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Letter: A developing schism in Flood geology

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but also methodological standards". His preference for evolutionary biology is presumably based on his performance model of scientific knowledge. He apparently believes evolutionary biology improves performance in some way I have not recognized. Then again perhaps he rejects creationism and Intelligent Design because he believes they specify a biblical standard in advance of considering competing scientific views.

For me—trained to use Shannon's Theory of Information, appreciating its genius, and yet intuitively sensing it was incomplete—Truman's articles provided several wonderful *Aha!* moments.

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References

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» Royal Truman replies:

I am very pleased to see how well Carl Anderson understood the Coded Information System model, expressed in statements like, "A simple message can trigger a complex system to take a long series of well-timed actions aimed at achieving a specific result." Successive refinements toward the intended outcome proceed by combinations of four resources: coded messages, sensors, physical hardware, or pre-existing resources.

It is correct, that just as Munévar forwards a performance model of knowledge, I wish to propose a quantifiable performance model of information.

I believe that looking at biological information processing systems in their entirety permits a better evaluation of the design vs evolutionary models. Evolutionists often focus on only some minor coded message detail, and claim a few random mutations plus selection would be sufficient. However, *all* the components of a CIS need to be explained.

Here are two examples to illustrate.

Dr Tom Schneider made a logical mistake several years ago, claiming co-evolution of a binding site and binding factor would evolve easily, using a computer 'simulation'. I pointed out[1] that over 99.999...% of what was necessary for this to work had been provided for free (e.g. a regulated source of energy; multiple forms of metabolism; reproduction machinery; logic circuitry resulting from the binding interaction, etc). These should be part of the CIS he was analyzing. However, all such necessary *biologically implemented equipment* would be subject to the ravages of random mutations (but were conveniently ignored in the 'simulation'). I've waited for more than 12 years for the promised reply.

As another example, University of Wisconsin professor Sean Carroll claimed that the presence of the *Pax-6* gene in all 40 kinds of eyes implies a common eye-evolution ancestry.[2] However, another leading evolutionist and developmental authority, University of California Institute of Technology professor Eric Davidson, concluded the opposite after looking at more details of the eye development systems. He looked into the regulatory relationships of the subnetwork genes the *Pax-6* gene is involved in for various organisms, and argued that claiming an evolutionary common ancestral eye had existed makes no sense.[3]

Understanding genetically driven information processing (the CIS insight) requires a full accounting of epigenetics (histone modification; DNA attachments; micro-RNAs processes; histone variant substitution). In addition, chromosomes are arranged and rearranged dynamically to simultaneously express collections of genes, in response to various signals (typically sensors in CIS parlance). Precise three-dimensional structures have to be put together with ensembles of proteins working with various DNA 'binding sites'. CIS principles are present everywhere one looks!

CIS thinking facilitates quantitative analysis. This clarifies the absurdity of evolutionary claims. There are only so many mutational opportunities available as 'feedstock'.[4] Yet there are examples of the same DNA pattern placed in *thousands* of different locations to regulate genes. A process of trial-and-error would also be confronted with having to avoid the immensely greater proportion of inacceptable binding locations generated. These binding factors then activate genes and intron/exon splicing in a manner integrated with downstream gene circuits, which would also need to have evolved. Random mutations and selection at a whole organism level can't do the job.

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A developing schism in Flood geology

Froede and Akridge[1] are correct to recognize that creation geology includes two widely divergent groups seeking to reconstruct earth history within a biblical framework. Such has been the case throughout the history of creationism, going back to disagreements between Harold Clark and George McCready Price over the reality (or not) of the geologic column. With the increased number of geologically trained young-earth creationists, discussions over these issues have become more common.

