Could evolution be compatible with arguments for design in biology after all?

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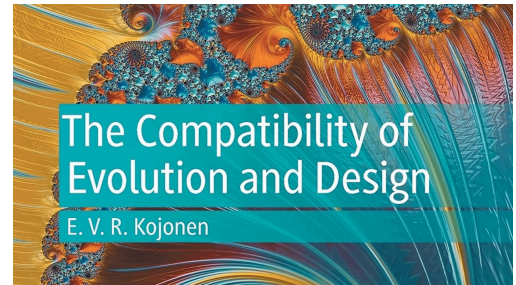
Design and its Denial

The idea that nature's order signals an underlying divine purpose has been part of religious thought since ancient times. For instance, the Greek philosopher Epictetus (50 – 135 AD) argued that "from the very structure of things which have attained their completion, we are accustomed to show that the work is certainly the act of some artificer, and that it has not been constructed without a purpose." The physical complementarity of the male and female, the fittingness of our minds to direct our bodies, and our capacity to see were clear evidences of our purposeful creation, he argued.
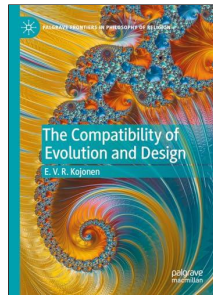
Epictetus even considered evil and suffering as a possible counterargument, and argues that we are meant to overcome this challenge through the exercise of manly virtue:

> "Yes, but my nose runs." For what purpose then, slave, have you hands? Is it not that you may wipe your nose? "Is it, then, consistent with reason that there should be running of noses in the world?" Nay, how much better it is to wipe your nose than to find fault. What do you think that Hercules would have been if there had not been such a lion, and hydra, and stag, and boar, and certain unjust and bestial men, whom Hercules used to drive away and clear out? And what would he have been doing if there had been nothing of the kind? [...] Come then do you also having observed these things look to the faculties which you have, and when you have looked at them, say: "Bring now, O Zeus, any difficulty that Thou pleasest, for I have means given to me by Thee and powers for honoring myself through the things which happen."[1]

Both the design argument and the problem of evil remain with us today. The Ancient Greeks also knew of the combination of chance and necessity as a potential counterargument, but this remained unconvincing. The advent of Darwinian evolutionary biology was hailed by some as providing, finally, a scientifically sound way alternative way of explaining the apparent purposefulness of biological order. For example, philosopher of biology Michael Ruse, while admitting the overall logical compatibility of evolution with religious belief, nevertheless concludes that "after Darwin, the creation no longer sings" of its Creator, but all is laid on faith.[2]

1. Epictetus, Discourses, chapter 6

The claim that evolution, if true, would explain away the evidence of design has also been one of the driving ideas of both the intelligent design movement and modern creationism. The idea of evolution as a "blind watchmaker" instead of Paley's watchmaker God is frequently quoted in ID writings from Phillip Johnson onwards. This sets evolution against one historically influential view regarding divine revelation in nature – although evolution would at most affect only one of natural theology's arguments. But the continuing intuitive pull of our design intuitions concerning nature – coupled with the idea that these intuitions contradict evolution – is, I think, one of the reasons that makes opposition to evolution so trenchant.
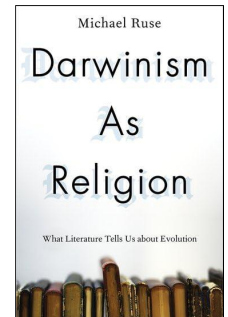
However, already in Darwin's day, others disagreed and argued for the compatibility of evolution and perceiving design in biology. Darwin's friend, the American botanist Asa Gray, for example, held that evolution "leaves the question of design just where it was before [...] the issue between the skeptic and the theist is only the old one, long ago argued out – namely, whether organic Nature is a result of design or of chance".[3] Gray thus believed (contrary to Darwin's own understanding) that the theory of evolution did not refute the design argument – although evolution does alter our understanding of the way God implemented his purpose in the cosmos.

