

A RANDOMNESS-BASED THEODICY FOR EVOLUTIONARY EVILS

by Jordan Wessling and Joshua Rasmussen

Abstract. We develop and knit together several theodicies in order to find a more complete picture of why certain forms of (nonhuman) animal suffering might be permitted by a perfect being. We focus on an especially potent form of the problem of evil, which arises from considering why a perfectly good, wise, and powerful God might use evolutionary mechanisms that predictably result in so much animal suffering and loss of life. There are many existing theodicies on the market, and although they offer helpful resources, we combine and further develop several proposals to produce a composite theodicy that avoids certain shortcomings of the individual theodicies. An important element of our project is locating a role for *randomness* in cosmic and biological evolution. In particular, we show how randomness might enhance or enable certain goods, including everlasting goods, at the risk of temporary evils.

Keywords: animal suffering; autonomy of creation; chance; evolution; problem of evil; randomness; theodicy

THE PROBLEM

Theists propose that a perfectly wise, strong, and good God guides the cosmos toward praiseworthy ends. Any evidence that the cosmos is not so directed can thus be used in an argument against the existence of such a God. One of the evidences that weigh the most in many minds arises from observations of nonhuman animal suffering (simply “animals” hereafter), specifically suffering that results from the processes of biological evolution. When we consider the death and damage that routinely result from evolutionary mechanisms, it is quite easy to be struck by the apparent wastefulness of the process. The whole show is rife with carnage, often leading to nothing better than extinction. Is this form of creation

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morally acceptable? The challenge for theism is to explain how the actual, evolutionary structure of the universe could be the sort of structure that a wise, strong, and good God might well favor. We call this challenge “the problem of evolutionary evil.”

Several contemporary theists have attempted to locate a value in evolution by arguing that God has endowed creation with the tremendous ability to “make itself” via indeterministic or chance processes (for a survey, see Johnson 2014, ch. 6). On this view, there is indeterminacy at the quantum level, which is understood not as an epistemic limitation of humans but as an objective feature of nature operating according to certain probabilistic laws. Furthermore, the supposed randomness at the quantum level is thought to reverberate “upwards” into biological structures, allowing genetic mutations to arise without any *deterministic* cause. According to this model, creation is inherently unpredictable: if we could rewind the history of our universe and play it again, it is highly likely that the cosmos would take on a different shape and that very different kinds of creatures would emerge (see Bartholomew 2008). This method of creation is thought to be valuable because the stochastic processes allow the created order to enjoy the good of *autonomy*. Thus, those who opt for this so-called “autonomy of creation defense” (the label comes from Collins 2011) maintain that part of the theistic answer to the challenge of evolution generally, and the problem of animal suffering in particular, should contain appeals to indeterminism in nature.

It is far from clear, however, why one should think that an autonomous creation is valuable; or if it is valuable, what role this value might play in overcoming the problem of evolutionary evil. One wonders: is the general reward of making creation largely “free” worth the price of so much anguish and death (see Tracy 2007, 162–63)?

In this article, we develop a novel (or at least fuller) explanation of at least some potential values of an autonomous creation. Although the isolated value of an autonomous creation might be insufficient to overcome the negative value of animal suffering produced by evolution, we consider how the value of an autonomous creation can play an important role in a more robust, multifaceted response to the problem of evolutionary evil. In particular, we shall contend that an autonomous creation can result in three kinds of values that help explain why God might create an evolving cosmos despite the associated evils: (1) a certain aesthetic value, (2) a way of forging deep interconnections between species and the cosmos, and (3) a means by which God can treat certain creatures impartially. We also show how these values might be combined with additional theses, including a thesis about animal resurrection, to form a more complete theodicy. We do not claim that our composite theodicy entirely solves the various problems of animal suffering (far from it), but we suggest that it is a helpful *next step* along the long road toward understanding the ways of God.

THE AESTHETIC VALUE OF THE AUTONOMY
OF CREATION DEFENSE

As previously noted, many who write about the relationship between science and religion maintain that the natural world unfolds by way of an interplay of law and chance. Several of these thinkers maintain, furthermore, that this picture of the world is both scientifically credible and good for theology. They say that a creation that unfolds partially via chance processes embodies a valuable degree of independence, or autonomy, and that this value serves to magnify its creator.

For the purposes of this article, let us assume that cosmic and biological evolution is indeed interwoven and driven by an interplay of law and chance in the manner suggested. What might the value of such an autonomous cosmos be? Several answers to this question have been suggested (see, e.g., Wessling and Rasmussen 2015, 293–95; Peacocke 1979, 104–11; Polkinghorne 1989, 69–79; Haught 2003, 78–83, 168–70; Johnson 2014, 154–80; Collins 2011), but one significantly influential proposal is that a universe that unfolds by way of a delicate synergy between law and chance heightens the beauty of creation. Favored metaphors for God’s involvement with a largely autonomous cosmos include the following: a grand composer who “beginning with an arrangement of notes in an apparently simple tune, elaborates and expands it into a fugue” (Peacocke 1984, 72); a “theatrical improviser of unsurpassed ingenuity in live performance, who amplifies and embroiders each theme as it presents itself” (Johnson 2014, 177); or a choreographer who dances, and even plays, with creation in a manner that does not interfere with the universe’s given rhythm (Peacocke 1979, 108–11; cf. Moltmann 1973, ch. 3). Clearly, aesthetic sensibilities animate the way in which many scientifically engaged theologians think about the cosmos. Indeed, John Haught reminds us that such theologians often gravitate toward an “an aesthetic cosmological principle,” whereby an autonomous and developmental creation is believed to be intrinsically “oriented towards the ongoing production of instances of beauty and the intensifying of a capacity in some organisms for aesthetic experiences” (Haught 2010, 276). We find the basic idea behind this principle inspiring, yet (explicit and implicit) proponents of something like this principle are usually not entirely clear about what relation the principle bears to an autonomous creation or how it can successfully address the particular problem of evolutionary evil.¹ We thus offer a new way of addressing these issues.

