

# Crawling Out of the Primordial Soup: A Step toward the Emergence of an LDS Theology Compatible with Organic Evolution

*Steven L. Peck*

Wesley J. Wildman, a liberal evangelical Christian, contributed this issue's sermon as part of the ongoing "From the Pulpit" series. Provocatively titled "Narnia's Aslan, Earth's Darwin, and Heaven's God" (see pp. 210–17), it details some of the waste and brutality of natural selection that are inevitable accompaniments of evolution. "Surely such a loving, personal Deity would have created in another way," he queries, "a way that involved less trial and error, fewer false starts, fewer mindless species extinctions, fewer pointless cruelties, and less reliance on predation to sort out the fit from the unfit" (214). In conclusion, he poses the far-from-rhetorical question: "What sort of God could, would, and did create the world through evolution?" (217). He shows that evolution has striking implications for theology—including LDS theology, I would add.

And in fact, what might it mean that God "used" evolution to create life's diversity? Was this a choice for God among other alternatives? Do Wildman's pessimistic conclusions hold for Mormonism? Does evolution imply a noninterventionist Deity? Are there more optimistic views possible, some of which may actually suggest that evolution enhances and expands our view of God? Are adjustments necessary to our key doctrines of the Creation, Fall, and Atonement to accommodate an evolutionary perspective? And why should we make this accommodation? What is lost

and what is gained if our faith community fully and without compromise embraces evolution? There *are* deep and unavoidable theological implications for incorporating into our theology the belief that natural selection structured the way life evolved on our planet.

I would like to sketch some of these implications. By “sketch,” I mean that I intend to rough out some of the potential problems and perplexities that will need to be sorted through in embracing a fully compatible perspective between evolution through natural selection and our faith. In this conspectus, I hope to gesture to possible solutions to the perplexities that merging evolution and theology may bring to LDS thought. There are many sticking points, and I mean only to make a beginning and to seed conversation. I make no claims that the results are either complete or thorough, but I hope that making such a start will be useful.

Another potential difficulty is that some of the proposed solutions to the identified problems cannot be sorted out except through further revelation. Since we Mormons fully believe that further light and knowledge await bestowal, its current incompleteness should neither surprise nor disturb us. Ruminations such as these might serve as a catalyst for the kinds of questions that must be asked before revelation can be given. In scriptural and LDS history, questions are well known to have opened every major revelation from the First Vision to the 1978 revelation on priesthood ordination for worthy black men. Questions such as those orbiting a reconciliation of evolution and our faith are difficult and will sometimes remain without answers, yet that does not mean we should not ask them. Elie Wiesel captures this need nicely in a conversation with a friend:

“Man comes closer to God through the questions he asks Him, he liked to say. Therein lies true dialogue. Man asks and God replies. But we don’t understand His replies. We cannot understand them. Because they dwell in the depths of our souls and remain there until we die. The real answers, Eliezer, you will find only within yourself.”

“And why do you pray, Moishe?” I asked him.

“I pray to the God within me for the strength to ask Him the real questions.”<sup>1</sup>

For the purposes of this paper I will assume that evolution through natural selection is a true description of how life arose on this

planet and that life on Earth has emerged through a completely Darwinian process; furthermore, throughout this paper, by “Darwinian,” I mean evolution through natural selection. Much has been written on the nature of the evidence supporting these claims, including the evidence found in the fossil record, comparative anatomy, geological stratigraphic analysis, DNA molecular studies, the physics of radiometric data, etc., and I will not here debate the nature of the evidence nor the conclusions drawn from inferences made from that evidence. Here, I accept them as accurate according to the current understandings in contemporary evolutionary science. The LDS tradition also has a rich history of attempts at legitimizing and reconciling evolutionary science to the faith and tracing views of evolution within Mormonism, historically and contemporaneously.<sup>2</sup> This project is different in that I assume from the outset that evolution through natural selection has been established as true (and I use that word very deliberately) and that there is a legitimate, faithful response both to doctrine and to our best understanding of how life on Earth unfolds.

Because evolution through natural selection is thought to be a universal principle<sup>3</sup> or physical algorithm<sup>4</sup> let me briefly give the necessary ingredients for its operation and tease apart why natural selection creates tension for LDS theology.

Evolution by natural selection requires three elements: (1) variation in traits, including a source of novel variation; (2) selection on trait differences based on the environment in which relevant entities are embedded, and (3) offspring able to inherit trait differences from their parents. Often a fourth, embedded in the above conditions, is made explicit: (4) time.

If these conditions are in place, natural selection will enhance how well the object fits local environmental circumstances. This adaptation will occur whether those entities are chemicals, organisms, or digital computer programs. Within the philosophy of biology, this phenomenon is referred to as an *a priori* principle, rather than a cause. The task, then, of the empirical scientist is to show that a particular kind of entity is just the sort of thing to which these four principles apply. I will focus on the evolution of organisms on Earth because it is our best and clearest example.

These principles have theological implications. First, note

that this process is competitive. Some of those organisms are selected at the expense of others. There are winners and losers. Second, the variation is random with respect to what will be successful and unsuccessful. The organisms are confronted with both the requirements for survival and the local environment in which they find themselves. These factors create a direction in selection: toward better fit with that environment. Evolution is then determined by which traits succeed in a given local environment and which do not. There is no grand overall direction toward which it moves, no master plan which it fulfills. The evolutionary process is blind variation in traits being chosen at a specific location and time that results in some organisms being more successful than others in the local environment in which they are reproducing.

Third, these competitive bouts are played out in units of energy. Over time, these energy exchanges create a positive feedback loop. The organisms that are able to capture the most energy and employ it for successful survival are most likely to replace other entities in the next generation by entities with traits like their own. Two basic strategies have been especially useful in survival: (1) using chemical changes induced by the energy of sunlight or heat to create energy in more usable forms to maintain the organism's structure and function, and (2) stealing this energy from those who create it or from others who have stolen it. Most plants are good examples of the first strategy; cattle and puma are examples of the second.

Empirical observations on how evolution has played out to date on Earth depict a process that is enormously creative, patulous (spreading widely from a center), complex, and diverse. All of these characteristics increase through time as the history of life on Earth unfolds. This increase, scientists believe, occurs because, as organisms evolve, they tend to transform their environment; these modifications change the selective regime in which organisms are embedded; and these changes cause even more complexity. This pattern of increased environmental complexity is called niche construction in evolutionary biology.<sup>5</sup> For example, when life forms moved from Earth's early oceans to land, plants opened new niches. These vegetative incursions created new habitats as plants competed for limited resources and diversified over time to capture those limited resources. Next, insects began exploiting these

plants, which further changed the environment, allowing a greater diversification of habitats. Amphibians then exploited both of these new feeding opportunities, followed in turn by reptiles, then birds, and then mammals. Each of these waves of diversity opened new niches and habitats, creating further occasions for exploitation in the competitive interactions of organisms and increasing habitat diversity, organism complexity, and the amount of creativity in the universe.

This narrative is the standard, empirically based, scientific explanation of every example of structured life on Earth. God enters this story (or fails to do so) with no necessary explanatory power. Wildman identifies this tension quite well, because God has long been used as an explanation for otherwise puzzling aspects of life on Earth and its abundant and obviously designed features. For example, Xenophon's Socrates pointed out in the fourth century B.C. that nature's numerous designed aspects suggest a designer: "Again, the incisors of all creatures are adapted for cutting, the molars for receiving food from them and grinding it. And again, the mouth through which the food they want goes in, is set near the eyes and nostrils; but since what goes out is unpleasant, the ducts through which it passes are turned away and removed as far as possible from the organs of sense. With such signs of forethought in these arrangements, can you doubt whether they are the works of chance or design?" Aristodemus, Socrates's interlocutor, answers: "No, of course not. When I regard them in this light they do look very like the handiwork of a wise and loving creator."<sup>6</sup>

The argument that design implies an outside designer runs very deep, from antiquity up into the modern period. William Paley developed its most carefully articulated expression in his *Natural Theology* (1802). In it, he famously argues that, were you to find a watch on the beach, you would never attempt to claim that it had been produced by natural processes. Its very existence implies a watchmaker.<sup>7</sup> Darwin had read Paley thoroughly and understood that any explanation of the origin of life on Earth must include an explanation of design. Evolution by natural selection does so. Despite unscientific attempts to deny this achievement—for example, by the Discovery Institute's cleverly conceived "intel-

ligent design” movement<sup>8</sup>—most scientists agree that evolution provides a sufficient explanation of design. In fact, the Darwinian conclusion that design is *not* evidence of a designer has been one of evolution’s most threatening aspects.

