# Ecology, biodiversity, and creation: A view from the top

by Henry Zuill

*Ecology points out that life is needed for life, bearing witness to Creation.*

John Ashton believes in God. He believes in the Genesis account of Creation. He is also a research scientist. So he was somewhat taken back when another research scientist challenged this belief at a conference at Macquarie University in Sydney, Australia. The presenter gave evidence in support of the biblical account of Creation, but the research scientist said that he did not believe it possible to find any scientist with a Ph.D. who believes in a literal creation in six days. At that, someone mentioned the names of a couple of scientists who did believe in creation, John Ashton being one of them. When John heard about this exchange (he was not present at the conference) he accepted the challenge, and the result was the marvelous collection of essays, *In Six Days: Why 50 Scientists Choose to Believe in Creation.*[1]

When I received an invitation to contribute an essay, I initially understood that I was to to write *specifically* about the six-day creation from a scientific perspective. That was not John's intention, however. I did believe in a six-day creation, but not for scientific reasons. What could one say about this from a scientific perspective? How could I provide scientific evidence that the earth and life were created in six literal days? I knew there were many areas of creationism that could be studied scientifically, but I did not believe the *six-day* creation was one such. That had to be accepted strictly on faith in the Bible.

Then, a connection appeared, like a flash, that was both illuminating and exciting. As an ecologist, I had been looking for evidence for intelligent design at the ecological level, but suddenly these fragments of evidence came together to support the six-day creation. I committed to writing a chapter for the book.

### The structural hierarchy and evidence for design

Early in university studies, students in a general biology class will likely learn about the structural hierarchy of matter (see Figure 1). Sub-atomic particles are assembled into atoms, which in turn make up molecules and macromolecules. These are assembled successively into organelles, cells, tissues, organs, and organ systems. At each living level, from cell to organ system, there are different independent organisms—one-celled organisms, tissue-level organisms, and so on up to organisms with organ systems. Then, different organisms comprise communities which, together with the non-biological environment, make up ecosystems.[2] Ecosystems around the globe make up the biosphere. Below the cell level, there is no entity clearly understood as living. Above the organism level, one is in the ecological area in which different organisms interrelate with one another and with their non-biological environment.

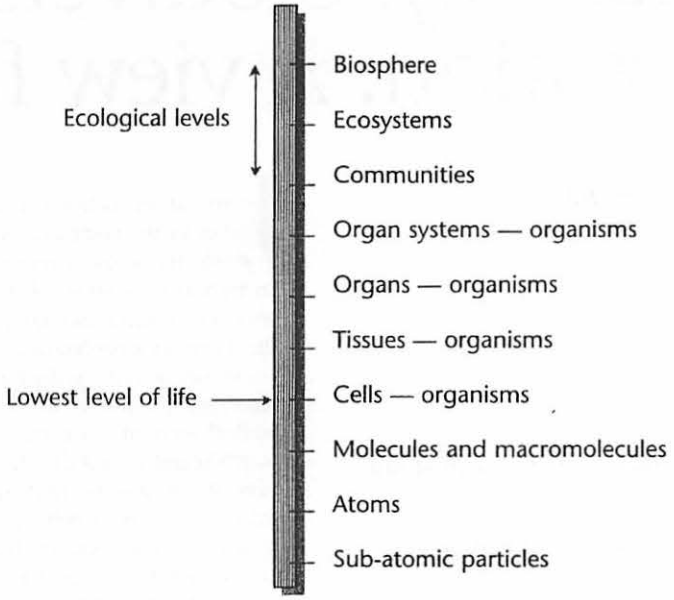
At each of these levels there is evidence for *intelligent design*, if one allows oneself to see it. The structural complexity of each level defies the idea that such complexity could have been the result of chance events. Nevertheless, many do not see things this way; they accept that structural complexity is the result of natural happenings, even when there appears to be no way in which this

could have occurred.

The idea of intelligent design in nature has been accepted for a long time, although for the last 100 to 150 years the idea has been a decidedly minority view among scientists. Certain ancient philosophers saw evidence for design in nature. In the late 1700s, William Paley, an English theologian and philosopher, suggested that no one would think of a watch without a watchmaker. By the same token, he argued that the complexities of nature—the human eye, for example—cannot be accounted for without a Creator.

Paley's writings were required reading in universities in Britain. Charles Darwin read his works and was fascinated with Paley's view, but eventually rejected it. Nevertheless, there must have been a remnant of doubt, for Darwin said the eye, with its unbelievable complexity, made him ill. Even today, the influence of Paley's thought lingers: Richard Dawkins titled one of his books, *The Blind Watchmaker*. In this book, Dawkins attempts to show that complexity in nature is the result of blind chance, not intelligent design. Thus, after nearly 200 years, Paley's argument is still being challenged.

