happen. Explanations usually are attempted by hypotheses, formulated to give a deeper understanding both to a single natural event and also to the natural world as a whole.

To explain a natural event, we must be able to describe the causal mechanisms which are responsible for it (Powers, 1982; Bohm, 1984). Nevertheless, it is not always possible to proceed deeper into the natural events beyond boundaries raised by the existing scientific restrictions. Instead of accepting the limitation, many scientists intermix scientific data with their metaphysical assertions. As a result, the same data may be interpreted in equally different logical ways (Harre, 1983). The same event may be given different, equally attractive explanations, while neither can be proved or falsified scientifically.

An example occurs in the theory of evolution. The same data can also be interpreted within a creationist framework. The theory of evolution, like many other theories, depends not on the reliability of the data used, but on the subjective interpretation given within the metaphysical assumptions held by the researcher. Clearly, reported data and human knowledge are not the same thing. Data do not speak for themselves: they must be interpreted. They often say what the individual wants them to say. This is why the theory of evolution is not a true scientific theory.

Regarding the argument that the naturalistic explanation is scientific and the creation approach is religious, it must be emphasized that the determination of a theory as either scientific or religious, does not depend on the assumptions used (natural mechanism or supernatural), but on the testing of the theory in a scientific empirical way.

Conclusion

If a theory is not subject to an empirical scientific test, then it is not scientific and it is outside of the domain of science. It is beyond human capability to verify or falsify it, or to give any scientific reply. I therefore believe that creationists should not try to oppose evolutionary theory with a scientific creation model. Instead, we must interpret all available data on the basis of the Creation doctrine in Scripture. It is unacceptable to let evolutionists deceive mankind by presenting their metaphysical/religious adoptions as scientific fact.

We must keep in mind that neither evolution nor creation models are true scientific models. They are metaphysical explanatory propositions, and the acceptance of one or the other depends upon the preference of each individual person and not on objective scientific conclusions, even if they are presented as tentative. This should be an important message that creation science offers. It has an immediate priority to separate each person from his illusive prejudices, and hence to gain the freedom of his thought.

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SYMPOSIUM ON VARIATION—IV**

A REFINEMENT OF BIOSYSTEMATICS WHICH REFLECTS BARAMINIC VARIATION

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Abstract

Life on earth exhibits discrete gaps between kinds of creatures supportive of the creationist position. But life also displays variation, a trait which has traditionally, but incorrectly, been seen as supportive of the evolutionary interpretation. A combination of these and other factors, notably the remarkable creativity in the use of traits, sometimes without an apparent organizing system, makes biosystematics difficult for both the creationist and the evolutionist. Creationists may now be poised to offer the first truly objective biosystematics which is acceptable to both sides of the origins debate. Such an eventuality would radically change the nature of the origins debate.

Introduction

Biosystematics has been a problem area for both creationists and evolutionists ever since taxonomists first tried to group systematically the prodigious diversity of life on earth. Biosystematics would face an entirely different set of problems if there were a smooth and imperceptible gradation between living things, as would be expected by the evolutionary interpretation of nature. That problem does not exist.

Gaps and Variations

Life, both living and fossil, displays distinct gaps which invite the effort of classification. However, biosystematics is complicated by the almost unbounded

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creative applications between living things. Creatures which are clearly unrelated can have similar characteristics while creatures which seem to be closely connected differ from each other in some crucial characteristics. Birds, mammals, reptiles, insects and fish have all developed forms of flight. Some fish bear live young while the platypus lays eggs. Some reptiles carefully nurture their young. The colugo was first classified as a reptile, then as a primate mammal and finally was given its own classification. The realities of the biological world complicate the task of classification.

While creationists can take comfort in the fact that life displays discrete gaps between kinds, it is also clear that the kinds within these discrete populations show the annoying (to the taxonomist) characteristic of variation. It is this tendency toward variability which provides the basis for evolutionist extrapolation. Undaunted by the fact that no evidence exists that this variation is unlimited, and repeated evidence that genetics operate under principles of conservation, evolutionists extrapolate a single cell-to-man biological continuum. The search for the missing portions of that continuum takes place in the fossil record.