What are the implications of design-without-a-designer for theology? More specifically, what are its implications for LDS thought and philosophy? To explore this question in detail, I want to draw on distinctions in theological outlooks made by Niels Gregersen, University of Copenhagen professor of theology.<sup>9</sup> He identifies five theological responses to the idea of “emergence” that serve elegantly to partition the space of responses to evolution. “Emergence” is the idea that properties of a complex system may arise that are unpredictable or unanticipated from a reductive description of lower-level processes. Emergent properties are generally explainable by the lower-level processes but rely on complex, local interactions. A classic example is a snowflake, the existence of which would have been hard to predict just from the properties of freezing water, but which is explicable in terms of those properties.

I find these five responses useful for exploring evolution theologically because, in part, evolution and emergence are twin concepts that play in, about, and through each other in integrated ways and are part and parcel of the complexity that needs a theological response. These responses are equally useful in illuminating aspects of LDS theology.

### **Gregersen’s Five Theological Responses**

The five perspectives or responses are: (1) flat religious naturalism, (2) evolving theistic naturalism, (3) atemporal theism, (4) temporal theism, and (5) eschatological theism. I will consider each perspective in turn; but interestingly, all are possible responses in LDS thought, although admittedly sometimes with a bit of twisting and hammering. Before beginning, however, a couple of clarifications are necessary to draw attention to certain aspects of LDS theology that will need special consideration as we assess the possibility of Darwin-compatible Mormon theism. Moreover, none of these models embraces a “cheap” fundamentalist creationism, by which I mean a view in which creation consists of sudden legerdemain-like wand-waving. All five perspec-

tives try to explain emergence in terms of the full complexity of the evolutionary story as detailed in the observable physical record and currently accepted as standard by scientists.

A difficulty that will make this project of bringing together evolution and LDS theology tough sloggging is that, within LDS thinking, what we mean by a “physical universe” is often muddled. Mormonism displays a kind of expansive physicalism suggesting that the universe *in toto* is a farrago of matter of one kind or another (D&C 131:7), that part of it (“spirit matter”) remains undetectable by our perceptual apparatuses and instrumentation, while we have phenomenological or manipulative access only to the less “fine” or less “pure” part. This materiality includes Gods, spirits, intelligences, etc., and may exist in extra-spatial and/or temporal dimensions but does, presumably, still follow laws of some kind. All matter is subject to God’s manipulation, thanks to His greater knowledge and influence. This theological description imposes a kind of dualism in which some aspects of the universe are available to us and others are not. Lacking reliable epistemic access to the “spirit matter” part of this world, it must remain outside our scientific theories and practices, even though it may play a role in a deeper physical reality.<sup>10</sup>

Second, in Mormon thought, God is embodied. It is not completely clear what this means,<sup>11</sup> but it implies that at least in some sense God has a biology. What such a biology might entail, however, is quite speculative, but at least two key doctrines are contingent on the concept: (1) the literal physical son-father relationship of Christ to God the Father, and (2) the human capacity for a bodily theosis, which recapitulates God’s developmental process, if not completely in scope, at least in such a way that it can be considered human beings’ movement toward becoming godlike.<sup>12</sup> I am clearly riding roughshod over some controversial ideas about which much ink has been spilled and in which more nuance and refinement could be considered; but among average Church members whom I know, the claim “As man is, God once was. As God is, man may become” would be considered neither surprising nor controversial.

### ***Flat Religious Naturalism***

In Gregersen’s partitioning of religious space by emergence,

the first category is flat religious naturalism. In this view, the natural world is all there is—nothing beyond the physical reality accessible to current and future science. This view, though denying anything supernatural, leaves open the possibility that other substances might be discovered. For example, dark matter would be fully acceptable in flat naturalism because it can be inferred through human observation at galactic scales. But the idea that God might use supernatural means or substances (including a soul or Descartes’s *res cogitans*) to accomplish His goals or purposes is dismissed.

While this perspective might seem to be the basic grounding of a strict materialism, it still acknowledges the sacred nature of the universe.<sup>13</sup> An encounter with God is therefore not one of personal relationship, transcendence, or eminence, but rather one of mystery. God in this view just *is* nature and its processes, and the proper response is awe. Nature is, in fact, divine. This view resonates well with certain forms of Buddhism and other forms of nontheistic religion.

While at first glance it seems unlikely that Mormonism could be situated along this axis, Mormonism does in some sense embrace a mystery about fundamental questions that have occupied post-Plotinian western religions. These questions focus on God’s nature, attributes, and powers. For example, in this view, the laws that frame and structure the matter from which all things, including God, are constituted, are not created by God, but are self-existent with Him. Matter, intelligence, and the laws that govern their interaction would be self-existent and uncreated—with some resulting confusion in the way Mormons talk about God. For example, some speak as if God created the laws of the universe and buy into anthropic arguments about God’s “fine-tuning” the universe as the law-giver, then fall into talking about God using natural, albeit possibly higher, laws to organize the universe from unorganized matter.<sup>14</sup>

Theologically, Mormonism offers the following intriguing revelation on matter:

There is no such thing as immaterial matter. All spirit is matter, but it is more fine or pure, and can only be discerned by purer eyes;

We cannot see it; but when our bodies are purified we shall see that it is all matter. (D&C 131:7–8)

Carrying this statement a little further, matter could be broadly conceived to include God, spirits, and intelligence as part of the “finer” or “purer” matter thought to make up the extended “universe.” In this context, flat religious naturalism might be conceivable in the LDS faith, as it has few answers to questions about why the universe exists as it does and embraces the idea that its constituent substances are eternal. This matter includes the intelligences that eventually became God by taking on His mantle. Therefore, mystery and awe at this scale may be the only appropriate response.

### ***Evolving Theistic Naturalism***

Evolving theistic naturalism is the perspective that God has emerged from the natural world and is a quality of nature itself. Nature has moved forward in increasing complexity, and part of this complexity is God. Just as consciousness emerges from neural complexity in materialist explanations of consciousness, God emerges from the complexity of the entire universe. Obviously, in this view God is not prior to the universe, nor does He act as its creator in the traditional sense.

Mormonism does not accommodate this view very well. Seeing God as *just* an emergent property of the natural universe does not seem to fit with LDS theologies of any ilk.

### ***Atemporal Theism***

This view is the classic post-Plotinian view of God that includes the divine attributes of omnipresence, omnipotence, and omniscience. According to this view, God exists outside of time, is the rational ground of all being, and has created the universe and its laws, fine-tuning it for human life. Atemporal theism assumes that God is “outside of” time and that, in some sense, the past, present, and future are all “present” before God. An implication of this view is that God cannot be affected by the world and emphasizes His transcendence. This view is compatible both with evolution and with creationism, which posits that the world was created suddenly in all its complexity. This view of God seems to impose a strict determinism on the final teleological goal of the creation (which, again from God’s perspective occurs as a simultaneous “now”). God, in this view, is unchangeable. Human free-

dom may be possible, but such assertions are often incoherent, since God does “know” what you will choose and sees your exact future resulting from those choices.

Mormon belief systems seem varied (or generally confused) on this point. Blake Ostler, in a theological study, makes the point that Joseph Smith’s doctrines, developed in Nauvoo (1839–44), do not allow this view of God, but it is not uncommon to find discourse that assumes this view.<sup>15</sup> For example, Apostle Neal A. Maxwell said:

When the veil which now encloses us is no more, time will also be no more (see D&C 84:100). Even now, time is clearly not our natural dimension. Thus it is that we are never really at home in time. Alternately, we find ourselves impatiently wishing to hasten the passage of time or to hold back the dawn. We can do neither, of course. Whereas the bird is at home in the air, we are clearly not at home in time—because we belong to eternity! Time, as much as any one thing, whispers to us that we are strangers here. If time were natural to us, why is it that we have so many clocks and wear wristwatches?<sup>16</sup>

Yet because of the Plotineanization by conservative “Christianizing” influences, Mormonism has maintained a relationship with this view.

### *Temporal Theism*

Taking the form of process theology, the theological possibilities of temporal theism have received a friendly reception among many Mormon thinkers.<sup>17</sup> In this view, God has a core identity that makes him God but influences, and is influenced by, temporal changes. In addition, the future is open. While it may be possible that God understands and can “see” all logical possibilities, those potentialities are realized only in some actual futures. Furthermore, those futures’ realizations depend on the actions of free agents, which may include fundamental particles and their associations.

This viewpoint seems most open to theistic Darwinism by providing an opening for God to be part of the unfolding of the universe. This view continues to be the most promising way to harmonize the two fields and is the perspective largely embraced by Catholic scholars Teilhard de Chardin and John Haught (discussed below).

