

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."

DIVINE DESIGN AND EVOLUTIONARY EVIL

by Mats Wahlberg 

Abstract. In this article, I first interpret and evaluate the main argument of E. V. R. Kojonen's book, *The Compatibility of Evolution and Design*. I then address a challenge against this argument (as well as against design arguments in general), namely, the problem of seemingly malevolent and bad designs in nature. Evolutionary theodiscists commonly deal with this problem by assuming that the evolutionary process is not fully under God's control. This solution, however, is deeply problematic from the perspective of classical theism. I therefore suggest another approach to the problem, inspired by the thought of Thomas Aquinas.

Keywords: Thomas Aquinas; design arguments; evolutionary theodicy; Free Process Defense; malevolent designs; natural evil; perceiving design; teleological argument

INTRODUCTION

In this response to Rope Kojonen's groundbreaking work *The Compatibility of Evolution and Design*, I will do two things. First, I will try to clarify the overarching dialectics of the book and make a tentative evaluation of its main argument. Second, as a contribution to Kojonen's case, I will address one major challenge that confronts his project and design arguments in general: the problem of seemingly malevolent and bad designs in

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nature. Responding to this challenge, Kojonen argues that some aspects of the evolutionary process may not be fully under God's control. This is a standard move in contemporary evolutionary theodicies, but it is hard to square with a classical understanding of God's omnipotence and universal causality. It would therefore be desirable to find an alternative way of dealing with the issue of seemingly malevolent designs. I will suggest such a way, inspired by the thought of Thomas Aquinas.

THE STRUCTURE OF KOJONEN'S ARGUMENT

Kojonen describes his project as a "salvaging operation" intended to rehabilitate the classical, biological design argument (BDA). The strongest version of the BDA takes the form of an inference to the best explanation and starts from a property of nature that can be characterized in various ways, for example, as "ordered complexity":

(BDA):

- (1) Biological structures exhibit ordered complexity.
- (2) The best explanation of the fact that biological structures exhibit ordered complexity is that they are intentionally designed.
- (3) Therefore, biological structures are intentionally designed.

Now, evolution by natural selection is commonly regarded—by atheists as well as by theistic evolutionists—as a defeater of Premise 2 of the BDA. Evolution, according to this common view, can satisfactorily explain the existence of ordered complexity without appeal to intentional design. Kojonen's "salvaging operation" is aimed at undermining this view and thereby defeating evolution as a defeater of the BDA. This Kojonen attempts to do by demonstrating the nonopposition or compatibility between evolutionary explanations and design explanations. Hence, the title of the book, "*The Compatibility of Evolution and Design*." This way of putting things, however, might be a source of potential misunderstanding, because it can give the impression that Kojonen defends a weaker thesis than he actually does. The claim that evolutionary explanations are compatible with design explanations can be taken to mean that the latter are an optional extra that can be reconciled with evolutionary explanations without being essential for a full explanatory picture. But this is not what Kojonen argues. As he points out, for two explanations to be truly compatible, both must contribute something of explanatory value. If one of the explanations is *merely* compatible with the other, without adding any extra explanatory power, then it is superfluous and it is irrational to cling to it (Kojonen 2021, 150–53).

What Kojonen defends is hence a much stronger thesis than “mere compatibility.” He argues that the evolutionary process that has produced complex life depends on or presupposes intentional design. The process would not have produced complex life had it not been designed for this purpose. This is why a complete explanation of the emergence of complex life must include an explanation in terms of design. However, since design explanations in this context are of a metaphysical nature and concern the basic preconditions of the evolutionary process, we can still hold that evolutionary explanations are complete on the scientific level.

Kojonen does not claim certainty with respect to his thesis. His case is a probabilistic one, and he only contends that it is plausible to hold that evolution is dependent on designed preconditions. But this is sufficient to defeat evolution as a defeater of the BDA. If evolution plausibly presupposes design, then evolution cannot be adduced as an independent explanation that competes with design for the title of best explanation. It follows that the BDA goes through whether evolutionary explanations succeed or not, presuming that it does not fail for other reasons.