The fossil record has proven largely meaningless in the search to establish unlimited biological change. When proponents of unlimited biological malleability find two similar fossils they tend to depict the stratigraphically older fossil as a biological antecedent to the later specimen. The question of whether the two specimens are in fact not “parent” and "child," but "cousins." and thus demonstrate nothing about any proposed evolutionary history is never considered unless the resulting conclusions challenge a prior established "relationship?" Nor could this question be considered since there is no methodology for defining the difference or testing either conclusion.

Likewise, alleged “modern” and “archaic” physical traits are attributed haphazardly, without defined methodology, in order to establish relationships which facilitate further theorization toward unlimited biological variability. Only a trait which has been separately viewed and its characteristics and functions traced through time and range of manifestations can be placed on a supposedly infinitely-graded scale from “archaic” to “modern.” Yet, until “archaic” and “modern” are defined, no scale can be defined. The only solution to this apparent paradox appears to be circular. When one factors in the inability to determine the difference between possibly evolutionarily significant “parents” and “children” and evolutionarily meaningless “cousins” there appears to be no solution to the problem of determining “modern” and “archaic” traits within the rules of normal science and logic. Yet herein lies the bulk of the argument for evolutionary change. Further arguments from homologies become a second-level exercise, resting on no foundation.

The Subjective in Evolutionary Taxonomy

This state of affairs underlies the current situation in which neither creationists nor evolutionists can offer an objective set of criteria to guide the biosystematic task. Even the evolutionary definition of a “species” suffers from both subjectivity and non-correlation with reality. A “species” has somewhat universally been defined as a population which frequently or occasionally breeds with one another and has an even range of gradation in their characteristics. However, reproductive isolation is not easy to define (Marsh, 1972; Lester and Bohlin, 1984). Worse, creatures which are virtually morphologically indistinguishable and may produce fertile offspring under laboratory investigation may practice complete reproductive isolation in nature (Marsh, 1972).

Some of the lack of focused effort in developing a creationist systematics undoubtedly arises from the apparent success of evolutionist claims that the fossil record better supports the evolutionist scheme of first appearances than the creationist zonation burial (Flood) model. However, Wise (1990) has rigorously demonstrated that the creationist zonation model is at least as predictive of the fossil order of plant phyla and arthropod classes, based on a cladistic approach, if not more so, than the evolutionist first appearance model. At the very least, his work shows that the actual fossil deposition pattern is equally explained by randomness as it is by proposed evolutionary phylogeny. It did not help creationists when John Ray and later, Linnaeus, both creationists, defined the Genesis “kind” so narrowly as to virtually equate “species” with the Genesis “kind” (Marsh, 1972). Creationist writers, starting with Marsh rejected these older, narrower views (Marsh, 1972; Lester and Bohlin, 1984; Moore and Slusher, 1981; Jones, 1982).

There is no question among creationists today that biological variation is a reality. Yet creationists are willing to allow for variation only within limits. This is not to say that creationists believe that God acts in a capricious manner. Rather, creationists expect God to act according to the limits He Himself has instituted. This qualification is important since it holds creationism within the limits of classical science (Klaaren, 1977). That God is not personally bound by these laws, which science endeavors to discover, is evidenced by Biblical miracles. Miracles would have no meaning without the usual operation of definable laws. If the world operated capriciously, miracles could not be signs for His purpose.

This does not mean that God regularly and silently causes breaches in the laws He has established, including the laws of biological variation. Creationists do not suspect that God quietly instituted a new ability in certain microbes to resist penicillin after it came into widespread use. Rather than suspecting that new genetic information became inherent in these microbes, as did some evolutionists, creationists can interpret this resistance as being within the original created range of the bacteria involved.