To help us appreciate how certain aesthetic goods might empower an “autonomous creation” response to the problem of evolutionary evil, let us imagine a couple of ways in which our conception of an autonomous creation might be filled out. First, it could be that cosmic and biological evolution, as present within our world, are among the best ways for

achieving certain randomness-dependent goods (to certain degrees); that is, there is no other way that does not come with equal or greater liabilities. (To be clear, we are not suggesting here that these goods by themselves would be worth the price.) Second, it could be that the end game of a randomness-containing, autonomous creation is that it will eventually evolve into an eternal paradise, not unlike the traditional vision of heaven. According to this understanding, the new heavens and earth is not an otherworldly reality that people escape to when they die (see Wright 2008); rather, the new order is a restoration and improvement of *this* terrestrial world, where this method of development embeds significant aesthetic goods.

Although these possibilities are not directly confirmed (or disconfirmed) by anything we know empirically, we consider them live options for theists. For, from a theistic perspective, one might argue that there are hints in nature of greater ends, as nature displays patterns of transformation from initial lowly states to radically enhanced future states (see, e.g., Collins 2011, 250–51). On the other hand, we have evidence that the cosmos is *winding down*, not up, and this evidence may be thought to count against the proposal that creation is on its way to an improved state. But this evidence does not count for much unless one antecedently supposes that God does not exist. It is in keeping with theism, after all, that God may interact with creation without precluding a generally autonomous creation. For instance, one might hold that there is something valuable about God working with a semiautonomous creation, which includes intermittent divine tune-ups or transformations (see Wessling and Rasmussen 2015, 298). Another option is that advancements relevant to personal and societal growth could move along “natural” lines even while entropy increases throughout the universe. Whatever option the theist prefers, on the proposal that God created an evolving world with praiseworthy ends in mind it is plausible that God would aim for a good outcome, such as the one proposed in the immediately preceding paragraph. The basic idea, then, is that God may have good reason to realize a beautiful, semiautonomous creation, which naturally transforms from an initial lowly singularity to a future, enhanced state that will be inhabited by all God’s sentient creatures.

Of course, the claim that some form of creation is more beautiful than another is a value judgment. And it is notoriously difficult to win resistant converts to one’s favored judgment of this kind. Perhaps the best anyone can do is to paint pictures or hand over intuition-pumps to elicit the value judgment in question. To that end, we offer the following story to elicit the sense that there is something beautiful about a randomness-containing, autonomous creation.

Suppose that there is an artist who designs a complicated machine that sprays paint in a stochastic manner unto a large canvas. The color, density,

timing, and allocation of paint operates at random within predetermined boundaries, but as certain configurations begin to arise, the machine selects specific probability distributions that make particular hues, patterns and so on more likely. Let us further pretend that the machine's combination of law and chance renders it such that given enough time it is highly probable (though not guaranteed) that a juxtaposition of complex figures (such as animals, landscapes, and persons), complementary colors, and sophisticated patterns will emerge.

Now imagine that the artist starts the machine. We watch as blue paint splatters here, and white and yellow trickle there. At the beginning, there is only a chaotic mess. But as weeks, months, even years pass by, the painting takes shape. At first, we see the makings of a starry sky; then a rushing river. One tree sprouts up, then another, and another. Animals come onto the scene: a squirrel, an owl, and then a wolf. These details were not predicted, even while *something* beautiful was anticipated. The specifics are happy surprises. With time, the forest begins to brim with life. Finally, a grand natural landscape surfaces, complete with delicate shading and rich visual texture.

Such a painting would rightly elicit widespread interest. Think, in particular, of the effect the random processes would have on the viewers. As the painting develops, interested parties would be filled with wonder, curiosity, anticipation, surprise, and perhaps even admiration. They wonder, "Will complex and complementary aesthetic properties emerge, or will the result be only a drab mixture of colors?" If something as complex as a forest landscape begins to take shape, onlookers may become increasingly curious to see what the final product will look like. The viewers can also experience the delight of surprise: "Oh, is that a river?," "I can't believe the beauty of the skyline!," and "I never would have guessed that the painting would produce such animals!" And if the observers of the painting are pleased with the final product, they may even be filled with a sense of appreciation, or thankfulness, for what has developed.

Clearly, the painting we have postulated would evoke a range of emotions. But what is the aesthetic significance of the artwork under consideration?

Arguably, *one* valuable feature of an art piece is its ability to arouse certain emotions in the perceiver (see Sartwell 2014). Think, for example, of a film depicting the horrors of slavery in the American South. If the film is rightly executed, it will do much more than raise one's credence in the proposition, *slavery is wrong*. The film will instead awaken (or reawaken) the emotions that grab hold of the truly horrific evil of one human treating another like an object, a mere agricultural or household tool. Empathy will be ignited, and the unity and value of all humans will be palpably experienced. Similarly, much of the power and value of music is its ability to amuse, enchant, lift,

and even convey truths. The widespread appeal of Beethoven's Symphony No. 5 is doubtless due in no small part to this—in particular, the way in which the variation and recapitulation of the famous “da da da dah” within the first movement draws the hearer into a developing story of tension and triumph.