How, then, does Kojonen support the defeater-defeater or the thesis that evolution depends on design? Well, the most natural way to argue for the claim that something requires or presupposes design is by means of a design argument. This is also what Kojonen presents, as I interpret him. So, in support of the BDA, Kojonen suggests another design argument that focuses on the process of evolution itself rather than on the products of this process. We can call this “The Defeater-Defeater Argument” (DDA). It has something like the following structure:

(DDA):

- (1) The evolution of complex life through a Darwinian process depends on a number of epistemically improbable preconditions.
- (2) The best explanation of the fact that these preconditions obtain is intentional design.
- (3) Hence, the evolution of complex life depends on intentional design.

To be clear, this formulation of the argument is mine and not Kojonen’s, but I take it that something like this is implicit in Chapter 4 of his book. There, Kojonen points to a number of circumstances that seem to be epistemically improbable and yet are (or might be) crucial preconditions for a fruitful evolutionary process. For example, although functional biological forms are comparatively very rare, many of them are located sufficiently close to each other in the “landscape of possible forms” for evolution to be able to find them through a random search. Functional forms also seem to be connected in such a way that evolution can move from one to another by means of small steps, which must be the case if the process of

natural selection is to generate complexity. This raises the question of why the “possibility space” has this particular shape, given the fact that it (as far as we know) could have been shaped in a number of other ways, for example, as an ocean dotted with small, disconnected islands of functional forms. A possible explanation of why the fitness landscape has a beneficial shape in the actual world is intentional design: The epistemically unlikely scenario of a fitness landscape traversable by evolution is actualized by a Creator in order to create life through evolution. Moreover, since the shape of the landscape of possible forms is determined by the basic laws of nature, there can be no complete natural-scientific explanation of that shape. Scientific explanations appeal to the existing laws of nature, and what needs to be explained in this case is why the basic laws are such as to entail a beneficial “landscape of forms” rather than some other kind of landscape. This means that the only explanation that can compete with design in this case is chance, or perhaps some version of the multiverse hypothesis. Design, therefore, seems to be a quite viable explanation.

A potential worry here is that the DDA might collapse into the so-called “cosmic” or “anthropic” fine-tuning argument (Collins 2003; Manson 2009; Barnes 2020). Since evolution can only occur in an orderly universe where stable structures such as chemical elements, stars, and planets can exist, and since the existence of this kind of universe depends on a number of epistemically improbable preconditions—usually referred to as the “fine-tuning” of basic laws and constants of nature—it trivially follows that evolution also depends on a number of epistemically improbable preconditions or fine-tuning. Unfortunately, if evolution only presupposes the same amount of fine-tuning as the existence of chemical elements, stars, and planets, then the basis for a specifically *biological* design argument is lacking.¹ The process of evolution and the emergence of complex organisms would not, in this scenario, provide any special evidence for a designer over and above what the existence of stars or chemical elements provides.² This means that biological arguments would add little or nothing to the case for divine design beyond what the “cosmic” fine-tuning argument has already established. However, in light of the scientific evidence presented in Chapter 4 of Kojonen’s book, it seems reasonable to believe that evolution in fact has very demanding preconditions and requires more precise fine-tuning of basic laws than the mere existence of a stable universe with planets and life-permitting conditions requires.

To sum up: Kojonen attempts to salvage the BDA by presenting another, supporting design argument, which I have called the DDA. If the latter argument succeeds, its conclusion can be used to defeat evolution as a defeater of the BDA. The DDA can also, as Kojonen suggests, be used in defense of the reliability of putative “design-perceptions” (Ratzsch 2003; Plantinga 2011; Wahlberg 2012) against evolutionary debunking arguments (De Cruz and De Smedt 2014, 195). Another possibility is to

regard the DDA as a self-standing design argument that aims to establish the existence of a designer directly from scientific facts about evolution (in which case we could call it “The Evolutionary Fine-Tuning Argument”).

