Kojonen's The Compatibility of Evolution and Design

with Zachary Ardern, "The Contentious Compatibility of Evolution and Design: Introduction to the Book Symposium"; David H. Glass, "An Evaluation of the Biological Case for Design"; Meghan D. Page, "Thomist or Tumblrist: Comments on The Compatibility of Evolution and Design *by E. V. R. Kojonen"; Peter Jeavons, "The Design of Evolutionary Algorithms: A Computer Science Perspective on the Compatibility of Evolution and Design"; Denis R. Alexander, "Evolution, Chance, Necessity, and Design"; Bethany N. Sollereder, "Response to* The Compatibility of Evolution and Design*"; Mats Wahlberg, "Divine Design and Evolutionary Evil"; and Erkki V. R. Kojonen, "Response: The Compatibility of Evolution and Design."*

RESPONSE TO THE COMPATIBILITY OF EVOLUTION AND DESIGN

by Bethany N. Sollereder

Abstract. The first half of this article offers two possibilities of how the argument Kojonen makes might be vulnerable to other new developments in evolutionary science and psychology—potential broadsides that might threaten to sink the salvaged ship of design once again. Work on the development of life suggests that life is a simplification of surrounding environmental information, and therefore life does not generate new information. Second, the psychology of pareidolia suggests we find design as a bias of our information processing, rather than observing something that exists. The second half of the article offers a critique of how the metaphors we use to describe God and the world shape our approaches to solving theological and philosophical questions (particularly theodicy). I offer some organic metaphors in place of the usual mechanistic metaphors to think about how the design argument could be reformulated.

Keywords: biology; design argument; Stephen Freeland; metaphors; pareidolia

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Kojonen's (2021) new book, *The Compatibility of Evolution and Design*, is a well-researched and carefully argued reconstruction of the traditional design argument. Kojonen uses the imagery of salvaging a shipwreck,

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refitting the wreck, and sending this new design argument on a new journey in the seas of contemporary understandings of evolutionary theory (5). It is a good metaphor, because as Kojonen himself recognizes, his design argument owes a great debt to its nineteenth-century precedents. Kojonen's design echoes Darwin's own sentiment that: "I cannot anyhow be contented to view this wonderful universe & especially the nature of man, & to conclude that everything is the result of brute force. I am inclined to look at everything as resulting from designed laws, with the details, whether good or bad, left to the working out of what we may call chance" (quoted in 175–76, see also 181, 194). This basic framework of designed laws with the details left to chance is worked out through a number of avenues, from biological fine-tuning to the combination of natural selection and randomness. Kojonen's argument takes the form of Charles Peirce's *abductive* argument: if X is surprising, but would be the natural outcome of Y, then the existence of X provides some evidence for Y being true, even if there is not direct proof of Y (77). In this case, the order and complexity of life are surprising, but design would mean that the order and complexity are a matter of course, and therefore the order of life provides some evidence for design. Kojonen is careful not to reach too far—careful not to suggest that there is proof for design. Rather, he uses the language that "the teleological order of biological organisms can still, in a rationally permissible way, be understood as a *sign* of the divine reality" (4, emphasis mine).

Kojonen succeeds, in my view, in his attempt to salvage the boa of biological design from the obscurities of history and to show its compatibility with contemporary evolutionary theory. He is able to update the argument to encompass new science and other developments in the design debate such as Intelligent Design Theory. What follows in this response, then, is not a critique of his argument. Rather, I first offer two possibilities of how the argument he makes might be vulnerable to other new developments in evolutionary science and psychology—potential broadsides that might threaten to sink the ship once again. Second, I offer a critique of how the metaphors we use to describe God and the world shape our approaches to solving theological and philosophical questions (particularly theodicy). I offer some organic metaphors in place of the usual mechanistic metaphors as a way to think about how the design argument could be reformulated.

The Search for Design

The two broadsides arriving from the natural sciences form two different kinds of arguments. The first is an undercutting defeater that threatens the premises upon which belief in design is founded, the second is a rebutting defeater, which if it is true, provi an alternative explanation for the appearance of design (see Kojonen, 43).

The first threat—the undercutting defeater—threatens to collapse biological design back into general fine-tuning arguments. New work in evolutionary biology argues that life has no additional informational content compared to the surrounding environment. Indeed, life is a simpler, pared-down version of the surrounding environmental information. Kojonen's biological design argument is distinct from physical fine-tuning arguments because it assumes that biological systems give additional reasons for seeing the work of a Divine designer. There are evidences of the Designer's hand in living beings that are not reducible to the general laws of physics. The biological design argument assumes that life is more complex and ordered than the nonliving world, and it is this assumption I wish to question.