### *Eschatological Theism*

The last model Gregersen explores is eschatological theism. In this perspective, emergent features in the world do not depend strictly on the past. The future is often determined by contingent events in the present that could have been otherwise had God not intervened. New futures hinge on small events that turn out to be major turning points. (Recall the proverb, “For want of a nail . . . the kingdom was lost”). Eschatological theism denies that future emergent events result exclusively from the operation of natural law; rather, God “pulls” the future into existence through such bifurcation and contingent points in history to achieve the ends that He is interested in bringing about. Thus, He exercises influence on these events. As this argument goes, the future cannot be strictly determined through an analysis of the present state of things, and a future state can be understood only retrospectively by looking into the past. It is eschatological in the sense that God’s purposes and aims can be understood only in retrospect: “The point here,” explains Gregersen, “is that potentialities do not simply reside in the past configurations of matter; they result from interplay between creaturely potencies and the coming into being of the divine possibilities offered to the world. Accordingly, the past and the present must be seen in light of the future, rather than the future being explained out of the past or the present.”<sup>18</sup>

This view is strongly interventionist. Contingent events in the past that were brought together were among the possibilities present at the time of the contingent event. This reading of the past, then, looks very similar to declaring that what happened was just God’s will. So in practical terms, it is not clear how this point of view offers any advantage over looking at things from the viewpoint of atemporal theism. In both, God is clearly teleologically drawing things toward a future that He has determined.

However, from the LDS viewpoint that prophecy is an important part of how the world works, eschatological theism may be useful in showing how the specific prophecies found in the scriptures are brought to pass by God’s intent—that they were pulled into the future by divine action.

All five of these viewpoints assume compatibility between theology and evolution. But Gregersen’s perspectives are very

general, and it will be useful to look at some specific responses from philosophers and theologians to problems of teleology and design.

### **Theological Responses to Evolution**

Since the moment Darwin's *On the Origin of Species* appeared in 1859, theologians have responded with attempts at both dismissal and reconciliation.<sup>19</sup> The latter have taken the form of everything from complete acceptance—simple variations on the theme of “That’s just the way God did it!”—to deeper, more nuanced attempts at bringing the two ways of knowing together.

To get a sense of how LDS thinking may respond to the introduction of evolution into its theological concepts, it is useful to look at how other Christian groups have responded to the challenge.<sup>20</sup> Most efforts by Catholic and Protestant theologians have focused on three aspects, all of which are also relevant to LDS responses to evolution: (1) teleology and divine purpose, with humans being an important goal toward which the universe is directed, (2) design and its implications about God’s attributes, and (3) the presence of natural evil. All three topics orbit the question of how and to what extent God acts in the world. I discuss the third topic, natural evil, separately from the first two as part of the section titled “Mormon Evolutionary Theology” below.

#### ***Teleology and Divine Purpose***

One of the most troubling aspects in reconciling Darwinism with the idea of a personal God is its relentless lack of direction—its purposelessness on macroevolutionary scales.<sup>21</sup> Laypersons often interpret this lack of a “goal” as the claim that evolution is a random process, but that is not quite right. Within a local environment by random variation, inheritable traits (traits that occur through the genetic code) are selected disproportionately in such a way that those traits that provide the organism with some advantage in that environment tend to survive at higher rates. These traits are passed on to the next generation more frequently. So while there is no final goal toward which evolution tends, it *is* driven by selection within local environments. Nonetheless, it is correct to say that, over long time periods, evolution is not aiming at any particular direction or purpose.

One of the first philosophers to explore how certain features found in living organisms could arise evolutionarily without teleology was French philosopher Henri Bergson (1859–1941). He saw evolution moving toward intelligence, instinct, and complexity. Bergson couched this form of evolution in terms of an *élan vital*, a life force that pushed life (and its precursor elements prior to life) forward in time, resulting in differentiation over a span of time in which the past is “gathered into a present.”<sup>22</sup> Michael Vaughan, in presenting Bergson’s work, explains this process as “the organized being’s ability to organize the re-emergence of creative change through the structures that it creates.”<sup>23</sup> This force is not seen as something “extra”—such as the vitalism<sup>24</sup> that Enlightenment thinkers posited to explain life—but is an inherent property of matter and assemblages of matter. Evolutionary change is seen as inventive and creative. Vaughan adds:

The truth is that adaptation explains the sinuosities of the movement of evolution, but not its general directions, still less the movement itself. The road that leads to the town is obliged to follow the ups and downs of the hills; it adapts itself to the accidents of the ground; but the accidents of the ground are not the cause of the road, nor have they given it its direction. At every moment they furnish it with what is indispensable, namely, the soil on which it lies; but if we consider the whole of the road, instead of each of its parts, the accidents of the ground appear only as impediments or causes of delay, for the road aims simply at the town and would fain be a straight line. Just so as regards the evolution of life and the circumstances through which it passes—with this difference, that evolution does not mark out a solitary route, *that it takes directions without aiming at ends, and that it remains inventive even in its adaptations.*

But, if the evolution of life is something other than a series of adaptations to accidental circumstances, so also it is not the realization of a plan. A plan is given in advance. It is represented, or at least representable, before its realization. The complete execution of it may be put off to a distant future, or even indefinitely; but the idea is none the less formidable at the present time, in terms actually given. If, on the contrary, evolution is a creation unceasingly renewed, it creates, as it goes on, not only the forms of life, but the ideas that will enable the intellect to understand it, the terms which will serve to express it. That is to say that *its future overflows its present, and can not be sketched out therein in an idea.*<sup>25</sup>

Bergson thus opens the door for a theological response (although

he was not a theist as such) that allows for direction in evolution without teleology, but which nonetheless moves to places of potential theological interest such as intelligence, complexity, and even consciousness.

### *Design and God's Implied Attributes*

One of the first theologians to attempt to address these concerns was Jesuit paleontologist Pierre Teilhard de Chardin (1881–1955). His engagement with evolution was personally costly, since his church put considerable institutional pressure on him for his insistence on a theological engagement with evolution. He saw the universe as moving toward greater and greater “seeing” and described humans as the highest expression of this ability. Each human being stands as one who can “see” himself or herself in reflexive self-awareness. Therefore, the highest expression of life is found in this subjective experience. He breaks the history of the universe into “Pre-Life,” “Life,” and “Thought,” the last of which he calls the Noosphere. The emergence of consciousness characterizes the evolutionary stage of the Noosphere. It is important to keep in mind that this capacity for thought emerges from the universe through the progression of a flat ontology. Speaking of the universe, he says: “It is beginning to seem that there is definitely *more* in the molecule than the atom, *more* in the cell than in the molecule, *more* in the society than in the individual, and *more* in mathematical construction than in the calculations and theorems,” he writes. “We are now inclined to admit that at each further degree of combination *something* which is irreducible to isolated elements *emerges* in a new order.”<sup>26</sup>

In Teilhard de Chardin’s view, design is inherent in the evolutionary processes, which tend inexorably toward greater and greater complexity until consciousness arrives and finds its highest expression in humans. He also embraces a strong eschatology, which he calls the Omega Point. At this point, which occurs at the end of time, the universe preserves all that has happened, including all persons and their consciousness. In the final end of the universe, a universal consciousness will emerge. This consciousness is not God, but rather the final intent and purpose of God’s creation. Teilhard de Chardin also recognizes the hard questions that arise through the brutality and wastefulness of the evolution-

ary process. He makes no effort or claims to understand these negative aspects but notes that such “evil” resembles “nothing so much as the way of the Cross.”<sup>27</sup>

While his attempt to reconcile these disparate fields has not endured as a solution to the problem of an evolutionary theology, his efforts were significant in raising questions about how to fully embrace both evolution and theology in inventive and imaginative ways.

Since Teilhard de Chardin’s effort, many theological efforts by both Catholics and Protestants have been situated in temporal theism. An especially promising area seems to be the process theology movement.<sup>28</sup> In this panentheistic view, God is more than, but also present in, all matter. Current efforts to reconcile evolution and religion have found this a productive area of shared space.

Catholic theologian John Haught argues that, in this process theology view, God is present “deeply” in creation and influences evolutionary processes in ways that are not manipulations of matter in an interventionist sense. Rather, God is deeply present in the fabric of the universe in ways that are indistinguishable to science or other forms of human observation.<sup>29</sup> God’s purposes unfold because they are deeply present in the created world; they appear to emerge in the universe’s overall movements and processes, moving forward in creative and unexpected ways. Haught sees creation in terms of “promise” rather than “design.” He argues that science can fully study the universe’s ontology and that its observations will be valid and informative, but that God is working on a different level. His purposes will unfold as the universe unfolds, not only as an ordering and organizing influence but also as a source of novelty:

Theologically speaking, process theology suggests that we should logically foresee rather than be surprised, that God’s creation is not driven coercively, that it is widely experimental, and that it unfolds over the course of a considerable amount of time. To those who object that process theology is hereby illegitimately redefining the idea of God’s power in order to contrive a fit with neo-Darwinian theory, the reply is simply that no other conception of power is more consistent with the quite orthodox religious belief that God is infinite love.<sup>30</sup>

Haught therefore sees creation, not as a one-time event, but as an

ongoing process in which God is continuously present. This unfolding is not interventionist. God is not prodding creation when it gets off-track. Rather His presence permeates all aspects of the universe.