How strong is the DDA? It depends on how strong one judges the scientific case for Premise 1 to be—the claim that evolution depends on a number of special and epistemically improbable preconditions (above and beyond general cosmic fine-tuning). As Kojonen admits, there is presently a high degree of uncertainty about what a fruitful evolutionary process really requires in terms of the structure of the fitness landscape and possible laws of forms. If theorists like Stephen Jay Gould and Daniel Dennett are right, then perhaps the preconditions for evolution are not so stringent and demanding as Kojonen thinks, and hence not so epistemically improbable (Gould 1989; Dennett 1996). It can be argued, therefore, that the DDA in its present state is not sufficiently strong to justify the conclusion that evolution depends on design, but only strong enough to create a good deal of doubt as to whether evolution really could work without design.

This, however, is sufficient for Kojonen’s “salvaging operation” to succeed. We know from experience that design is a possible explanation of ordered complexity. Nobody denies that explanations in terms of intentional design are sometimes true, for example, in cases involving human artifacts. The only realistic competitor to design-involving explanations with respect to complex structures in the biological realm is explanations in terms of a non-design-dependent evolutionary process. If Kojonen’s DDA can establish agnosticism as the most reasonable stance with respect to evolution’s ability to cause ordered complexity *without* design, then there is no longer any non-design-involving explanation of biological complexity on the table. It follows that the best explanation of ordered complexity in the biological realm is a design-involving explanation, such as an explanation in terms of an evolutionary process with designed preconditions.

This means that the BDA goes through. If it is reasonable to believe that evolution has produced complexity as a result of designed preconditions, then it follows that it is reasonable to believe that biological complexity is (indirectly) designed, which is what the BDA says. This conclusion is furthermore supported by perceptual evidence. Not only theists but also many atheists and agnostics testify that biological structures *appear* to them to be intentionally designed, and this appearance has in many cases a perceptual (or putatively perceptual) character (Wahlberg 2012, 148–49; Kojonen 2021, 37–38). Arguably, a person is rationally entitled to take her putative perceptions of design in nature as veridical as long as she has no good reason to question their reliability. Unless we accept something like this principle as valid with respect to our perceptual experiences in general, skepticism will follow. For example, if we were to require that people must have an *argument* or *evidence* for the reliability of their putative perceptions of an external, nonmental world before they are entitled to take those

perceptions as truthfully revealing such a world to them, then we would have to conclude that very few, if anybody, is rationally entitled to believe in an external, nonmental world. But this seems to be an unreasonable conclusion, so we must grant any purported perceptual experience the status of being innocent (i.e., rightly taken to be veridical) until proven guilty (i.e., until some defeater of its veridicality or reliability emerges). Now, Kojonen's DDA shows that *evolution* is neither a defeater of the claim that biological structures are designed, nor of the claim that they can be perceptually apprehended *as* designed in a reliable way. This means that the DDA eliminates the main potential defeater of the reliability of putative design perceptions in the context of biological nature, namely, evolution. Since perception is a source of epistemic justification, people can now reasonably take themselves to have both perceptual and inferential justification for the claim that biological structures are designed.

THE PROBLEM OF EVOLUTIONARY EVIL AND MALICIOUS DESIGNS

Nevertheless, both the general claim that biological structures are intentionally designed, and the claim that divine design is realized indirectly and involves evolution as an instrument, raise difficult theological questions. First, it may be asked why God would choose to design through an evolutionary process that entails immense amounts of suffering and death. Second, how can defenders of divine evolutionary design avoid the undesirable conclusion that God has intentionally designed (for example) the malaria mosquito so as to make it effective in infecting humans?³

I generally agree with Kojonen's solution to the first problem. He avoids the problematic and (in my eyes) unpromising task of trying to show that evolution was the "only possible way" for God to create (Southgate 2008; for critique, see Wahlberg 2015), and argues instead that an evolutionary creation has some benefits over a nonevolutionary creation. The main benefit is that a process-like creation better manifests God's wisdom and glory than a creation where everything is ready-made by God. As Murray puts it: "There is something grand, beautiful and artful in a universe which contains within it everything that is necessary in order for it to bring about the results that God intends for it" (Murray 2008, chap. 5.1.2). Other thinkers have suggested similar views (Darwin [1859] 1964, 490; Haught 2000; Polkinghorne 2011, 82, 52).

