

A flawed argument for design in biology

Biology today is a profoundly well-developed discipline. Its commitment to empirical inquiry, together with the revolutionary character of modern technology, has produced breathtaking insights into every aspect of living things, and biology is not only deep but broad: even within biological study, specialties exist that are almost entirely independent. The specialist in vertebrate morphology knows not to be over-confident in pronouncing upon subjects such as biochemistry, and vice versa. And the amateur, if he has a suitable sense of caution, knows that he must be very, very careful indeed, if he thinks he comes to the table with something to contribute to our insight into the world of living things. Bad works of philosophy bearing upon biology seem to be multiplying these days -- the horrid books by Robert Shedinger and Neil Thomas are good examples of the type. But I opened this book having been assured that here, one could find something worthy of interest, and intellectually respectable. Would Kojonen have the judgment these others lacked?

Kojonen begins in the domain of philosophy, focusing on whether his thesis or something like it - some variant of "design" as an explanation for the origin of living diversity but retaining evolution as an explanation as well -- is potentially "rational." It's a bit hard to understand, indeed, why he spends any time on this. Rationality is at most a sort of procedural correctness: any proposition can be "rational" if one starts with the right premises, leaves out the premises that are unhelpful, and constructs some sort of argument which is not internally contradictory in support. Are bears chickens? No, but the assertion that they are can be rendered "rational" while remaining, in fact, absurd. The interest in mere rationality, and in arguments, seems ill-placed, when the whole subject could be disposed of quite well in an uncontroversial sentence: yes, it is in principle possible for living things to be in some ways designed and in other ways evolved. The more interesting question is whether any such position can find solid grounding in the evidence, or whether it belongs alongside the "bears are chickens" hypothesis.

There are a number of side-alleys in this book which make it hard to be really very sure of what Kojonen's actual thesis is, at least at any acceptable level of specificity, a problem exacerbated by his habit of coming right up to the edge of saying what he means, and halting. As best I can gather, after a few times through the text, he contends that while it's not clear that there is a solid basis for "proximate" design causes for the diversity of life (e.g., a god who steps in and creates new taxa de novo, or who purposefully causes particular mutations to occur), there are nonetheless a few sort of overarching themes in biology which, together with what he takes to be teleology in biology, are suggestive of what he calls the "wider teleology": the idea that the universe in which we live -- the vast majority of which harbors no life at all -- was itself designed to cause life to emerge. It's not clear that he means god to be a purely "ultimate" as opposed to proximate cause, however.

One can't help but be reminded of the remark by Mark Twain:

"If the Eiffel tower were now representing the world's age, the skin of paint on the pinnacle-knob at its summit would represent man's share of that age; and anybody would perceive that that skin was what the tower was built for. I reckon they would, I dunno."

But, be that as it may, it is fair to say that no a priori objection to the idea can succeed, and to that point, Kojonen is doing fine. The notion of a god who does these sorts of things can be distinctly conceived, and involves no contradiction, hence can be the object of a "rational" arrangement of ideas, small prize though that may be. If the book ended there, nobody could quarrel with it, or care enough to do so.

But most people have probably noticed by now that while our imaginations and speculations may help us formulate rationally-askable questions -- IS the world in some way the product of design? -- they are generally useless in evaluating the correctness of those imaginary and speculative notions. Other answers than those suggested by Kojonen can ALSO be imagined and rationally constructed, and other gods than the one Kojonen apparently believes in can be conjured in legions, as Scrooge said, by a toothpick. When it comes to propounding, as a proposition of fact rather than of mere reason, the existence of some design or other in relation to the origins of living diversity, evidence is simply the only thing which matters. And a man who asserts the truth of a proposition when he can honestly say only "I don't know" is guilty, at the very least, of being a sloppy thinker.

When one steps out of the domain of mere tongue-wagging theoretical philosophy and into the domain of fact, one has got to come to grips with evidence. There's no alternative, and no turning back. It is one thing to say that an argument has some sort of merely-philosophical possibility and rationality about it, and it is quite another thing to say that it is well-grounded in the evidence and has actual demonstrable merit and explanatory power. No protest that the argument is "philosophical" or "theological" in nature will avail one who seeks to show that his argument is well-grounded in fact rather than merely being a possibility in the realm of abstract ideas. There is such a thing as quality in rhetoric, but no amount of rhetorical whizbang or verbal obfuscation will do substitute duty here; the quality of an argument about facts IS, above all, the quality of the evidence mustered in its support.

