

## INFORMATION, KNOWLEDGE, SCIENCE, AND SPIRITUALITY

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*The proof of the pudding is in the eating.*

Old Proverb

*If you wish to converse with me, first you must define your terms.*

Voltaire

*When you give up hope you turn away from fear. And when you quit relying on hope, and instead begin to protect the people, things, and places you love, you become very dangerous indeed to those in power.*

Derrick Jensen

### Definitions

*Information* – knowledge derived from study, experience, or instruction

(Source: [www.answers.com/topic/information](http://www.answers.com/topic/information))

*Knowledge* – an appreciation of the possession of interconnected details which, in isolation, are of lesser value

(Source: [www.answers.com/topic/information](http://www.answers.com/topic/information))

*Science* – the observation, identification, description, experimental investigation (scientific method), and theoretical explanation of phenomena

(Source: *The American Heritage Dictionary of the English Language, Third Edition, 1996*)

*Evolution* – In the broadest sense, evolution is merely change, and so is all-pervasive; galaxies, languages, and political systems all evolve. Biological evolution . . . is change in the properties of populations of organisms that transcend the lifetime of a single individual. The ontogeny of an individual is not evolution; individual organisms do not evolve. The changes in populations that are considered evolutionary are those that are inheritable via the genetic material from one generation to the next. Biological evolution may be slight or substantial; it embraces everything from slight changes in the proportion of different alleles within a population (such as those determining blood types) to the successive alterations that led from the earliest proto-organism to snails, bees, giraffes, and dandelions

(Source: Douglas J. Futuyma in *Evolutionary Biology*, Sinauer Associates, 1986)

*Spirituality* – activities that renew, lift up, comfort, heal and inspire both ourselves and those with whom we interact

(Source: Internet definition)

*Spirituality is mis-defined if it is equated with super-naturalism.*

(Quote: Rev. Ricky Hoyt)

*Evolutionary Spirituality* – an integral way of thinking and being in a world grounded in a personal, meaningful experience of the epic of evolution as one's own creation myth, or cosmological sacred story

(Source: *Introduction to Spirituality*  
[http://evolutionaryspirituality.wikia.com/wiki/Introduction\\_to\\_Evolutionary\\_Spirituality](http://evolutionaryspirituality.wikia.com/wiki/Introduction_to_Evolutionary_Spirituality))

My interest in evolutionary spirituality emerged when a heated online exchange began in my hometown of Blacksburg, Virginia. Two statements in *Introduction to Spirituality* caught my attention: (1) "From the perspective of the whole, evolution evidences directionality" and (2) "The direction is progressive. Each stage transcends and includes (incorporates and builds upon) earlier stages." The five great extinctions, in which up to 95% of the existing species became extinct, were not mentioned. If these five extinctions and the sixth one now underway are included, a more accurate description of evolution on Earth might be a pulsing system rather than a directional one.

### **Are Humans a Transient Species?**

A major lesson from the fossil record is that most species are transient, although they may last for millions of years. Surely, bonding with other life forms would be enhanced if humans acknowledge that they may be transients as well. Sustainable use of the planet assumes that humankind will reside on Earth for the 15 billion years that Earth may continue to exist. This feat would be incredible, especially in view of the unprecedented crises humankind now faces. However, if intelligence (as humans define it) has survival value, such a feat is at least possible. At the very least, an effective synthesis of all the items in the title of this commentary would increase humankind's residence time on the planet. These assumptions are based on faith rather than present societal norms or behavior. Barlow and Dowd's "Great Story" ([www.thegreatstory.org](http://www.thegreatstory.org)) is based on the faith that, if enough people embrace the goal of a creative evolutionary process and live in a mutually enhancing relationship with all other life forms, then humanity can have hope for an extended existence. Dowd believes the mythical mindset of the "Great Story" begins for each person when they choose to have the Ecozoic vision guide their actions in the world (as related by Hassinger 2006). As defined by Berry (<http://www.lightparty.com/Visionary/EcozoicEra.html>), "the Ecozoic is the period when human conduct will be guided by the ideal of an integral earth community, a period when humans will be present upon the Earth in a mutually enhancing manner."

### **What Then?**

If humankind believes it has entered the Ecozoic Era and is inspired by the "Great Story" – what then? Individuals cannot only be inspired by great thoughts with deep religious meaning, but they also need to know how their behavior and societal norms must change to enhance the spiritual quality of the world they inhabit beyond feeling good. Some illustrative issues follow.

