

THE SIGNIFICANCE OF EVITABILITY IN NATURE¹

by Gary Keogh

Abstract. Assessing the current situation of the religion–science dialogue, it seems that a consensus of nonconsensus has been reached. This nonconsensus provides a pluralistic context for the religion and science dialogue, and one area where this plurality is clear is the discourse on relational models of God and creation. A number of interesting models have gained attention in contemporary theological dialogue with science, yet there is an overriding theme: an emphasis on God’s involvement with the world. In this article, I argue that theology has been preoccupied with this emphasis. It is suggested that the theme of the freedom of nature has been underrepresented. This theme of the freedom of nature I argue carries important theological implications. It is suggested that acts or events gain their significance largely by way of being contextualized by the fact that such acts or events could have been otherwise, a realization that might provide the various relational models of God and the world food for thought.

Keywords: causality; creation; determinism; freedom; nature

Assessing the current situation of the religion–science dialogue, it seems that a consensus of nonconsensus has been achieved. This point has been acknowledged recently by Philip Clayton, who suggests that in the cross-fertilizing dialogue between religion and science an impasse has been reached (2014, 433). Rather than a sense of resignation, we get from Clayton’s reflections a sense of opportunity. He rightly notes that the vastness of these two great spheres of human civilization and their fundamental differences make settledness, not to mention consensus, impossible (2014, 440). This nonconsensus, he suggests, provides a pluralistic context for the future of the religion and science dialogue, and one area where this plurality is clear is the discourse on relational models of God and creation. Although a plurality of approaches have been presented with regard to understanding the God–world relationship, there is one common theme which might be seen as the common denominator: a pressure to reconcile

Gary Keogh is the Samuel Ferguson Research Associate at the University of Manchester, WG20B Samuel Alexander Building, Oxford Road, Manchester M13 9PL, UK; e-mail: gary.keogh@manchester.ac.uk.

God's involvement in the world with the chain of causality presented by the natural sciences. Thomas Tracy has noted this tension; he explains that "the affirmation that God acts purposefully in creating, sustaining, and governing the world is deeply embedded in the monotheistic traditions" (Tracy 2012, 55). Similar expressions are found in Robert John Russell's work with particular reference to the Judeo-Christian tradition: "The notion of God's acting in the world is central to the biblical witness" (Russell 2000, 3).

Thinkers such as Robert John Russell (2013, 177), Thomas Tracy (2012), and Denis Edwards (2010, 60–61) have argued that the most appropriate way to envisage God's involvement with the world in the context of our scientific understandings is to adopt some form of noninterventionist divine action. This allows one to consider how God is involved in the world, yet at the same time accept the laws of physics as understood through the natural sciences. Yet even if that is taken as some form of consensus, there is great plurality regarding how God is understood to be related to or involved in the world in a noninterventionist manner. This is evident in the not mutually exclusive discourses on various models of pantheism (cf. Clayton and Peacock 2004), *kenosis* (cf. Polkinghorne 2001), process theology (e.g., Haught 2010, 81), neo-Thomism (Edwards 2010; Tracy 2012), and other approaches. The common theme throughout these discourses, despite their great variety, is an emphasis on how God is involved with the world.

Although this theme is prevalent, it is not beyond questioning. For example, in her Gifford Lectures of 2012, Sarah Coakley makes the interesting point that since the advent of science, which she identifies with Francis Bacon in the sixteenth/seventeenth century, there has been a shift in theological understandings of God which, in line with science, seek God in the natural world. She argues that those such as William Paley and modern intelligent design proponents are attempting to rationalize an extrinsic divine designer "who implicitly inhabits the same time and space spectrum as the creation itself, and thus competes for space within it" (Coakley 2012, 7). These understandings of God, she feels, have shrunk to mechanistic accounts of efficient causation; they are nothing like "the earlier, scholastic, divine Being as found in Thomas Aquinas' theology: atemporal, possessed of all omni-perfections to an eminent degree, the necessary sustainer of all that is, and utterly ontologically distinctive *qua* creator 'out of nothing'" (Coakley 2012, 7). This is not necessarily to say that envisioning models of God which seek God's involvement in the world are incorrect, but it might be said there has been an imbalance giving this theme extra importance, particularly in the religion–science dialogue. Could it be suggested that the kind of post-Paleyian theology which has emerged might be premised on the wrong question and was reactionary against the encroaching explanatory prowess of science? Paley was concerned about "how" the complexities

of a watch could appear without a designer, but perhaps he should have also asked why the rock or heath were there in the first place. In a sense, the post-Paleyian paradigm might be too preoccupied with seeking God's involvement in the world to appreciate other aspects of the God-world relationship which might be fruitful in dialogue with science.

In this article, I hope to present an argument for considering what might be understood as an alternative to an emphasis on God's involvement with the world. I will argue that, theologically, a strong argument can be made for the importance of freedom in nature, ultimately arguing that acts or events are significant mostly because they are not predetermined or inevitable: they are *evitable*.² This is not to suggest that the evitability of acts and events is the only source of significance, but rather that evitability is an essential criterion for significance. In doing so, I will not necessarily present a particular relational model of God which stands in opposition to others, as the pluralistic context of relational model discourse must be appreciated. In any case, there has been some acknowledgement of the importance of the freedom of nature in certain relational models (e.g., Moltmann 2001; Haught 2007, 94). The intention here is to demonstrate the importance of the theme of evitability and stress the notion of freedom—something which, while not absent from the literature, is often underrepresented in favor of considering God's involvement. Therefore, there will be provided some considerations for the various relational models to take note of and (hopefully) become more refined. My argument will first be outlined, and then I will consider three significant objections, all of which I consider to be surmountable.

