

Trumpeter (1996)

ISSN: 0832-6193

A New Cosmology: 'Honoring The Blue Planet'

Paul F. Cummins

Trumpeter

"This we know. The earth does not belong to man; man belongs to the earth. This we know. All things are connected like the blood which unites one family. All things are connected. Whatever befalls the earth befalls the sons of the earth. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself."

Chief Seattle, 1954.

"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."

Thomas Berry, 1988.

"Poetry is just the universe talking to itself

in a way that human beings can understand."

Peter Levitt

'My God - it's blue. It's beautiful.' Perhaps the most startling photograph in the history of humankind was the photo of the Earth from outer space. It was truly a revelation - the Earth, all could see clearly, was - is - unique. It is an inter-connected system of waterways, shining like a gem in the cosmos. Somehow, this photograph confirmed what only a supposed 'lunatic fringe' had been arguing: that the Earth is a precious jewel, utterly special, distinct, and interrelated. It is, we could now see, a tiny organism covered with a thin gorgeous blue membrane. Water. 'The Blue Planet'.

Physicists, astronomers, geologists and others have now discovered and uncovered much of the story of how this blue planet came to be. It is a magnificent and mysterious story - the creation of the universe and the subsequent evolution of the Earth with its systems of life. An amateur rendering of this story goes something like this:

Somewhere between 8 and 20 billion years ago the universe sprang into being with what is now commonly agreed upon as The Big Bang, an instant "which set time, space, matter - everything - in play."¹ This theory holds "that everything in the universe, including time, was once contained in a point of infinite density - a 'singularity' - that suddenly expanded [exploded] outward uniformly in all directions. At the age of one second, scientists calculate, the universe was a

featureless fireball of uncertain size, a million times hotter than the surface of the sun and a thousand times denser than lead.² At this point - of the Big Bang - there was only hydrogen for about seven seconds and then helium and carbon unfolded through the formation of galaxies, explosions of supernovas, and the universe continued to unfold with a growing capacity for greater and greater complexity. Then about five billion years ago, our sun, our solar system, and our planet came into being. And only just a blink ago human beings evolved.

When did all this occur? Scientists are still arguing and with the arrival of new data from the Hubble telescope, new yet controversial estimates have ranged from as early as 8 billion years old to in the neighborhood of 12 billion - both downward revisions from previous and still respectable estimates of 15+ billion. Further, it is estimated that the particle known as the Earth cooled and began its present orbit somewhere around 5 billion years ago. If, as Sister Miriam McGillis has charted, we compress that 5 billion years into a 12 month cycle, then we can see the following time line unfolding.

During the first eight months, we find molten gases (still burning in the core of the Earth), the evaporation of gases and formation of the oceans and the Earth's crust, the shaping of continents and finally the appearance of amino acids and proteins and conditions which allowed life to form.

Four months ago (in our 5 billion years compressed into 12 months schemata), the Earth begins to show signs of life and we find the Earth expressing itself in breathing, seeing, hearing; we find it learning to reproduce, nourish, and even heal itself; we find the Earth becoming more and more complicated.

In the last 4 months, we see the development of highly complex creatures with central nervous systems.

If we take the last month and look at these 30 days, we see that the human being came upon the scene only in the last day. Then, if we look at only the last 24 hours, we see that 23.5 hours were pre-ancient history, tribal days of the awakening of consciousness, the beginnings of language and social structures. The last 30 seconds is the period of the "great" civilizations. Thus modern history becomes just a few seconds. Yet, in these 2-3 seconds of the 5 billion year process, we humans have acquired the capacity to knock the whole process awry.

Thus, the human is not only a relative new comer to the cosmos and to Earth, but the human armed with technology and industry is a newborn - having possessed vast transformative skills for about 2-3 seconds in the scheme of things. And yet - as staggering a reality as it is - in those 2-3 seconds, humans have taken a 5 billion year evolutionary process and knocked it off its natural course. As McGillis puts it: "we have taken evolution off automatic pilot and put it on manual."³ We simply lack the maturity to do such a cataclysmic thing. We are destroying this blue planet. What has taken billions of years to evolve is being

extinguished in this century in but a wink. Why?

