

Problems with Evolution: Macroevolution and the Fossil Record

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Editor:

In my previous letter in response to Graham Mark's 3/16/95 guest editorial defending evolutionary theory, I pointed out some of the difficulties a materialist has in accounting for noumenal categories and, in particular, the embarrassing difficulty the materialist faces in accounting for coded, symbolic information comprising the genome of the first living organism. In this letter my focus will be on macroevolution and on the fossil record.

In response to my claim that evolutionary theory has no mechanism for macroevolution, other than extrapolated microevolution, Mr. Mark--presumably hoping not too many people were paying attention--attempts to evade the difficulty by simply redefining macroevolution as microevolution! He just defines "macroevolutionary events" as "the appearance of new species." Although I did not give a rigorous definition of macroevolution, how could anyone possible infer I meant speciation when I wrote of getting "feathers from scales or a bat from a mouse?" The point I was making in my 2/23/95 letter was that the prominent, unique characteristics that distinguish living organisms in structure and function at taxonomic levels of family and order and class and even phyla require a serious explanatory mechanism if evolutionary theory is to be credible. Evolutionists have nothing beyond microevolution (which includes speciation) to account for these large-scale differences. Mr. Mark seeks to avoid this major deficiency in the theory by focusing attention on microevolutionary processes and then acting as if he has dealt with the issue.

Mr. Mark further attempts to dismiss the information theory arguments of Prof. Murray Eden of MIT who points out the coded, symbolic information comprising an organism's genome obeys a rigorous grammar and syntax and any significant change in such an information structure must be syntactically lawful if it is not to be destructive. Prof. Eden does not deny that a small fraction (perhaps as large as one in a million) of single base-pair changes that

lead to replacement of a single amino acid for another can provide some competitive benefit under some conditions. The rest of these changes do not. Prof. Eden's main point, however, is that systematic larger scale changes simply cannot be random. This basic truth Mr. Mark avoids like the plague.

To distract attention Mr. Mark discusses an experiment (whether it actually has been done he doesn't say) involving exposure of several subpopulations of fruit flies to DDT and observing that after several generations each of the resulting populations displays resistance to DDT. He infers "resistance-conferring mutation took place" in each subpopulation during the course of the experiment. How can he infer this? How does he know that the resistant genotypes were not already present in the beginning populations? Is not this logic careless at best? All this experiment really illustrates is that selection pressure alters gene distributions in a population. Farmers have known and used this principle for thousands of years in breeding for specific traits in their plants and animals.

My point regarding the absence of intermediate forms in the fossil record Mr. Mark asserts "is based on ignorance of the fossil record and on misunderstanding of neo-Darwinism." He then focuses on the phenomenon of speciation, which frequently involves geographical isolation and reduced population size, to explain why most intermediate types should not be preserved or found. He states, "The speciating population's smallness, both numerical and geographical, together with the rapidity of the event . . . mean that the likelihood of fossilization is very small, as is the likelihood of the fossils being discovered." But, I ask, to which intermediates is Mr. Mark referring? They are intermediates between species. And, if the lineage persists, they are intermediates between successful species--species that presumably themselves form large populations and have large geographical ranges and for which the fossilization probability should be high. In terms of gaps, the poorly preserved intermediates represent gaps between species, not between genera or families or orders or classes or phyla!

Evolutionists cannot have it both ways. If they insist macroevolution is nothing more than persistent microevolution, then the characteristic gap size is tiny, corresponding to differences between species in a common genus. There then should be a near continuum of type in the fossil record between genera, between families, between orders, between classes, between phyla. Instead there are the glaring gaps. Darwin, as I have pointed out before, recognized this by far to be the greatest difficulty for his theory. On the other hand if they acknowledge the gaps as real (as the adherents of punctuated equilibrium

have done), then they require a mechanism for macroevolution beyond extrapolated microevolution. This they obviously do not have.

So who is it that misunderstands the implications of neo-Darwinism relative to the fossil record? It seems to me it is Mr. Mark, who somehow thinks that gaps between species magically translates into gaps between genera, gaps between families, gaps between orders, and gaps between phyla. It is either extremely careless logic on his part again, or else it is an intentional cover-up of one of the most serious problems in evolutionary theory.

