true in the late phase of Civilization, the modern period. Karl Marx had a point when he analyzed the history of Civilization in terms of the development of the means of production. Marx thought humans sought to meet their needs by transforming nature and as the means of production changed society changed.<sup>8</sup> At first this occurred through the introduction of agriculture, and later through architecture, engineering, military science, biology, chemistry, physics and now the very science of life. It is one-sided to see social change, as Marx did, only through historical materialism, but this lens addresses a crucial feature of our world today. We are in a period of the growth of immense technologies. It is almost as if whatever humans can do through technology, they will do, and this is changing not only human society, but Earth itself.

The great fallacy of Civilization, only exposed in the late-modern phase, is that humanity can prosper, without regard to the dynamics of the supporting community of life. Post-modern civilization, which is to say the “New Civilization,” or the ecozoic, is coming home to Earth as community. The hallmark of the New Civilization is the move away from historical materialism, concentration on increased productivity without



---

regard to the supporting community of life, to co-production as full participants in the ecological community. In an ecological age, everything we can do technologically, we will not do. We will, as Thomas Berry says, become self-limiting.<sup>9</sup> This is not to move away from prosperity, but so that we may understand that prosperity depends on the health of the whole and of each part within the whole. It is a move to inclusion.

We need an image for what the move to an ecologically based civilization means and it is Gaia as organism. Gaia as organism means Earth as body . . . Earth as our body, as animals' and plants' body, and as rivers', soils' and all other Earthly beings' body. We of Earth are one body. In the New Civilization we need to move from historical materialism to historical organism.

How would this affect our thinking? When we think of our own bodies, we aren't conscious on a daily basis of all the parts, but when something goes wrong, we want to attend to it. Who is willing to say, when his or her body isn't working, "Oh, it's just a kidney," or "It's just my little toe"? And when something becomes too large for its place in the body, whether it's our stomach from eating too much or a cancerous growth of our liver, who would say, "Just let it grow"? And who would throw trash into his or her own body or put toxins in it or breathe poisonous gasses, and say "I don't care"? Or who would have a fever and do nothing? Moreover, and especially, who would not attend to the health of the body of the whole so that each member might prosper? We would think of Earth this way if we understood it as body.

Another thing about imaging the Earth as body is that we realize it is not just a bunch of dead matter, neither is it a bunch of 1's and zero's, a globally wired computer/brain. It's a psycho-spiritual reality. It's affected by feelings, thoughts, relationships, awarenesses. One can't have a healthy body with an unhealthy mind, an unhealthy affective capability, or an unresponsive awareness, or a diminished capacity for creativity and insight.

I have found when I write I haven't found a way around distinguishing "humans" and "nature" for some purposes, but for in the most important purpose, that of understanding our place in the Earth community, we have to get beyond this. There is neither "the human on the one hand and nature on the other," nor "nature on the one hand and the human on the other." We must at the highest level of our consciousness, like the first peoples, live without this distinction. We can no more go out into nature, than we can go out into our bodies.

The French paleontologist, Teilhard de Chardin, wrote about an amazing concept, that of the "noosphere."<sup>10</sup> He said first there was the geosphere, the aquasphere, the biosphere and the atmosphere, and then with humans there was the noosphere.<sup>11</sup> Humans like animals existed at the level of the biosphere, but there was some-

thing more that came into being with humans, it was self-conscious awareness and this resulted in a band of stored knowledge, or consciousness, that surrounded and permeated Earth much like the atmosphere. Changes in the noosphere changed Earth, just like changes in the other spheres did. In other words changes in human knowledge and understanding changed each of the geosphere, aquasphere, biosphere and atmosphere. We see this everyday, don't we?

Every time we change our own consciousness or awareness, we change the noosphere, and we change Earth, because in an organic sense, our minds are connected to each other and to Earth in the same way they are to our own bodies. We are that close.

This being the case, I think the most important thing we can do in this most complex situation of moving into the New Civilization is to change the noosphere and we do that by changing our own consciousness. There are many learning aspects of this, such as Earth literacy (learning about biology, ecology, geology, and geography, and about one's own bioregion<sup>12</sup>), learning the story of the evolutionary development of the universe and of our place in the universe, and becoming aware of our inner connections with all members of the Earth community. When we learn these things we are learning the language of the Earth.