I would like to add a few considerations to strengthen this argument.⁴ Building on the thought of Thomas Aquinas, Nicanor Austriaco has presented a "theological fittingness argument" in favor of an evolutionary creation (2019). The point of departure of this argument is Aquinas's and the classical tradition's claim that God's purpose in creating is to manifest and communicate his glory. Furthermore, "God communicates his glory by sharing his perfections with his creatures" (Austriaco 2019, 543). One

of God's perfections is his causal power, and God shares this perfection with creatures by inviting them to participate in his causality as secondary causes. Aquinas writes:

It is a greater perfection for a thing to be good in itself and also the cause of goodness in others, than only to be good in itself. Therefore God so governs things that He makes some of them to be causes of others in government; as a master, who not only imparts knowledge to his pupils, but gives also the faculty of teaching others. (Aquinas 2012, *ST I* q. 103, a. 6)

A creation in which things are involved in causing the existence of new species can be labeled a "self-creating creation."⁵ If Aquinas is right, such a creation is more valuable than a creation where everything is unilaterally ready-made by God, because the former has a greater likeness to God in virtue of its greater participation in his creative causality. Austriaco writes: "Theistic evolution, where God and creatures create together to generate novel kinds of life, more effectively reveals God's glory than special creation, where God alone creates new species" (2019, 544). It can of course be asked if the biological world could not have been made to participate in its own creation in some other way than by a costly process of evolution through natural selection. However, for all we know it could be the case, as Austriaco argues, that "evolution is the most resourceful way for divine providence to use non-personal instrumental causes to generate novel and adaptive life forms on a dynamic and ever changing planet" (Austriaco 2019, 544).

This Thomistic argument in favor of an evolutionary creation can be combined with the idea, already found in Augustine, that death and extinction in the natural world, while not intrinsically good, enhance the value of the world as a whole. "It is ridiculous," says the church father, "to condemn the faults of beasts and trees ... for these creatures received, at their Creator's will, an existence befitting them, by passing away and giving place to others, to secure that lowest form of beauty, the beauty of seasons, which in its own place is a requisite part of the world" (Augustine 1993, sect. 12.4). In an evolutionary creation, God's glory can be reflected in more creatures, and more species, than in a nonevolutionary or static world where no species go out of existence to leave room for others.

Let us now turn to the second problem, which concerns bad or malicious designs. A common response to this problem, and to the problem of evolutionary evil in general, is the so-called Free Process Defense (Polkinghorne 2005; 2011; Southgate 2018). This comes in many different versions (Sollereder 2018), but the basic idea is that the freedom of natural processes requires that God limits his causal control over them, and hence over the unfolding of the evolutionary process. This is why evolution can produce malicious things like the HIV virus, which is not caused by God but by evolution in so far as God has let go of the reins.

In my view, this is a very problematic argument, mainly because the concept of freedom is not applicable in any meaningful sense to evolutionary processes and nonrational creatures, but also because the argument assumes that creaturely freedom requires the absence of divine causality. The idea that God and creatures are related to each other in this competitive way (the more God is causally active, the less free and powerful are creatures) is incompatible with believing that God is the source of all reality, as classical theism holds. If the latter is true, then creaturely freedom and power must—like everything else—be dependent on divine causality rather than antithetically related to it.

While Kojonen rightly criticizes the ambiguous use of the concept of “freedom” in the Free Process Defense (2021, 187–93), he still seems to accept a core idea behind that defense, namely, that God can only be defended from the charge of having directly intended malicious designs if the evolutionary process is partly outside of divine control (see especially Kojonen 2021, 180). Kojonen writes: “Perhaps it would be possible to construct a type of evolutionary theodicy without reference to the value of freedom, simply by following the principle that God has left some room for real chance events within his processes of creation. As noted, many have argued for the intrinsic goodness of a process-like method of creation, as opposed to a miraculous creation” (2021, 191).

It is unclear to me why a process-like method of creating would require God to leave things up to chance. Of course, a Darwinian evolutionary process by nature contains a good deal of chance events in the Aristotelian sense of chance, that is, chance understood as the confluence of independent lines of causation. The evolutionary process might even be chancy or indeterministic in a deeper, ontological sense, although we do not know that this is the case. In any event, neither of these senses of chance or indeterminacy entails that the evolutionary process must be partly uncontrolled (or unpredictable) *by God*. At least if classical theism is right, God can control the confluence of independent lines of causation, and he can also determine events that are intrinsically undetermined by natural laws, as Russell and others have suggested (Russell 2019). So there is nothing about the evolutionary process that entails that God must necessarily let go of control in some respect.