SIGNIFICANCE AND SUBJECTIVITY

The term "significance" might be troubling, and thus requires at least a functional definition. The term "significance" is understood in this article as having the quality of meaning or importance, placing it in opposition to arbitrariness. In a cosmological/theological context, significance could be used to describe events such as the evolution of humanity, consciousness, or indeed the existence of the universe itself. However, with regard to the significance of the evolution of humanity, or consciousness, or the existence of the universe itself, the question could be posed, "significant for whom?" While such significance would not be as local as significant events in say, an individual's life, it could still (arguably) be quite local in terms of its anthropocentrism, and thus quite subjective. The evolution of human consciousness, or the existence of the universe itself, might only be significant for humans. Yet, anthropocentric subjectivity might be the closest we can get to an objectivity, as we have no conceivable frame of reference beyond our own perspective. If a genuine objectivity was possible, it would require a God's-eye perspective. We would move

then into considering the theological question of whether or not, and how, the existence of the universe, or the existence of humanity, is significant for God. Consequently, there are genuine difficulties in attempting a discussion of significance, but not so much that they cannot be avoided.

Although significance may have a necessarily subjective character, this does not preclude discussion on the topic. Philosophers such as Ernan McMullin and Alasdair MacIntyre, for example, have discussed how value can be attributed to seemingly valueless entities (in this discussion, e.g., the scientific depiction of the universe) if such entities are attributed a characteristic value (McMullin [1982] 2012, 689) or a functional concept (MacIntyre 1981, 57). If a characteristic value or functional concept is given to the universe, namely that it is desirable that the universe supports self-reflective, moral life, then this universe could be judged as significant/valuable on that basis. Whether or not that characteristic value or functional concept has any basis in a metaphysical or theological reality is unclear to us at this point, though many theologians would likely assume it to be the case that the universe and our existence are significant to God. Thus, one cannot be certain that significance has an objective quality, but it certainly has a subjective one. For the sake of argument, significance is understood here to dialectically maintain a subjective and an objective character—we are quite aware of the subjective, and the objective is posited for the sake of argument, though we may be wrong about that side of the discussion. In any case, anthropocentric subjectivity might be enough.

THE SIGNIFICANCE OF ACTS

Above, it was stated that acts *or* events gain their significance mostly from the context of the possibilities of alternatives and that the eventual act or event was not inevitable (that things could have been otherwise). There are of course distinctions to be made between acts and events. For example, in discussing acts, the concept of significance can be intertwined with a more normative understanding of value; we make moral judgments on acts in a different way than we do for events. Events might still be considered significant in a positive or negative sense, and thus be the subject of value discussion—for example, an earthquake was a significant event in a negative sense as it resulted in pain, suffering, and so on. I will elaborate on this distinction below, but first, in order to illustrate how events might be deemed significant or not, I will consider acts, and then discuss the themes which correspond when the discussion moves to events.

When we make moral judgments, that is, value judgments, on particular acts, it is necessary that such acts had a degree of freedom. The concept of freedom adds a further complexity to this discussion, as the theme can be understood in various ways, for example, an ontological freedom (as in dualism), or a compatibilist understanding of freedom which seeks to

reconcile determinism and the notion of freedom (to be discussed later). At this point, it could be stated, admittedly rather simplistically, that freedom (in some form) is a necessary prerequisite for value judgments to be made on actions. For example, we might classify a murder as a wrong act. Yet, in order for such a judgment to be made and upheld, it must be considered whether the alleged murderer could have done otherwise, namely, not murder. Among other considerations, one might take into account (the motives, mental capacities of the murderer, and other circumstances all of which make moral discourse complex) the act of murder itself must be placed in the context of the available alternative acts. If it was inevitable to murder, or impossible to avoid murdering, then the murderer is not necessarily responsible for his/her actions, as his/her conscious freedom (however that is understood) had no bearing on the process.

Freedom is acknowledged, then, as essential for value to be attributed to acts either in a positive or negative sense. Philosopher William Mann notes a similar theme in Augustine's thought: "without having freedom of choice, with its built-in liability, humans would lack the capacity to choose to live rightly" (Mann 2001, 47). In other words, choice (slightly different from free will) is necessary to do good or to do evil. It enables humanity to make right or wrong choices; indeed, it allows for the very notions of right and wrong to be applicable to human acts. Without choice, acts of good and bad would be meaningless—they would just be. MacIntyre also provides a discussion on a similar premise in Aristotelian ethics. MacIntyre notes the Aristotelian premise that actions can be assessed in light of what would have been done by an agent who had in fact deliberated before they acted (MacIntyre [1967] 2002, 71). In this sense, the concept of freedom is more implicit than in Mann's depiction of Augustine's thought, but what is common and necessary in both views is the availability of alternative options. In MacIntyre's depiction of Aristotelianism, acts are assessed against what a prudent agent would have done, implying the possibility of alternative actions. Were no such alternative actions available, then it must be concluded that the original act and the prudently deliberated-upon act would be the same, and thus there would be no basis for valuing the action one way or another.

Consequently, it can be considered that acts are not attributed a kind of intrinsic value, but can only be attributed value in the context of alternatives. In concrete terms, if a murderer had no available alternative choices other than to murder, can the murder still be considered wrong? Most likely not. It is thus not the actuality of an act that has a value or significance, but only the actuality in the context of possibilities.

To further illustrate this premise, acts can be contrasted with natural events (to an extent). The action of an agent can, as discussed above, be subject to moral judgment once it is considered that the agent had alternative options. In this sense, our actions differ from an event such as

rainfall. Rainfall in its excessive form may cause flooding and thus, death, destruction, and suffering. However, despite the consequences, we would not attribute a value to rainfall, as it is a natural event.³ Rain did not choose one option among other possibilities, and thus cannot be subject to moral judgment in the same way that certain actions can. Rainfall cannot make a decision to do otherwise. Put in terms more closely aligned to the argument being presented, if events are predetermined then such events cannot be considered right or wrong. Events in nature simply are.

Returning to acts then, the same premise could be applied. If acts are predetermined by laws of physics, or by a divine plan, can they be considered subject to moral judgment? Taking the Genesis narrative to illustrate, one could ask if Adam was inevitably going to sin, that is, he had no choice to do otherwise given that his actions were foregone conclusions as a part of a predetermined plan. How then can he be held responsible for his actions? If God had planned for Adam to sin, then why punish so harshly? This is expressed in the seventeenth century Unitarian objection to predestination. *The Racovian Catechism*, for example, makes an objection to predestination in terms of God's punishment: "And when God punishes the wicked, and those who disobey him, what does he but punish those who do not that which they have not ability to execute" (Rees [1605] 1818, 333). The narrative of the Fall-as-punishment presupposes Adam's guilt, and guilt can only be attributed when it is considered that Adam could have not sinned. Otherwise, the Fall was inevitable and God was always going to punish.

