

REACTIONS

Readers are invited to submit their reactions to the articles in our journal. Please address contributions to: ORIGINS, Geoscience Research Institute, 11060 Campus St., Loma Linda, California 92350 USA.

Re: Kootsey: Can the Christian Afford Scientific Research? (ORIGINS 3:97-100)

I very much enjoyed the article by Mailen Kootsey. He says some things which have needed to be said in the conservative Christian community for a long time. I hope that the leadership of this community will recognize the validity of his viewpoint and seek to assist Christian scholars in a more active research program in a variety of areas.

Personally, I feel there is another important reason why the Christian *must* afford scientific research. In educational programs for the next generation of young Christians in theology, the arts and sciences and the derived professions, Christian teachers must use the knowledge produced by the efforts of other scholars both Christian and non-Christian. Surely we have an obligation, even a moral obligation, to contribute to this body of knowledge by sound research and scholarship. Otherwise we are parasites drawing on resources to which we have made no contribution.

Granted that our priorities may be different from those of secular society, I am still forced to the conclusion that Christians must conduct scientific and other scholarly research and that Christian educational institutions and their supporting organizations must allocate a significant share of their resources to such activity. Obviously, there will be an emphasis on certain areas and aspects in such a research effort although no area should be automatically excluded. We might be surprised by the impact of such activity as a form of Christian witness to members of the intellectual community, other leaders in thought and ultimately the world at large.

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RE: Stidd: Reactions (ORIGINS 4:12-15)

Dr. Stidd has summarized one way of interpreting homologies, but there is another equally valid way of looking at them.

One of his main objections is that if the major groups of animals were created, there should be differences between natural homologies (arising through natural selection) and supernatural homologies (similarities designed and created by God), and thus we should be able to identify which homologous features were created and which ones have developed through natural processes.

Since an animal's characteristics are controlled by its genes, a certain set of genes will produce a certain type of animal, irrespective of how those genes

were selected — selective breeding by a geneticist, natural selection, or deliberate choice by a Designer. Consequently if we are going to find detectable differences between supernatural homologies and natural or evolved homologies, we would need to predict that the complement of genes chosen for each original animal by the Creator would be different, in some very fundamental way, from the complements of genes that would be subsequently favored by natural selection. But if the Creator who made the original animal kinds with their individual genetic makeup was the same Creator who designed the genetic mechanism that would allow them to diverge into new species and adapt to changing conditions, we would expect to find a unity throughout the genetic systems of all living things. If that is the case, why would there be any basic differences between “natural homologies” and “supernatural homologies”? In the process of adaptation to a new environment we would expect natural selection to favor the combination of genes that will produce the best adapted animal for that environment. If the Creator had originally designed the animal for that lifestyle in that environment, would we expect Him to have chosen a less suitable set of genes? If an intelligent, logical thinking God who knows everything about biological systems designed animal genetic systems with the potential to adapt to new circumstances that may arise, and also used that same genetic code to design the first animals to be well adapted to their first environment, I see no basic reason for believing that there would be detectable differences between “supernatural homologies” and “natural homologies.”

One possible exception to the above conclusion is that perhaps there would be essentially quantitative differences in the genetic gap between created types as compared to subsequently developed variations within created types. For example the differences between fish and mammals (which the creationist will consider to be different created groups) are far greater than the differences between two similar species of *Peromyscus*, or white-footed mice (probably new species that developed within a created kind). At intermediate taxonomic levels — orders, families, and genera — we would expect to find differences that are intermediate in magnitude. The result is somewhat of a continuum, with the smallest degree of taxonomic divergence at the subspecies level and the greatest divergence at the kingdom level. One could then ask whether there is one taxonomic level (the genus level, e.g.) that shows, on the average, a greater-than-expected amount of change in taxonomic divergences. For instance, if extensive study demonstrated that the differences between genera are generally more distinct and consistent than might be expected, then one could theorize that the genus was, *on the average*, the limit of the created kind. However, there also might be other equally logical explanations for that data. And if there is no unexpected jump in taxonomic divergence at any taxonomic level, there may be several reasonable theories to explain that, including the possibility that the amount of genetic difference between created kinds was sufficiently small and variable to make it very difficult for us to determine what the created kinds were. If one assumes that all organisms evolved, then homologies may be useful to indicate the most likely evolutionary pathways; and if one assumes creation, then homologies may or may not provide information that can help to indicate

the most likely limits of the created kinds. However, if we ask the more fundamental question, “Is macroevolution true, or is creation true?” — homologies are no help, because they can be logically explained by either view.