Why we have taken our current course of destructive actions has many explanations. One, I believe, is the most comprehensive and must - if we are to survive - be studied by educators and transmitted to the young. This explanation comes largely from the works of Thomas Berry. Berry is a Catholic priest, cosmologist, ecologist and former president of the Teilhard Society. He has published many papers from his now disbanded Riverdale Press, and he published his superb and major work, *The Dream of the Earth* in 1988 through the Sierra Club Press. He recently won a 1995 Lannan Award for his writing. Much of what has led to this point and which follows in this chapter is indebted to the work of Thomas Berry.

Every culture, every nation has its myths, its stories which give meaning to life itself and which provide the assumptions and values which in turn dictate how we live our lives. Most people, most teachers and students do not critically examine these myths and their underlying assumptions and guidelines. They are considered 'givens'. The function of schools - all too often - is simply to inculcate these givens. Thus, from elementary schools through to graduate schools, while in increasingly complicated presentations, certain basic myths are taught, re-taught, ingrained, solidified, and celebrated. The possibility that these very myths could be dangerous and based upon faulty premises is rarely even considered. So we are currently driving down a road leading to a precipice of annihilation and our education systems continue to talk about how well-paved the road is, all the while oblivious to the precipice.

Let us look at a few of these myths. First, we begin with our cosmology, our story of creation. The Judeo-Christian story deeply ingrained in our culture is that God created the Earth, that God is transcendent to the Earth, that heaven is 'up there', 'out there', 'somewhere over the rainbow', somewhere else. According to the myth, we humans are here for a brief time and then are transported elsewhere to our eternal after-life. The Earth becomes, in this myth, a temporary visiting place and we humans are for a time either its caretakers or its exploiters, but we are not co-participants in the evolutionary process. Thomas Berry argues that humans are not just a stage in the evolution of the Earth; we are *of* the Earth. We are 70

Berry observes that an outgrowth of the Judeo-Christian transcendence myth is "an intense preoccupation with the personality of the savior, with the interior spiritual life of the faithful, and with the salvific community,"⁵ rather than with anything having to do with the natural world. "The essential thing is redemption out of the world through a personal savior relationship that transcends all such concerns."⁶ As humans have lost any mythic, visionary or symbolic connections to the Earth, the Earth has come to be seen merely as matter to be used and exploited. "Because of this loss, we made our terrifying assault upon the Earth with an irrationality that is stunning in enormity."⁷

A second myth we have come to accept as 'a given' is the myth of progress (see Chapter III). The myth dates back to the 16th and 17th centuries which introduced the idea that we can improve life by harnessing nature through scientific discovery. The myth has sometimes even been expressed as 'man conquering nature'. The scientific method led quickly to the industrial revolution and the technological age we now live in. As Berry points out, "whatever their differences, both liberal capitalism and Marxian socialism committed themselves totally to this vision of industrial progress which more than any other single cause has brought about the disintegration that is taking place throughout the entire planet. By a supreme irony, this closing down of the basic life systems of the Earth (pollution of the water, soil, trees, and air) has resulted from a commitment to...progress."⁸

In our schools, we must re-examine these two myths: the myth of transcendence and the myth of progress. The African-American activist, Stokely Carmichael, once said, "you are either part of the problem or part of the solution." Perpetuating these two myths is the problem, for both are leading humanity to self-destruction. If schools do not at least consider this possibility, then schools themselves are also part of the problem. It all goes back to an old argument - do schools exist to inculcate the young into the existing culture or to foster genuine critical thinking and self-examination and cultural re-evaluation? Most schools would argue they favor the latter while unwittingly supporting the former. It is crucial that we re-examine these myths and the role they play in encouraging our rape of the planet. For example, at present time (1995-96) most educated citizens would argue that we have an ecological crisis. They might even agree that it was brought on by industry-technology, but they will then argue that our salvation lies in new and more technology and new and more industries. Somehow they believe that a heavier dose of the poison being used to kill the patient will save the patient. It is pathological but we are so immersed in the mythology we cannot see our way out. An old proverb states that you cannot solve a problem at the level of the problem. Yet, this is exactly what we are attempting to do. This, of course, is assuming that "we" are trying to solve our ecological problems.