As we learn this language, we will open to what I will call an ecological imagination, and on this the New Civilization will be built. We need to go into our inner self into something like a dream state and begin imagining a new world that is as different from our contemporary modern world as the medieval world was from the world we know today. Then we need to begin naming that world and claiming it as something that is meaningful and possible and even necessary. Finally, we need to act as if we are in that world so our dreams will become reality.

That new world is one where Earth is understood as organism and as our own body. On the following page is an image we used in our first *Ecozoic Reader*:

Perhaps an image like this will spark your imagination.<sup>13</sup>

I become impatient when people begin talking about recycling bottles, or other limited changes, as the path to a "sustainable society." There is, of course, the risk that I avoid the limited possible changes we can be making for those that are unattainable, but I'll take the risk. Let us speak of an ecozoic society, rather than a sustainable society. Let us speak of ecozoic development rather, than sustainable development. Some think the term "ecozoic" is too scientific or technical sounding, but for me it simply means "house of life" based on the Greek words from which it is derived.<sup>14</sup> Let the New Civilization be a society of life, so that all life may flourish.

What then blocks life from flourishing on Earth? Asked this way, the obstacles are clear. Use your ecological, or ecozoic, imagination to remove them. Such an



imagination doesn't stop at limited objectives. It imagines Earth as a dynamic organism with life bursting out all over. It is the dream of the Earth and it knows no limits other than that we live on Earth in organic unity and must live within its gracious and generous means.

In my dream of the New Civilization, my ecological imagination, there is work for everyone. Cities once considered concrete and asphalt jungles are now garden cities. This took a lot of work. Landscapes once covered and broken by urban sprawl are now clustered villages connected by maglev trains. Walking and bicycling along with public transportation have become the most common ways of moving about in cities and villages and electric-motor-assisted, pedal-trikes are used for everyday deliveries. Farms are near cities to supply the bulk of their food and much food is grown in the city itself. There are harmonious relations among the humans and wildlife in city, village and agrarian areas and wildlands large enough for the preservation of biodiversity and top predators are set aside. The bioregion has become the primary governmental unit. Seas, rivers and lakes are teeming with fish. Though human nature has not fundamentally changed, the New Civilization is based on a higher human consciousness, one of an integral world. Technologies, though just as numerous and ever-changing, are benign. Where limits were once set by coercive power, they are now primarily set by voluntary restraint, a restraint that comes from education, spirituality, custom and ritual. There is a global, federal government.

The economy is no longer the dominant sector of society. We live on solar income and have discovered that, in an ecological age, the excesses of wealth are more a problem than poverty. War is a historical relic, an unaffordable luxury of a bygone day . . . and prisons too. There is so much work to do.

My dream may seem fanciful, ephemeral. I say it is grounded, realistic. If in classical Greek philosophy man became the measure of all things, in the New Civilization Earth becomes the measure of all things, and Earth is known to humans aesthetically, affectively, intuitively, scientifically and practically in its geo-biological dynamics and cosmologically within its setting in a processual universe.

The emergence of the New Civilization is already occurring, it is occurring in a million hearts and a million manifestations. The question is only whether it will prevail. If it does, people looking back 100 years from now will see that it didn't happen all at once any more than the spread of suburbs happened all at once, but they will see that it happened with equal rapidity as the spread of suburbs and with even more profound effects and differences. They will see that its birth, like a human birth, was one of immense effort and, at times, of suffering. Nevertheless, they will also see that this night of immense effort and suffering was as nothing compared to the joy that came in the morning.

And people will ask, "How did we get there?" and the answer will be ecological imagination and . . . good old *common* sense. There was no grand plan, we all just muddled through.

<sup>1</sup> All page numbers cited refer to the hardcover first edition of Thomas Berry's *The Great Work: Our Way Into the Future* (New York: Bell Tower, 1999).

<sup>2</sup> Herman Greene, "Thomas Berry's Great Work," *The Ecozoic Reader* 1, no. 1 (2000): 7-8.

<sup>3</sup> "One old gas powered lawn mower running for an hour emits as much pollution as driving 650 miles in a 1992 model automobile." "Grass Cutting Beats Driving in Making Air Pollution," available at <http://www.mindfully.org/Air/Lawn-Mower-Pollution.htm>; Internet; accessed December 31, 2006.