Anglican theologian and scientist Arthur Peacocke writes similarly that his own naturalistic theology “is also based on an evolutionary perspective of the cosmological and biological sciences. This view entails an understanding of creation by God as a continuous activity, so that dynamic models and metaphors of divine creation and creativity become necessary. The work of God as Creator is regarded as manifest all the time in those very natural processes that are unveiled by the sciences in all their regularities.”<sup>31</sup>

It is important to point out that, although these views are “naturalistic” in that they do not accept miraculous interventions or divine guidance, they also embrace such basic Christian ideas and values as grace, incarnation, atonement, and resurrection, albeit with significant reinterpretations. For example, Karl Peters, professor emeritus of philosophy and religion at Rollins College, after describing a particularly meaningful interaction with his family, terms it a manifestation of grace in his life: “Reflecting on this event as a classical empiricist with a non-personal model of God as the creative process, I can see how the various elements that I have described—the family relationships, the beautiful weekend, the choir music, the setting of the service, the way it was conducted, my past experiences, my understanding of God as present when love is present—all came together serendipitously as an event of grace. I can think of the event as an example of serendipitous creativity—of God as the creative process—at work in my life.”<sup>32</sup>

In addition to responses from process theologians, classic trinitarian Christians have also responded to developing formal Christologies that embrace evolution through natural selection as creation. Celia Deane-Drummond, chair of theology and the biological sciences at the University of Chester in Great Britain, describes the work of creation as a “theo-drama” in which the freedom of creation emerges through actor-agents. These “actors” interact freely with one another, expressing individual choices and responses. She sees God’s relationship with all of creation as an encounter. God, incarnated as Christ, enters the stage and becomes part of the play, an act that thereby affects the unfolding

drama for all creation. Atonement and redemption are universal in scope, and humans have the greatest freedom to participate with Christ in redemption through His atonement. Her perspective specifically incorporates ecological concerns into the drama, with humans being required to care for and assist with Christ with the redemption of all creation. Her work is a profound reconfiguring of Christ and His mission in a Darwinian framework that may have relevance to Mormons as well as her view of a universal atonement.<sup>33</sup> She describes her task thus: “This is also how I have sought to present the challenge of relating Christology and evolution: Namely, it is a challenge that insists on retaining hope for the future but also probes our own identity as evolved human persons living in an evolved world.”<sup>34</sup>

Theologies continue to engage fruitfully and meaningfully with evolutionary biology. This ongoing conversation is important because evolution by natural selection continues to play an important role in understanding the development of life on Earth in ways that impinge directly on the idea of creation. The theologies of many religions play a role in this conversation. For example, in a 1996 statement on evolution to the Pontifical Academy of Sciences, Pope John Paul II said: “New knowledge has led to the recognition of the theory of evolution as more than a hypothesis. It is indeed remarkable that this theory has been progressively accepted by researchers, following a series of discoveries in various fields of knowledge. The convergence, neither sought nor fabricated, of the results of work that was conducted independently is in itself a significant argument in favor of this theory.”<sup>35</sup>

These examples show that evolution is being taken seriously as a subject for theological discourse outside Mormonism. All of these theological responses, however, usually assume classic Nicene conceptions of Deity. It is clear that process theology has been influential in framing a response to evolution. However, the LDS view of God is much different, and Catholic and process responses may not transfer adequately to Mormonism. For example, both Teilhard de Chardin and Haught assume God’s omnipresence within all that exists (and beyond). While LDS thinkers would agree that God’s influence is everywhere, His actual presence is constrained by His possession of a physical body. Also,

these theologians assume the trinitarian nature of God in a different way than Mormons do. Third, these responses differ from Mormon thought by their assumption that God is the author of the laws of the universe and that creation occurred *ex nihilo*. These differences have strong implications for the way that a Mormon theology of evolution must be constructed.

However, other aspects translate well from Catholic and process rapprochements between religion and evolution. The concept that God is affected by His creation and that agents have agency and thereby influence the direction in which the future unfolds are ideas that line up nicely (with some adaptation) into Mormon ideas, to which we now turn.

### Mormon Evolutionary Theology

One of the first Mormons to argue for an evolutionary-inclusive LDS theology was W. H Chamberlin. Chamberlin was part of the 1911 controversy at Brigham Young University when several scholars were dismissed because they were promoting evolution and modern biblical criticism.<sup>36</sup> In evolution, Chamberlin saw evidence for God's eminence in the world. In a paper to BYU students published in its newspaper, *White and Blue*, on February 14, 1911, he argued that evolution can never conflict with religion because they deal with different planes of influence and interest.<sup>37</sup> He clarified the eminence that he saw in nature in a *Deseret News* article a month later on March 10:

Without penetrating beneath the surface of the vast ocean of life and experience science has been able to perform its well-known service for mankind. The mighty deep itself suggests the magnitude of the blessing for man that will come from the religious man's identification of the power in and through Nature, creating and sustaining it with the Spirit of God and in his successful efforts to discover and conform to the laws that condition life in harmony with the Divine nature and will.<sup>38</sup>

However, Chamberlin's notion of eminence must be understood with reference to his approach to the material world. He embraced the idea of "spiritual realism"—a reaction to the naturalism of evolutionary thinker Herbert Spencer and the positivistic worldview embraced by the Vienna Circle and a growing number of European contemporaries.<sup>39</sup> Spiritual realism was a form of idealism that de-

scribed all of existence as flowing from “a society of minds.” In that sense, it was “spiritual” and dependent on mind. W. H. Chamberlin’s brother and biographer, Ralph Chamberlin, described it thus, “The Philosophy of Spiritual Realism holds that reality is spiritual. Mind is inherent in all Nature in the form of innumerable spiritual agents or selves, which are free causes.”<sup>40</sup> Chamberlin posited that all “efficient” (meaning, direct) causes reflected the reality of final causes arising in minds. He did not dispute the existence of an inorganic world prior to the appearance of life in the universe. However, the outflowing of existence from mind provides evidence for panpsychism (the idea that all matter has some kind of awareness). Ralph Chamberlin, explaining his brother’s thought, said, “Matter is not inanimate, in the sense of inert, ‘but an expression of activity,’” and continued, “The elements may be interpreted as uniform methods or expressions of an underlying activity and viewed as ‘analogous to the habits as we know them in ourselves.’”<sup>41</sup>

Ralph Chamberlin further argued that the evolution of the entire universe, even prior to the development of life, was very similar to the way that an embryo develops, with many processes moving simultaneously toward the final goal of an individual organism: “Just as the developing embryo of the sea-urchin, or of any section of it, varies as a whole, and can be understood only as a reciprocally related set of movements working toward an end, giving the impression of being guided by a hidden pattern, so inorganic nature, prior to the organic evolution, varied in such a way as strongly to suggest a similar control.”<sup>42</sup> He commented that life on Earth, viewed retrospectively, seemed to have followed a similar route to the ends toward which the universe is heading that we see today in extant organisms. Quoting W. H., Ralph Chamberlin explained:

In relation to our interests or needs, minds are the sole support of our experience of any and all objects of Nature, of their temporal and spatial relations, and especially of the causal interconnections which we discover as maintaining among the objects of Nature, and which we describe as the laws or uniformities of Nature. The minds that form that phase of life called environment embrace *a priori*, as living premises embrace a conclusion, the matter and energy by this environment. What man calls Nature is a symbol of the presence of mind.<sup>43</sup>

My reading of Chamberlin’s thought is that the conditions in which God and a society of minds find themselves as individuals

includes both ourselves and all of matter which is spiritual (this is backwards from the way that most Mormons would construct the nature of matter, i.e., spirit *is* matter, rather than the other way around). In Chamberlin's anti-materialist view, God is conceived as the highest entity, the most knowledgeable and powerful, in a society of minds. Like us, He is a "thou" who, through this society, brings into being the world we see around us. That world is conditioned completely by the society of minds and their goals. As Ralph Chamberlin describes it, "The world is an active, living whole, an organic system of a higher order, a product and expression of a society of minds."<sup>44</sup>

Evolution here is seen as part of God's purposes being brought forth by this society of minds. Two aspects are important for my argument. First, this approach is deeply idealistic in the sense that there is no material world, only a spiritual world of mind. Second, it is deeply teleological. While it has echoes of Bergson's work with a universe unfolding in ways that are creative, Chamberlin appears to see God's work moving forward in a way reminiscent of Haught's evolution in which the evolutionary process is inextricably embedded in the universe, except that he explains this depth as "mind" moving the evolutionary process forward.