How might the value of the art piece's ability to arouse certain emotions in the perceiver apply to our painting produced by partially random processes? We believe there is a point of connection between the film and music examples provided. Consider the value and power of music. Just as Beethoven's famous “da da da dah” draws the hearer into a story of tension and triumph, so too, the painting invites the onlookers into a narrative that begins in chaos and unfolds into harmony. The random processes only heighten the drama, as the outcome is unpredictable to everyone and radically contingent. The viewer is caught in wonder, curiosity, anticipation, and surprise. Second, recall that part of the value of film is its ability to holistically communicate, whereby the mind and emotions of the viewer are brought into contact with reality. Our postulated painting likewise communicates, albeit indirectly, something of the preciousness of existence. Through the painting's random processes something beautiful emerges that very well could not have. One who appreciates the final product is thus all the more grateful for the beauty she beholds. The painting may even be said to point beyond itself: we and the cosmos are radically contingent. We exist when we need not have, and we observe an awesome creation that could have been aesthetically arranged quite differently, or may not have existed at all.

No doubt the reader will foresee the point of application. Suppose God has created a world that develops in a manner similar to the painting—that is, the cosmos unfolds through a combination of law and chance, as terrestrial life is gradually introduced. Like the painting, we suggest that the values of this mode of divine creation are multifaceted.

Consider, first, the ways in which the discovery of a creation that arose from chaos via law and chance might stir certain emotions in us. It should, we think, awaken within us the sense that we are part of a great emerging drama. Again, just as there is tension and triumph in Beethoven's “da da da dah,” so too the interplay of randomness and law from which the vast cosmos develops is awe-inspiring. As we examine the history of the cosmos, we may even be struck by delightful surprises concerning the way things turned out, as we embody a beautiful world brimming with life. Furthermore, the discovery of the role of randomness can evoke a sense of the radically contingent nature of the cosmos and life, as we know it. Not only are we and the world contingent; the particular complex life and environmental beauty that emerged from the initial conditions could have been quite different. This contingency, in turn, engenders a heightened sense of

appreciation and thankfulness for a beautiful creation and the marvel of life (see Clarke 1988, 121).

Someone might worry that the beauty of the postulated mode of creation would, at best, benefit very few. After all, for most of human history almost no humans believed that creation evolved in the manner described. And even now, our knowledge is very incomplete.

This problem of limited benefit for humans may be overcome if we postulate that humans learn the step-by-step mechanics of creation in the new heavens and earth—a reasonable assumption if God cares about human knowledge of the natural world. The situation would be similar to one in which a reader knows only the profound ending of an excellent book, but through later reading it is delighted to learn how various twists and turns in the plot are woven together and brought to a resounding conclusion. Likewise, humans in the eschaton may be intrigued to discover how the more glorious stages of creation were knit together by an interchange of law and chance.

In a broadly classical theological picture, it could also be that nonhuman sentient beings enjoy the development of creation in “real time.” Previously, we suggested that onlookers of the developing painting might be filled with wonder, curiosity, anticipation, surprise, and appreciation. In like manner, it may be that nonhuman onlookers of God’s creation of a partially random, self-making universe benefit from the experience. Specifically, it may be that angels enjoy these emotional states (i.e., wonder, curiosity, anticipation, surprise, and appreciation) as creation takes shape. For some, the appeal to angels will feel theologically *ad hoc*; but others will discern that this reference to angelic hosts is consonant with classic Christian thinking. For within the Christian tradition, there is a view in which what happens within terrestrial creation involves angels and demons. Think, in particular, of the ransom theory of the atonement, where the crucifixion of Christ frees humans from Satanic captivity. One need not subscribe to this understanding of the atonement to form the idea that God’s creative activity is something “into which angels long to look” (I Peter 1:12; cf. Ephesians 3:8–11).

Apart from angels and other creatures, it may be that the Supreme Being experiences a range of attitudes through a creation endowed with random processes. Perhaps God could be said to experience curiosity, anticipation, surprise, and appreciation over a creation in which random processes are present. Elsewhere, we develop and defend this controversial proposal in greater detail, and we show how it can fit with many of the major theories of divine providence (see Wessling and Rasmussen 2015, 288–304). Here, we note just that it is perhaps easiest to see how this theory of God’s experiences could fit with *simple foreknowledge* and *open theist* views. For on either of these views, God’s knowledge of how the world unfolds depends in part upon the choices of creatures and the events of creation, and

not entirely upon God's decisions (see Rhoda 2008, 225–34; Zimmerman 2012, 174–202). Thus, God may partake in the good of enjoying curiosity, anticipation, surprise, and appreciation as God discovers how creation precisely unfolds.

We propose, then, that the described aesthetic goods are a beneficial way of understanding the value of the autonomy of creation. We furthermore suggest that these goods may provide God with *one* reason for creating a system that can produce animal suffering.

We hasten to add a few caveats, however. First, although we propose that aesthetic goods may figure into God's reasons for creating an indeterministic order in which animal suffering can arise, it is not part of our proposal to suggest that the aesthetic goods figure into God's reasons for permitting *particular* instances of animal suffering. Suppose, for example, a fawn is suffering in a forest fire. We do not propose that God sees the fawn but then decides to allow that particular being to suffer *for the sake of aesthetic goods*. The picture, rather, is that God creates a system that has the real possibility—and perhaps great probability—of leading to many instances of suffering, where the described aesthetic goods may provide God with one contributing reason (among others) for creating such a system. Once the system has been created, God's reason for *not breaking* the system could be that it is rationally impermissible for God to contradict God's prior decree that there be such a system (at least during the stage for which the system was determined to exist). In any case, our proposal here is just that there is *some* reason to value the implementation of an autonomous creation.