<sup>4</sup> Brian Tokar, "The Real Scoop On Biofuels: 'Green Energy' Panacea or Just the Latest Hype?" *Rachel's Democracy & Health News* #887 (December 28, 2006)

<sup>5</sup> See James Howard Kunstler, *The Long Emergency: Surviving the Converging Catastrophes of the Twenty-First Century* (New York: Atlantic Monthly Press, 2005), 123. and generally 123-130.

<sup>6</sup> See chapter on "Beyond Oil: Why Alternative Fuels Won't Rescue us," *ibid.*, 100-46.

---

<sup>7</sup> “Levittown gets its name from its builder, the firm of Levitt & Sons, Inc., which built it as a planned community between 1947 and 1951. Levittown was the first truly mass-produced suburb and is widely regarded as the archetype for postwar suburbs throughout the country.” “Levittown, New York, *Wikipedia*, available at [http://en.wikipedia.org/wiki/Levittown,\\_New\\_York](http://en.wikipedia.org/wiki/Levittown,_New_York), Internet; accessed December 31, 2006.

<sup>8</sup> In *The German Ideology* Marx and Engels . . . start, they say, from ‘real human beings’, emphasizing that human beings are essentially productive, in that they must produce their means of subsistence in order to satisfy their material needs. The satisfaction of needs engenders new needs of both a material and social kind, and forms of society arise corresponding to the state of development of human productive forces. Material life determines, or at least ‘conditions’ social life, and so the primary direction of social explanation is from material production to social forms, and thence to forms of consciousness. “Karl Marx,” *Stanford Encyclopedia of Philosophy*, available at <http://plato.stanford.edu/entries/marx/#4>; Internet, accessed December 31, 2006.

<sup>9</sup> This is not specifically a move away from technology. Rather, it is because our technology, if properly applied and further developed will allow us to meet human needs without destroying nature, this transition to the ecozoic is possible. The changes that are needed are in human culture and social structure to control and moderate these technologies and enable their benefits to be shared equitably among humans while protecting ecosystems.

<sup>10</sup> The term itself was coined by Vladimir Vernadsky.

The noosphere can be seen as the “sphere of human thought” being derived from the Greek *nōs* (“nous”) meaning “mind” in the style of “atmosphere” and “biosphere”. In the original theory of Vernadsky, the noosphere is the third in a succession of phases of development of the Earth, after the geosphere (inanimate matter) and the biosphere (biological life). Just as the emergence of life fundamentally transformed the geosphere, the emergence of human cognition fundamentally transforms the biosphere. In contrast to the conceptions of the Gaia theorists, or the promoters of cyberspace, Vernadsky’s noosphere emerges at the point where humankind, through the mastery of nuclear processes, begins to create resources through the transmutation of elements.

The word is also sometimes used to refer to a transhuman consciousness emerging from the interactions of human minds. This is the view proposed by the theologian Pierre Teilhard de Chardin, who added that the noosphere is evolving towards an ever greater integration, culminating in the Omega Point—which he saw as the ultimate goal of history.

“Noosphere,” *Wikipedia*, available at <http://en.wikipedia.org/wiki/Noosphere>; Internet, Accessed December 31, 2006.

<sup>11</sup> A more proper understanding of the noosphere, especially in light of what we are coming to understand, for example, about animal consciousness, is that the noosphere has always been one of Earth’s spheres, but it became activated in a special way when the human came into being with self-conscious, reflective awareness.

<sup>12</sup> A “bioregion” is a naturally occurring geographic division of Earth that contains an interacting community of life functioning as a relatively self-supporting system within the ever-renewing processes of nature.

<sup>13</sup> The drawing is by Lynette Roesch. Some thought the image was wrong because it should have shown the human growing out of Earth rather than the other way around. Isn’t it, however, exactly the point of the ecozoic that in the future humans will be involved in everything and how we imagine and make the Earth is how it will grow? While this is the main point, it is true, in the ecozoic the opposite image is needed as well, that of how Earth gave birth to, and continues to give birth to, the human.

<sup>14</sup> Ecozoic is based on two Greek words—*oikos* meaning house, and *zoikos* meaning of animals (*zoikos* is based on the Greek word *zoion* meaning living being). More simply said, ecozoic is based on eco meaning house and zoic meaning life. Put together it means “House of Life.”