While Chamberlin's work is friendly to evolution and Darwinism, it is so at the expense of a physical world, an approach that creates problems from a modern scientific perspective. In addition, it is much too teleological for modern scientific views of how evolution proceeds, which have now moved away from teleological explanations. However, on the positive side, this perspective also moves away from the hermeneutic of suspicion in which early LDS thought held much of evolutionary theory.

John A. Widtsoe, a chemist and apostle, although sympathetic to ideas from biological evolution as he understood it, did not engage Darwinism directly. He merely noted in his *Rational Theology* that "the exact process whereby man was placed upon the Earth was not known with certainty, nor is it vital to a clear understanding of the plan of salvation."<sup>45</sup> B. H. Roberts, the most theologically minded member of the Council of the Seventy, was friendly to evolutionary ideas but discounted the contemporaneous scientific version of Darwinism in favor of *panspermia*, meaning that organisms of various "kinds" lived elsewhere and moved to Earth

by unspecified means. Through a vitalistic life force, they developed to their present state. After rejecting three types of evolution, which he calls materialistic, agonistic, and theistic, he says: “The development theory of this chapter and work recognizes and starts with the eternity of life—the life force; and the eternity of some life forms, and the possibilities of these forms, perhaps in embryonic status, or in their simplest forms (save as to man) are transplanted to newly created worlds there to be developed each to its highest possibilities, by propagation, and yet within and under the great law of life of Genesis 1, viz., each “after,” and within, “its kind” (Gen 1:11–12, 21, 24–25).”<sup>46</sup>

The battle among Joseph Fielding Smith, James E. Talmage, and B. H. Roberts is well documented and need not be repeated here.<sup>47</sup> In short, when contemporary Christian creationism was introduced into Mormonism through Joseph Fielding Smith’s reading of Seventh-day Adventist writer and Ph.D. geologist George McCready Price’s work,<sup>48</sup> engagement between Mormon theology and evolutionary theory slowed to a standstill. Evolutionary theology has been slow to make headway in mainstream Mormon thought, in part, perhaps, because of the controversy that emerged from this encounter and Smith’s subsequent forceful (if not canonical) expression of his personal opinions, in books like *Man: His Origin and Destiny* (Salt Lake City: Deseret Book, 1954).

But it may be time to take some steps in this direction. Creationist responses to the theory of evolution, which may have been understandable in the first half of the twentieth century, are becoming less and less tenable. I feel that it is important to begin to articulate an informed LDS theology that is friendlier to our current understanding of biological evolution.

A couple of points should be kept in mind. These are not statements of my belief. Rather I offer them as “toy” models—ideas that we can play with to test their utility and durability. The problem of “unconceived alternatives” that has been articulated for science<sup>49</sup> carries even more weight in theological speculation, where a firm grasp of transcendental realities can be largely inaccessible or unavailable. This condition is especially true when both revelation and scriptures are underdetermined on the subject of how the Creation actually happened. Currently, evidence

from the natural world and its scientific interpretation are the only “revelation” we have for understanding that process. The scriptures can be read in literalistic ways that are unsympathetic to evolutionary views, for example, or sympathetically if read more metaphorically. Even so, we do have enough information on the three pillars of our faith (the Creation, Fall, and Atonement) to start working toward some coherence in appraising the evidence of the natural world, especially since their associated controversies have been articulated in rather unbalanced and scientifically uninformed ways.

What do we gain by taking Darwinian evolution seriously in LDS thought? First, we make available a conceptual space where, at a minimum, LDS theology does not oppose the most important theories of today’s science. I recognize the fluid status of scientific thought and its strengths and weaknesses, but it appears that evolution, at least, will continue to be extremely influential in understanding how life developed on Earth. It is very unlikely that anything will replace evolution through natural selection as broadly conceived in the foreseeable future.

Second, evolution adds an interesting and informative dimension to several key doctrines. I will offer some tentative steps on how evolution may inform and be made compatible with Mormon theology. I repeat that these explorations are pump-priming for more complete development. I also suggest where these ideas may be problematic or need further sorting out.

I want to speculate on reconciling the intersection between Mormon theology and Darwinian evolution in four areas: natural evil, design, embodiment, and teleology, then speculate (wildly) on how these can be reconciled.

### *Natural Evil*

The first major theological question raised by evolution involves the existence of natural evil. Several authors have opined that LDS views have solved the classic “problem of evil.” Arguments for this assertion range from the naive stance that God is not culpable for the evils of the world because Adam and Eve chose to disobey to more nuanced views. One of them is David Paulsen’s contention that Joseph Smith rescues the theodicy problem. His theology suggests a God who is subject to certain

natural laws: “Elsewhere Joseph taught that there are also ‘laws of eternal and self-existent principles—normative structures of some kind, I take it, that constitute things as they (eternally) are. What are possible instances of such laws or principles?’”<sup>50</sup> He argues that Joseph Smith gives three conditions under which God does not or cannot prevent evils: (1) unpreventable absolutely, (2) preventable by God but not absolutely, and (3) not preventable without preventing some greater good or causing some greater evil.<sup>51</sup>

If God did use such a method as natural selection, it would make sense that this method was the natural law that Paulsen describes as necessary—necessary because natural selection is a horrifying process, as Wildman’s essay in this issue reminds us. It is hard to imagine that evolution by natural selection is a reasonable choice for creation if other methods were available. Phillip Kitcher, philosophy professor at Columbia University, writes of the problem that evolution poses to theology:

Many people have been troubled by human suffering, and that of other sentient creatures, and have wondered how those pains are compatible with the designs of an all-powerful and loving God. Darwin’s account of the history of life greatly enlarges the scale on which suffering takes place. Through millions of years, billions of animals experience vast amounts of pain, supposedly so that, after an enormous number of extinctions of entire species, on the tip of one twig of the evolutionary tree, there may emerge a species with the special properties that make us able to worship the Creator.<sup>52</sup>

This level of suffering and cruelty is problematic for most kinds of natural theology. Kitcher therefore uses the presence of these kinds of natural evil and their extent to dismiss theological claims about a loving God. He adds:

Our conception of a providential Creator must suppose that He has constructed a shaggy-dog story, a history of life that consists of a three-billion-year curtain-raiser to the main event, in which millions of sentient beings suffer, often acutely, and that the suffering is not a by-product but constitutive of the script the Creator has chosen to write.

To contend that species have been individually created with the vestiges of their predecessors, with the junk that accumulates in the history of life is to suppose that Intelligence—or the Creator—operates by whimsy. The trouble is that the charge doesn’t go away when the action of the Creator is made more remote. For a history of life dominated by natural selection is extremely hard to understand in

providential terms. . . . There is nothing kindly or providential about any of this, and it seems breathtakingly wasteful and inefficient. Indeed, if we imagine a human observer presiding over a miniaturized version of the whole show, peering down on his “creation,” it is extremely hard to equip the face with a kindly expression.<sup>53</sup>

If natural selection was a natural law necessary for the creation of a diverse and fully functioning universe, then Paulsen’s analysis of how LDS theology escapes the problem of evil would seem to make sense. In fact, if less cruel methods were available and God did not use them, then theologians must adduce (presumably very tricky) arguments about how this method can be reconciled with attributes of love and kindness.

Mormon doctrines of the Creation and the Fall may (with some adventuresome speculation) also provide a rescue for the deep problem that Kitcher identifies. Mormon theology contains an inherent dualism positing that a spiritual aspect of existence mediates the consciousness of humans, plants, animals, and, indeed, the Earth itself. We have very limited details about how these spirit and material worlds interface with one another; however, taking evolution as a given natural law offers some possibilities for making the unimaginable cruelty of life, the Creation, and the Fall at least coherent.

Biology has long since abandoned vitalism, and modern biologists see no necessary reason to view organisms as anything more than biological machines. However, one of the acknowledged “hard problems” in philosophy of mind is the idea of subjective consciousness. Such consciousness seems to extend beyond the usual kinds of explanatory gaps that science fills. Philosopher of science Colin McGinn believes that a biological explanation of consciousness is forever beyond the purview of science because, no matter how completely we understand the correlations made by science between brain states and consciousness, consciousness, with its qualitative feel, can be experienced and recognized only from within subjective experience.<sup>54</sup> Granted, we must be careful in claiming that science will never figure out such-and-such a problem, a claim that sets up a “God of the Gaps” dilemma, which scientific advances repeatedly yank the rug out from under. Still, providing scientific access to personal subjectivity does seem to be an inherently intractable problem. We can imagine a world unfolding

strictly according to the forces of natural selection in which organisms are nothing more than biological machines—Cartesian wet robots, if you will. A Mormon-type creation, then, would be the union of these creatures (including a human body) with spirit material that allows these machines to become sentient and experiential beings. Such a union would link a consciousness-bestowing element to the material aspects of the world.

