Detail of *Charles Robert Darwin*, by John Collier and detail of *The Prophet and the Patriarch*, by Sutcliffe Maudsley, 1847.

Michael F. Whiting

Evolution and the Gospel: Seeking Grandeur in This View of Life

> There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator 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.[1]

Insects fascinate me. One of my earliest memories comes from when I was five and stopped along the edge of a vacant lot to catch butterflies that were feeding on a patch of dandelions. I still remember the excitement of catching a monarch butterfly with my cupped hands, carefully pinching the tips of its wings between my fingers, and watching it unwind its long proboscis. I collected insects in my teenage years, and there was hardly a time while I was growing up that I did not have some beetle or moth in the freezer, waiting to be mounted as the newest addition to my insect collection. My parents were patient with my entomological predilections because they assumed it was just a phase I would pass through on my way to finding something respectable to do with my life. I have yet to do so.

Michael F. Whiting is director of the DNA Sequencing Center and an associate professor of integrative biology at Brigham Young University.

But how could one not love insects? Nature is complex, beautiful, and full of a wide diversity of forms, and in no place is this more apparent than when one takes a moment to contemplate the insect. I cannot look at insects without being amazed at their sheer beauty, their stunning colors, and their bizarre forms. I have spent a good portion of my life in pursuit of insects, from the metallic-green praying mantids of the Malaysian rainforest to the walking sticks of Papua New Guinea to the ice bugs that are only rarely encountered at night, crawling across the glaciers of the Pacific Northwest. There are roughly 1.7 million described species on the planet, and over one million of these are insects. Entomologists estimate that there are anywhere from two to twenty million more insect species yet to be discovered, so there is plenty of work to be done. In the 1920s, there were about four hundred thousand species of beetles described, and this number was vastly larger than any other group of organisms. It is said that the naturalist J. B. S. Haldane was once asked by a theologian what he might infer about the nature of the Creator based on his wide-ranging study of life. Haldane reportedly replied, tongue in cheek, that the Creator had "an inordinate fondness for beetles."[2]

But certainly beauty in nature is not limited to just the insects. We draw inspiration from communing with nature, and there is something that brings us closer to the divine as we contemplate the beauty and the glory of creation. My lifelong study of insects has never diminished the sense of awe I feel for the natural world and has only enhanced my admiration and reverence for a supreme Creator who made such biological diversity in a supremely intelligent way. I believe in a Creator who put in place a series of laws that led to the magnificent diversity of forms, behaviors, and intricate interconnections that we see on the earth today. I stand in awe of these products of the Creation, and my studies lead me to reverence the creative process itself: the very thing I am trying to decipher through my own studies. As Darwin expressed at the close of *On the Origin of Species*, I feel there is "grandeur in this view of life."

However, I am keenly aware that this is not the way that many people view evolutionary biology. Some members of the Latter-day Saint faith believe that evolution stands in direct opposition to basic gospel principles, while others consider it a threat to our youth. But I find that most members are just curious as to how someone can be an evolutionary biologist, a member of the Church, and a BYU professor. The purpose of this short essay is to provide a brief outline of why I find my studies in evolutionary biology to be faith affirming. I will not attempt to provide an extensive history of evolution and the Church, nor will I delve into mysteries and attempt to reconcile every aspect of my science with my religion. Both are interesting topics but beyond the scope of this work. My goal is to describe as clearly as I can why my studies in evolution are exciting from a scientific standpoint and also enhance my understanding of the Creation.

PATTERN AND PROCESS

Many critics of evolution portray evolutionary theory as a series of made-up stories that require just as much faith to believe in as any religion requires. They point out that evolution is only a theory, which they equate with a guess or speculation, not recognizing that all science is built on theory and that the so-called laws of science are not qualitatively different from theories—they are simply theories that have stood up to many challenges and (as of yet) have not been refuted. A good theory must be descriptive, predictive, and refutable; that is, it must describe current observations and predict observations that have yet to be made, and it must be possible to collect a set of observations that would disprove it. Evolution passes the muster on all accounts. In fact, evolutionary theory is widely considered to be one of the most successful scientific theories ever proposed because of its ability to explain the biological observations of Darwin's day and its continued ability to elegantly explain a plethora of biological observations that Darwin could not even fathom, including the genomic-based research of today.

Scientists embrace evolution because it is the central underlying concept in all of biology, and it provides us with an extensive set of tools to address real-world problems such as devising strategies to rescue threatened species and protecting humans against infectious agents. There are few scientific theories that have so successfully summarized such an abundance of observations with such an economy of descriptive processes. This is why evolutionary theory is unabashedly not just good science but great science.

There is also confusion expressed by some about how a historical science such as evolutionary biology can learn anything about the past. The first thing to recognize is that biological diversity is not a random assemblage of forms; there is order and pattern in nature. Much of science lies in documenting the patterns we observe in nature and then postulating processes that may account for those patterns. There is in fact a direct connection between pattern and process: a process is simply a set of mechanisms that give rise to a pattern. In many cases, we can infer the process by a careful observation of the pattern. So just because we might not be physically present to observe a process does not mean we cannot learn something about it, because we can effectively learn about a process by studying the patterns that it creates.