Second, we do not claim that God could not have *constrained* the stochastic processes so that there would be much *less risk*, if any, of unhappy surprises (in the form of painful death and disease). But then one might wonder: why create a system that, for all practical purposes, inevitably leads to so much pain and suffering? Could God achieve the aesthetic goods without the risk of so much disvalue in the form of pain and suffering? We sympathize with these questions. We note here, however, that certain of the aesthetic goods seem to depend upon the *degrees* and *kinds* of risk. Maybe if God constrains the process in a manner that (nearly) eliminates the chance of unwanted events, the universe would be (nearly) deterministic, or else not conducive to evolutionary processes. If so, then the aesthetic value noted would be (nearly) eliminated. Moreover, increasing certain risks of real trouble (within constraints) may *increase* the value of the variable rewards. For example, a system that includes the sort of tensions and trials we find in an adventure movie could have far greater aesthetic value than a system that merely shifts from one benign scene to another (see Hasker 2008, 108). Of course, there are limits here, and we do not claim to have much insight into *how much* danger a perfect being would put up with for the sake of aesthetic goods (for some of the classic

challenges with relying on modal intuitions in such far reaching domains, see Van Inwagen 1998). Different readers will no doubt estimate different risk limits.

Third, we do not suppose that the aesthetic goods are by themselves sufficient to justify the ways of God. As beautiful and interesting as we find the relevant manner of creation, we think much more is required to make sense of God's creation of the relevant system, especially in light of the magnitudes of suffering interwoven throughout the system. We think, in particular, that there must be something about this creation that is not only globally good, but good as well for *individual animals* (see Southgate 2008, 12–15). Thus, in the next section, we will turn our attention to the ancestral goods associated with evolution, and then in the final section we will consider how those goods could be translated into everlasting goods for each creature.

We close this section by expressing appreciation for a certain skeptical response. One might think that the rife wastefulness of evolutionary history together with the billions upon billions of episodes of death is both bad and ugly. Moreover, it may seem counterproductive (if not entirely self-defeating) to create a system that produces aesthetic goods at the cost of far greater ugliness. How could we deem a picture beautiful if it is marred by ugliness (worse: tragedy) throughout?

The question of the aesthetic value of the total evolutionary history is deep and difficult. We acknowledge that reasonable readers will arrive at different judgments—though we note that many, including Charles Darwin, have judged what they know of the evolutionary process to be exquisitely beautiful (for a survey, see Murray 2011, chs. 5–6; cf. Darwin [1859] 1954, 490). We recognize, therefore, that the appeal of our aesthetic consideration will vary from reader to reader; such is to be expected. That said, we offer a few considerations to ameliorate the concern that the overall beauty of an autonomous creation is swamped by the ugliness of animal suffering and death. Consider, first, that as far as our science of the natural world goes, it could be that the great majority of animals tend to experience positive well-being the great majority of time. There is much bad, to be sure. But for most animals, their lives might be (for all we know) experienced by them as generally good/pleasant, rather than painful, brutish, and short. If so, then for such animals, their lives may be, when taken on the whole, good for them. Things may even get better for each animal in a resurrected state, as we will explain later. In view of a full eschatological picture, it could be that the negative experiences, such as those surrounding death and disease, are like the tensions and trials that contribute to a great total story (or interwoven stories), rather than like disconnected ink blots on a Mona Lisa.² Of course, there are many considerations relevant to one's aesthetic judgment of the total scene—which is precisely why we anticipate and invite further discussion on this matter.

ANCESTRAL CONNECTIONS AND THE AUTONOMY OF CREATION
DEFENSE

In a recent essay, the philosopher Robin Collins argues that creation by means of evolution allows for deep interconnections between entities within creation, which may partially account for God's choice to create in this manner. Evolutionary biologist Joan Roughgarden explains: "Our material continuity with the rest of living creation is not a threat to Christian beliefs. Just the opposite . . . Evolution's discovery of a single tree of life extend a Christian view of the body and family beyond humans out to all of living creation" (cited in Collins 2011, 249). The idea, in other words, is that if God were to create each species directly, then certain valuable creature-to-creature connections would be substantially diminished, if not absent altogether. In this section, we shall briefly exposit, defend, and build upon one of the connections that Collins cites—that is, ancestral connections—and we shall explain how the autonomy defense complements it.

First, what are ancestral connections? According to Collins, "An ancestral connection occurs when one being shares a common ancestor with another—for example, according to the theory of evolution, humans and apes both arose by common descent from the primate group called prosimians" (2011, 250–51). One of the ideas behind this kind of connection is that individuals are partially who and what they are in relation to their ancestry. Within the context of biological evolution, this connectivity creates something of a familial connection with many, if not all, forms of terrestrial life.

Why believe that individuals are partially who or what they are in connection to their ancestral history? This question is not one that Collins addresses in great detail, but it is easy enough to see why one might believe that connectivity affects who we are. Suppose, on the one hand, that some form of materialism, property dualism, or emergent dualism is true with respect to human persons. On any of these accounts, it is reasonable to believe that the individuation of any given human is (initially at least) dependent on a certain chunk of matter. If indeed our precise existence depends upon precise material conditions, then it is highly unlikely that, for any given existing human person, that particular person would exist if significant events in the past history had been different. Different histories lead to different arrangements of matter, which lead to different people. On this construal, then, personal identity and individuation depend upon the particular direction evolutionary processes take. Winston Churchill's existence, for example, deeply depends on his *specific* evolutionary ancestry.