In the view discussed here, that Adam could only have been justifiably punished if he had the potential to not sin, it follows logically that good actions cannot be considered good, if potential alternative actions are not possible, namely, the potential to do bad. To return again to the rainfall analogy, if an appropriate amount of rain falls, allowing people to farm their land and feed their cattle and family, then we see positive consequences. Yet, a moral value is not being attributed to the appropriate amount of rainfall, as it could not have chosen to do otherwise. In the case of a morally good act, for example saving someone from drowning, the act can only be considered morally good if the option was available to not save the person's life. To use another example from the biblical narrative, if we imagine the crucifixion as an inevitable event, then does it lose its goodness? On the perspective being offered here, the value (or at least, a proportion of the value) attributed to the crucifixion stems from the fact that things could have been otherwise. Doubt, angst, and uncertainty are introduced to the narrative in the temptations of Christ and the feeling of abandonment on the cross. Ultimately, such tensions are resolved and the narrative ends on a positive note with the resurrection. Yet, it is the resurrection in the context of the potential succumbing to temptation, and the potential forsakenness that give the good resolution a positive value. Indeed all of the actions

of Christ and of the characters in the parables are considered good in the context of their noninevitability. The Samaritan did not have to aid the Jew, and so forth. In order for actions to be considered good, then, the option must be available to do otherwise. It is the evitability of the act, the unforeseen nature, which gives acts their significance, or their value.

THE SIGNIFICANCE OF EVENTS

Extending this notion beyond actions then, and applying it more broadly to nature or the universe, a similar premise can be articulated: events gain their significance mostly from the fact that things could have been otherwise. For example, events which we consider significant—for example, the evolution of humanity, consciousness, or the existence of the universe itself—are considered significant in the context of the potential nonoccurrence of these events. It must be pointed out at this point that of course there are differences between acts and events. Although it is argued here that both are similar in the sense that significance is attributed to both based on the potential for things to be different, acts have an almost added sense of value, a normative moral value, which events do not. As mentioned in the above discussion of rainfall, the event might be either positively or negatively significant (in that rainfall can result in either the flourishing or destruction of life) but it is not subject to moral judgment in the same way as the acts of murder or saving someone's life. This difficulty stems from the discussion on whether it is even possible to discuss significance objectively, and whether attributing significance to events such as the evolution of consciousness is a projection of anthropocentric values onto a value-neutral nature. In any case, as suggested above, a somewhat subjective perspective may be the best available.

So while there are differences between acts and events, there is a similar theme in that their significance lies mostly in their evitability. This dialectical approach (noting the differences and similarities between acts and events) most likely lies in the fact that the human–nature relationship is quite complex indeed. In some senses, acts could be attributed a kind of *de facto* naturalness based on our scientific appreciation of life-as-chemicals and our evolutionary lineage. In some senses, human acts, for example the building of a skyscraper, are as “natural” as the building of a bees’ nest. Indeed, medicine, physics, and even genetic manipulation could be considered natural; these acts are the result of natural events *vis-a-vis* us. Philosophizing about nature too, is in some senses nature thinking about itself.

In a recent discussion on morality and evil, Joshua M. Moritz offers a view which is relevant to the point being made here. Moritz suggests that there is no clear line of demarcation between moral and natural evil: “. . . the capacity for evil, like the capacity for morality, lies on a continuum that

has mysterious beginnings in the emotional brain . . . and reaches its apex in the cognitive and moral sophistication of fully cognitively enculturated human beings” (2014, 369). Moritz thus suggests that, quoting Darwin, morality differs in degree, not in kind, when we compare human morality with animal morality. Moritz is particularly concerned with animal suffering, but the premise could be expanded upon to move morality, suffering, and so on not just out of the realm of anthropocentrism but perhaps out of the realm of biocentrism. Therefore, we can move from considering the value (or significance) of acts to considering the significance of events. One should be cautious of course, as Moritz is, in acknowledging that there are differences between human morality and nonhuman morality. So too, there is a difference between morality, or value in acts, and significance, when we come to speak of events. The point being made here, however, is that there is little ontological difference when we consider the universe as comprised of matter, forming life, and hence humanity, and so forth. Nature is not easily divisible into matter, life, consciousness, and so on. Therefore, while considering that acts and events are notably different, they are not so far removed from each other that comparisons cannot be made, and statements about one cannot lead to statements about the other.

Of course, in other senses it could be said that humanity has broken free of nature through self-reflection. We have reached a certain point which sets us apart from the rest of the universe (save to the extent of potential self-reflective extraterrestrial life). This is a strong theme in the theology of Teilhard de Chardin, as he discusses humanity perforating a critical barrier separating the unreflective from the reflective (Teilhard de Chardin [1947] 1969, 222). As such, this is somewhat of a gray area. Acts could be considered to have a *de facto* “event-ness,” yet at the same time, acts can be judged in a different way to events.

Persisting with the point of similarity between acts and events, which both gain their significance mostly from the availability of alternatives, it is the fact that events such as the evolution of humanity might not have occurred which make our existence significant. From our perspective, it is something of an against-the-odds triumph. This assertion can be made by acknowledging the “chance and necessity” perspective of evolution, particularly as articulated by Stephen Jay Gould. Gould expresses the evitability of the evolution of humanity by analogically describing evolution as a tape that if rewound and let play again; it is most likely, in this case, that humanity or anything resembling humanity would not appear (Gould 1990, 51).⁴ If Gould’s position is accepted, and it seems to be the prevailing understanding of evolutionary theory, then perhaps this is where the evolution of humanity gets its significance: from the fact that it might very well have been otherwise. Of course, there are other features of humanity to which we attribute our significance: our capacity for intelligent thought, love, and various other characteristics. Yet I still argue that

humanity would be a deal less significant if we had been planned from the outset.

