



IS INTELLIGENT DESIGN CREATIONISM?

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Intelligent design proponents such as William Dembski claim that science is incomplete because it doesn't admit the possibility of "explaining" the world by invoking the action of a (supernatural) designer. (Dembski usually shies from overtly calling for a supernatural designer, but since natural design is already accepted as part of the explanatory framework of science—for example in the case of the Search for Extraterrestrial Intelligence—his shyness must be only a political expedient.) And yet, it is demonstrably the case that Dembski doesn't understand (or refuses to understand for psychological reasons) how partly historical sciences such as evolutionary biology actually work.

As an example, let us consider a standard objection to evolutionary theory that Dembski presents at every occasion (for example, in his "The Logical Underpinning of Intelligent Design," a chapter in Dembski and Ruse's *Debating Design*, Cambridge University Press). In discussing naturalistic scenarios for the evolution of complex biological structures, such as the bacterial flagellum, Dembski claims that the following conditions must be met: "(a) the probability of each step in the series [of evolutionary changes leading to a complex structure] can be quantified, (b) the probability at each step turns out to be reasonably large, and (c) each step constitutes an advantage to the evolving system."

Sounds reasonable, right? Not really. Any biologist (beginning with Darwin) would agree on *c*, though often we simply do not know enough about the structural biology and history of a given structure to be able to give a full list of steps (more on this below); *b* is rather obvious; the real problem is *a*. Dembski here sets the bar so high that he knows it cannot reasonably be met, which means of course that he wins by default. The situation is rather analogous to that of a classic creationist claim, which is why I think the logic of ID is not significantly different from the logic of creationism in general. One of the recurring objections that creationists raise to evolutionary theory is that, in their opinion, there are no intermediate fossils to make a convincing case that, say, *Homo sapiens* really did evolve from a closely related group of primates. A patient paleontologist will then produce several fossils of different species of *Australopithecus*, together with many species of pre-*sapiens* *Homo*, all perfectly good candidates as intermediates. “Ah!” the creationist cries in disbelief, “but now you have many more gaps to explain!”

This response is not a joke, I have actually heard plenty of creationists making it with the clear impression of having definitely trumped my materialistic delusions (and, I suspect, expecting me to kneel in front of them to accept Jesus). The fault in the logic should be obvious: the fossils produced by the paleontologist make a compelling case because they are of the appropriate morphology (they do show intermediate characteristics between the most ancient and the most recent species), and because they are found in the temporal sequence predicted by evolutionary theory. While any individual fossil does not clinch the case, the entire ensemble allows scientists to make what philosophers call an “inference to the best explanation”: the idea that *Homo sapiens* evolved by successive modifications from primate ancestors is made increasingly more likely with every *Australopithecus* and pre-*sapiens* *Homo* fossil that is found. This, incidentally, was exactly the type of argument used by Darwin in *The Origin of Species*, which is why he famously referred to it as “one long argument” (the longer, the more convincing).

Dembski, in asking for condition *a*, is asking for the same sort of thing that standard creationists want when they demand a minute-by-minute account of evolution. He knows very well that the demand is impossible to fulfill for the same reasons that we cannot produce every single intermediate change that actually occurred during the evolution of *Homo sapiens*: evolutionary biology is a historical science, and the historical traces of many of the relevant events are forever lost to science. This doesn’t mean that the inference to the best explanation isn’t a powerful tool of scientific investigations. Indeed, many ID proponents themselves use precisely such a tool in claiming that the available facts “point” in the direction of an intelligent designer as the best explanation for the complexity of living organisms.

That said, sometimes biologists do get lucky enough to actually be able to show, both theoretically and by comparative anatomy, all or almost all the intermediate steps that may have occurred to bring about the evolution of a given complex structure. This is the case for the vertebrate eye, as beautifully summarized in a classic paper co-authored by legendary evolutionary biologist Ernst Mayr (Salvini-Plawen and Mayr, 1977; see also Nilsson and Pelger, 1994). We now have both a set of computer simulations showing how the complex vertebrate eye can evolve from simple photoreceptors, and a collection of currently living organisms actually displaying many of the predicted forms (all perfectly functional, which answers the classical creationist question of “what is half an eye good for?”).

As the informed reader might recall, the vertebrate eye used to be the quintessential example of “irreducible complexity” and a famous warhorse of intelligent design theory at the time of William Paley (early nineteenth century). It is not by chance (shall we call it rhetorical design?) that modern ID proponents such as Michael Behe and Dembski never mention the eye and instead retreat to the depth of microscopic structures such as the bacterial flagellum. Should we be able to do for the flagellum what we did for the eye, what would the next hiding place of not-so-crypto-theists such as Behe and Dembski be? Only time will tell.

REFERENCES

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