**Figure 1 — The structural hierarchy**




### Specific evidence for design

The value given to the specific evidence for intelligent design depends on where the person is looking for it. If the observed evidence is low in the structural hierarchy, the conclusion drawn may be quite different than if the evidence is higher in the scheme. Where one looks for evidence may be determined by one's scientific specialization. The lowest part of the structure of nature is the domain of physics; the next higher domain is the concern of chemistry; and the top domain belongs to biology.

Recent resurgence of interest in intelligent design began with the discovery that a large number of fundamental physical constants in the universe are very finely attuned to the needs of living systems. If they were different by even the most minuscule amount, then life would not be possible. This is known as the Anthropic Principle. A number of physicists have found in it reasons to believe in a Creator God. Others, finding this interpretation disagreeable, have hypothesized multiple universes, so that by mere chance, one of the universes—ours, as luck would have it—will possess the right conditions for life. That there is not a shred of evidence in support of multiple universes appears irrelevant to them.

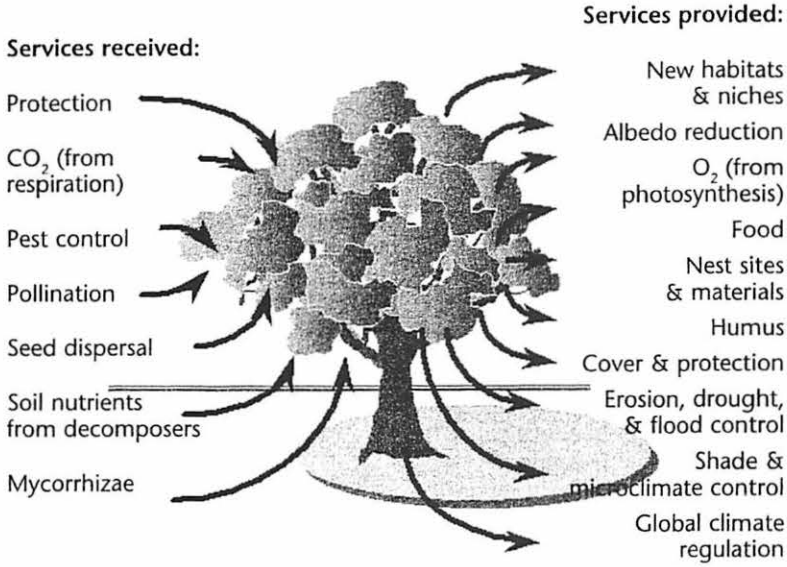
The fundamental physical constants provide for the physical and chemical resources required by living things. In general, they offer evidence for design that is low in the structural hierarchy of nature or outside of it. From this perspective, only the basic physical and chemical conditions needed for life to develop were provided. Consequently, some physicists who are impressed with the evidence also accept that God used evolution, in the broadest sense, as the tool of creation. They are theistic evolutionists.

Other scientists find design evidence in biochemistry and biochemical pathways, which they see as irreducibly complex. For them, God was a bit more active. They may hypothesize that He made the first cells, but evolution did the rest. They may also be theistic evolutionists.

If there is evidence for design at the very low level that intrigues some physicists, and if there is also evidence at the biochemical level, would this not suggest the possibility of even more evidence higher in the structural hierarchy? Moreover, the higher the evidence on the structural scale, the fewer the interpretative options.

I began to wonder if there was evidence for design at the very top of the structural hierarchy—the ecological lev-

**Figure 2 — Some service exchanges associated with a tree**




el. This is the level that deals with multiple relationships between organisms, and between them and their abiotic environment. If there was evidence for intelligent design at all levels of the structural hierarchy of nature, and especially at the top, then it would be most difficult to expect blind chance alone to adequately explain the existence and variety of living things. I believe there is such evidence: the view from the top.[3]

**Biodiversity and creation**

The term *biodiversity* has recently come into popular use. It refers to the many different species we find in nature, as well as different populations of those species with their many genetic variations, and with the host of ecological services provided by them. From the first reference to it in 1986 to today, hundreds of papers have been published on the biodiversity theme.

Biodiversity studies have revealed an intricate web of interdependencies among living things. Ecosystems are now known to be more tightly held together than previously imagined. In fact, Peter Raven of the Missouri Botanical Garden suggests that when a plant is exterminated, 10 to 30 other organisms will follow it into extinction.[4] The relationship is that tight. Fortunately, ecosystems also have back-up systems, so that effects of abuse may not be as far-reaching as would otherwise be expected. This is possible because several species may provide the same or similar ecological services. Those species are said to be redundant. Nevertheless, even redundant systems may not work under any and all circumstances, so that some of them are not now, as formerly, thought to be expendable.