POSSIBILITIES AND ACTUALITIES

One discussion from a theological standpoint on this matter has been presented by Ruth Page in her 1996 work, *God and the Web of Creation*. Page frames her discussion in terms of an actuality–possibility opposition. She argues that, within theology, the importance of the possible has been mistakenly overlooked (1996, xvii). It is not difficult to appreciate why this has been the case. The world of the actual is the world we experience, and thus the only world we know. We have no frame of reference for counterfactual worlds; they exist only in thought experiments. Yet within the world we do experience we can still acknowledge possibilities: the murderer has the ability to not murder, and so forth. However, Page feels that the possibilities, the events that might have occurred but did not, have been undervalued, “We have concentrated on the *res gestae*, the things done, or written, or thought, without dwelling on the rand of possibilities out of which these *res* came” (1996, xvii). She hopes to shift the perspective and ask the question of what meaning such actualities have in relation to possibility (1996, xvii).

Page acknowledges that valuing actualities is almost intuitive and thus, it is easy to see why the actual has been given primacy as regards value. We have a clear relationship with the actual. It is tangible. Possibilities, however, are abstract and conceptual:

An implication of human ease with actualities is that they are regarded as “real,” while only the possibilities most foreseeable as future is given that accolade (“a real possibility”) . . . Thus, what exists, what is done, what is actually said, has value, but what is possible has no value unless it can be seen to be about to impact the real. (1996, 2)

While Page acknowledges that this is understandable, she feels that a constant valuing of the actual over the possible is limiting and bound to disappointment. Consequently, she seeks to revise this common approach, and argue that it is in fact possibility which is “the most valuable thing in the world” (1996, 2). She rightly notes that “the condition of possibility is logically and ontologically prior to actuality and has an irrefragable claim to be included in a sense of the real. Actualities only exist because they were, and continue to be, possible” (1996, 3).

The argument which I have articulated above thus agrees with the thrust of Page’s turn to the valuing of possibilities. There is one subtle distinction, however: in my own position, it is not necessarily the possibilities or potentialities that I attribute value to, but rather, the actualities (acts or events) in the context of possibilities. In some senses, it could be said

then that in the view I propose neither actualities nor possibilities have a value themselves, but that value or significance can only be attributed when both actualities and possibilities are considered. Possibilities alone cannot have value; the potential act of kindness or evil does not have value, as the act has not occurred. The possibility of the event of human existence or human extinction does not have significance, if neither occurs. Similarly, an act of kindness or evil in actuality does not have value unless the possibility existed to do otherwise, and the event of human existence or human extinction would not have significance were it not possible for these events not to occur. Evitability, again, is the thing which brings value and significance, the evitability of the actual emerging out of the context of the possible.

THEOLOGY AND THE FREEDOM OF CREATION

Page's particular emphasis on the value of possibilities (as slightly different from my own, which values actualities in the context of possibilities) has important implications for how she envisages theological concepts of creation; or perhaps her view on creation led her to the valuing of possibilities. Either way, Page notes that throughout Christian theological history, and indeed in particular in the dialogue between theology and science on the question of origins, what tends to be emphasized is God's causal involvement in creation. From the Aristotelian influence on Aquinas, to Newton, and Paley's masterful designer, there has been an emphasis on God-as-cause. Page, however, argues something different. She locates God as the creator of the possibility of creation, rather than the creator of creation itself. This is a subtle theological point, but one which has profound theological implications. Of particular interest is how she envisages creation as free (1996, 20).

As an alternative to viewing God's relationship to creation as causal in terms of actualities, Page argues for a conception of God as the creator of possibility (1996, xviii). A prevalent question which often logically leads to the very idea of God is the question of why there is something rather than nothing—the first cause argument. Page, however, suggests that this question ought to be reframed to ask “why is anything at all possible?” (1996, 5). With this shift in perspective, an aspect of God's relationship to creation emerges, one that stresses the freedom of creation to explore its own possibilities. Thus, God is seen as less coercive. God is not a causal force, but a granter of potential:

[I]n this case, possibility is the indispensable prelude to the relationship between God and the web of creation which grew from freedom. The relationships are not those between maker and made, like the carver with a statue or a composer with symphony. Rather, this is a relationship based on freedom between God and a, so to speak, free-standing creation, responsible

for what it is by its use of possibility, while these possibilities always include openness to the effective presence of God. (1996, 5)

While I am not certain that a complete move from a causal representation of God is necessary for Page to progress with this view (depending on whether or not one envisages the creation of said possibilities a causal act, and how one interprets that discussion) there are clear merits to such a view, if one is persuaded by the idea that events gain significance based on their noninevitability. If creation is understood as free or noninevitable as in Page's view, then events can be deemed more significant than had they been planned or "controlled" by divine causality. More recently, theologians such as John Haught have acknowledged the worth of such views, signaling the importance of freedom in creation by stating "an openness to accidents seems essential for creation's autonomy and eventual aliveness" (Haught 2007, 94). In order for creation to have "aliveness"—which I consider closely comparable in this case to significance—it must be able to explore possibilities; indeed, only in the context of such possibilities do events gain significance. The significance emerges from evitability, the unforeseen transition from a variety of possibilities to one actuality. The actual gains significance in light of being in the context of the possible, and the noninevitability of which possibility will become an actuality.

THREE OBJECTIONS

Scientific determinism. If evitability is considered as an essential source of value or significance in acts or events respectively, then important caveats must be considered. I will address here three: scientific determinism, a devaluing of regularity, and forsakenness. The scientific question to be asked with respect to the freedom of creation is: How can creation be free if the scientific picture of the world presents universal and contingent laws governing the physical universe? Does not the causal web exclude the very notion of freedom and evitability, if the world is constrained by laws?