On the other hand, let us suppose that some form of substance dualism is true, according to which human persons are individuated not by material stuff, but by immaterial substances. If this view is correct, then personal

identity (so described) is not intimately connected with antecedent life: the numerically same person could exist within entirely different matter, or perhaps no matter at all. Nevertheless, it seems right to say that one's *psychological identity* is deeply connected with one's biological ancestry. By psychological identity, we have in mind the personality, quirks, impulses, tastes, convictions, and values of an individual that make one's psychology different from others. Ostensibly, one's psychological identity is a contingent feature of the individual, as a person often goes through various personality phases. But there is typically a large degree of continuity in an individual's psychological identity, even when the individual "reinvents" himself or herself from time to time. The important point here is this: if one's psychological identity is significantly shaped by one's genetic material, and if one's genetic material depends upon biological ancestry, then a significant feature of one's life depends upon one's biological ancestry.

Let us suppose, then, that an individual's personal identity, psychological identity, or both are significantly tied to her biological ancestry. This connection between identity and ancestral history applies *mutatis mutandis* to (nonhuman) animals. Arguably, they are individuated by particular arrangements of matter, and various species, both individually and collectively, embody unique personalities, habits, instincts, and so on that depend upon genetic material and biological ancestry. One may suppose, therefore, that creation via evolution has a way of forging ancestral connections across a broad span of biological species, which in turn forms a nexus of the relevant types of identities.

We may add that the distinctive species are ancestrally connected to the cosmos as a whole. It is the cosmos, after all, which provided the raw material and operations necessary for biological evolution. Moreover, this very material, together with its causal operations, played a major role in shaping the personal and/or psychological identities of all conscious beings contained within this creation. We see, then, that creation via cosmic and biological evolution has a unique way of ancestrally connecting all embodied sentient beings.

But why think that ancestral connections are valuable? We offer two considerations. First, as Collins suggests, even if we cannot clearly explicate *why* they are valuable, we may have grounds to believe that they are valuable given that a sense of their great value is revealed by common human practices. Collins cites these examples: (1) adopted children look for their biological parents, (2) people expend great effort to determine their family tree, and (3) in a theological context, communities value apostolic succession as that which is believed to connect individuals to Christ in a historical yet mystical way (2011, 254). In the same vein (although his concern is very different), J. David Velleman writes,

When people deny the importance of biological ties, I wonder how they can read world literature with any comprehension. How do they make any sense of Telemachus, who goes in search of a father he cannot remember? What do they think is the dramatic engine of the Oedipus story? When the adoptive grandson of Pharaoh says “I have been a stranger in a strange land,” do they take him to be speaking merely as an Egyptian in the land of Midian? How can they understand the colloquy between Darth Vader and Luke Skywalker? Surely, the revelation “I am your father” should strike them as a bit of dramatic stupidity—a remark to be answered “So what?” (Velleman 2005, 369)

Moreover, we notice that it is not just human-to-human ancestral connections that many deem important. People also want to visit, and see preserved, their places of birth, childhood residences and communities, and so on. They also want to learn about their cultural and ethnic heritage, even when they have no current involvement with it. So, there does seem to be some evidence that ancestral connections are valuable, or at least that they are valued, regardless of whether we can spell out exactly what makes them valuable.

Second, we believe it is valuable to be positively connected with other valuable entities. For example, it is a great good in someone’s life to be affiliated with an excellent educational institution, a just political movement, or a vibrant cultural community—and these are good quite apart from any practical advantages that these ties may afford. This much is plausible enough. So then why not think it is also good for us to be members of the club of causally related creatures? Consider, after all, that humans are not merely dropped into the environment in which they interact; instead, their very psychological identities and physical structures are bound up with the world around them.

What is valuable for humans here is also valuable for all other sentient beings. Ancestral connections can be cosmos-to-animal or animal-to-animal. Even while animals do not have the capacity to be aware of such connections, the connections themselves may carry tremendous value.

From a theological perspective, the deep connections forged between creatures and the cosmos may illumine the biblical language regarding the initially mysterious relationship between human redemption and the redemption of all of creation (expressed most famously in Romans 8:18–25). For when we consider that particles involved in the Big Bang would later be stochastically directed into becoming part of each and every creature, even composing personal and/or psychological identities, we see that all of creation forms an integrated whole. Thus, for instance, I owe who I am, at least in part, to the natural world. Insofar as I value the aspects of myself that are the product of the cosmos, I may honor and value that which made me who I am. I may thereby also hope that the sentient sources from which

I came could be redeemed and brought into their greatest glory. Although it may be perfectly coherent to suppose that God can only redeem certain sections of the nexus of creation, would it not be deeper and richer to redeem the integrated whole, if that is possible?

Thus far, much of what we have said about ancestral connection is strictly compatible with determinism. But streams of randomness within the evolutionary process can serve to increase the value of ancestral connections. In particular, randomness allows creation to enjoy something of a co-creational role in producing species, thereby strengthening the connectivity of its creatures. To see this, suppose that God determines everything in the natural world by creating its initial conditions plus certain laws that guarantee each proceeding detail of the cosmos. In this scenario, God is the ultimate sufficient reason for every natural event in the cosmos in the sense that every natural event is either directly brought about by God, or determined by that which God directly brings about. But now my connection to the cosmos is diminished. After all, the cosmos (or constituents thereof) has not exercised any causal power *of its own* that contributes to who I am. Contrast this scenario with an autonomous creation that contains genuine torrents of randomness. According to this picture, the universe has the inherent ability to unravel in several different ways. Since God does not directly or indirectly select each event in the cosmos, and since the cosmos (or parts of it) has its own contra-causal capabilities, creatures can claim, "I am who I am in part because the universe has made me such."