Clearly, when any issue of saving the environment comes to the surface, a very real and complex issue also surfaces - jobs. When we seek to save forests, families who depend on the income from the lumber industry are, quite naturally, distraught and frightened. As more and more jobs disappear through technology, robotics and "downsizing," then environmentalism seems but yet another threat to the economy. There are many ways to respond to this concern. Certainly the cost of saving the planet should *not* be to ruin the economic lives of families. Transitional-guaranteed incomes along with job-retraining until replacement jobs are secured is one way to assist families. No family should be rendered destitute by legislation to protect the environment. What is crucial, however, is that government leaders from the President of the United States to local representatives provide the citizenry with the enlightened leadership

the times require. We cannot keep depleting finite resources forever. This is a truism. At some point, one generation of leaders and citizens must break the cycle of depletion, depletion, depletion. Parents must be educated to see that it is *not* good national parenting to destroy your child's heritage. Finally, jobs we mistakenly save today will make all our tomorrow's a blight. This is not only 'not-good' parenting; it is also lousy economics.

As Berry points out, "we are eliminating species at a rate never before known in historic time and in a manner never known in biologic time [that is at a rate unprecedented in 5 billion years.] Destruction of the tropical rain forests of the planet will involve destroying the habitat of perhaps *half* the living species of Earth." The elitist few who are profiteering as a result of cataclysmic corporate power understand economics. They understand assets and deficits. They, however, miss a key point: "an exhausted planet is an exhausted economy."⁹ There is a deficit which will ultimately cause great harm to our children and our children's children which contemporary profiteers do not factor in their balance sheets - it is the Earth deficit. This deficit, the elimination of Earth resources for human profit and utility, is a direct result of our view of the world - we do not see ourselves as part of a community of interrelated species utterly dependent upon each other - not only for survival but also for joyful witness and celebration.

Our cosmology, our understanding - of the origins and structure of the universe - is simply not adequate to meet the demands of our time. As Robinson Jeffers writes: "Organic wholeness, the wholeness of life and things, the divine beauty of the universe. Love that, not man apart from that." Nevertheless, we have rapidly moved from economic development to ecological devastation. Somehow we need to marry the majesty and sophistication and mystery of the Big Bang story with the Native American understanding of our filial relationship to the land and its creatures. We need to traverse beyond nations and the United Nations to the United Species; we need to travel beyond capitalism and socialism to a planetary universalism; we need a new story and a new way of organizing and sharing the Earth's resources. Capitalism - Nationalism - Corporationism do not meet the needs of the planet. These needs of the planet are our needs. These are the issues our schools and teachers must at least discuss and bring to consciousness.

There is indeed a crisis. It must be met with awareness. We must be educated to know what is being done to us and our 5 billion year heritage. We must learn that species are being forever eliminated, trees decimated, lakes and seas polluted, and that our lives are being diminished by profiteers - all in the name of "progress." If schools neglect to teach these lessons, another generation of apathetic, passive citizens will become the profiteers who will further plunder the Earth. Already the Blue Planet is changing its color. As I was writing this paragraph (September 1995), scientists and local residents were complaining that the beautiful blue Lake Tahoe in California is turning green. Blue skies

we all know are turning gray and brown with layers of pollutants, and brown swaths of clear cut forest graveyards are visible from satellite photographs. The Blue Planet is under deadly assault. Education is our first and most crucial line of defense.

NOTES

1. Kathy Sawyer, "Universal Truths," The Washington Post National Weekly Edition, September 11-17, 1995, p. 6.
2. Ibid., p. 7.
3. Miriam McGillis, "Fate of the Earth," Genesis Farms, Blairstown, N.J.
4. Teilhard de Chardin, as quoted in Pablo Neruda Sky Stones, translated by Peter Levitt. Printed by William Dailey, Los Angeles, 1990.
5. Berry, Thomas. *The Dream of the Earth*, p. 126.
6. Ibid., p. 129.
7. Ibid., p. 135.
8. Ibid., p. xii.
9. Ibid., p. 73-74.

The History of the Earth

4.6 Billion Years

Charted on a single year calendar. Each day represents 12 million years.

- January 1-12:01-12:03 A.M. - The origin of the Earth ("big bang")
- February-The first form of life - a simple bacterium
- March-
- April-Increasingly complex life forms
- May-
- November 20 -The first fish
- December 10 -Arrival of the dinosaurs

- December 25 -Disappearance of the dinosaurs
- December 31 -??Allan, the following order of events does not make sense
- (afternoon) - The first pre-human ancestors
- 11:45 A.M. - Homo Sapiens
- 11:59 P.M. - All of recorded history.
- * This chart is drawn from Robert Ornstein and Paul Ehrlich, *New World New Mind*, p. 7, 1989.

Citation Format

Cummins, Paul F. (1996) A New Cosmology: 'Honoring The Blue Planet' *Trumpeter*: 13, 4.
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