In William Paley's argument a watch, full of contrivances and complexity, is the analogy to life, whereas the rock lying beside it has neither complexity nor contrivance, and therefore lacks the evidence of design (1809, 1–3). Stephen Freeland, a British evolutionary biologist, reverses that order. Freeland's work, if correct, undercuts the idea that there is any design in life that is separable from or in addition to any possible design in the general physical laws. Freeland disagrees that life is more complex and ordered than the nonliving environment. For him, life is far simpler—it is a distillation of surrounding information. In his words, "Biological evolution describes the natural process that transfers information from a local environment into the chemical known as DNA. Something similar happens when gravity causes raindrops to form a puddle, and the shape of the ground beneath becomes reflected in the underside of the water" (Freeland 2011, 240). The underside of the puddle holds information about the texture of the earth—if we froze the puddle and carefully pried it up, we could extract all kinds of information from the angles, cuts, and shapes frozen in the ice. Importantly, the ice has not been intentionally sculpted to reflect that information, it simply holds it by passive impression. The "information" present is not in the water, it is in the ground. The difference with life is that, along with the environment, life also reflects the information in other life it presses against—in Holmes Rolston's phrase: "The cougar's fang has carved the flank of the fleet footed deer, and vice versa" (2006, 147). To account for this, Freeland introduces a second analogy: that life is like a set of mirrors that reflect the image of the ground and reflect that image between themselves. They can contort the image of the ground in various ways but cannot introduce any new image of their own. All the innovations of life are variations on a theme, not new creations. All the new work done in the extended evolutionary synthesis and evolutionary development as well as my own work's emphasis on the freedom of creatures to be agents in their own creation can be likened to distorting the curve of the mirror or changing its angle of reflection (Sollereder 2019).

Freeland continues:

> Evolution is to DNA what gravity is to a puddle of water. In both cases, it is possible to isolate elements of the whole that carry impressively complex information (species really do contain lots of complex genetic programs written out in DNA, as does the shape produced when a body of H_2O perfectly matches some of the information inherent to the collection of rocks and debris beneath). If we considered only the water, we might be tempted to think that some sort of intelligence had sculpted such a complex and accurate reflection of the environment. We might even measure this information content to demonstrate its improbability of arising by chance. But step back far enough to see the whole picture, and we realize that evidence consistent with design can be better understood as a result of natural processes (gravity and a preexisting, information-rich environment). (2011, 246–47)

Freeland's work would turn the argument back to a type of structuralist argument. Structuralism is, as Kojonen defines it, the view that "biological form is the consequence of the laws of physics and chemistry, merely discovered by evolution" (125). Although, in this sense, evolution does not so much "discover" the biological form—rather the biology is *in*formed by the surrounding environment and life, simplifying and distilling it into the form of DNA.

Freeland's argument would not anticipate the possibility of a periodic table of life, and therefore would not be liable to Griffith's critique that such a table is not suggested by the phenomena (129). Just as the water in the lake is not the active agent, organizing itself into forms that match the bottom of the lake, so life would have no reason to have orderly or predictable arrangements. Yet, the analogy also accounts for the convergence pointed out in Conway Morris's work. The apparent directionality is simply a reflection of information that is being distilled more and more strongly. It is orderly, but not actually directional—it has no necessary purpose or end or teleology.

Freeland, if he is correct, would undercut confidence in the *biological* design argument. This would have no bearing on the status of the cosmological design argument and may even support it. But the proud ship of biological design would be consigned once again to the bottom of the sea.

The second threatening broadside to the ship of biological design comes from the realm of psychology. Part of Kojonen's argument is that the intuition of design should be trusted: "I have been arguing that the facts of biology, when studied in depth, serve to confirm rather than rebut the basic intuition that the type of complex teleological order we see in biology cannot be produced…without intelligence" (162–63. See also: 5, 157, 207). In arguing this, he is following Alvin Plantinga's argument that design discourses rest upon basic perceptual beliefs rather than arguments (2011, 245–48). We *intuit* design in evolution and, according to Plantinga, that

perception cannot be defeated unless someone could "show that the biological phenomena in question have been produced by *unguided* Darwinian evolution. But (naturally enough) they haven't shown that evolution *is* unguided by God or any other intelligent agent; that wouldn't be the sort of thing, one supposes, within the capability of empirical science" (254). Although I agree that empirical science could not prove evolution to be guided or unguided, science could undermine the confidence we have in our intuition. It *is* possible that the intuition of design does not exist because we recognize mind-created design, but rather because our own intelligence projects design into places where there is none. In both cases, the intuition would be the same, but in the second case, our belief is unjustified. Like Freeland's example above, the intuitive sense of design is simply a mirror that reflects our own intelligence back at us.