And when it comes to evidence, Kojonen falls apart, badly.

Much of his argument depends upon the idea that there is teleology in biology. There isn't, of course, and there's no reason to think that there is. He sometimes uses the more guarded expression "apparent teleology," but most of the time he just smuggles it in by asserting that its existence is the very sort of problem that must be solved. After multiple readings I have been unable to understand why and how he thinks there is any actual teleology in biology. It's quite literally never explained. It may be that, akin to ID Creationist Michael Behe, whom he cites on various points, he is incapable of understanding the difference between "function" and "purpose," so that things which are functional -- and biology does have many of those -- seem teleological.

The nearest he seems to come to explaining the point is itself a disaster of sorts. At a couple of points he argues that we ought to accept as evidence what he calls "personal explanation" or "commonsense beliefs" -- the subjective impressions some people have that living things must be explained by reference to intentional agents. This is a frankly gob-stopping, indefensible break with reality. One thing science has taught us very well is that intuition is at best a poor guide to what is true. I find the notion that I am a distant cousin to the cedar tree in my yard

immensely counterintuitive; if I did not live in a world where this has been demonstrated beyond all reasonable doubt, I would reject it as downright silly. Our intuitions help us speculate, but speculation, isolated from any useful observation at all, is without value as evidence, under even the loosest and lousiest of epistemic standards. The intuitive sense that living things reflect design -- held usually by people whose views of the question are heavily prejudiced by religious precommitments -- is utterly worthless as evidence of anything beyond the nature and limits of human cognition. When this sort of sorry stuff is offered as evidence, it speaks to the extreme poverty of evidence -- and behind it, the extreme poverty of insight -- at work. It arises from no fact witnessed, from no cause understood, and from nothing bearing on the merits of the question.

But it does arise, and indeed finds a warm and welcoming home, in one place: Intelligent Design Creationist literature. The identical notion appears in the book *Undeniable* by Douglas Axe, whose writings Kojonen repeatedly cites; it is a classic of creationist pseudo-reasoning, termed "common science" by Axe. And that is, alas, only the tip of the iceberg: Kojonen has drunk heavily from the writings of the ID Creationists.

Design "arguments" such as the ID Creationists (e.g., Axe, Behe, Meyer and Dembski, all cited heavily by Kojonen) present are critiques of mainstream evolutionary biology and, as I have said above, biology is a great, intellectually mature discipline: deep, broad, and anchored in a truly vast body of supporting data. One who seeks to contribute insights to it needs to have some substantial grasp of it; one who seeks to critique it, still more so. But one does not get the sense, in reading Kojonen, that he has the slightest sincere interest in real living things. Like the more garden-variety design proponents, the rank-and-file creationists, he seems interested in them only very abstractly -- as a kind of anvil for his arguments, and not as creatures, plants, fungi, protista, et cetera, who have real lives and dwell in our world, and who are worthy of our study and interest in their own right, whether theological speculations flow therefrom or not. His reading in biology seems incredibly thin -- mostly popular books for a general audience -- and the shallowness of his understanding shows up in the form of far, far too many references to Richard Dawkins. But, worse than thin: it is immensely filled with the "work" of liars and cranks: the major proponents of the Intelligent Design movement. Indeed, even when Kojonen gets into the legitimate scientific literature, it is often to follow up on some argument by an ID proponent, sometimes in a paper cited by ID proponents. The impression given is that he has largely obtained his education from the cranks, and views the better-informed judgment of the vast majority of actual biologists as, at most, a kind of rebuttal argument to the cranks (Elsewhere he has referred to those who point out the dishonesty of ID proponents as "conspiracy theorists"!). One has to wonder whether he'd even have bothered reading so much as a Richard Dawkins book, if his favorite ID proponents weren't squawking about Dawkins constantly. He'd have done well to do a deep dive in biological sciences BEFORE reading the cranks, and his impression of them would be radically different if he had. As it is, it appears that this deep dive still hasn't happened, even at this late stage.