## Contributors to This Issue

**Margaret Aiseayew** is an Iowa farm girl who has worked as an international educator, storyteller and journey mistress on six continents. She is currently engaged in family care and research in the modern “cave” experience. As an editor, she has been called a connoisseur of ideas; as an ordained minister, she has been called an intensive care unit; and in the personal-particular circle of life she is called friend, neighbor, daughter, mom and grandma. [aiseayew@netins.net](mailto:aiseayew@netins.net)

**Gerald O. Barney** chairs the nonprofit, Our Task ([www.OurTask.org](http://www.OurTask.org)). He holds a BS degree in physics and mathematics from Willamette University, an MS and PhD in fusion energy physics from the University of Wisconsin, Madison, and he did a post-doctoral year of systems studies at MIT and Harvard. He has performed technology assessment at the Council on Environmental Quality in the Executive Office of the President of the United States and was a grants administrator at the Rockefeller Brothers Fund. He is the author of *The Global 2000 Report to President Carter*, which sold 1.5 million copies in nine languages. He founded and led (until his retirement) the Millennium Institute, which developed the Threshold 21 national sustainable development computer simulation model and applied it in more than twenty countries. [Jerry@OurTask.org](mailto:Jerry@OurTask.org)

**Jane Blewett** founded the EarthCommunity Center in the mid-1980s in Laurel, Maryland. Drawing on the wisdom and vision of Thomas Berry, she offered workshops and retreats in eco-spirituality for many years. Now semi-retired, she continues to educate, network, serve on Boards, study and write in this field. She lives with her husband, Lou Niznik, a video producer and co-believer in the Great Work. [janeblewett@verizon.net](mailto:janeblewett@verizon.net)

**W. Malcolm Byrnes** is Assistant Professor of Biochemistry and Molecular Biology at Howard University College of Medicine. He obtained a PhD in Biochemistry from Louisiana State University, and was a Postdoctoral Fellow in Molecular Medicine at Cornell University in Ithaca, New York. He has written articles and given talks in the areas of biochemistry, bioethics, and ecological ethics. He has an abiding interest in Earth’s biodiversity and in how global warming will affect ecosystems. A member of the St. Rose of Lima Catholic community in Gaithersburg, Maryland, he is married and is the father of two young daughters. [wbyrnes@Howard.edu](mailto:wbyrnes@Howard.edu)

**Lynda Cock** has worked for many years in the field of education with experience spanning preschool to adult education in inner cities of the USA and Australia, rural villages in Indonesia and India, and in suburban settings. Her role as teacher is now focused on her growing number of grandchildren with whom she enjoys exploring the wonders and mystery of the natural world. [llc860@triad.rr.com](mailto:llc860@triad.rr.com)

**K. Lauren de Boer** is an essayist, poet, editor, and naturalist. From 1996 through 2005 he was editor and executive director of EarthLight Magazine, a publication that explored the intersection of ecology, cosmology, consciousness, and spirituality. He is currently a faculty member for the Institute for Educational Studies (Endicott College) where he heads the M.Ed. Integrative Learning (Great Work) program. In addition to serving on the editorial advisory board for the Center for Ecozoic Studies, he is a board member for the Institute for Sacred Cinema, and for the OCTAVE Alliance, a non-profit that brings together musicians and sustainability groups. [klauren@earthlight.org](mailto:klauren@earthlight.org)

**Mary Dalton** lives and works next to the Monterey Bay National Marine Sanctuary in Santa Cruz, California. Mary is inspired by the landscape and the abundantly diverse marine mammals and shore birds who are her neighbors. She strives for integral community with human and other-than-human local communities while navigating the dual challenges of energy descent and global climate change. She likes to draw, paint and make stencils and is currently learning permaculture while working with others to help power down Santa Cruz. She gave a recent interview with Post Carbon Institute: <http://www.relocalize.net/news/newsletters/october06interview>. Her painting samples can be found at: <http://www.nativeanimalrescue.org/mayadolpin/index.html>. [mayadolpin@hotmail.com](mailto:mayadolpin@hotmail.com)

**Spence Dickinson** runs “Spence’s Farm” ([www.spencesfarm.com](http://www.spencesfarm.com)), a community-supported educational farm in Chapel Hill, North Carolina, which provides year-round services for schools, families and children. Its theme is partnership with nature and its most important “crop” is “responsible caring young people.” [spencesfarm@aol.com](mailto:spencesfarm@aol.com)

**Marc Dreyfors** is a founder of Forests of the World, LLC, a U.S.-based import company designed to assist in the development and marketing of sustainable forest products from around the world. To date, FOW has sold over \$2 million in crafts from 20 countries, primarily made from renewable and natural materials and hand-crafted by women. These fairly traded products are sold to in-country tourist markets, and in the United States, through the educational supply, boutique, home accessories, museum, zoo and gift markets. [info@theforestfoundation.org](mailto:info@theforestfoundation.org)