Our understanding of biodiversity has been gathered, in considerable measure, from ecosystem damage and destruction. As species have become rare or extinct, the wider ecological effect of their loss has become evident. However, experimental research has confirmed some of these more anecdotal findings.

Most of the concern in biodiversity studies has centered on saving endangered species. At first, efforts were focused on simply keeping up population numbers, but it quickly became evident that saving endangered species required the preservation of whole ecosystems. Each species has its ecological support system, and each component of each support system has its own support system, and so on. We can put it this way: Life on earth makes life on earth possible. That is to say that living things were made to support one another. Should that be so surprising? Of course, it was the conservation of species that received the primary focus, but the wider implications of such interdependent systems have now become clear.

Mutually beneficial relationships are common in nature. In fact, it is probable that most natural relationships are of this type. Numerous examples of interdependent relationships could be given, but space does not allow for many such examples. However, Figure 2, using a single tree, illustrates the services it both provides and receives. The reader is urged to recall other kinds of relationships, perhaps soil relationships, that are of a similar mutually benefitting nature.

There are also negative relationships and death in nature now, but these appear to have resulted from species loss, genetic damage, and other negative impacts. Ecosystems, like organisms, are now degenerate. The Christian believer sees these problems as foreseen by the Creator in His address to Adam and Eve after the Fall (see Genesis 3:14-19). While negative relationships may be more dramatic and may more readily capture our perverse attention, it seems most probable that beneficial relation-

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# Ecology...

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ships far outnumber them. Consequently, interdependence found among living things now, negative relationships notwithstanding, suggests that they were made this way. Original ecology would have been somewhat different from today's ecology. However, there can be little doubt that there was an original ecology. The creation account even refers to reproductive and feeding relationships. Ecology appears as necessary for life as eating and breathing. In fact, without ecology, air would not be fit to breathe, and mineral nutrients would be mostly unavailable to plants, our source of food.

### Making the connection

When John Ashton asked me to contribute to *In Six Days,* I already knew about the necessity of ecological relationships, although I had not yet made the connection that ecology contained supporting evidence for a six-day creation. But as I considered the problem, it immediately hit me that I had in my hands the evidence that would support a six-day creation. If ecosystems require whole sets of organisms to function now, would they not have required whole sets of organisms in the beginning, too? That is how the connection was made.

Both the Anthropic Principle and biochemical pathways suggest a designer, but still allowed those impressed by these evidences to believe in theistic evolution. This is little different from outright evolution. In such gradual development of life, ecology would gradually develop, too, starting with limited ecology which then expanded over time as new organisms evolved. However, if ecology developed over time, along with evolving species, ecosystems would have failed for lack of essential components. Thus, life could not have continued, if indeed it could even have started. On the other hand, if creatures were created over *a short time span,* together with their ecological interdependencies, there would have been complex life-supporting relationships in nature from the start.

The complex and vitally essential ecology and biodiversity we find in nature today, at the top of the structural hierarchy of nature, suggest that many interacting organisms would have been required right from the beginning. Only a short-term creation would provide such ecosystem requirements. Thus, while ecology, as now understood, does not precisely require a creation in *six days,* it does support the possibility of a six-day creation. Moreover, it is definitely contrary to the idea of a gradual evolutionary development of ecology.

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*Henry Zuill (Ph.D., Loma Linda University) has taught and conducted research in biology and ecology for many years. He continues to write from his address: 64 Norwood Drive; Norman, Arkansas 71960; U.S.A. E-mail: haz@alltel.net*

### Notes and references

1. John F. Ashton, ed., *In Six Days: Why 50 Scientists Choose to Believe in Creation* (Sydney, Australia: New Holland Press, 1999).
2. Very large ecosystems are usually designated as biomes.
3. For a more detailed discussion of this subject, see the author's "Evidence for Design at the Ecological Level," *Geoscience Report* 29 (Spring 2000), published by the Geoscience Research Institute (Loma Linda, California 92350, U.S.A.) and "Ecology, Biodiversity and Creation," *Creation Ex Nihilo Technical Journal* 14:2 (2000), pp. 82-90. (P.O. Box 6307; Acacia Ridge, D.C.; Qld. 4119, Australia.)
4. P. H. Raven, "Ethics and Attitudes," in Simmons, et al. (eds.), *Conservation of Threatened Plants* (New York: Plenum Publishing, 1976), pp. 155-181. Cited by Y. Baskin, *The Work of Nature: How the Diversity of Life Sustains Us* (Washington, D.C.: Island Press, 1997), pp. 36, 37.