It could be the case, of course, that a process that is partly uncontrolled by God and therefore chancy also from God’s perspective is intrinsically more valuable than a process that is wholly under divine control in all its aspects. This is the claim of the Kenotic or Free Process theorists mentioned above, who argue that God out of love *gives up* his status as an all-determining primary cause in order to give creation its proper freedom and autonomy. However, if we reject the idea that evolutionary processes can be free, it is very unclear why it would be good for God to let go of control over the unfolding of evolution. Eikrem and Søvik have suggested

that a process of creation that has surprises in store even for God is an intrinsic good (2018). This idea, however, is incompatible with traditional forms of theism.

I would now like to suggest the outlines of an evolutionary theodicy that does not depend on the idea that God is less than in full causal control of the outcome of the evolutionary process. My suggestion depends on distinguishing between two different theses concerning the autonomy of creation:

Thesis 1: An autonomous creation is more valuable than a nonautonomous creation, and creation's autonomy presupposes that God limits his causal influence over things.

Thesis 2: An autonomous creation is more valuable than a nonautonomous creation, and creation's autonomy presupposes that God's causal influence over it respects the inherent natures and natural tendencies of things.

Autonomy here has no intrinsic connection to freedom but should be understood in the more fundamental sense of "being one's own law." It is arguably a very good thing for creation to be its own law—to operate in accordance with *inherent* principles. Creation's autonomy can, however, be understood in a God-exclusive and a God-inclusive sense. According to the God-exclusive sense, expressed by Thesis 1, creation can only be its own law if God is *not* its law in some respect. According to the God-inclusive sense, on the other hand, creation is its own law as long as it is regulated by internal principles, even though God might *also* be in total control by causally directing things in accordance with those internal principles (Thesis 2).

Once the idea that natural processes can and need to be autonomous in the sense of "free" is rejected, there is no basis for Thesis 1. Thesis 2, however, seems plausible. Arguably, a creation where things are allowed to act or function in accordance with internal principles has more integrity than a creation which God governs by arbitrary decree or in an occasionalist manner. However, the fact that created entities act in accordance with their inherent and natural tendencies does not exclude that God is the primary cause of their acts and in full control of what happens. According to Aquinas, an event can be fully caused both by God and by a creature (at different ontological levels). Now, God could make a creature do whatever he wants it to do, even things that are contrary to its nature. He could, for example, make a pig fly. For the most part, however, God as First Cause respects the natures of things, and this is what gives creation its autonomy.

From this it follows that many of the things that God causes through the mediation of secondary causes need not be directly intended by God. For example, when God causes hedgehogs to walk across roads in their natural

slow pace, he knows that this will mean that many of them will become traffic victims. Nevertheless, what he intends is not that those hedgehogs be traffic victims, but rather that hedgehogs in general act out their nature as the kind of slow-moving animals they are. Now, if God acts consistently in this way with all biological species and other entities, then things that are not directly intended by God will occur as predictable side-effects, and God will let them occur only because he intends creatures to act out their natures.

By reference to God's desire to govern things in accordance with their natures, the evolutionary emergence of creatures like the malaria mosquito and the HIV virus can be explained. Biological creatures have a natural tendency to act for their own survival and to maximize their chances of reproduction. If God wants a creation that creates itself through an evolutionary process (which I have argued is a great good), he must endow all species with such tendencies. However, if God then acts within creation in a way that respects those same tendencies, his causality will animate behaviors that exploit niches and possibilities that appear malicious or unsavory to us.