**Greg Futch** holds a Master of Divinity Degree from Candler School of Theology at Emory University. He enjoys leading adult classes at the churches he attends. His particular interests are nature-based spirituality, and the essential contributions of the different world religions to authentic spiritual transformation. [gfutch@hotmail.com](mailto:gfutch@hotmail.com)

**Herman Greene** is founder and President of the Center for Ecozoic Studies, a practicing business lawyer, founding Executive Director of the International Process Network, and Consultant to the Center for Earth Jurisprudence of Barry University and St. Thomas University in Florida. [hfgreene@mindspring.com](mailto:hfgreene@mindspring.com)

---

**William Grow** is a community revitalization consultant in Manchester, Pennsylvania. [billgrow@igc.org](mailto:billgrow@igc.org)

**Tom Keevey** lives in Ewing, New Jersey, and has pursued doctoral studies in theology and liturgy at the University of Ottawa, Canada, and the Catholic Institute of Paris, France. He taught at St. John's University in Queens, New York, and recently retired from the New Jersey Division of Criminal Justice where he provided services to those who are victims of crime. A former member of the Passionist community, he has lived and studied with Thomas Berry. [icitomk@verizon.net](mailto:icitomk@verizon.net)

**Ellen LaConte** gardens and writes in Winston-Salem, North Carolina. Her book *Critical Mass: Crisis & Opportunity* is looking for a publisher. [elaconte@gmail.com](mailto:elaconte@gmail.com)

**Fred Lanphear, PhD**, was a Professor of Horticulture at Purdue in the 1960's, a facilitator of community development with the Institute of Cultural Affairs in the 1970's and 1980's, and an educational administrator in alternative healthcare in the 1990's. He currently designs and creates sacred landscape space. His social activism focuses on his role as an Earth Elder. Fred is a co-founder and resident of Songaia Cohousing Community and is active in regional and national intentional communities organizations. [fred@songaia.com](mailto:fred@songaia.com)

**Bruce Lanphear, MD, MPH**, is the director of the Environmental Health Center at Cincinnati Children's Hospital Medical Center, as well as a professor of environmental health at Cincinnati Children's and the University of Cincinnati. He also serves on the Science and Research Work Group of the Environmental Protection Agency's Office of Children's Environmental Health Protection, and is a scientific consultant for the National Center for Lead-Safe Housing in Columbia, Maryland. [Bruce.Lanphear@chmcc.org](mailto:Bruce.Lanphear@chmcc.org)

**Shiyan Li** obtained a Masters degree in Philosophy of Science and Technology from Jilin University and a PhD in Philosophy of Science and Technology from Northeastern University (P.R. China). She is a professor of Philosophy of Science and Technology in the College of Art and Law, Shenyang University of Technology, P.R. China, and is the author of *Go to Ecozoic*. [lishiyansy@163.com](mailto:lishiyansy@163.com)

**Ann Loomis** has been a writing instructor and consultant for over 25 years. Her many clients include Marine captains at Quantico Marine Base; bank examiners for the FDIC; Asian scientists at GlaxoSmithKline in Research Triangle Park; and City of Durham employees. She is immediate past president of the C.G. Jung Society of the Triangle and author of *Write from the Start*, a workbook that explores the link between psychological type and the writing process. Ann and her husband, Bob, live in Chapel Hill, North Carolina. [abloomis@bellsouth.net](mailto:abloomis@bellsouth.net)

**Alice Loyd** serves as Director of North Carolina Interfaith Power & Light, the environmental justice program of the North Carolina Council of Churches and affiliate of the 22-member national IPL organization. A member of the editorial board of the Center for Ecozoic Studies, she represents the faith community in the Clean Energy Coalition composed of all the state's environmental groups and other allies engaged in legislative action, and she is active in Grassroots Energy Alliance, a multiethnic coalition working for energy justice in the Triangle region. Agriculture and food have been lifelong interests, expressed through gardening, study and writing. [alicedloyd@earthlink.net](mailto:alicedloyd@earthlink.net)