There is ample evidence that humans find patterns where and when there is none. Psychologists call the phenomenon pareidolia. Face pareidolia, for example, is the recognition of faces in odd places: clouds, pieces of toast, tree bark, etc. Take, for example, this tree trunk (NottsExMiner 2011):

There is no face here. Just an arrangement of odd lumps and bumps that give the impression of two eyes, a nose, and a straight-lipped mouth. Indeed, the impression of a face is not very strong, but once looked for, it is easily recognisable. Here is another example of pareidolia in a natural sand formation (Gruber 2006):

Again, there is no design to this lump of wind-shaped sandstone, but the impression of seeing an elephant emerge from the columns is strong.

Pareidolia is common and has led to belief in the appearances of Jesus and the Virgin Mary on pieces of toast, on tree rings, on the side of a barn, and in clouds. It is not just religious figures that are recognized. A 2014 study showed that people told to look for patterns subsequently "found" faces or letters in abstract noise pictures 40% of the time (Liu 2014). Humans naturally read patterns into situations where there is none, especially if they are anticipating it.

We could make things even more difficult by finding out that the objects in the pictures above were not naturally occurring but were actually carefully constructed pieces of art meant to look undesigned. In this case, the sense of design would actually be justified. This is the dilemma of the design argument: from simply seeing an object it is not possible to determine design without some prior knowledge of its history or development; Plantinga and Paley's confidence in this ability notwithstanding (Paley 1809, 5; Plantinga 2011, 225–64).[1] We can gain the impression of design from many things that were not designed, but this is because of our own active interpretation of the data, not because design is necessarily there to be seen.

Does being aware that we might be fooled by our impression lessen the chance that we will be fooled? It does not seem so. Several studies have shown that highly trained philosophers show the same biases as the general public when faced with making judgments in their area of expertise (Schulz et al. 2011; Tobia, Buckwalter, and Stich 2013). Knowing about a bias does not seem to prevent it influencing our intuitions. Therefore,

knowing that pareidolia is not necessarily truth-tracking will not lessen its impact—we will not necessarily be able to see through it if it is false. We need some outside witness to the actual history to settle whether the impression of design is an illusion of pareidolia or not.

Therefore, philosophers who rely on intuition or basic perception in their arguments need to give some plausible reason for belief in the truth of that perception, because we now have good reason to suspect that the impression of design is a trick of our minds. Think of a parallel example: our basic perception of movement. On a roller coaster, our perception of movement is strong, and our belief is warranted. At the same time, after getting off the roller coaster, we have a strong perception that we are "still," despite the Earth's movement meaning we are still moving much faster than we did on the roller coaster. In one case our perception is truth tracking, in another the same perception is not. Scientific research has given us strong reasons not to trust our perception of stillness in the second case, even though that perception is a human universal. Similarly with design, many of our intuitions of design are correct, such as when we view art. But scientific research gives us strong reasons not to trust that perception in every case. When Plantinga, for example, points to Darwin's sense of design (246) or Sir Francis Crick's need to constantly fight his impression of design (257, 260) these are not necessarily adding any weight to Plantinga's case. They are simply the equivalent of an honest admission of the heliocentrist that "No, I don't feel the Earth moving either… Nevertheless it moves."

In the end, the theist might point to Scripture or Tradition as the independent witness and proper arbitrator—as the revelation—that settles the design argument. Revelation tells the history of why we perceive design and settles the debate. They are entitled to do so, but it should not be expected that anyone who does not share their view of the authority of that revelation should then be convinced of design on the basis of the strong impulse of design one feels upon looking at the natural world.

Issues with Metaphors

The second half of this article moves from a direct response to Kojonen's work toward asking more fundamental questions about the orientation of the design argument in general. I will examine the metaphors we use with design and how those metaphors end up shaping the way we argue about design. My main contention is that metaphors in the design argument have become overwhelmingly mechanical and lifeless, and that this can lead arguments down absurd paths.