Gray even states that some arrangements in nature,

> of which the eye and the hand are notable examples, compel belief with a force not appreciably short of demonstration. Clearly to settle that such as these must have been designed goes far toward proving that other organs and other seemingly less explicit adaptations in Nature must also have been designed, and clinches our belief, from manifold considerations, that all Nature is a preconcerted arrangement, a manifested design. A strange contradiction would it be to insist that the shape and markings of certain rude pieces of flint, lately found in drift-deposits, prove design, but that nicer and thousand-fold more complex adaptations to use in animals and vegetables do not a fortiori argue design.[4]

2. Ruse, Michael. *Darwinism as Religion. What Literature Tells us about Evolution*, p 282.

3. Gray, Asa. *Darwiniana: Essays and Reviews Pertaining to Darwinism*, p 96.

4. Gray, Asa. *Darwiniana: Essays and Reviews Pertaining to Darwinism*, p 98.

In effect, Gray argued that evolution simply moves the design argument back one step. That evolution was designed to be able to produce structures like the human eye is still a better explanation than that nature just happened to have the right properties for that kind of evolution.

The evaluation of this argument requires a broader philosophical understanding of what it means for one explanation to undermine the other, and under what conditions we might combine explanations. We can easily think of cases where designers work through intermediate causes – for example, a car being produced by an automated factory would not invalidate the designedness of the car. Nature is quite different from a factory, but could the order of biology still reflect the designedness of the cosmos? Hopefully it will be clear that an argument is also required for the incompatibility of evolution and design, and that this is a philosophical and theological, not just a scientific question.

Evaluating Evolution by Design

In my book _The Compatibility of Evolution and Design_ (Palgrave 2021), I take up Gray's position and update it in light of developments in the natural sciences, philosophy and theology. "Asa Gray 2.0" has been a convenient short way several friends have summarized the argument. In getting there, I analyze the history of design arguments and design intuitions (which long predate modern creationism), the logic of the argument, the reasons for opposing design and evolution, and the debates over the preconditions and directionality of the evolutionary process. My conclusion – that evolution and design are compatible – is controversial and would, if accepted, greatly change the landscape of the creation-evolution debate. For instance, it would allow theistic evolutionists to also affirm the revelatory potential of biological creation more clearly.

As I've written,[5] although Darwin and others since have certainly presented arguments against Gray's position,[6] my own suspicion is that the abandonment of Gray-style ideas owes more to currents of intellectual fashion and the changing of the "social imaginary"[7] than to the failures of evolutionary design arguments as such. As Michael Ruse (2018) points out, Darwinian evolutionary theory soon began to be used (or abused) as a kind of secular religion, antagonistic to ideas of divine design. The 19th century rise of the myth of a great war between science and religion, the rise of positivism, and the rise of Barthian theological critiques of natural theology also likely influenced the waning of the popularity of evolutionary design arguments. Thus, quite a bit of ground clearing needs to be done in order to reclaim the intellectual territory once inhabited by Gray.

But the payoff for salvaging the biological design argument, and the idea of signs of purpose in living organisms, is also substantial. It
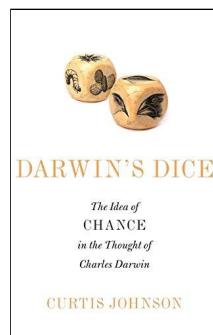
creates new opportunities for engagement between, for example, fundamental evolutionary biology and the philosophy of religion. And it allows for defending the fundamental correctness of the human intuitive detection of design in biology, even in an evolved cosmos. This will be of value to many ordinary religious believers, who will now not have to choose between believing in evolution and trusting in their perception of design in biology.

In March 2022, Zachary Ardern, myself, William Simpson and Rob Koons arranged a symposium on new perspectives and others arranged a symposium on "Nature's Goals: Hylomorphism, Teleology and Design" at Corpus Christi college in Cambridge. Part of the symposium involved responses to my book, and these will be published in the December 2022 issue of _Zygon: Journal of Religion and Science_, and most of these are already available online. I believe these papers will be of interest to many readers of Peaceful Science, and am also willing to discuss the issues at the Forum.
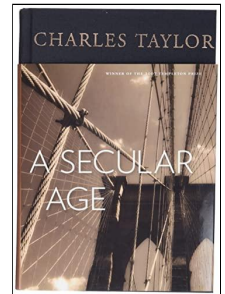
For instance, the response by David H. Glass focuses on (as I write in Kojonen 2022) analyzing the features of "conjunctive explanations," in which two or more explanations are combined to explain some phenomenon. Simplicity has traditionally been a valued feature of explanations, and thus Occam's razor has often been invoked against combinations of evolution and design. For example, Young Earth Creationist John Woodmorappe[8] has compared the idea of divinely guided evolution to a tractor pulled by an invisible horse. If the tractor works, then the hypothesis that an invisible horse is pulling the tractor becomes unnecessary to explain its movement. Similarly, claims Woodmorappe, if evolutionary explanations are correct, then references to divine intentionality in explaining life become unnecessary. Occam's razor mitigates against combining the explanations, and those who want to defend design as an explanation should therefore become creationists. However, as Glass points out in his response, "while there is indeed an explanatory cost incurred by a more complex explanation, this can be outweighed if it presents sufficient explanatory gain." I argue, and Glass concurs, that there is such a gain in the case of designed evolution.