1. Human population demands on planetary resources produced an ecological overshoot of over 20% in 2002 (Wackernagel et al. 2002), and the overshoot appears to be increasing 1% per year. Ecological overshoot occurs when resource use exceeds Earth's ability to regenerate resources. How should humankind cope with this problem? If humankind is one with nature, should it just let disease, starvation, etc. regulate human population size as they do for other species?
2. If spirituality and religion are effective protectors of a diverse array of other life forms, then churches, etc. would not be surrounded by a grass monoculture that is maintained by fertilizers, pesticides, and mowers that exacerbate global warming by discharging carbon dioxide. Instead, they would be surrounded by naturalistic systems friendly to and inhabited by indigenous species. In short, they would be ecological as well as spiritual refuges. Deeds should be congruent with creeds.
3. The acid test for those who profess belief in evolutionary spiritualism is whether their ecological footprint size is such that, if everyone continued to live as they currently are, no ecological overshoot would occur. To verify this personally, use the simple regionalized footprint quiz at <http://www.earthday.net/Footprint/index.asp>. The pudding proverb is used at the beginning of this commentary because espousing evolutionary spiritualism should lessen the impact of individuals upon the other life forms with which they share the planet. Moreover, if evolutionary spiritualism is effective, proponents should be constantly searching for ways to reduce their impact upon natural systems. The basic questions become: "If everyone on the planet had my ecological footprint size, would humankind be within Earth's carrying capacity?" If not, what steps can I take to make it so? Am I willing to make drastic changes in my lifestyle to achieve these goals (remembering the already existing 24% ecological overshoot)?" If a majority of the members of a religious congregation believe in evolutionary spirituality, it could serve as an operational model for the rest of the community if the belief were accompanied by a shift toward sustainable use of the planet.
4. Nearly every community on the planet has a damaged ecosystem nearby. Restoring the damaged ecosystem to an approximation of its predisturbance condition would both help nature and enhance humankind's mutualistic relationship with nature. The endeavor could be called the "Adopt a Damaged Ecosystem Project," and a sign could identify the organization(s) committed to this undertaking.
5. Buildings of religious congregations usually have large parking lots. Runoff from these and other impervious surfaces (e.g., roofs, driveways) markedly increases the surge of storm runoff, which, in turn,

damages the nearby aquatic ecosystems. This problem can be addressed in a number of ways: (a) if space permits, construct a wetland as a holding system to dampen the surge. The wetland would also be a good wildlife habitat. Carpooling would reduce the size of the lot and the amount of the runoff. These measures would be congruent with Dowd and Barlow's concept as a means of understanding the role humans play in the Ecozoic era. (b) In many cases, the runoff could be used to recharge underground aquifers. Any high quality water should be used for this purpose.

6. I have never been to Haiti and, due to recent physical and medical handicaps, will never get there. However, the exceptional ecological crisis now in progress there is deeply disturbing. For example, 99% of once impressive forests are gone (Ahmed 2006). This disaster has been caused by human behavior reminiscent of the classic Easter Island story. Naturally, the Dominican Republic, which occupies the same island (Hispaniola) as Haiti, is increasingly alarmed and even now describes Haiti as a security threat. The vast overpopulation, plus the HIV/AIDS epidemic, has resulted in large numbers of street children orphaned by AIDS or other diseases. The Haitians know that deforestation for charcoal is destroying the land but state that charcoal keeps them alive.

What role should advocates of evolutionary spirituality play in this and other global ecological crises? Is this situation a component of the spiritual quality of the world and, thus, must be accepted? If not, what particular response would be appropriate? Surely, ecologically destructive behavior is not acceptable. Is acquainting Haitians with the "Great Story" enough? What will embracing a creative evolutionary process do for the starving, HIV/AIDS-affected population of Haiti?