The methods of scientific investigation follow the Aristotelian approach of endeavoring to understand the world by examining the "why" of things, or in other words, causes (Aristotle 2001, 240). Adhering to the "cause and effect" premise, the natural sciences continue to have not just predictive successes, but also successes in establishing a causal picture of the universe as a whole. This broad view of the scientific enterprise can be described as, McMullin explains, an ontology (McMullin 1984, 9). However, an envisioning of the universe in such a way should be cautious, as McMullin acknowledges, because our understanding is incomplete and tentative (1984, 9). In fact, envisioning the universe as a causal system is in some senses, necessarily, a metaphysical position, given that it is a view pertaining to the nature of science itself but yet constructed from within the confines of science. In essence, it is making an objective claim from

a subjective position, a point acknowledged, for example, by Willem B. Drees (1996, 11). Moreover, following the sentiment of Karl Popper, it could be argued that we may never be able to definitively prove that all of the world's phenomena are explicable in terms of cause and effect, as the criterion for the demarcation of truth may lie not with verification but with falsifiability (Popper 1959, 18). There may always be doubt that somewhere in the universe, past, present, or future, there is an effect with no cause, a chicken but no egg.

There are further issues with envisioning the world as a causal web, based on apparent irregularities in subatomic physics, but at the level of the macro, which mostly concerns us given that it is the level of the world we experience, the world runs according to inalienable laws, such as gravity, thermodynamics, and so forth. If the universe is understood in this way, then what of evitability? Are events such as the evolution of humanity not just the playing out of a chain of physical interactions? Bertrand Russell outlined this implication of science's depiction of cause and effect: he wrote that if everything we understand as matter (including thought processes) is subject to stringent physical laws, then "all its manifestations in human and animal behavior will be such as an ideally skillful physicist could calculate from purely physical data" (Russell [1925] 2009, 213). To proffer an (other) analogy: the throw of a die is considered random, and is thus often used to introduce "chance" into various games. However, in principle, the throw of a die is entirely nonrandom—it is governed and fully determined by the laws of physics. If a skilled physicist had complete access to all the relevant information about a die-throw, that is, the weight of the die, the velocity, the wind-drag, the angle from which it is released, and so on, then that physicist would be able to calculate, using Newton's laws of motion, where the die would land. In practice, such variables would be so numerous and complex that it would be impossible to actually calculate where the die would come to rest; consequently, for all intents and purposes, the throw of the die is random. Yet in theory, it is predictable. Perhaps the same could be said of the universe?

This picture of the physical world running according to fixed laws of physics thus presents a problem for valuing the freedom of creation. How can events be considered significant in the context of alternative possibilities, given that there are no such alternative possibilities if events are determined by physics? This problem is also relevant with regard to acts, given that, as Drees notes, a dualistic Cartesian understanding of mind has been abandoned by almost all (Drees 2010, 133). Although Drees also notes that there is no consensus that is widely accepted with regard to our minds and brains (2010, 133), it would seem that a rejection of dualism implies that our mind is at least related to matter, perhaps even fully comprised of matter. Our minds are, therefore, not exempt from the physical chain of existence, and thus, not exempt from the premise of cause

and effect. Are conscious acts, like events, then determined by physics? And if so, what of evitability?

The philosopher Daniel C. Dennett has addressed this issue with a particular focus on the mind and the concept of free will. Dennett rejects the dualistic notion of an ontologically free will or spirit; he notes that the mind is not “a God-like power to exempt oneself from the causal fabric of the physical world” (Dennett 2003, 13). Dennett seeks to offer a middle ground, or compatibilist model of free will, which does not hold physical determinism and freedom in a dichotomy. He argues that the interdependence of every causal system in the universe leads to the conclusion that, while the universe is governed by physical laws, the degree of alternative possibilities and permutations of physical interactions are so incomprehensibly vast that events cannot be considered inevitable. He quotes Whitehead in this regard: “The vast causal independence of contemporary occasions is the preservative of the elbow-room within the Universe” (Dennett 2003, 83). Therefore, the universe is governed by causal deterministic laws, but such laws offer enough “elbow room” for events to be considered evitable and thus free.

Pertaining more specifically to conscious thought, if freedom is considered to be equated to the level of complexity in a causal system, rather than an ontologically distinct factor, then Dennett considers that even “lower” organisms have a degree of freedom. A redwood tree, for example, can “decide” to blossom in spring, though of course, this is not a “conscious” decision. This decision is based on a simple environmental “switch”: “A system has a degree of freedom when there is an ensemble of possibilities of one kind or another, and which of these possibilities is actual at any time depends on whatever function or switch controls this degree of freedom” (2003, 162). Dennett expands on this concept by suggesting that over evolutionary time, such “switches” become more prevalent in living systems, and can become linked in parallel or in series, eventually forming larger switching networks, rather than a “simple” on/off switch in systems such as a tree—though perhaps a dendrologist (an individual involved in the study of trees) may argue that the process of tree blooming is in fact quite complex itself. Given the powers of exponential multiplication, the introduction of further “switches” into a system allow the degrees of freedom to “multiply dizzyingly, and the issues of control grow complex and non-linear” (Dennett 2003, 162). For Dennett, the unpredictability for all intents and purposes allows for a sense of freedom. Adopting this compatibilist position then, one can thus still appreciate the evitability of events, including human acts, while also appreciating the structure and lawfulness of the physical universe. Consequently, the problem presented to valuing evitability by determinism can be overcome. Freedom is then seen as emerging from a variety of potentialities. The significance, or value, stems mostly from the possibility to be otherwise.

Devaluing regularity. A further objection could be raised against a valuing of evitability from a philosophical or moral basis. If significance and moral value are attributed to evitability, the noninevitable selection of one option among others, then this could be critiqued as a devaluing of regularity. I have argued thus far that acts and events gain significance mostly because things could have been otherwise, and that the actualities that come to be were not foreseen/predetermined. In the context of natural events, therefore, the significance of the existence of humanity stems from the fact that we evolved ultimately as a result of chance collocations of atoms leading to a sequence of events (cause and effect). The non-inevitability of such events, or their evitability, brings significance. This is why outrage ensues when sporting events are fixed; it is the outcome's surprise or noninevitability that is valued.