For readers who just want to understand the basic argument, the papers by David Glass[9] (Ulster University) and Mats Wahlberg[10] (Umeå University) provide good commentary on the structure of the argument. Glass' paper focuses on the issue of conjunctive explanations, whereas Wahlberg focuses on the philosophy of religion and the problem of evil. Zachary Ardern's introduction also provides a good overview of the discussion.[11]

Regarding the scientific evaluation of the argument, the workshop featured papers by Peter Jeavons[12] (on the design of evolutionary algorithms and the possible relevance for biological evolution), as

5. Kojonen, E. V. R. "Response: The Compatibility of Evolution and Design."

6. Johnson, Curtis. _Darwin's Dice: The Idea of Chance in the Thought of Charles Darwin_

7. Taylor, Charles. _A Secular Age_.

8. Woodmorappe, John. "The Horse and the Tractor: Why God and Evolution Don't Mix."

9. Glass, David H. "An Evaluation of the Biological Case for Design."

10. Wahlberg, Mats. "Divine Design and Evolutionary Evil." Preprint also available

11. Ardern, Zachery. "The Contentious Compatibility of Evolution and Design: Introduction to the Book Symposium."

well as Denis Alexander[13] (focusing on the meaning of "randomness" in nature and its compatibility with design). Both papers end up being quite supportive of the scientific portions of the book, and even greatly extend the arguments regarding evolutionary algorithms and randomness.

The most critical perspectives were offered by Meghan Page[14], pressing the problem of bad design and philosophical issues on conjunctive explanations, and Bethany Sollereder.[15] Sollereder, although supportive of the general argument, presents the (un)reliability of human intuitions, the potential reducibility of life's information to the environment and the theological problems of the language of "design" as potential critiques.

The Future of Design

I am very grateful to all of the respondents for their work in evaluating the arguments, and have responded to their comments in my own article in the Zygon issue.[16] I note that "the pushback against design arguments mostly related to concerns about design arguments

in general, rather than about the compatibility of design arguments and evolution as such" and point out ways in which both scientific, philosophical and theological research could help evaluate and defend the argument further. For example, scientifically, I believe this account of design could motivate further research into questions regarding the fine-tunedness of the genotype-phenotype map and fitness landscapes.

In the future, I hope more people also evaluate the idea of compatibility, both from the scientific, philosophical and theological angles. At the symposium, we did not hear ID proponent's responses to the argument for compatibility, so I hope there will be an opportunity to interact further with these. ID proponents reject the plausibility of evolutionary explanations for the complex functional order we see in biology, so many of them may see the project of combining evolution and design as uninteresting. However, some ID proponents I have interacted with have seen the point of the argument at least as a thought experiment: supposing that evolution were established, would that indeed refute design? Or would any working evolutionary process actually need to depend on design? Many ID proponents answer "yes" to the latter question, and I believe this could create some common ground between theistic evolutionists and ID proponents. Thus, I hope, bringing some peace to the science and faith discourse.

12. Jeavons, Peter. "The Design of Evolutionary Algorithms: A Computer Science Perspective on *The Compatibility of Evolution and Design*."

13. Alexander, Denis R. "Evolution, Chance, Necessity, and Design."

14. Page, Meghan D. "Thomist or Tumblrist: Comments on *The Compatibility of Evolution and Design* by E. V. R. Kojonen."

15. Sollereder, Bethany N. "Response to *The Compatibility of Evolution and Design*."

16. Kojonen, E. V. R. 2022. "Response: *The Compatibility of Evolution and Design*." *Zygon: Journal of Religion and Science*.

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Further reading

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