A worry, at this stage, is that we have fallen into an overly anthropocentric view of creation, whereby creation is being treated as if it has agential powers. Notice, though, that the good of ancestral connections that run through an autonomous creation requires not agential freedom but the notion that the processes of creation are a significant *source* of the personal and psychological identities of terrestrial creatures. Again, if God determines everything that happens within the natural world, then God is the ultimate source of each event within it. However, with an autonomous, indeterministic creation, the spontaneous interworking of creation make one's personal and/or psychological identity much more dependent on the processes of creation itself, such that one would not be who or what one is without the radically contingent outcomes of those processes. Created things, therefore, play a more significant role in shaping individuals if they are autonomous to some extent. This greater role, in turn, enhances the significance of one's connections to the cosmos and its contents.

We recognize that this proposal would seem to diminish the extent to which God created each of us *specifically* as we are. Some readers may find this untoward, while others may welcome the result. For our part, it seems that the connectional goods are well worth the "cost" of having to say that God did not specifically intend every single detail about us. In fact, we find it hard to see what would be so great about God intending each and

everything about us. Far better, we think, for creatures to have some role in making themselves; likewise, better to be connected to the cosmos in the intimate way described by the connection-building component of the theodicy.

To sum up, one of the reasons a perfect God could have for creating a world that evolves by way of stochastic processes is that such a world affords creature–creature ancestral connections as well as creature–cosmos ancestral connections. We do not suggest that the value of these connections justify all the evils that apparently result from evolution. So far, we merely suggest that these connections could be quite valuable.

AUTONOMOUS CREATION AND IMPARTIAL TREATMENT

We will now consider one further way in which a randomness-containing, autonomous creation may be useful to God. Let us grant that God values ancestral connections and that a sufficiently good way to instantiate these connections is through cosmic and biological evolution. Within biological evolution, mutations are a mixed bag. Certainly, some mutations are helpful. They can lead, for example, to the capacity for a longer and more pleasurable life. Other times, however, the mutations are not so advantageous. They lead to disease, disability, and imminent death. God of course knows this, and given that God cares for each creature, God wants to avoid painful mutations. God, we may suppose, would even be willing to intervene in the natural process to stop hazardous mutations if God could do so without an offsetting cost. The cost, however, may be quite high. One cost, for example, may arise in view of God's justice, which inspires God to treat creatures similarly in relevantly similar circumstances. Suppose, for example, that God has a policy to prevent every negative mutation. This policy may end up undermining the very natural processes that form desirable ancestral connections. Michael Murray elucidates this idea as it relates to natural evil more broadly:

All naturally evil states of affairs are naturally evil because they constitute harm to some being or beings capable of being harmed. If God were to seek to minimize the relative quantity of natural evil, he would be seeking to reduce the overall quantity of harm done to creatures. However, divine justice requires, among other things, that God's dealings with creatures be evenhanded. Such evenhandedness entails that when creatures are treated a certain way in certain circumstances, other creatures in similar circumstances will be treated in like fashion. If justice requires such evenhandedness, then were God to prevent destruction from tornadoes, he would surely be obliged to prevent similar destruction of property caused by hailstorms, tropical-storm wind gusts, and so on. It is, of course, not at all easy to say what "similar destruction" might amount to. There might be all sorts of cases that would have the appearance of being similar but which might figure in a set of necessary conditions for securing outweighing goods of which we are wholly unaware. Nonetheless, the evenhandedness condition requires

that if God is going to preserve one sort of sentient creature from a certain sort of harm by fiat, other similar sentient creatures similarly situated will be preserved from similar harms. Given this, we have good reason to expect that minimal interventions would quickly multiply to such an extent that there is a high likelihood that any intrinsic or instrumental goods which were to come from nomic regularity would be in jeopardy. (Murray 2011, 148–49; cf. Tracy 2007, 172–74)

It should be clear that Murray's concern is with nomic regularity, not ancestral connections *per se*. But without nomic regularities—and, we have suggested, an element of irregularity as well—the depth of ancestral connections is all too easily undermined. So, perhaps God will not intervene so often if God seeks to create an inherently developmental and ancestrally connected world. Were God to select one creature over another when all other things are relevantly similar, it seems that doing so would be a violation of the evenhandedness principle.

Randomness can actually help God maintain evenhandedness. Suppose for a moment that there is no randomness and that we live in a deterministic world. This assumption may entail that God chooses which animals will suffer—in the sense that God intentionally, and without constraint, establishes the causal conditions that God knows will inevitably lead to each and every maladaptive mutation that produces harm. But if God were to determine in every case which creatures will suffer, then it is likely that the evenhandedness principle would be violated—that, for example, God would be the author of radically different fates among creatures of the same species in relevantly similar circumstances. Now consider instead this option: God creates a world in which mutations arise via partially random processes. In this case, no maladaptation is necessary, even if some are highly likely. Furthermore, randomness removes God from being the first intentional cause of any of the bad events, and it allows God to treat creatures evenhandedly in that God need not select a subset of relevantly similar creatures in relevantly similar circumstances to suffer while their counterparts flourish. To be clear, we are by no means suggesting that randomness automatically exonerates God from creating a system in which bad events occur. Our point here is far more modest: we suggest that randomness may play a special role in explaining how God might implement a system that achieves certain creative ends while maintaining evenhandedness.