**Betty Luceigh** PhD, obtained her PhD in chemistry from Stanford University. She is a retired senior lecturer of organic chemistry at UCLA. She also maintained a small business (CHEM TV) and produced several computer generated educational products which were sold nationwide. Throughout her scientific education and employment she has explored spiritual traditions and sought to integrate her understanding of the experiences of awareness with her knowledge of science. She has written poetry throughout her life. [luceigh@chem.ucla.edu](mailto:luceigh@chem.ucla.edu)

**Heloise Lynn** completed her BA in Geology-Math at Bowdoin College, and then her PhD in Geophysics at Stanford University. For thirty years she and her husband, Walter, have worked in the oil and gas exploration and development industry. For her, the Gaia concept (James Lovelock, 1986) expresses what she has experienced in the classroom and in nature. Raised Episcopalian and Hindu, she is now a practicing Unitarian Universalist because she agrees with their liberal, inclusive viewpoints. She has two sons in college (18 and 21) and still prefers being outdoors, and best of all on horseback. [LynnEarth1@aol.com](mailto:LynnEarth1@aol.com)

**Joyce Marshall** is co-founder of Realistic Living and co-editor of *Realistic Living Journal*. She directs a local EcoTheater troupe in Bonham, Texas. [jgmarshall@cableone.net](mailto:jgmarshall@cableone.net)

**Jack McKinney, PhD**, earned his doctoral degree from Baylor University in Christian ethics in 1995. In 1996 he was an adjunct professor of religion at Baylor. He presently serves as Pastor of Pullen Memorial Baptist Church in Raleigh, North Carolina. He has been active in the North Carolina Council of Churches, the Food Bank of North Carolina, and the North Carolina Religious Coalition for Marriage Equality. One of his main priorities has been ministry within the gay, lesbian, bisexual, and transgender community. [jmckinney@pullen.org](mailto:jmckinney@pullen.org)

**Michael Mielke** has spent a lot of time working in the public sector and for non-profits. He might call your attention to two portals: <http://www.in.gov/dcs/prevention/grant.html> and <http://www.lacoast.gov/cwppra/index.htm>. So, Michael would be given credit for many parts of both enactments, bookends for his experience, although not the great art you view there. [MM2222UT@aol.com](mailto:MM2222UT@aol.com)

**Bill Packer** is a retired commercial fisherman and charter boat captain, who lives in Newburyport, Massachusetts, with his wife, Phyllis. He spends his time now in devotion to nature, praying, writing and trying to promote the understanding of nature's secret, nature's God and nature's government. [packerphyl@netzero.net](mailto:packerphyl@netzero.net)

**Joyce Quinlan** was a Benedictine for 37 years. She has a doctorate in Future Studies from Union Institute and University. She was an English professor at Thomas More College in Covington, Kentucky, and a counselor before retiring five years ago. She continues to lead Spiritual Eldering Groups. [jquinlan@imageearth.org](mailto:jquinlan@imageearth.org)

**Huilin Rao** (deceased 2006) served as Vice President of the Institute of Urban Economy of China and professor at Dongbei University of Finance and Economics, Dailan, P.R. China.

**Bill Rickard** is a retired intelligence officer now living in Carrboro, North Carolina. His current interests are tutoring ESL students at the local elementary school, counseling, studying and writing about the new consciousness, and giving 12-step retreats with his wife, Nancy. bill.rickard@earthlink.net

**Lynn Veach Sadler** is a former college president who has published widely in academics and creative writing. Editor, poet, fiction/creative nonfiction writer, and playwright, she has a full-length poetry collection forthcoming from RockWay Press. One story appears in Del Sol's *Best of 2004 Butler Prize Anthology*; another won the 2006 *Abroad Writers Contest/Fellowship* (France). *Not Your Average Poet* (on Robert Frost) was a *Pinter Review Prize* for Drama Silver Medalist in 2005. Her creative non-fiction publications include two Bernard Ashton Raborg Essay Awards from *Amelia*. lvsadler@alltel.net

**Roseanne Sands** is a writer, speaker and workshop/retreat leader. She has taught meditation, yoga and dance movement to adults and children. She has written two books and was publisher/editor of *Emerging Lifestyles Magazine* for three years. She lives Spruce Pine, North Carolina, on a small organic farm. www.mothersofthenewearth.com; coevolutionacademy@juno.com