However, would valuing evitability imply a devaluing of regularity? Is there not a value to be attributed to planned events, and events going to plan? Often it is the evitability or surprise of events that cause great upset and suffering. For example, if a weather front suddenly emerged without prior warning and disrupted an airplane flight, leading to a crash and loss of life, then this example of evitability would not be given any positive value; indeed, the opposite. It is, in this case, the hopeful regularity that would be valued. In a moral question too, if evitability is the thing most valued, then what of consistency in relationships, for example? Would a valuing of evitability not in some way justify adultery? This could present a problem for the central argument of this article. However, recall that I differentiated my position from that of Ruth Page in a subtle way: it is not necessarily the possible that is valued, but rather the possible as a context for the actual. Therefore, to use again the examples of an airplane crash or an adulterous relationship, valuing evitability is not a devaluing of regularity or consistency, but rather a valuing of the actual (in this case, planned actualities) in the context of possibilities. We are relieved and gladdened when an airplane arrives at its destination safely not because that was its original intention, but because it could have been otherwise. If there were no chance of the airplane crashing, then why rejoice? It would simply be a playing out of a predetermined script. Similarly, in the context of a relationship, it is not necessarily that faithfulness should be devalued in favor of adultery, but rather, that faithfulness can only be truly valued in the context of possible adultery. If adultery was not a possibility, then why value faithfulness?

A similar point of objection to a valuing of evitability with regard to the potential devaluing of regularity stems from the need for regularity in moral actions. In order for our actions to have moral significance, it must also be noted that we rely on the world to continue to behave with regularity, that is, by the laws of cause and effect. If, for example, I were to give a hungry child food, I would do so with the expectation that food brings

nourishment. If the universe did not run according to certain laws, then I could not foresee the effects of my actions and therefore my action could not be classified as good. Although, as David Hume pointed out, I cannot be completely certain that the food will provide nourishment (Hume [1748] 2007, 24–25), I am quite certain that it will. If this certainty was not there, and there was a chance that something other than nourishment would occur from the child eating the food, then I could not make a moral decision; my action would be meaningless as it might cause good, or it might cause bad. Therefore, I rely on a sense of regularity in order for moral decisions to be possible. In this case, it is in part the regularity of events that lead to my action being significant.

Theologically too, there is reason to value regularity over and against the emphasis I have placed on evitability or unpredictability. McMullin considers this in relation to the notion of purposive actions, in particular the purposive actions of a creator. McMullin points out that foreknowledge must be available in order for actions to be understood as purposive. Therefore, if there is a degree of noninevitability about physical processes, then this would seem to preclude purposeful action, and hence value and significance. If an agent (in McMullin's discussion, a Creator) cannot tell in advance how to act in order to achieve the desired end, then purposive action is essentially blocked (McMullin [1998] 2013, 339). This point holds a similar sentiment to the example given above of the act to feed a hungry child: a sense of predictability and regularity is necessary for acts to have value. Would an evitable creation diminish the act of creation, as a lack of regularity would diminish the moral act of feeding a hungry child?

Further theological objections to valuing evitability may ensue when we consider the outlook of Wolfhart Pannenberg. In Pannenberg's reflections on nature, he notes that there is reason to give regularity and consistency value. He considers this point in the context of highlighting the significance of the integrity of creation. For Pannenberg, it is the intricate and complex web of cause and effect that allows the universe to exist and be meaningful, and thus allows for theological reflection. He notes that it is the integrity of the laws of nature that in some senses imply a theological dimension to the universe: "the order of nature itself by natural law is one of the greatest miracles, in view of the basic contingency of events and of their sequence" (Pannenberg 2002, 761). In this sense, he echoes Einstein's assertion that the fact that the world is comprehensible is a miracle (Einstein 1936, 315).⁵ So a strong case can be made that it is fact regularity, integrity, and consistency that provide value and significance, rather than my emphasis on evitability.

While these arguments have merit, it should be noted that evitability can still be held as that which brings value, given that regularity providing a context for evitability does not preclude its valuing. This is where it must be noted that we are not dealing with "black and white" but rather

with “gray.” The compatibilist understanding of determinism and freedom, for instance, is dialectical. This can be misunderstood because it is often articulated in the context of attempting to allow for freedom and hence moral judgment, as in the case of Dennett’s model. Dennett sought to demonstrate how freedom can exist. However, Dennett is not explaining how freedom exists at the expense of determinism, a point which may be overlooked. He, and other compatibilists, demonstrates how freedom and determinism are compatible. As such, determinism still has a strong role. Apply this notion to the above discussion on evitability and regularity. Regularity of course brings with it a sense of value, and allows for actions to be considered significant. This is the determinist side of compatibilism being applied to the discussion. However, it is still the freedom that allows for acts to be significant, the chance that things could have been otherwise that allows moral judgments to be made. In the example of feeding a hungry child, it is not the regularity that I know the food will bring nourishment which makes the action good. Rather, it is the action in the context of the very many other possibilities which would see me not feed the child that give the action value. In terms of events too, it is not the physical regularity that certain atoms form chemicals, and form amino acids, proteins, DNA, and so on that lead to us valuing our own emergence, but rather it is in the context of Gould’s analogy that we could very easily have not emerged. Thus, evitability again becomes the source of significance.

A forsaken creation? Emphasizing the evitability of acts and events provides a framework within which acts can be attributed a greater sense of value, given that they are not merely the playing out of a predetermined script. However, emphasizing the evitability or freedom of creation in this way brings with it objectionable theological ramifications, particularly, the notion of forsakenness. If creation is indeed free and undetermined, then this could be interpreted as being forsaken by God. The prospect of Gould’s assertion that humanity might very easily never have evolved can be disconcerting, as it might be categorizing our entire existence as some kind of cosmological and biological accident. This seems to stand at odds with the idea of a God concerned with humanity. In some senses, viewing creation as completely free will be as unsatisfactory a vision of God as the God of deism or the God of the physicists. As Drees notes, “A purely deistic concept of God is not a serious option within contemporary theology, because such a God would not be relevant to us and the ways we shape our lives” (1990, 71). A similar problem presents itself on the model of a free creation—would it not remove God to the point of irrelevance? For example, although Page argues for a free nature exploring its possibilities, she admits that this understanding may be restrictive and reduce God’s action to even less than the deists’ version (1996, 7).