This contrasts sharply with the unlimited nature of variation proposed (and required) by evolution, which itself almost seems to interject caprice into natural law. As Erasmus Darwin wrote in *Zoonomia,*

> Would it be too bold to imagine that all warm blooded animals have arisen from one living filament which the great First Cause endued with animality, with the power of acquiring new parts, attended with new propensities, directed by irritations, sensations, volitions and associations; and thus possessing the faculty of continuing to improve by its own inherent activity, and of deliver-

ing down those improvements by generation to its posterity, world without end (as quoted in Mason, 1962).

Creationist Efforts at Biosystematics

In 1941 Marsh attempted to recognize the fixity of kinds as well as the reality of genetic variability by proposing the term "baramin," which has come as close as any term to having a common usage and definition among creationists. Meaning literally "created kind," a practical definition for "baramin" remains elusive. Marsh's original definition which places all creatures which can produce fertile offspring into the same baramin (Marsh, 1972) has been challenged by other creationists as "simplistic" and rejected as inadequate because it offers no explanation for why this is so (Lester and Bohlin, 1984).

In its place, Lester and Bohlin (1984) proposed the term "prototype," But they, too, must admit that it is not easy to offer a definition for "prototype" which has a meaningful biological application. They offer that a "prototype" encompasses "all organisms that are descended from a single created population." Wisely, Lester and Bohlin reject all attempts to equate "prototype" with "species" or taxa.

Lester and Bohlin suggest a number of methods for identifying a "prototype," admittedly not all of which are traditional taxonomic criteria. Their suggestion is a significant contribution in defining the problem of identifying the range and limits of biological diversity. Their criteria include morphology, embryology (to determine the role of regulatory mechanisms), chromosome morphology, structural genes, and regulatory mechanisms. As this list suggests, we actually know very little about the living things we are attempting to classify. Ultimately, this lack of knowledge is our primary hindrance in developing a taxonomic system that works.

Baraminic Taxonomy

This suggests that at our current stage of knowledge about the living world, any proposed system of classification must allow for that lack of knowledge. Just such a system may have been proposed at the 1990 International Conference on Creationism. The system proposed by ReMine (1990) under the name "discontinuity systematics" assumes discrete kinds, yet is open-ended in allowing for as much biological variation as can be demonstrated. Discontinuity systematics is limited to classifying only known organisms. The goal is to develop groupings which can be defined relative to other life forms. Four groupings are suggested.

The "holobaramin" is "a complete set of organisms related by common descent," This is reminiscent of Lester and Bohlin's "prototype."

The "monobaramin" is a smaller group of organisms which is related by common descent, but need not include all organisms related within the same common descent.

The "apobaramin" contains all the ancestors and descendants of any of its members and can contain one or more holobaramins.

A "polybaramin" is a group of organisms which do not share a common ancestor, and so necessarily contains members of more than one holobaramin.

Membership in any of these is determined by a number of criteria including lineage, reproductive viability, a number of similarity criteria, and experimentation. A number of critiques suggest themselves after reviewing ReMine's paper. If lineage criteria is to include fossil evidence, this criteria will suffer from the same "parent/child" versus "cousins" problem which currently inflicts evolutionary fossil interpretation. ReMine's criteria need to be reviewed in light of the criteria suggested by Lester and Bohlin.

It is suggested that while ReMine's suggestions require the usual discussion and refinement due any scientific proposal, they provide a direction for further discussion. There is no question that creationist systematics requires a refinement in terminology which is based on objective criteria which takes baraminic variability into account. Since the exceptions to the rules which define "species" continue to expand, creationists are well poised to recapture the scientific high ground.

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Perfectibility?

In a letter to Thomas Jefferson, John Adams asked the following questions:

> Let me now ask you, very seriously my Friend, Where are now in 1813, the Perfection and perfectibility of human Nature? Where is now, the progress of the human Mind? Where is the Amelioration of Society? Where the Augmentations of human Comforts? Where the diminutions of human Pains and Miseries . . . ? When? Where? and how? is the present Chaos to be arranged into Order? (Taylor, 1969, p. 26)

These are still good questions today. The "evolutionary" trend toward perfection simply does not exist.

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