**Katherine Savage** lives next to the same patch of woods in which, as a child, she played, dreamed, and learned about being wild. Surrounded by many sisters (and one little brother) and aunts during childhood, she grew up to become the mother of three daughters of her own. The profundity of being a mother tugged at some deep place in her that demanded a response, and so, she began to write. She continues to write—because she must—in between mothering, gardening vegetables, working full-time in child development for the State of North Carolina, and chasing a persistent fat cat away from the butter dish. katherines3@gmail.com

**Jim Schenk** is an environmental educator, community organizer, and cofounder of Imago, Inc. He is organizer of five EarthSpirit Rising national conferences on Ecology and Spirituality, and a resident of the forming Enright Ridge Eco-village in Cincinnati, Ohio. www.imagoearth.org; jschenk@imagoearth.org

**George Taylor** is an activist and poet who lives in Northern California, with his wife, many mice, some foxes, deer, hawks, egrets, and blue herons. Seasonally whales migrate up and down the coast of his county and he goes to the ocean to sing with them. geotaylor@earthlink.net

**Maria Termini** lives in Massachusetts writing always, painting her inspiration, performing, gardening, and walking in the forest in solitude and beauty. She is author of *Silkscreening*, published by Prentice-Hall. Her works of creative non-fiction, “Hurray Hitchhiker Fairy Godmother” and “Almost Godiva” have been published by *Newton Magazine*. Her poetry is published in Boston's street newspaper, *Spare Change*. She has produced the CD, “Leafdancer,” in which she sings the soundtrack of her life with original music, classical and folk music. Her article, “Art from Wonder” in this Reader will appear in her new book *Solitude and Splendor—Living in the Schoolhouse*. leafdancer@earthlink.net

**Laura Baldwin Watson** beautifies the world through Designs by Grace, Inc., a green/life/land-scaping firm headquartered in a former chicken coop in Hillsborough, North Carolina. She is Treasurer and a member of the Coordinating Committee of CES. Laura@inthekoop.com

**Tim Watson** of Hillsborough, North Carolina, lives out his dreams through green architecture and building living life systems. He is an adopted member of the Cherokee tribe, a poet and a mystic. He serves on the Boards of CES and The New Monk Society. tim@tlwarchitect.com

**Sr. Gail Worcelo, CP**, originally a Passionist nun, is currently founding a new Catholic monastery and community of nuns dedicated to the healing and protection of Earth and its life systems. She has been a student for the past 23 years of Passionist priest Thomas Berry who is a cultural historian and leading environmental thinker. Her studies include cosmology, psychology and spirituality. Together with Thomas Berry she is participating in shaping a vision for religious life as it enters its cosmological and planetary phase. srgail@together.net

**Nini Zhang** is a Professor at Beijing Foreign Studies University, Beijing, P. R. China; the author of *Construction of Spiritual Civilization*, “Towards a Whitehead Eco-feminism,” “Carolyn Merchant and Eco-Feminism: An Eco-Wisdom from Perspective of Woman,” “Adventures in Respecting Nature through Whitehead and Confucius”; and the Chinese translator of Charlene Spretnak's work, *The Resurgence of the Real*. zhangnini@mail.bfsu.edu.cn

---

## Twelve Understandings Concerning the Ecozoic Era

### The Nature of the Universe

1. *The Unity of the Universe.* The universe as a whole is an interacting community of beings inseparably related in space and time. From its beginning the universe has had a psychic-spiritual dimension. The universe is a communion of subjects not a collection of objects.
2. *Modes of Expression.* The universe expresses itself at all levels through communion (intimacy, interrelatedness), differentiation (diversity), and subjectivity (interiority, self-organization).
3. *Cosmogogenesis.* The universe is a creative, emergent, evolutionary reality that has developed from the time of the primordial flaring forth, and is still developing, through a sequence of irreversible transformations.

### Earth and Its Current Dilemma

4. *Earth.* Earth is a one time endowment in the unfolding story of the universe.
5. *The Current Dilemma.* The effects of human activity on Earth have become so pervasive and invasive that the survival and health of the Earth community now rest on decisions being made, and actions being taken, by humans.
6. *Transition to the Ecozoic Era.* There is a need to move from the current technozoic period where Earth is seen as resource for the benefit of humans, to an Ecozoic Era where the well-being of the entire Earth community is the primary concern.