Kojonen comes very close to this line of reasoning when he suggests the possibility that "the prospect of evolving parasitism and predation is an inevitable by-product of the way the 'library of forms' must be designed in order to allow for evolution at all." "It may be that it is logically impossible to design a library of forms that would allow for evolution without also allowing for the evolution of parasitism and predation, while also giving some room for chance within the creation" (2021, 191). Except for the last remark about "chance," this is the kind of approach to the problem of evolutionary evil and bad designs that I think is most fruitful and that should be consistently pursued without any appeal to "chance" and "contingency" as factors that purportedly would mitigate divine responsibility. Perhaps the most important distinction to keep in mind in this context is the one between divine intention and divine causality or determination. God does not directly *intend* everything that he *causes* or determines, and this is true even if there is no "chance" involved. In scholastic terms, the relevant distinction is between what God causes *per se* (what God intends) and *per accidens* (what God merely foresees and accepts).

CONCLUSION

Kojonen writes:

Defenders of any evolutionary theodicy must show that such a process [of theistic evolution] would at least mitigate divine responsibility for the products of that process. To do that, we would have to suppose that the process can somehow incorporate real contingency and freedom, with the results at least somewhat undetermined by God (Kojonen 2021, 180).

My alternative suggestion is that God's responsibility for seemingly malicious or bad designs can be mitigated by appeal to the value of creation's autonomy, without supposing that the evolutionary process is "undetermined" by God in some respect. If the emergence of malicious or bad designs is an inevitable by-product of God's respecting the autonomy of the natural order, then it is intelligible why God would cause (indirectly or *per accidens*) these designs.

I do not think that the generic phenomena of predation and parasitism belong in this category of "malicious" designs, however (as Kojonen seems to imply at p. 191, quoted above). Classical theologians such as Ambrose, Basil, Augustine, and Aquinas saw the existence of predators as a value-enhancing aspect of God's good creation, and they argued that venomous snakes, irritating insects and dangerous animals existed before the Fall (Ortlund 2020, footnote 5). The implication of this is that God has intended predation directly, rather than merely accepted it as a by-product of some other good (such as the value of a "self-creating" creation). This is, in my eyes, a reasonable view. It does not entail, however, that God has directly intended all the specific *forms* that predatory behavior and parasitism have taken (for example, the HIV virus).

Finally, it should be noted that the solution I have suggested does not purport to solve the general problem of natural evil. It leaves unanswered the question why God does not make exceptions from his endorsement of nature's inherent tendencies in order to reduce the amount of (especially) human suffering—or if he already makes such exceptions, why he does not do so more frequently. In the present context, it will suffice to note that the Free Process Defense or similar evolutionary theodicies are equally vulnerable to this problem as the Thomistic theodicy I have sketched. With respect to Free Process theodicies, it could be asked why God does not limit the "freedom" of natural processes to some extent in order to protect innocent humans from great harm.

Even if we cannot fully explain the seeming scarcity of divine interventions (in nature or in human affairs), it is still valuable to establish that God need not have intended all the adaptations that we see in nature. I have argued that this can be established without any appeal to indeterminacy or freedom in natural processes.

NOTES

1. I am presuming here that evolution is the proximate cause of biological organisms.
2. This claim should be restricted to *inferential* evidence for the existence of a designer (that is, *arguments* such as the BDA). It could still be the case that biological organisms provide *perceptual* evidence for a designer.
3. It is important to note that these two questions or problems do not function as defeaters of claims about evolutionary design. This is because neither design arguments nor design perceptions purport to tell us anything about the *moral nature* of the designer. It is hence possible to believe—on the basis of arguments or perception, or both—that nature is designed and at

the same time hold that there is good evidence that the designer is not at all concerned about evolutionary evils and deleterious designs.

4. One main difference between this argument and the “only way-argument” (Southgate 2008) is that proponents of the latter deny that God could have created the very creatures that he actually created in some other way than through evolution. I argue that, for all we know, this is false (Wahlberg 2015). God could, without using evolution, have created creatures that are at least type-identical to the actual creatures. This claim, however, is fully compatible with the argument by Kojonen which I here defend, namely, that an evolutionary method of creating has benefits over a nonevolutionary method. These benefits may accrue to what the creatures *do* (for example, participate in God’s creative causality) rather than to what they *are* (their intrinsic properties).

5. For Aquinas, the term “creation” is used with reference to God’s bestowing of “being,” an activity which is exclusive to God (*ST I* q. 45 a. 5. See also Kerr 2019). When I speak about a “self-creating” creation, I use the term in a looser sense.

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