This is indeed a legitimate stumbling block for a theological representation of creation which values freedom and evitability. However, as discussed in the introduction to this article, this stumbling block may stem from a hermeneutical lens which has been steeped in versions of a causally active God—a version of God Sarah Coakley has acknowledged stems from a particular paradigm of religious dialogue with science. A free and evitable creation, making its own mistakes and finding its own way might be understood from within this theological paradigm as alone and abandoned. However, this is just one hermeneutical representation of how God ought to be conceived. Page, for example, demonstrates that a free and evitable creation can be interpreted in a more theologically palatable fashion by pointing out the difference between “letting go” and “letting be.” She employs a Heideggerian term to depict a relational model of God and creation that can value a free and undetermined exploration of potentialities, the term *Gelassenheit*, meaning to let be. In this sense, the world is granted a freedom, and not discarded and abandoned. Page also notes that, again through a prudent identification of subtle language, such an understanding has scriptural sources. The creation narrative speaks of “letting be”—“let there be light” and so on—rather than a direct creation of light, which could give more weight to the idea that actualities are not strictly predetermined, but rather possibilities allowing for actualities to emerge (Page 1996, 7). Moreover, she notes, such an interpretation of the Genesis narrative of “letting light be” is closer to the Hebrew *yehi ’or*.

Page, then, provides a hermeneutical appreciation of an evitable, unplanned creation as a gift of love and freedom, as opposed to an act of abandonment:

A gift, to be truly a gift, comes from the giver in freedom. There are no conditions on its donation or use. That God should let be what is other than the divine shows the freedom of unbounded presence to let finite temporal presences come into being. . . . On creation’s side, what is given is the possibility to explore being and meaning with no divine blueprints attached to particular pathways; not even, I shall argue, the pathway to human evolution. (1996, 8)

The emphasis on evitability argued for in this article would concur, and add that it is the fact that no pathway to human evolution was blueprinted which makes it significant. It is the fact that other possibilities could have been made actual which make our current actualities significant. Before concluding, consider also the alternative: a creation adhering to a divine blueprint. John Haught has considered such a conception of God a “pointless puppet” (2007, 94). Haught’s sentiment may be too strong in this respect, and thus a weaker (though similar) premise is accepted here: knowing the outcome of events may diminish their significance. Events such as the evolution of humanity are more significant in Page’s

understanding of creation. A predetermined creation would be akin to reading a novel where the ending is already known. Conversely, one could argue that, for example, rereading a novel where one knows the outcome may not be pointless; even if the outcome is known, intellectual stimulation, enjoyment, and so on can still occur. Even when the outcome is known or foreseen, we can appreciate nuances in the characters' development, or notice subtle techniques the author used that we did not notice on our first reading. Yet, I believe that the significance still emerges from the fact that, potentially, things could have been different and the novel may have turned out differently. It could have ended differently, or indeed the author would have not bothered to write the novel in the first place. So even on rereading a novel when the outcome is known, the significance emerges from the fact that at a point in time the outcome was not known, perhaps not even by the author. Ultimately, following from Page, it can be asserted that a free creation is not necessarily forsaken, but can in fact be understood as even more significant than a creation that sees the divine hand at work.

CONCLUSION

This article has set forth an argument for evitability, a valuing of the actual only in the context of available alternative possibilities. In drawing from a parallel and related premise in moral discourse, it suggests that events such as the evolution of humanity are attributed significance only when it is possible that such events might not have occurred. It is from this perspective that we can marvel at the wonders creation did bring forth, because quite possibly they might not have been, and indeed the universe might not have existed. It is in a similar manner that we can rejoice at good actions and repudiate bad actions, as options to do bad and good exist and are necessary for moral judgment. It was also pointed out that while these discussions (value of acts, significance of events) may be presented as in parallel, the complexities of our relationship with nature blur these lines somewhat, and thus acts may be considered in some senses to be events, though this is not to understate the difference between nature and self-conscious beings either. In the context of theological dialogue with the natural sciences, such a valuing of evitability has strong theological implications or, as I argue, merits. If evitability is given the significance I attribute it, then this has profound implications for theologies of relational models of God and creation that contextualize this article. Although it is acknowledged that there is much plurality in conceptions of God's relationship to nature (panentheism, *kenosis*, neo-Thomism, and so on), an emphasis on evitability can provide fruitful considerations for how theology considers God in the context of the "chance and necessity" aspects of science.

In parallel to the discussion on relational models of God and creation, there is voluminous literature on theodicy in the context of theological dialogue with the sciences. An acknowledgement of the importance of evitability may also contribute to discourse in this area. Page considers how a valuing of freedom in creation bears implications for the problem of evil. In Page's view on the freedom of nature, God has less "control" in the world, as God does not act, valuing instead freedom over interaction. Consequently, irrespective of God's wishes, the negative or evil possibilities will be explored (1996, 101). Furthermore, envisioning a free and evitable creation may contribute to discussions on the responsibility of humanity in creation, which might be particularly timely in the context of climate change. Theologians such as Drees have pointed out that, for example, theological models which are strongly eschatological may remove or undervalue humanity's responsibilities in the present (Drees 1990, 205). The same could be said for models which allow for a strict predetermined plan, as the role of humanity could be diminished. Considering a free creation, as in the acknowledgement of evitability, may force us to reconsider the role of humanity in creation, our relationship to nature, and our responsibilities. In this sense, because nothing is inevitable and nothing is predetermined, it is up to us to save ourselves.

Consequently, I conclude this article by reasserting the central premise: evitability in the physical processes of the universe, as in the moral actions of human beings, allows for actions or events to be more meaningful. This is of course based on the premise that unforeseen or unknown events are more significant than inevitable events. As such, searching for or postulating plans or purposes in nature may actually be diminishing the significance of our existence; would it not be more special, more awe-inspiring to think that, against the immense statistical improbability of humans coming into existence (as in Gould's winding tape analogy), conscious beings did emerge? If conscious beings were inevitable, then why would we take any more significance from that fact than we would from another inevitable event? It would just be the way things are. If we view the universe as a dynamic and open-ended process of chance and necessity, then events like the existence of conscious beings can truly be considered remarkable.

NOTES

1. I adopt the term "evitable," usually only used in its negation, "inevitability," from Daniel Dennett (2003, 56). It is used to refer to that which is not inevitable.