Someone might worry here that, although God may achieve a certain measure of evenhandedness via a stochastic process, this favorable result is offset by the very unfavorable unfairness of the resulting distributions of suffering. So, for example, while some animals may live relatively peaceful lives, others are born with parasites that slowly eat them alive. This radical unfairness may far outweigh any subtle values gained by evenhandedness. We will return to this issue when considering the prospect of “animal resurrection” in the next section.

Thus far, we have presented certain goods that suggest that the production of an autonomous creation is a reasonable course of divine action. However, we have not yet explained how the articulated goods might overcome, or ameliorate, the problem of evolutionary evil. In the next section, we shall do that by presenting an autonomous creation theodicy.

A RANDOMNESS-BASED, COMPOSITE THEODICY

We will now suggest how the various theodical elements may be integrated into a larger composite theodicy. We begin with the proposal that one good reason God creates a world is to achieve the good of an autonomous creation. We add that creation could be set up to evolve from its humble beginnings to an entirely redeemed new heavens and earth that will last forever. Once creation reaches its enhanced state, the risk of further evolutionary evils may be removed, and the adapted creatures may live in stable harmony. Finally, we suggest that cosmic and biological evolution, as it operates within the universe, may, for all we can tell, be among the best ways to achieve the good of an autonomous, ancestrally related, aesthetically interesting creation, which eventually evolves in an evenhanded way into an enhanced, grand state of affairs. The story is not implausible, given theism, and it provides a foundation for a more detailed assessment of probabilities (which we leave wide open at this stage).

Be that as it may, our way of making sense of evolutionary evils still faces what Christopher Southgate labels the “teleological problem,” the troubling thought that God has simply used creaturely suffering and death as a mere means to the establishment of God’s long-term purposes (Southgate 2008, 9, 14; cf. Dougherty 2014, 97–99). Rather than simply using animals, might God compensate them for the harms done to them through the evolutionary process? As a way of affirming that God does so compensate, many suggest that animals may enjoy eternal life in God’s restored creation (for excellent discussions of this proposal, see Southgate 2008, ch. 5; Dougherty 2014, ch. 9). The proposal, though certainly controversial, has been defended on biblical, theological, and philosophical grounds. For present purposes, we suggest merely that animal salvation is a praiseworthy end, and it is something a good God might well wish to achieve.

There are two general ways in which an eternal reward in the life to come might be organically connected to animal suffering in the here and now. The first rather interesting option is defended by Trent Dougherty, who proposes that animals, similar to humans in many Christian traditions, will not only be resurrected but deified. The result is that animals

will become full-fledged persons (rational substances) who can look back on their lives—both pre- and post-personal—and form attitudes about what has happened to them and how they fit into God’s plan. If God is just and loving, and if they are rational and of good will, then they will accept, though

with no loss of the sense of the gravity of their suffering, that they were an important part of something infinitely valuable, and that in addition to being justly, lavishly rewarded for it, they will embrace their role in creation. In this embrace, evil is defeated. (Dougherty 2014, 3)

Drawing from Dougherty, then, one might say that deified animals become aware of the role they have played in building creation—indeed, an autonomous creation, linked through ancestry, which unfolded into paradise—and they will see that, although their suffering has been great, it was short and worth the outcome. (One need not hold, as Dougherty seems to, that personified animals are given freedom to reject the value of their role in creation.)

Another option is to suppose that animals may be partially deified, but not personalized. That is to say, animals remain recognizably the same, but they are stripped of mortality, carnivorousness, and so on. (One must assume here that carnivores *can* be transformed into herbivores without significant loss of identity. Although this assumption can be questioned—e.g., Osborn 2014, 130, 134—we do not find it unreasonable.) Unlike the former option, animals that are not personalized will not be aware of the role they played in forging creation. However, it is surely reasonable to suppose that the value of their role remains, even if they never recognize it. Moreover, *humans* may gain intimate knowledge of the special ways in which animals are ancestrally related to them. They may appreciate the price animals have paid in the evolutionary process, and these causal connections may in turn form a good relational bond between humans and animals, not unlike the bond often experienced between pets and their owners. Thus, animals may experience a good that is directly dependent upon their role in creation, even if they are unaware of their own role in the process.

These postmortem values may help address certain elements of “unfairness,” where one animal flourishes while another flounders. In view of the eschatological possibilities, God may structure the world so that “unfair” elements are (at least generally) part of uniquely special long-term stories. The idea here is not that all creatures end up with exactly equal amounts of suffering (though the ratio of *total length of suffering* to *total length of well-being* could approach infinitesimal across infinite time for each creature). The thought, rather, is that each creature (and perhaps each species) could have a *longer (perhaps everlasting) story* which that very creature would consider just (and good), even while certain segments are unequal.

We realize that our proposal may seem *ad hoc*, if not entirely preposterous, to someone who thinks animals have no chance of postmortem existence. But given the current dialectical context, the possibility that extra pains could be ingredients for future benefits need not be ruled out. From a theistic standpoint, for example, each creature that suffers may be

a protagonist within a series of interwoven stories. It is far from easy to fathom the sort of transformations that God, if there were such a being, might have in store for creatures. Consider that the grandest realities—such as people, nations, and the universe itself—tend to *start small* and then unfold into greater and greater stages. In view of the limitless future, it is not easy (for these authors, anyway) to rule out the real possibility that if there *were* a perfect being, this being may well have systems in place to rectify injustices in the long term (even to the satisfaction of each creature, if the creature can, or could, judge such a thing). In any case, we consider it a live option that God—if there were such a being—could achieve a measure of evenhandedness using a stochastic process without *thereby* incurring distributions of suffering that are ultimately unjust.