I avoid labels as much as possible, unless such labels are made by the proponents themselves. Labelling some creation geologists as holding a "remodelled naturalistic approach", while wrapping themselves in the mantle of "reconstructed biblical geology", is inaccurate and self-serving. Amusingly, it is also contradicted by their own words, since the authors take issue with statements from Snelling and Baumgardner that miracles may be required at various times in the Flood. Apparently 'biblical geologists' reject the invocation of miracles and criticize 'naturalists' for allowing them! I'm confused. Which group is 'naturalistic'? Neither, of course, and we should dispense with such antics. These labels will not stick, nor should they.

A basic and significant point of contention between these camps is whether long-distance correlations (based on physical stratigraphy, biostratigraphy, radioisotopic data, etc.) are legitimate, for it is on these correlations that the geological column is established. Froede and Akridge claim that this is not possible, and that all of the geologic data must be rediscovered from a 'ground-up' view of purely local geology and its interpretation "based solely on the biblical narrative". I am unclear as to precisely what this entails from the standpoint of actual geological fieldwork. Are we to assume that all of the descriptive geology published in the past three centuries is so deeply flawed that only the fresh eyes of certain young-earth creationists can properly document these rocks? Are not the basic empirical data (lithology, structure, thickness, orientation, fossil occurrences, etc.) described with sufficient, though imperfect, accuracy in the geological literature? How might their practices of documentation differ in any real sense to those of the old-earth geologist, aside from differing viewpoints on the time and mode of formation? These are matters of interpretation, not documentation.

Let's explore some basic observational data that I have personally confirmed in my own fieldwork for my master's degree in paleontology. While my geological description[2] of this area was done in accordance with old-earth parameters, I am a young-earth creationist. Since I could think in both paradigms while conducting my research, my *observations* of relevant paleontological data were and are independent of the interpretive system in which I was working.

The Pierre Shale is an immense (over 450 m [1,500 ft] in some areas) sequence of black mudstones, claystones, and shales that extends from Manitoba to New Mexico. Ammonites are common fossils which form the biostratigraphic framework for upper Cretaceous marine sediments across North America. Species of the straight-shelled genus *Baculites* are readily distinguished on the basis of shell morphology and suture patterns,[3] and with a little practice anyone can learn to identify the various species. The type section for the Pierre Shale in the southern Black Hills is in Red Bird, Wyoming[4], and my own field studies were in Hermosa, South Dakota, some 108 km (65 miles) away. Despite the distance and the Black Hills standing between these two locations (!), I was working in the same lithologies and discovering the same *Baculites* species in the same sequences (e.g. *B. obtusus* below *B. maclearni*) as seen at the type section. This pattern is further repeated in section after section throughout the exposures of the Pierre Shale and many other upper Cretaceous rocks of the Front Range of the Rocky Mountain region,[5] making correlations among these strata straightforward and robust.

This is precisely the sort of 'ground-up', locality-driven evaluation that Froede and Akridge claim is needed to properly understand earth history. It is already done. The empirical observations of geologic formations and features documented by geologists are not always complete or perfect, but they are generally reliable. There is no need to start from scratch. Moreover, the geological approach advocated by Froede and Akridge applies models that seek to synthesize a global record of earth history while at the same time *necessarily* rejecting geologic correlation methods that could connect disparate geologic systems. How can such methods possibly succeed, when they discard necessary tools? In contrast, the physical and biostratigraphic correlations referenced above are empirically testable: one can go to unstudied outcrops, as I did, to test the relationships.

While the conclusions of an ancient earth and universal common ancestry drawn by old-earth and evolutionary geologists are incorrect, it is not because they consistently allow presuppositions to trump *basic geological documentation*. They are not lying nor manipulating data in order to salvage the geologic column. Neither do they play shell games with fossil identifications or taxonomy. However unsettling an affirmation of the column may be, it is a reality born from empirical studies and sound logic that creationists must firmly grasp and attempt to understand. It is not because the geologic column, CPT, and RATE are in some ways consistent with old-age ideas that they are well-received by creationists. It is because they are consistent with the *data*.

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