Speculating even further afield, we could conceive of the Fall, less literally, as likewise a process of a spiritual and material coming together. This view smacks more of a kind of Gnosticism or Platonism, but even so may be worth exploring. Adam and Eve, in this view, would be the first of Heavenly Father's spirit children to be linked to one of these biological machines, with the traditional animating creation taking place as a union between spirit and evolved material. As a result of this union, all humans and all creatures participate in the Fall—as a fall into materiality. In some sense, perhaps the participants even choose their participation. Continuing this line of thought, Christ must then, as LDS thought commonly holds, redeem all creation.<sup>55</sup> Rather than causing a fall as a necessary imposition on all sentient creatures, Adam and Eve open the possibility of a participatory fall, during which conscious experience enters the world.

In this view, the natural evils of the living world did not begin until the Fall and form part of the price of experience, not only for humans, but for all creatures. Humans participate as God's children (as per LDS theology), but their role is more to act with Christ in bringing redemption to the world of experiencing beings. Christ's atonement becomes truly universal, opening the opportunity for both the resurrection and permanently bringing together of the spiritual and the material. This step joins experience and material existence. I argue that Mormonism, in this way, provides an answer that escapes natural theology and the deeper problem of evil, while making Christ's atonement truly universal. This approach also allows a reconciliation with traditional views of Adam and Eve as real living persons—the first instance of sentience and the literal spirit children of God (agreed, we don't know what that means exactly). This approach also provides

something vital to the world through the Fall since, in a very technical sense, there was no death before the Fall.

This kind of evolutionary-based view of the Fall also releases God from naive views that He is culpable for it. There is something inherently troubling about God's setting up Adam to fail and fall. By analogy, it is as if I blame a mouse killed in my mouse-trap for its desire for cheese rather than blaming myself for having baited and placed the trap.

However, this approach also has troubling aspects. If we remove God's consciousness-inducing spirit children from the biotic world, then, logically, we have to accept that beings like Neanderthals had no consciousness. Since it is well established that many early hominins had religious practices, created art, and made intricate tools, it is hard to argue that they had no vestiges of phenomenal consciousness. This idea is also highly dualistic but in very Mormon, rather than in Cartesian, ways.

### *Design in Mormon Theology*

How important to our theology is the idea that God is the designer in creation? Natural theology, starting with Augustine, has made the design and complexity of the universe one of the evidences of God through creation. These early theologies even held that God's attributes could be read from the features of the natural world. As Xenophon's quotation underscores, this move to see design as evidence of Deity's involvement in creation obviously predates Christian theological speculation. Currently, we know that the natural law of evolution through natural selection<sup>56</sup> can fully explain the complexity of life on Earth (and presumably life elsewhere). Therefore, the question logically follows: Are the arguments for God from design necessary or important to a Mormon theology? Christian theologians and apologists have spilled significant quantities of ink over design, but why this question matters deserves some examination. For example, in relation to the embodiment of God, did He design His body?

It seems circular to make Paleyesque arguments from design that do not mesh well with some of Mormonism's foundational tenets, especially since arguments from design had become problematic long before Darwin. Scottish philosopher David Hume pointed out that design implies nothing about a designer and speculated

that the designer of the universe could have been anything from an evil demon to a largely incompetent committee.<sup>57</sup> (The many blunders and inefficiencies found among Earth's organisms were apparent even in Hume's time, the eighteenth century.) If God's embodiment implies some sort of biology, then the design comes from elsewhere. LDS thinkers have speculated since the time of Joseph Smith and Orson Pratt that God works within natural law. If this principle includes evolution through natural selection, it seems that attempts to distance ourselves theologically from evolution could be a grave error. Thus, if we interpret the theory of evolution in a Mormon framework, it constitutes a potentially helpful and perhaps even necessary explanation for an embodied God, rather than merely posing problems for natural theology.

### *Embodiment in Mormon Theology*

We believe that, in some sense, we were created in the bodily image of God. We use scriptures like Ether 3:6 where the brother of Jared sees the Lord's finger, which "was as the finger of a man," to orient this belief. We also believe that "the Father has a body of flesh and bones as tangible as man's; the Son also" (D&C 130:22). These scriptures present problems for a non-teleological process such as evolution by natural selection—but perhaps not as many problems as we might first think. Evolutionary biologist Simon Conway Morris argues that, given the vastness of the universe and the limited number of solutions to the biological engineering problems of surviving in a planetary ecosystem, humans or something like them, might be an inevitable evolutionary product.<sup>58</sup>

For example, reptile ichthyosaurs, mammal dolphins, and fish all have evolved very similar shapes to solve the problem of moving gracefully in oceans. These evolutionary convergences can take on very specific biological forms. Sabertooth cat-like predators who fed on large grassland mammals evolved as *both* marsupials (mammals with a pouch, like kangaroos and wallabies) and as mammals with placentas (e.g., bats, horses, and lions). Both marsupial and placental sabertooths were very similar in shape, ecological niche, and size. Both evolved from small rat or small opossum-like precursors. The universe is unimaginably large. Why? Allowing evolution to flower into something human-like could be one of the reasons.

Philosopher James E. Faulconer asks an intriguing question about God's embodiment:

The bodies of flesh and bone with which I am familiar do not shine, have blood, cannot hover, can be wounded and die, must move through contiguous points of time-space. In short, they are not at all like the bodies of the Father and the Son. So what does it mean to say that the Father and the Son have bodies? In fact, does it mean anything at all? When I use the word "body" in any other context, I never refer to something that shines, can hover, is immortal, and moves through space seemingly without being troubled by walls and doors. Given the vast difference between what we mean by the word "body" in every other case and that to which the word refers in this case, one can legitimately ask whether the word "body" has the same meaning in this case that it has in the others.<sup>59</sup>

One could also legitimately ask: Is God a *Homo sapiens*? Is God a mammal? Scientists have speculated on what a bipedal hominid evolved from avian precursors might look like. Would it have left-over structures like a pygostyle (a reduced fusion of vertebrae) instead of a tail? Slime molds can take very complex shapes in some of their life history stages. Can we imagine a human body that evolved from slime molds on another planet? It seems that many of our human features are part and parcel of our being mammals. Could being a mammal be a contingent feature of our evolution rather than an eternal part of our resurrected bodies? I don't have any answers to these questions, but they don't seem to be so problematic that they cannot be answered in ways that allow evolution as the mechanism of creation. These sorts of considerations significantly reduce problems of teleology, or God's presumed purpose for human beings.

### **Teleology in Mormon Thought**

If God, of necessity, used evolution to achieve His purposes, what does that say about His being able to act in the world? I need to add a cautionary note here. When I say God "uses" evolution, I recognize that, in talking about a "Creator," it is possible that words like "allows" or "provides a space for" may be more appropriate. Nevertheless, if we embrace an evolutionary perspective, the idea of God's intervention, petitionary prayer, and divine action to bring about His purposes become thorny issues. A nice thing about the magical view of creation is that it is no problem at all to imag-

ine God intervening in the world. Why use evolution through natural selection in a non-teleological fashion if waving a magic wand was possible? In fact, if God can and sometimes does intervene, then why doesn't He do it all the time? Why *didn't* He do it during the Creation? This question opens an intriguing possibility: the necessary place of consciousness in divine interventions.

In Mormon thought getting a physical body is important. Obviously, a body means that we become part of the material world, as Faulconer speculates: "Our experience of the body, the only standard we have for understanding embodiment, suggests that to say that God has a body is to say that his omniscience and omnipotence must be understood in ways quite different from traditional Christianity because embodiment implies situated openness to a world. In other words, divine embodiment also implies that God is affected by the world and by persons in his world."<sup>60</sup>

So there seems to be something deeply important about physicality and spirit coming together. Could it be that the physical world can be manipulated only through consciousness-mediated direct action? Or through this kind of body that unites spirit and physical matter? When I read the scriptures, I see a God who makes arrangements for irreplaceable records to be kept, preserved, and maintained through conscious effort. He implies that, if they are not, this knowledge will be lost and not brought back through His intervention. I see the Lamanites languishing in unbelief until the sons of Mosiah are inspired to go among them. Angels bear messages to other consciousnesses but do not seem to manipulate the world in interventionist ways. Almost all of the scriptures can be reinterpreted as acts of consciousness acting in the world. Christ's miracles, especially His resurrection, seem to be an exception, but much of how God works in the world seems to be that He communicates to and through conscious beings who then use their agency to act. Stories of people inspired to stop and help a widow take on new meaning if God cannot help the widow without us.