One may object here that it is misplaced to suggest that animals often play a positive role in creation (see Schneider 2014). Consider that well over ninety-five percent of all species have ended in extinction, many of which appear to have been wilting branches on the tree of life that did nothing to enact the next stage of evolution (see Poinar and Poinar 2008). Their sufferings and deaths appear to be in vain, and so it is difficult to see how animals can be compensated in the ways suggested.

Such an objection fails, however, for at least two reasons. First, the goods of ancestral connections do not depend on the sustenance of each branch on the tree of life. The relevant goods here flow from the connections to *individual* members of each species. All members are causally related by a tree of life (or to the cosmos itself), even if there are terminating nodes in the tree. Second, dead ends can be seen as natural, benign outcomes of an autonomous creation. Given autonomy, God does not direct evolutionary niches in a nonproductive direction. Rather, God creates an evolutionary milieu that could very well result in terminating branches. Some (if not all) ends are natural ends and need not be seen as unfortunate, especially if members of every species experience postmortem salvation.

This, then, is the basic structure of our theodicy for evolutionary evil. God has reason to realize the goods of an autonomous, ancestrally related, aesthetically interesting world. To achieve these values, evolution via random processes is the necessary means—or, at least there is not an obviously superior way to achieve all these values. God sets up this process knowing that it is highly probable (at least) that these processes will result in animal pain and death. But the pains and death are not permanent, and they are translated into grand goods in at least one of the ways proposed. In short, God's method of creation may be designed to exchange temporary evils for everlasting goods for all creation.

Is our theodicy successful? Very generally, we may say that a theodicy “succeeds” (to some extent) if (1) its basic claims are not implausible in a theistic context and (2) it specifies morally adequate reasons for God to allow the kinds of evils to which the theodicy applies. We anticipate that

intuitions will vary regarding both (1) and (2). Thus, we anticipate that judgments about the degree to which our theodicy succeeds will likewise vary. However, if we restrict our focus to (2), we find that many people appear to endorse moral standards that imply the moral adequacy of our theodicy.

Consider, first, that many people do not object to causing certain animal suffering and death for the sake of human flourishing. (We will consider stricter standards for animal rights in a moment.) In fact, the construction of roads and the consumption of animal meat appear to presuppose an underlying intuition that it is generally okay for (nonhuman) animals to die for the sake of human well-being. Notice, furthermore, that many who adopt this mindset do not think that one can only harm animals when it is essential for human flourishing—for good health or survival. Rather, the view seems to be that it is often permissible to hurt and kill animals when it will contribute to human flourishing in many ways, including, for example, increasing the pleasure of life. (Note: Torturing an animal for fun does not lead to one's flourishing. Thus, even though it may, for a time, bring one pleasure, it is not thereby justified.) If animal suffering and death are justified by this relaxed, but widespread standard, then the moral dimension of our theodicy far exceeds expectations. For we are proposing that God creates a system that has associated values that appear to far surpass this relaxed standard. And, importantly, one of God's reasons for creating the system despite the possibility of suffering is that the creatures themselves will enjoy certain goods because of this method of creation.

But what about those of us who do not think that animal suffering is so easily outweighed? Consider the proponent of animal rights, Tom Regan. He argues that it is wrong for humans to engage in harmful medical testing of animals that is not intended for the good of its test subjects (2014, 95–108). Regan sets the standard for the justification of causing animal harm quite high. Whereas many contend that harmful animal testing is justified if it reasonable to assume that it may substantially benefit humans, Regan maintains that animals cannot be used as a mere means to some disconnected end, such as human health. Note that our theodicy does not violate Regan's means–end criterion. In our proposal, animal suffering is connected to their salvation—that is, the suffering they undergo helps create a universe that benefits them, as well as others. For animal suffering helps forge cosmos–creature and creature–creature connections, and it helps build the new heavens and earth as part of an aesthetically good system. (To be clear, we have not suggested that their suffering is strictly necessary for these connections; rather, we have suggested that it may be morally acceptable to forge these connections through such suffering where one aims for the many goods of creational autonomy.) Importantly, the goods animals help make are granted to them in one way or another in the life to come.

We do not mean to suggest that Regan would accept our theodicy. Rather, we emphasize just that our theodicy does not violate an important and stringent strand in his thinking about the justification of animal suffering. We do not suppose that our composite theodicy completely solves all of the various problems of animal suffering. But, in line with our stated goals, we believe the theodicy constitutes a significant step forward in our understanding of why a good God might permit evolutionary evils.

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NOTES

1. Often appeals to divine love are made (e.g., Haught 2000, 38–43, 128–37; 2003, 78–83, 168–70; Johnson 2014, 177–80), but the interrelation between love, the aesthetic cosmological principle, an autonomous creation, and the problem of evolutionary evil is far from clear. To illustrate the point, it seems that God could create a beautiful nonautonomous cosmos out of love that is without evolutionary evil. So, what is so aesthetically wonderful about an autonomous creation, or how is it somehow required by divine love? In any case, Johnson is clear that she does not intend for her appeals to love and the aesthetic value of creation to contribute to a theodicy (2014, 187), and Haught offers a proposal that has been convincingly critiqued by Murray (2011, 173). The latter is significant because Haught perhaps has done the most to relate, with precision, an autonomous creation, together with the aesthetic cosmological principle, to the problem of evolutionary evil (see Haught 2000, 2003, 2006).

2. One must be careful in this context about reading one's theism or naturalism back into the evolutionary story. For example, a naturalist will think the stochastic processes were not constrained by God, and therefore she may have reason to paint a far grimmer picture about the average welfare of sentient creatures than a theist may—even when considering the *same* available empirical data.

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