The first mistake that lifeless metaphors encourage us to make is trying to calculate the incalculable. When we invoke the language of design, we imply that people are somewhat like a machine or like an artifact. In a

capitalist culture, the worth of that machine or artifact is measurable by calculations of efficiency, productivity, and so on. The design argument encourages theologians and philosophers to import mechanical calculations into theological debates, especially into arguments about theodicy.

Most evolutionary theodicies or their critics, for example, begin with the assumption that suffering is widespread in nature, and that life is impossible without it. Take Francisco Ayala's statement that "the natural world abounds in catastrophes, disasters, imperfections, dysfunctions, suffering and cruelty" (2007, x). Or David Hull's assertion that "The evolutionary process is rife with happenstance, contingency, incredible waste, death, pain and horror" (1991, 486). The perception of ubiquitous suffering leads in turn to accusations of poor design on God's part—as if creation is a clock that cannot quite keep accurate time, or a factory that cannot quite produce products that do not suffer. Theodicists then take up the task of showing that God really does get good value for creation and has succeeded by any reasonable measure. One example of this comes from an article by James Rissler. In a discussion about whether creation is worthwhile, he proposes:

> Let us make the simplifying assumptions that God's sole purpose in creating was that we would freely enter into loving relationships with Him, and that the proportion of free creatures who enter into loving relationships with their Creator relative to those who do not is an appropriate measure of the degree to which God's purpose is achieved. I will call this the proportionality measure. Let us also arbitrarily assume that God's purpose for creation will be achieved if a simple majority of persons freely choose to love Him. (2006, 64)

This world where God looks at the salvation of a simple majority of creation as a success is far from the God Jesus describes, who leaves the ninety-nine sheep to pursue the one (Matt 18:12, Luke 15:4. See Sollereder 2019, 60–61). The problem is treating creation like a business where overall profit is the goal. Similarly, treating life like a somewhat malfunctioning machine leads us down corridors of argument and counterargument that quickly end up absurd.

For example, sceptics often begin with an assumption that there is too much suffering in nature to countenance the creation of a good and loving God (Rowe 1979; Hull 1991). A possible counterargument could run as follows: in life's 4.1 billion year history on this planet, the possibility of suffering has only reasonably been around since the Cambrian explosion some 540 million years ago when multicellular animals emerged. Therefore, during the vast majority of life's reign, some 3.5 billion years, there has been no suffering. Furthermore, even in present day biology, the vast majority of life does not suffer. A study on the biomass distribution on Earth (Bar-On et al. 2018) estimated the total amount of life on earth to

be approximately 550 gigatons of carbon (Gt C). Plants, archaea, viruses, bacteria, protist, and fungi account for 548 Gt C, and we have no reason to believe that any of them suffer in morally problematic ways. Within the 2 Gt C of animal life, we can likely exclude from the ability to consciously suffer cnidarians, nematodes, annelids, most arthropods, and most mollusks (with the exclusion of cephalopods). That is another 1.34 Gt C excluded from suffering. If we exclude fish as well, we are left with 0.169 Gt of C life that could plausibly consciously suffer, that is, 0.03% of life on earth (if all fish are included, it is up to 0.158%). So, mathematically speaking, over only (at most) one-eighth of the time that life has been on Earth, arguably less than 0.05% of life has a problem of suffering. God not only created abundant life without suffering, but suffering-free life has ruled the world for most of the four billion years that li has existed on Earth. If God is an engineer, God has been extraordinarily successful at creating suffering-free life.

But this is a poor argument. Utilitarian arguments that try to calculate how much suffering is too much will always miss the mark. As Dostoyevsky so brilliantly conveyed in *The Karamazov Brothers* (1994), the extreme suffering of one child is too much, and the moral response would be to hand back the ticket to whatever greater goods God might bring about through that suffering. Yet a designer argument encourages us to think along the lines of calculation, even in regard to topics that are not rightly solved by calculation, like suffering. By starting with an unhelpful metaphor of God or thinking too much in terms of a single metaphor of God, theodicy becomes entangled in an impossible mess, trying to calculate the incalculable.