2. Note that God's involvement in the world is not in opposition to the freedom of nature, hence my use of the term "emphasis" rather than suggesting that I will adopt one view against the other.

3. This particular example might be complicated by noting that rainfall might be a result of human actions pertaining to the treatment of the environment, and therefore there might be scope for some normative discourse. Yet it is not the event of rainfall itself that the moral judgment is attributed to. For the sake of argument, one could assume preindustrial civilization.

4. Of course there are alternatives to this position, for example, Simon Conway Morris's view on evolutionary convergence. Roughly stated, this suggests that reoccurring patterns in evolution (limbs, eyes, and so on) are indicative of a teleological parameter within which evolution operates, which eventually leads to humanity or something similar (Morris 2003, xii).

5. Taken from the German phrase, *In diesem Sinne ist die Welt unserer Sinneserlebnissen begreifbar, und dass sie es ist, ist ein Wunder.*

REFERENCES

- Aristotle. 2001. "Physics." In *The Basic Works of Aristotle*, ed. Richard McKeon, 218–394. New York: Random House.
- Clayton, Philip. 2014. "The Fruits of Pluralism: A Vision for the Next Seven Years in Religion/Science." *Zygon: Journal of Religion and Science* 49:430–42.
- Clayton, Philip, and Arthur Peacocke, eds. 2004. *In Whom We Live and Move and Have Our Being*. Grand Rapids, MI: William B. Eerdmans.
- Coakley, Sarah. 2012. "Teleology Reviewed: A New "Ethico-Teleological" Argument for God's Existence." The Gifford Lectures, University of Aberdeen. Available at: http://www.abdn.ac.uk/gifford/documents/Gifford_Lecture_5_-_lecture_text.pdf (accessed December 15, 2012).
- Dennett, Daniel C. 2003. *Freedom Evolves*. London: Penguin.
- Drees, Willem B. 1990. *Beyond the Big Bang: Quantum Cosmologies and God*. Chicago: Open Court.
- . 1996. *Religion, Science and Naturalism*. Cambridge: Cambridge University Press.
- . 2010. *Religion and Science in Context: A Guide to the Debates*. London: Routledge.
- Edwards, Denis. 2010. *How God Acts: Creation, Redemption, and Special Divine Action*. Minneapolis, MN: Fortress.
- Einstein, Albert. 1936. "Physik und Realitat." *Journal of the Franklin Institute* 221:313–47.
- Gould, Stephen Jay. 1990. *Wonderful Life: The Burgess Shale and the Nature of History*. New York: Vintage.
- Haight, John. 2007. *Christianity and Science: Toward a Theology of Nature*. New York: Orbis.
- . 2010. *Making Sense of Evolution: Darwin, God, and the Dream of Life*. Louisville, KY: Westminster John Knox Press.
- Hume, David. 2007. *An Enquiry Concerning Human Understanding*, ed. Peter Millican. Oxford: Oxford University Press. [Originally published 1748.]
- MacIntyre, Alasdair. 1981. *After Virtue: A Study in Moral Theory*. London: Duckworth.
- . 2002. *A Short History of Ethics*. London: Routledge. [Originally published 1967.]
- Mann, William E. 2001. "Augustine on Evil and Original Sin." In *The Cambridge Companion to Augustine*, ed. Eleonore Stump and Norman Kretzmann, 40–49. Cambridge: Cambridge University Press.
- McMullin, Ernan. 1984. "A Case for Scientific Realism." In *Scientific Realism*, ed. Jarrett Leplin, 8–40. Berkeley: University of California Press.
- . 2012. "Values in Science." *Zygon: Journal for Religion and Science* 47:686–709. [Originally published in *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association, 1982, Volume Two: Symposia and Invited Papers* (Chicago: University of Chicago Press, 1983).]
- . 2013. "Cosmic Purpose and the Contingency of Human Evolution." *Zygon: Journal for Religion and Science* 48:338–63. [Originally published in *Theology Today* 55:389–414 (1998).]
- Moltmann, Jürgen. 2001. "God's Kenosis in the Creation and Consummation of the World." In *The Work of Love: Creation as Kenosis*, ed. John Polkinghorne, 137–151. Grand Rapids, MI: William B. Eerdmans.
- Moritz, Joshua. 2014. "Animal Suffering, Evolution, and the Origins of Evil: Toward a "Free Creatures" Defense." *Zygon: Journal of Religion and Science* 49:348–80.
- Morris, Simon Conway. 2003. *Life's Solution: Inevitable Humans in a Lonely Universe*. Cambridge: Cambridge University Press.
- Page, Ruth. 1996. *God and the Web of Creation*. London: SCM Press.

- Pannenberg, Wolfhart. 2002. "The Concept of Miracle." *Zygon: Journal of Religion and Science* 37:759–62.
- Polkinghorne, John, ed. 2001. *The Work of Love: Creation as Kenosis*. Grand Rapids, MI: William B. Eerdmans.
- Popper, Karl. 1959. *The Logic of Scientific Discovery*. New York: Routledge.
- Rees, Thomas, ed. 1818. *The Racovian Catechism of 1605: A Sketch of the History of Unitarianism in Poland and the Adjacent Countries*. London: Longman.
- Russell, Bertrand. 2009. "Materialism, Past and Present." In *The Basic Writings of Bertrand Russell*, ed. Robert E. Egner and Lester E. Denonn, 211–220. London: Routledge. [Originally published 1925.]
- Russell, Robert John. 2000. "Introduction." In *Chaos and Complexity: Scientific Perspectives on Divine Action* (2nd ed.), ed. Robert John Russell, Nancey Murphy, and Arthur Peacocke, 1–31. Vatican City: Vatican Observatory Press.
- . 2013. "Recent Theological Interpretations of Evolution." *Theology and Science* 11:169–184.
- Teilhard de Chardin, Pierre. 1969. "Turmoil or Genesis?" In *Science and Religion: New Perspectives on the Dialogue*, ed. Ian G. Barbour, 216–228. London: SCM Press. [Originally published 1947.]
- Tracy, Thomas. 2012. "Scientific Vetoes and a Hands-Off God: Can We Say that God Acts in History?" *Theology and Science* 10:55–80.