### Three Key Building Blocks

7. *The New Story.* The New Story, the narrative of the evolutionary development of the universe from its primordial beginnings to the emergence of the Ecozoic Era, is a story of wonder, intimacy, and beauty for all human cultures and a call to common action in the realization of the Ecozoic Era.
8. *Bioregionalism.* Bioregionalism, care for Earth in its relatively self-sustaining geo-biological divisions, reorients human activity in developing sustainable modes of living, building inclusive human community, caring for the rights of other species, and preserving the health of the Earth on which all life depends.
9. *Ecological Spirituality.* Ecological spirituality, presence to the primal mystery and value of nature and to Earth as a single sacred community, provides a basis for revitalizing religious experience and healing the human psyche.

### Special Contributors to the Ecozoic Era

10. *Women, Indigenous People, Science, and Humanistic and Religious Traditions.* The wisdom of women, indigenous people, science and classical humanistic and religious traditions will have an important role to play in redefining concepts of value, meaning and fulfillment, and in setting norms of conduct for the Ecozoic Era.
11. *The Earth Charter.* The Earth Charter provides a comprehensive set of values and principles for the realization of the Ecozoic Era.\*

### The Great Work

12. *The Great Work.* The epic task, or “Great Work,” of our time is to bring into being the Ecozoic Era. It is a task in which everyone is involved and from which no one is exempt, and it will require change in every aspect of human society. On it the fate of the Earth depends, and in it lies the hope of the future.

\*The Earth Charter may be viewed at [www.earthcharter.org](http://www.earthcharter.org)

---

# THE ECOZOIC READER

Volume 4, Number 4

2007

Art by Maria Termini .....	cover
Gardens of the Universe: A Cosmic Chronicle .....	1
Finding a Path to the Ecozoic Era .....	3
Creating a Sense of Place .....	7
An Ecological Parking Lot .....	9
Constructing Ecological Garden City with Adjusted Measures to Local Conditions.....	11
A Home-Grown Ecovillage on Our Street.....	14
Wild Flowers.....	16
The Ecozoic — From an Earth Scientist’s Perspective .....	17
A Scientific Perspective for Understanding Process and The Ecozoic .....	19
Innovative Technologies for Future Cities .....	22
Planetary Consciousness .....	25
The Atlas Chronicles.....	26
An Integral Path to the Ecozoic Era .....	32
Art from Wonder .....	35
EcoTheater—A Theater for the Ecozoic Era .....	37
The Longing.....	39
The Religion of the Sprout.....	40
Nature’s Secret Rising: A Journey Toward the Miraculous Power of Compassion.....	43
Sea Around Us, Sea Within Us: Returning to the Source for Guidance.....	48
A Binding Back to Origin .....	52
The Role of Spirituality in Eco-Wisdom.....	53
Natural Theology.....	58
<i>Soulcraft: Crossing Into The Mysteries Of Nature And Psyche</i> , by Bill Plotkin.....	59
<i>Faith in Nature: Environmentalism as Religious Quest</i> , by Thomas R. Dunlap .....	60
<i>What Does God Look Like in an Expanding Universe?: An Anthology on God, Life and Death</i> , Ed. by Jim Schenk ..	61
Earth Mother’s Prayer .....	62
Organic Democracy (Part 2): Adaptive, Responsive, Life-Sustaining Communities.....	63
... with Liberty and Justice For All.....	69
Moving Beyond the Triple Bottom-Line.....	73
The Core Economy: Where Our Futures Are Intertwined and Interdependent.....	75
Time to Start Counting Carbs .....	77
A Lion Died Today .....	78
A Movement of Earth Elders: Learning, Living and Empowering Others to Live the Great Story .....	79
<i>The Geography of Childhood: Why Children Need Wild Places</i> , by Gary Paul Nabhan and Stephen Trimble .....	82
Children’s Environmental Health: An Interview with Bruce Lanphear, MD, MPH.....	83
Remembering Cicadas.....	84
The “How” of It All .....	85
Co-Creating the New Earth .....	88
<i>The Unknown She: Eight Faces of an Emerging Consciousness</i> , by Hillary Hart .....	89
Stepping Out into the Ecozoic: A Christmas Card of Newlyweds.....	91
How We Get to an Ecozoic Society: Ecological Imagination/Common Sense.....	92
Biographies of Contributors to this Issue .....	98



**Center for Ecozoic Studies**

2516 Winningham Road, Chapel Hill, North Carolina 27516 USA

Phone/Fax: (919) 942-4358

E-mail: [ecozoic@mindspring.com](mailto:ecozoic@mindspring.com)

Website: [www.ecozoicstudies.org](http://www.ecozoicstudies.org)