The letter suggests that “if the creationist paleontologist finds that he cannot distinguish between natural and supernatural homologies and natural and supernatural taxa, perhaps this suggests that he should examine his basic premises.” Then he lists the following possible sources of error:

1. his criteria for delimiting natural and supernatural homologies are faulty,
2. he has misunderstood the thought patterns of the Designer,
3. the evolutionary position is correct and variation among organisms cannot be divided into natural and created categories.

To be complete, the list needs at least one more alternative:

4. The original created organisms and the genetic mechanism for future adaptations were all part of an integrated design by the same Designer, and thus it may not be possible to discover any differences between “natural” and “supernatural” homologies.

Criticism is made of the analogy between the “evolutionary trees” for animals and wheeled vehicles, and the conclusion is drawn that “the contention that the same principles of comparison are applicable to vehicles and organisms is like comparing apples with bolts; apples can produce apples — more bolts can be produced only by man. Only if one has evidence that man can produce apples is the logic satisfied.” These comments illustrate the well-known concept that all analogies break down if they are carried too far and applied in ways that were not intended.

Since none of us has lived all through earth history to observe directly what biological changes have occurred since the beginning, we only have access to indirect, circumstantial evidence. We can only look at homologies and other types of indirect evidence in living and fossil animals and use that data to hypothesize how much change has occurred and which animals descended from which others. However, there is generally more than one reasonable explanation for indirect evidence like that. My analogy between evolutionary trees for animals and for vehicles illustrates only one point — namely, that because animals can be arranged in a sequence from simple to complex, based on homologies, is not *in itself* evidence that they evolved from a common, simple ancestor. Additional, more direct, evidence would be needed to answer that question. If the analogy is applied in other ways, naturally it falls apart.

If one *assumes* evolution from simple to complex, homologies can be useful in tracing the most likely lines of descent. If one is trying to determine whether evolution or creation is more likely to be correct, homologies do not help in making that decision.

The letter raises another important issue, and that is concerning the nature of evidence, especially as it relates to studies of historical processes such as evolution. The letter’s reconstruction of a possible dispute between a creationist and an evolutionist indicates that the latter “believes he can account for observed

differences and similarities on a natural basis and sees no compelling reasons why supernatural agencies need be invoked.” However, the fact that he doesn’t see reasons for invoking supernatural agencies is quite irrelevant to the fundamental issues in the dispute, for he also cannot produce compelling evidence *against* the possibility of supernatural involvement.

The letter points out that a problem with a creationist view is that it cannot be refuted or proven false by any data. In other words it cannot be scientifically tested; “it rests on an assumption not amenable to empirical analysis.” A balanced discussion of this issue must also recognize that large areas of the evolution theory also rest on assumptions not amenable to empirical analysis and cannot be scientifically tested. Creationists are not the only ones who recognize that problem. For instance N.I. Platnick (1977. Review of Evolution and the diversity of life. Systematic Zoology 26:224-228), an evolutionist, states that “both kinds of explanations [creation and natural selection] fall into the category of those ‘that could neither be proven nor refuted’.” L.C. Birch and P.R. Ehrlich (1967. Evolutionary history and population biology. Nature 214:349-352), also evolutionists, discuss the problem of the non-testability of evolutionary hypotheses and how it affects their research fields. They state that to “attempt to investigate ecology and taxonomy through a series of inferences about the past is to base these sciences on non-falsifiable hypotheses.” This problem of the non-testability of theories about the past also applies in other fields besides ecology.

The letter indicates that an evolutionist will reject supernatural agencies because “he believes that he can account for observed differences and similarities on a natural basis and sees no compelling reasons why supernatural agencies need be invoked.” On the other hand Platnick (op.cit.) concludes that this kind of reliance on logical, “good enough” explanations even though they “are (at least practically) untestable...makes of evolutionary biologists spinners of tales, bedtime storytellers, instead of empirical investigators.”

The view is presented in the letter that “if there is no difference [between natural and supernatural homologies], the creationist interpretation appears to be an ad hoc argument designed to harmonize science and Scripture.” However, one can also propose that the hypothesized ability of natural selection to produce unlimited change and increased complexity is an ad hoc argument designed to eliminate the Designer from the system. Which explanation a person chooses is largely the result of his philosophy and his preconceptions. Only when we all (creationists and evolutionists) recognize how much our conclusions are affected by our preconceptions and our philosophical choices and recognize the nature of the assumptions that we make (consciously or unconsciously) will we be able to fruitfully discuss the fundamental issues.

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