### **Speculative Conclusions**

Evolution may bear on theology in other areas, and entire discourses could be developed on each of these topics. For example, "The Family: A Proclamation to the World" claims that gender is a condition of the preexistence.<sup>61</sup> Evolutionary biology has long ex-

plored the meaning of gender and sex in organisms. Studies on motherhood from the animal kingdom are providing great insights into the nature of motherhood in human beings.<sup>62</sup> The understanding of human sexuality and gender practices has strong relevance to Mormon doctrine, and insights from evolutionary biology may help explain challenges faced by individuals and families struggling with the gendered aspects of being human. Joan Roughgarden, a biologist at Stanford University, has carefully detailed the role that sex plays in the natural world.<sup>63</sup> Recently she has argued for a new model of evolution, based not on selfish genetic forces (Richard Dawkins's selfish gene model), but on models of cooperation among creatures in a gendered and sexual context.<sup>64</sup> Her ideas on cooperation are a nice model for the kinds of human and perhaps divine society that Mormon theology posits—free agent interaction as part of a society of gendered minds. This area is new biological research, but it seems more promising than the selfish-gene model. It seems more attuned to the kinds of societies that we see forming in the natural world and which Mormon conceptions of theosis also model and predict.

Evolutionary views of creation also steer us into a deeper engagement with the natural world, as we see ourselves quite literally connected to the creatures and ecologies around us. The idea that our world emerged from deep time through natural selection implies that the wonderful diversity we see around us is contingent, unique, and precious. They provide arguments for better stewardship of the natural environment, because its current state took an enormous length of time. The creatures of the Earth are not only there for us, but we are also there for them. A Darwinian theology argues that care for creation becomes an important aspect of God's grace to the natural world through us.

A melding of evolution and theology also introduces another area important in Mormon thought. Perhaps the LDS conception of theosis (and the path that leads to exaltation) suggests a Darwinian selection process in which elements of trial, testing, and proving are inherent parts of progression through the first and second estates of premortal and mortal existence. Could natural selection drive emergence forward in an eternal context as well? Are classically conceived intelligences the sorts of entities subject to natural selection? Abraham 3:21–25 describes intelligences as

varying in traits relevant for theosis such as intelligence, righteousness, obedience, etc. (Recall that variation is the first condition necessary for natural selection to function.) Thinking of Christ as God's son means that we know at least one case in which traits were in some senses inherited—and heritability is the second condition necessary for natural selection. But how broadly this principle applies is, obviously, speculative. Lastly, these traits get selected—the third condition necessary for natural selection. Evolution might not only be the principle behind the beauty, wonder, and diversity of life in the universe, but it may also drive the selection processes that help produce our eternal destiny.

To me, evolution is an empowering idea. Linking it to our theology provides answers to several perplexing questions. It suggests that there is something wonderfully important about embodiment and why physical access to the universe is so important. Our doctrines, informed by evolution, answer questions about why such a cruel and wasteful process was chosen for creation and resituate the problem of evil. I find easy adaptations to our most important and profound doctrines. I see no reason why Mormons cannot, fully and without apology, embrace Darwinian evolution. As Darwin concluded his magnificent *On the Origin of Species*: “There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.”<sup>65</sup>

### Notes

1. Elie Wiesel, *Night*, translated by Marion Wiesel (New York: Hill and Wang, 2006), 5.

2. See, for example, the following articles in *Dialogue: A Journal of Mormon Thought*: Duane E. Jeffery, “Seers, Savants, and Evolution: The Uncomfortable Interface,” 8 (Autumn 1974): 41–75; Michael R. Ash, “The Mormon Myth of Evil Evolution,” 35 (Winter 2002): 19–38; David H. Bailey, “Mormonism and the New Creationism,” 35 (Winter 2002): 39–59; and David H. Bailey, “Scientific Foundations of Mormon Theology,” 21 (Summer 1988): 61–79. See also Trent D. Stephens and D. Jeffrey Meldrum with Forrest B. Peterson, *Evolution and Mormonism: A Quest for Understanding* (Salt Lake City: Signature Books, 2001); William E. Evenson, “Evolution,” *Encyclopedia of Mormonism* (New York: Mac-

millan Publishing, 1992), 2:478; Eldon J. Gardner, "Organic Evolution and the Bible," in *The Search for Harmony: Essays on Science and Mormonism*, edited by Gene A. Sessions and Craig J. Oberg (Salt Lake City: Signature Books, 1993); William E. Evenson and Duane E. Jeffery, *Mormonism and Evolution: The Authoritative LDS Statements* (Salt Lake City: Greg Kofford Books, 2005).

3. Christian Illies, "Darwin's *a Priori* Insight," in *Darwin and Philosophy*, edited by Vittorio Hösle and Christian Illies (Notre Dame, Ind.: University of Notre Dame Press, 2005), 58–82.

4. Daniel C. Dennett, *Darwin's Dangerous Idea: Evolution and the Meanings of Life* (New York: Simon & Schuster, 1996).

5. Kevin N. Laland, John Odling-Smee, Marcus W. Feldman, and Jeremy Kendal, "Conceptual Barriers to Progress within Evolutionary Biology," *Foundations of Science* 14, no. 3 (August 2009): 195–216.

6. Xenophon, *Memorabilia*, translated by E. C. Marchant, Loeb Classical Library (Cambridge, Mass.: Harvard University Press, 1923), 57.

7. Interestingly, President Spencer W. Kimball, "Absolute Truth," *Ensign*, September 1978, 3, plays off this idea: "The watchmaker in Switzerland, with materials at hand, made the watch that was found in the sand in a California desert. The people who found the watch had never been to Switzerland, nor seen the watchmaker, nor seen the watch made. The watchmaker still existed, no matter the extent of their ignorance or experience. If the watch had a tongue, it might even lie and say, 'There is no watchmaker.' That would not alter the truth."

8. Barbara Forrest, "The Wedge at Work: How Intelligent Design Creationism Is Wedging Its Way into the Cultural and Academic Mainstream," in *Intelligent Design Creationism and Its Critics: Philosophical, Theological, and Scientific Perspectives*, edited by Robert T. Pennock (Cambridge, Mass.: MIT Press, 2001), 5–53.

9. Niels Henrik Gregersen, "Emergence: What Is at Stake for Religious Reflection?" in *The Re-Emergence of Emergence*, edited by Philip Clayton and Paul Davies (Oxford, England: Oxford University Press, 2006), 279–22.

10. Kent C. Condie, "Premortal Spirits: Implications for Cloning, Abortion, Evolution, and Extinction," *Dialogue: A Journal of Mormon Thought* 39 (Spring 2006): 35–56.

11. James E. Faulconer, "Divine Embodiment and Transcendence: Propaedeutic Thoughts and Questions," *Element: A Journal of Mormon Philosophy and Theology* 1, no. 1 (Spring 2005), [http://www.smpt.org/docs/faulconer\\_element1-1.html](http://www.smpt.org/docs/faulconer_element1-1.html) (accessed on July 15, 2009).

12. President Gordon B. Hinckley appeared to distance himself

from the idea that God was once a man. When asked if Mormons believed that God was once a man, he responded: "I wouldn't say that. There was a couplet coined, 'As man is, God once was. As God is, man may become.' Now that's more of a couplet than anything else. That gets into some pretty deep theology that we don't know very much about." "Musings of the Main Mormon," Gordon B. Hinckley, interviewed by Don Lattin, *San Francisco Chronicle*, April 13, 1997, <http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/1997/04/13/SC36289.DTL> (accessed on September 28, 2009).

13. Ursula Goodenough, "The Sacred Depths of Nature: Excerpts," *Zygon: Journal of Religion and Science* 35, no. 3 (2000): 567–86.

14. These ideas are found in Joseph Smith, "King Follett Discourse," <http://mldb.byu.edu/follett.htm> (accessed October 6, 2009).

15. Blake T. Ostler, *Exploring Mormon Thought: The Attributes of God* (Salt Lake City: Greg Kofford Books, 2001), 359–60.

16. Neal A. Maxwell, "Patience," *Ensign*, October 1980, 28.

17. James McLachlan, "Fragments for a Process Theology of Mormonism," *Element: A Journal of Mormon Philosophy and Theology* 1, no. 2 (Fall 2005), <http://www.smpt.org/element.html>; Andrew Miles, "Toward a Mormon Metaphysics: Scripture, Process Theology, and the Mechanics of Faith," *Element: A Journal of Mormon Philosophy and Theology* 4, no. 1 (Spring 2008); Dan W. Wotherspoon, *Awakening Joseph Smith: Mormon Resources for a Postmodern Worldview* (Claremont, Calif.: Claremont Graduate University, 1996).