The same dilemma exists with sustainable use of the planet, which aspires to be both homocentric and ecocentric (Cairns 2003). Should humankind protect humans who are guilty of immense environmental destruction from the consequences of that destruction? Nature emphasizes quantity and, from an array of individuals, selects quality (in scientific terms, the fittest individuals). Barlow asks: "How do you act when you become a planetary force?" (Hassanger 2006, p. 32). One might also ask about a spiritual basis for not respecting natural law if one is a planetary force. If humans attempt to circumvent natural law and its processes, how does this relate to the assertion that humans are a part of nature? Berry (1996) states: "Yet what is needed is that we accept and foster the wild fertile forces of the planet that are consistently being weakened, unless humans withdraw their terrifying presence and grant to the other members of the Earth Community their rights to habitat and their share of the Earth's benefits." He further notes, "The first principle of the Ecozoic era is recognizing that the Universe is primarily a communion of subjects, not a collection of objects." Both statements appear to be ecocentric rather than homocentric. However, this assertion means giving far more respect to nonhuman knowledge than it presently receives since "nonhuman species are endowed with knowledge, albeit with varying levels of cognition" (Czech 2001). For example, as Mercurio et al. (1994) note, much nonhuman knowledge is used in unwitting support of the human condition.

The biospheric life support system can be seriously impaired, as it surely was following the five great extinctions. The fossil record demonstrates that the system regained and exceeded previous complexity, but the species composition differed markedly from the predisturbance condition. With regard to humankind's present circumstances, the replacement system may not favor humans and may even be unfavorable. If the atmospheric gas balance alters markedly, other major ecological changes are likely and the quality and quantity of foodstuffs may be seriously diminished. Under these conditions, death of billions of humans is not only possible but probable. In addition, many other species will probably become extinct as a result of human behavior. How does this resonate with human spirituality? The declaration that human beings are a part of nature requires that they live under the same natural laws as other species. Natural selection favors the ecologically fittest individuals – the others suffer or die. How does one interpret respect for the inherent worth and dignity of each individual in this context or respect for the independent web of life, which is maintained by evolutionary processes, including species extinction and loss of individuals that fail to complete successfully?

7. Perhaps the fundamental question is about hope. From a homocentric viewpoint, hope focuses on one species – *Homo sapiens*. Sustainable use of the planet requires an ecocentric viewpoint focused on the integrity and health of ecosystems. Sustainable development is definitely homocentric since it is focused on present and future **human** needs. While the ecocentric viewpoint is based on ecosystems, it recognizes that both ecosystems and species come and go, but evolutionary processes go on. This idea is basically an expectation that life will go on until the sun ceases to function as it now does. This situation may not occur for another 15 billion years. Visualizing what evolutionary processes will produce in that enormous time span is beyond current capabilities, but the result almost certainly should be interesting!

## Concluding Statement

One of the Dowd and Barlow's metaphors is that humans are nested in the divine whole (the universe) like a set of Russian nested dolls. This metaphor suggests that natural laws, which govern all other life forms, also govern humans. These laws include a brutal loss of individual life for those less fitted for survival than others. Evolutionary processes favor continuation of life, but not for all individuals or species. The Ecozoic era might well include mass human deaths if behavioral norms do not change quickly. This catastrophe could result in an awakening of spirituality or, alternatively, a "tooth and claw" battle for scarce resources.

Humans may well be just another transient species like the many species that inhabited the planet before humans arrived or those species being driven to extinction by humans at present. Surely, this possibility should make the spiritual relationship with other life forms closer because they and humans share a common fate. Humans may be different, but not necessarily superior. Present human behavior does not support the assumption that intelligence, as humans define it, has survival value. Increased competitive fitness may well be temporary, especially now that the era of cheap, convenient, readily available food is ending.

A rogue species like *Homo sapiens*, which lives apart from most other species and destroys both them and their habitat, is arrogant to claim a spiritual relationship with nature. In addition, humans have fragmented natural habitat so that the range of individuals of many species has been greatly diminished. Given these circumstances, what is the basis for the feelings of spirituality in humans? Moreover, what actions supportive of their beliefs can they take to lessen the current crisis of life on Earth? I cannot be content with mere "feel good" expressions of spirituality without some meaningful action in support of them.

The "Great Story" reinforces two types of hope. One is that humankind will, in the very near future, take actions that will preserve the biospheric life support system in its present form, which is so favorable to humans. This hope diminishes daily as humankind continually assaults natural systems. The increasing ecological overshoot cannot long continue without appalling consequences. The second hope, which is supported by robust scientific evidence, is that evolutionary processes will replace lost species as they did during the past five great extinctions. That *Homo sapiens* will probably not survive the sixth great extinction saddens me, but the unsustainable practices of humankind were primarily responsible for this unfortunate situation. In short, humans may cause many more species extinctions, including their own, but evolutionary processes will probably continue, as will life on Earth.

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