The final issue I will address concerns what Mr. Mark has termed "the fact of evolution."

By this he means his interpretation of the fossil succession observable in the geological record. He states, "The fossil record thus show that the kinds of organisms living on the planet have changed over time. Further, the kinds of organisms that lived at any particular time were modified models of organisms of earlier times. Evolution is the only scientifically plausible interpretation of these facts." Near the end of his editorial he points out that any serious alternative to neo-Darwinism must account for this "fact of evolution" in a testable way.

It may be a shock to Mr. Mark and many other evolutionists, but evolution is not "the only scientifically plausible interpretation" of the pattern of fossil succession. There indeed is a testable alternative. This alternative is related to the ubiquitous evidence of catastrophism in the Paleozoic and Mesozoic portion of the geological record. In my 2/23/95 letter I pointed out how evolutionists seem oblivious to this evidence. Mr. Mark admitted he did not see its relevance.

What is the alternative? It is a catastrophe, driven by processes in the earth's interior, that progressively but quickly resurfaced the planet. An event of this type has recently been documented to have occurred on the planet Venus (see Strom et al, The global resurfacing of Venus, Journal of Geophysical Research, 99, 10899-10926, 1994). This conclusion is based on the high resolution mapping of Venus performed by the Magellan spacecraft that revealed fully 84% of the craters on Venus to be in pristine condition and only 2.5% embayed by lava although intense volcanism and tectonism has erased all earlier craters from the face of the planet. Volcanic and tectonic activity since the resurfacing event has been minimal.

Space limitations preclude anything but a cursory summary of the evidence for and consequences of such an event on earth. But a major consequence

would be rapid mass extinction of all but a few percent of the species of life on the planet. The destruction of ecological habitat would begin with marine environments and progressively affect the terrestrial environments as well. There is indeed pervasive evidence for intense global catastrophism throughout the Paleozoic and Mesozoic portion of the geological record. Most biologists are aware of the abrupt appearance of most of the animal phyla in the lower Cambrian rocks. But most are unaware that the Precambrian-Cambrian boundary also represents a nearly global stratigraphic unconformity. The implied catastrophism is readily apparent. In the Grand Canyon, as one example, the layer just above this boundary contains hydraulically transported boulders tens of feet in diameter.

My point here is that there is an alternative explanation for the pattern of fossils observed in the rock record. Instead of an evolutionary sequence, the pattern represents the sequence of destruction of ecological habitat in a global tectonic catastrophe. There exists abundant observational data by which this alternative explanation can be tested in a thorough fashion.

The reliability of radiometric dating, of course, is a key issue in this context. My 2/23/95 letter emphasized the notable conflict between radiometric methods and a wide assortment of non-radiometric methods for estimating geological age. Mr. Mark dismisses my claim that the sodium content of ocean water implies an age for the oceans less than two percent of the radiometric age of the earth by appealing to salt deposits in the geological record. But the number I quoted already accounts for this process in a generous way by assuming a constant rate of salt removal from the oceans based on the volume of salt in formations of Permian age (which represent a large fraction of all salt formations) divided by the length of the Permian, as reckoned by radiometric methods. This simple-to-understand argument about salt accumulation in the oceans, contrary to Mr. Mark's assertion, has not been refuted, either in the last century or in this present one.

In conclusion, I repeat a point I made in part I of my response to Mr. Mark's editorial, namely, that commitment to a materialist model for reality automatically determines one's view on the origins question. Evolution is the only choice a materialist has. And being a materialist does not guarantee objectivity. A materialist, like other people, is capable of ignoring contrary evidence and engaging in bad logic. A crucial issue, then, is the validity of materialist assumptions. In my view there exist compelling rational reasons that demonstrate materialist presuppositions do not square with the way things really are and that reality actually does provide categories for human

emotions, human will, human character, meaning, and beauty. True science, in this view, embraces such a larger concept of reality.

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