His reliance upon these ID Creationists is a bit odd, and one gets the sense that it's intended to be a bit evasive. He cites their various arguments, either unaware of or indifferent to the fact that these arguments have no traction at all in the world of legitimate science, in what seems like a bit of hand-waving to establish that, well, biology's complex, isn't it? And it's so dependent on -- well, you know -- the construction of complex structures, the formation of working proteins,

the storage of DNA sequences to code for these things, and all that, that somehow there's GOT to be design behind this, if only in the sense that only an exquisitely-designed universe could contain such wonders. But he waffles by mentioning some of their gentler critics, and ties himself to none of their claims in particular, seeming only to wish to invoke their names to suggest that some of this illegitimate pseudoscience has something to offer, hinting at broader themes and conclusions, while leaving himself no responsibility to defend it. He may as well have said, "a spectre is haunting evolutionary biology," and had done with it. One might excuse some of this, perhaps, if he had evidence. Does he have evidence that these rejected contentions of the ID Creationists have merit? No. Does he have evidence that the universe is exquisitely designed? Also no. But the citations to and discussion of the ID Creationists create a certain fog and aroma of error -- persuasive to the uninformed, and a noxious odor to the informed. By the end of the book, the burning smell really doesn't clear.

Along the way he emits a variety of creationist tropes. The worst and silliest of these is his railing against "scientism." One who wishes to show us that science is not the best way to understand the natural world has quite a burden, and like most of those who rail against "scientism," he completely fails to take responsibility for that burden, which is to show us a non-scientific method by which better and more reliable conclusions than those of science, on questions of fact, can be reached. Instead, what do we get? Appeals to raw subjective intuition and the like, useless to any person genuinely interested in understanding the facts. Reading tea leaves would be more promising: one would, at least, get a cup of tea in the bargain.

More creationist tropes lurk, sometimes thinly disguised, sometimes in the open. There are a few eye-rolling references to "naturalism of the gaps" (as though scientists said, "naturalism explains it!" whenever confronted with a mystery. Hint: they don't.) and "chance of the gaps." Presumably, given that what Kojonen is making is, when stripped of its wordy husk, nothing more than a god-of-the-gaps argument, he thinks this provides some defensive cover. It doesn't.

Apart from his references to ID Creationists and his echoing of classic creationist tropes, he does turn to one other area within biology to try to cobble together some sort of grand theme, but it is so obviously insufficient and so badly done that it is astonishing that it made it to print. He tells us that biologists increasingly point to "laws of form," which constrain the ways in which organisms evolve, and he suggests that somewhere underlying these "laws of form" must be design principles of some sort. Two problems: First, biologists don't increasingly point to laws of form, and biologists I've spoken to about this claim have no idea what he's talking about. This is the sort of thing that happens when one gets one's biology lessons by consorting with creationists. Second, when one examines what he means by "laws of form," it is an incoherent hodgepodge. Some of it is strange minority views that seem to be structuralist and/or orthogenetic; some of it is an ill-conceived and selective notion of "directionality" (e.g., the fact that the largest organisms are now larger than they were at the dawn of life); but much of it is so mundane and unsurprising that it's bizarre to see it being mustered in such an argument: simple physical, environmental and ecological constraints. Gravity's too strong for there to be flying whales? Aha! Must be the manifestation of the divine plan of a god that doesn't think whales should fly! How any part of this -- the disfavored views of structuralists, the fact that life develops along the lines that it does, or the fact that organisms have to be made of matter, descend from their ancestors, and occupy and survive in a physical environment -- implies teleology, or implies some grand design theme, is exceedingly hard to work out. What it DOES imply is

sloppy, sloppy thinking and very poor standards for evaluating whether evidence supports an inference.

What else is there here? It boils down, when one has got through all the wordiness, to a really vague, less-coherent version of classic creationist "fine-tuning" arguments that say that the fact that our universe is good for living things implies that there are gods. Take the unknown aspects of the universe's origins as gaps, and jam as much god into the crevices as can be jammed. Like most fine-tuners, he is indifferent to the fact that we don't actually know that different universes could or might have different characteristics, and that even if one grants that, one still needs to have some notion whether ours is particularly unusual and whether there's actually anyone who configures them. We certainly have no evidentiary basis for thinking so, and folkloric sources telling tales about great principalities at the head of reality itself are -- well, folklore. The improbability of our universe by itself, even if granted, simply supports no inference: it ends with "golly," and the fellow who insists he can read more than that into it is, at the very least, misleading himself.

It is undoubtedly tempting for someone who regards himself as a philosopher to seek, in a field like biology, the grand, overarching insight: the forest which is unseen by the lumberjacks who toil among the trees. But just as natural complexity is emergent from natural causes, wisdom of this profound sort is -- disappointingly to those of us who are not specialists -- emergent from understanding not of broad themes, but of details. If ever a worthwhile book on design in biology is written, it will be written by a biologist; but as biology continues to reveal not teleology but a deeper and ever more interesting natural world, I won't be holding my breath.