Mechanical metaphors have been common to the design argument since the dawn of modernity. Life was like a watch, then like a rug-making factory; now life is like a computer or an algorithm. Yet these metaphors are all lifeless. In Scriptural accounts, the pre-eminent metaphors are organic. Creation (including humanity) is related to God as a child to a parent, or as a subject to a ruler, or as sheep to a shepherd, or as one lover to another. Given Kojonen's appeal to indirect design, I wonder how organic metaphors would affect the content and scope of the design argument. Kojonen does note the problem in the final pages of the book: "while analogies of factories and machines easily tend toward the deterministic view [of God's relationship with the world], the history of theology allows for a richer set of metaphors of the God-world relationship" (211). Kojonen suggests thinking instead of a house, temple, garden, or a farmer with a field. These do change the conversation to some extent: the purpose of a house or a temple is that it is a dwelling place for God and people. A garden is similar: created to provide beauty and rest and is full of organic beings. The farmer and the field, while an organic metaphor, strays back to values primarily of productivity. Kojonen's suggestions do move

beyond the typical God-machine metaphors in the design discourse, but only just barely. These are still very deterministic analogies, which point toward control, productivity, and engineering.

Highly mechanistic and deterministic metaphors often used in analytical philosophy have been challenged by a number of feminist scholars (Anderson 1998; Coakley 2007). Meanwhile, ecofeminists have offered alternative metaphors: Sallie McFague and Grace Jantzen explore the world as God's body (Jantzen 1984; McFague 1993) and Rosemary Radford Ruether engages with organic and covenantal relationships (1992, 205–28). Historically, women have offered other options: Hildegard of Bingen, for example, compared the cosmos to an egg (Atherton 2001, 91) and Julian of Norwich saw all that was created as a small hazelnut (a tree's ovum), sitting in the hand of God (1978, 130–31). Instead of a temple, a lifeless construction meant to house God in the world, we might revisit the historical reflections on Mary's womb as the meeting place of heaven and earth, and thus as a microcosm of the purpose of creation. Scripture's metaphor of God as parental opens up a similar set of relational priorities: one where the prime emphasis is on love, intimacy, and provision rather than control. There is still directionality, but the goal is not to have a suitable product.[2] An organic metaphor might also lead us irretrievably away from the entire notion of "design," at least, design as it has been formulated in the modern period.

How does the design argument change if we take organic examples as the ruling metaphors? "Design" in biology would no longer mean "engineering" or "coding." It would take design back to an older sense of simply meaning "having an aim or an intention." The motivation for design would not be rational tidiness or efficiency, but desire. In particular, the desire of love would be preeminent. Instead of focusing on function as the evidence of design, the simple gift of being would become centrally important.

These are initial impressions only, meant to open up more conversation. In particular, I hope to draw attention to the richness that certain feminist critiques of analytical philosophy could bring if they were incorporated into the fundamental assumptions of the discourses on design. If Kojonen is attempting to salvage the wooden ship of nineteenth-century design and sail it again, I would be interested in returning to the oak forests out of which the ship was built.

Conclusion

In conclusion, although I think Kojonen is ultimately successful in showing the compatibility of the (indirect) design argument with evolutionary theory, I hold several reservations. In the first half of the article, I asked whether Stephen Freeland's work, if true, would provide a defeater of a

specifically *biological* design argument by collapsing the appearance of design back into a structuralist design argument. Second, I asked whether the intuition of design was trustworthy given the discoveries in psychology of the phenomenon of pareidolia—the tendency to find recognisable patterns or design in places where there is none. The intuition of design might be nothing more than a sort of illusion created by our pattern-loving brains.

In the second half of the article, I asked about the metaphors we use about God and the world and how these influence the way we argue. In particular, I challenged the way that design metaphors draw arguments into calculations of the incalculable. I asked whether it was possible to move away from inorganic design types of metaphors, with their emphasis on engineering and control, toward organic design metaphors with their emphasis on desire and love.

Notes

1. Paley thought even fragments of design (like parts of a broken watch) would give more than enough evidence of design. "Nor, thirdly, would it bring any uncertainty into the argument, if there were a few parts of the watch, concerning which we could not discover, or had not yet discovered, in what manner they conduced to the general effect; or even some parts, concerning which we could not ascertain, whether they conduced to that effect in any manner whatever. For, as to the first branch of the case; if by the loss, or disorder, or decay of the parts in question, the movement of the watch were found in fact to be stopped, or disturbed, or retarded, no doubt would remain in our minds as to the utility or intention of these parts, although we should be unable to investigate the manner according to which, or the connexion by which, the ultimate effect depended upon their action or assistance; and the more complex is the machine, the more likely is this obscurity to arise" (Paley 1809, 5).
2. Though some scholars would still criticize the model of "father" as being inherently about power, hierarchy, and control, especially when combined in phrases like "Almighty Father." (McFague 1987, 19).

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