18. Gregersen, "Emergence," 299.

19. David N. Livingstone, "Evolution and Religion," in *Evolution: The First Four Billion Years*, edited by Michael Ruse and Joseph Travis (Cambridge, Mass.: Belknap Press of Harvard University Press, 2009), 348–69.

20. Many interesting responses to evolution from Jewish, Islamic, and Hindu sources posit a personal God who acts in the world. Buddhist responses are less troubled by evolution because of its inherent naturalism. I am not including them in my analysis because Christian responses make an interesting model for creating LDS-compatible theologies, which, like these, must include ideas of the Fall and the Atonement, which are not present in the same ways in non-Christian religions.

21. Creationists, including "intelligent design creationists," sometimes try to distinguish between micro and macro evolutionary processes that biologists do not recognize. Macroevolution refers to the timescale at which evolutionary change is considered and is not a different kind of evolution as is often implied by such groups. For example, it is not uncommon to find people who claim that they believe in microevolution

(meaning something like the changes that might be found among different breeds of dogs) but not macroevolution. To a biologist that is the equivalent of claiming "I believe in inches but not miles."

22. Gilles Deleuze, "Lecture Course on Chapter Three of *Bergson's Creative Evolution*," *SubStance: A Review of Theory and Literary Criticism* 36, no. 3 (2007): 72–90.

23. Michael Vaughan, "Introduction: Henri Bergson's *Creative Evolution*," *ibid.*, 7–24.

24. Vitalism was an idea with ancient roots but became prominent during the Enlightenment (seventeenth-eighteenth centuries). Life was made possible by a force not present in non-living things.

25. Henri Bergson, *Creative Evolution*, translated by Arthur Mitchell (1907; New York: Barnes and Noble, 2005), 68; emphasis mine.

26. Pierre Teilhard de Chardin, *The Phenomenon of Man*, translated by Bernard Wall, introduction by Julian Huxley (New York: Harper & Row, 1959), 268; emphasis his.

27. *Ibid.*, 313.

28. See, for example, David R. Griffin, *Reenchantment without Supernaturalism: A Process Philosophy of Religion* (Cornell, N.Y.: Cornell University Press, 2000); Alfred North Whitehead, *Process and Reality (Corrected Edition)* (New York: Free Press, 1978).

29. John F. Haught, *Deeper than Darwin: The Prospect for Religion in the Age of Evolution* (Cambridge, Mass.: Westview Press, 2004).

30. John F. Haught, *God after Darwin: A Theology of Evolution* (Boulder, Colo.: Westview Press, 2000), 42.

31. Arthur Peacocke, "A Naturalistic Christian Faith for the Twenty-First Century: An Essay in Interpretation," in *All That Is: A Naturalistic Faith for the Twenty-First Century*, edited by Philip Clayton (Minneapolis, Mich.: Fortress Press, 2007), 9.

32. Karl E. Peters, "Empirical Theology and a "Naturalistic Christian Faith,"" in *All That Is: A Naturalistic Faith for the Twenty-First Century*, edited by Philip Clayton (Minneapolis, Minn.: Fortress Press, 2007), 102.

33. Celia Deane-Drummond, *Christ and Evolution: Wonder and Wisdom (Theology and the Sciences)* (Minneapolis, Minn.: Fortress Press, 2009).

34. *Ibid.*, 57.

35. Pope John Paul II, *Truth Cannot Contradict Truth*, Address to the Pontifical Academy of Sciences, October 22, 1996, [http://www.newadvent.org/library/docs\\_jp02tc.htm](http://www.newadvent.org/library/docs_jp02tc.htm) (accessed July 15, 2009).

36. Gary James Bergera, "The 1911 Evolution Controversy at Brigh-

am Young University," in *The Search for Harmony: Essays on Science and Mormonism*, edited by Gene A. Sessions and Craig J. Oberg (Salt Lake City: Signature Books, 1993), 23–42; James M. McLachlan, "W. H. Chamberlin and the Quest for a Mormon Theology," *Dialogue: A Journal of Mormon Thought* 29 (Winter 1996): 151–67; James M. McLachlan, "The Modernism Controversy," in James M. McLachlan and Loyd Ericson, eds., *Discourses in Mormon Theology: Philosophical & Theological Possibilities* (Salt Lake City: Greg Kofford Books, 2007), 39–83.

37. William H. Chamberlin, "The Theory of Evolution as an Aid to Faith in God and in the Resurrection," *The White and Blue*, February 14, 1911, 4.

38. Ralph V. Chamberlin, *The Life and Philosophy of W. H. Chamberlin* (Salt Lake City: Deseret Book, 1925), 158.

39. McLachlan, "Modernism," 39–83.

40. W. H. Chamberlin, "The Life," 320.

41. *Ibid.*, 254. The embedded quotations are from an unpublished essay by W. H. Chamberlin, "Berkeley's Philosophy of Nature and Modern Theories of Evolution" mentioned in Chamberlin, "The Life," 250.

42. *Ibid.*, 254–55, quoting from an unpublished essay by W. H. Chamberlin, "Berkeley's Philosophy of Nature and Modern Theories of Evolution," mentioned in Chamberlin, "The Life," 250.

43. *Ibid.*, 255.

44. *Ibid.*, 322.

45. John A. Widtsoe, *Rational Theology* (Salt Lake City: Signature Books, 1997), 46–47.

46. B. H. Roberts, *The Truth, the Way, the Life* (Provo, Utah: BYU Studies, 1996), 240.

47. Richard Sherlock, "'We Can See No Advantage to a Continuation of the Discussion': The Roberts/Smith/Talmage Affair," *Dialogue: A Journal of Mormon Thought* 13 (Fall 1980): 63–78; Jeffery, "Seers, Savants, and Evolution," 41–75.

48. Richard Sherlock, "A Turbulent Spectrum: Mormon Reactions to the Darwinist Legacy," in *The Search for Harmony: Essays on Science and Mormonism*, edited by Gene A. Sessions and Craig J. Oberg (Salt Lake City: Signature Books, 1993), 69.

49. P. Kyle Stanford, *Exceeding Our Grasp: Science, History, and the Problem of Unconceived Alternatives* (Oxford, England: Oxford University Press, 2006).

50. David L. Paulsen, "Joseph Smith and the Problem of Evil," *BYU Studies* 39, no. 1 (2000): 53–65. He is quoting Joseph Fielding Smith,

comp. and ed., *Teachings of the Prophet Joseph Smith* (Salt Lake City: Deseret Book, 1974), 181.

51. *Ibid.*, 60.

52. Phillip Kitcher, *Living with Darwin: Evolution, Design, and the Future of Faith* (Oxford, England: Oxford University Press, 2007), 123.

53. *Ibid.*, 124.

54. Colin McGinn, *The Mysterious Flame: Conscious Minds in a Material World* (New York: Basic Books, 1999).

55. Sheila Taylor, "The Hope for a Universal Salvation," *Element: A Journal of Mormon Philosophy and Theology* 2, no. 2 (Fall 2006), <http://www.smpt.org/element.html> (accessed September 25, 2009).

56. Illies, "Darwin's *a Priori* Insight," 59, holds that evolution is in fact one of nature's principles and is *a priori* true.

57. David Hume, *Dialogues Concerning Natural Religion* (Mineola, N.Y.: Dover, 2006), 35–38.

58. Simon Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe* (Cambridge, England: Cambridge University Press, 2003).

59. Faulconer, "Divine Embodiment and Transcendence," 1.

60. *Ibid.*, 18.

61. The First Presidency and Council of the Twelve Apostles of the Church of Jesus Christ of Latter-day Saints, "The Family: A Proclamation to the World" (Salt Lake City: Church of Jesus Christ of Latter-day Saints, 1995), [http://www.lds.org/Static%20Files/PDF/Manuals/TheFamily\\_AProclamationToTheWorld\\_35538\\_eng.pdf](http://www.lds.org/Static%20Files/PDF/Manuals/TheFamily_AProclamationToTheWorld_35538_eng.pdf) (accessed September 25, 2009).

62. Sarah Blaffer Hrdy, *Mother Nature: Maternal Instincts and How They Shape the Human Species* (New York: Ballantine Books, 1999).

63. Joan Roughgarden, *Evolution's Rainbow: Diversity, Gender, and Sexuality in Nature and Humans* (Berkeley: University of California Press, 2004).

64. Joan Roughgarden, *The Genial Gene: Deconstructing Darwinian Selfishness* (Berkeley: University of California Press, 2009).

65. Charles Darwin, *On the Origin of Species: The Illustrated Edition* (New York: Sterling Publishing, 2008), 513.