Let me illustrate the connection between process and pattern with a simple example. When my daughter was two years old, she was a messy eater. One day I gave her some chocolate pudding and teddy bear crackers to eat as she sat in her high chair and then stepped out of the room for a moment. When I walked back in, I discovered a striking new pattern: chocolate smears with vestiges of mangled teddy bears artistically sprinkled across her high chair tray. This was a pattern, and a much more interesting pattern than the one that existed before I left the room. As a parent, my immediate thought was to clean it all up. But as a scientist, I was left to wonder, "What processes gave rise to this pattern?" Notice I did not ask *who* gave rise to the pattern; I was pretty confident I knew who the culprit was. I was only interested in discovering the specific

processes associated with forming the pattern. For instance, I might hypothesize that the ridges formed in the pudding in the middle of the tray were created by finger smearing as opposed to elbow smearing or face smearing. And the fact that the teddy bears did not have any pudding on their dorsal surfaces suggests that they were applied to the pattern only after the pudding smearing had taken place. Now remember, I was not there; I did not see the process in action. But I was able to infer something about a process I did not observe by carefully examining the pattern that the process created. Patterns provide evidence for deciphering processes.

The notion that patterns exist in nature—and that they can be organized in a regular and orderly fashion—is not a new idea. Aristotle was a keen observer of nature, and he thought deeply and profoundly about how his observations should be logically organized. He thought that all of nature could be organized into a ladder, the "Systema Naturae." At the base of this ladder are the simple plants that were not much different from nonliving matter. At the pinnacle was the human species, and each group of organisms had a place within the hierarchy that roughly corresponded to their level of complexity. But it was a ladder and not an escalator. There was no notion that any species could transform into any other, nor was there any idea of progression. There was a place for every species, and every species had its place.

Let us now jump to the seventeenth century and consider for a moment a body of thought that became prevalent with the writings of John Ray. Ray was a Cambridge professor who championed the idea of natural theology. Natural theology taught that by studying a creation, one could learn about the attributes and characteristics of the Creator. Living things adapt to their environments, which for Ray was a sign of God's design and benevolence. So why does a lion have sharp claws? It is because God could not let lions go hungry. Why do the birds sing in the trees? It is because they are singing the praises of a just Creator. Ray affirmed powerfully that nature was a worthy subject for study and reason and that such

activity was pleasing to God. Ray, of course, was not the first natural theologian, and we have from Alma a similar sentiment: "Yea, and all things denote that there is a God; yea, even the earth, and all things that are upon the face of it, yea, and its motion, yea, and also all the planets which move in their regular form do witness that there is a Supreme Creator" (Alma 30:44).

CHARLES DARWIN

Darwin was born February 12, 1809, in Shrewsbury, England. This was the same day that Abraham Lincoln was born and was only three years after the birth of Joseph Smith. These three men—Smith, Lincoln, and Darwin—were all contemporaries who profoundly changed mankind's view of religion, politics, and science. Darwin was in fact influenced by many of the same religious and social dynamics that surrounded Joseph Smith. It is interesting that these men were contemporaries during a time when the Lord saw fit to rain down knowledge upon the earth.

Charles Darwin provided profound insights into the nature of nature. He saw what everyone else saw, but he provided a new way of putting the information together. He was a meticulous observer, and he managed to digest and synthesize a tremendous amount of information. The theories he produced continue to influence everything we do in biology today.

I might mention here that some portray Darwin as a man eager to destroy faith and tear down religion. These people are like the detractors who paint Joseph Smith and the history of the Church with similar brushstrokes. Within the Church, I have occasionally heard members equate Darwin with Korihor, the anti-Christ from the Book of Mormon. But these caricatures are too simplistic and not true to the record. (It seems to me that members of the Church should be particularly sensitive to the misrepresentation of mid-nineteenth-century historical figures in order to push a particular agenda forward.) Certainly the ideas that sprang from Darwin's work

had a profound influence on religious thought and still continue to do so, but by all accounts Darwin was a loving father and a kind man, afraid of confrontation, and someone who would much rather study the mining habits of earthworms than be involved in a debate over science and religion. Darwin was a complex man, and many lengthy biographies have delved into factors in his life that may have influenced his scientific ideas, including his faith, but at his very core, Darwin was simply a scientist trying to explain patterns in the natural world, and the notion that he had a hidden agenda to destroy religion is simply wrong.

In 1859 Darwin published *On the Origin of Species*, which is packed with Darwin's observations and the connections he tried to make between those observations. For the first time, someone was able to successfully draw a connection between the jaws of a stag beetle, the ornate feathers of the peacock, the blooming patterns of plums, and the behavior of honeybees, and to tie all of these observations to literally thousands more. Moreover, Darwin recognized the hierarchy of similarity among all species. A housefly looks like a fruit fly (they both have one set of wings for flight), and both flies share similarities with a beetle (they all have six legs), but these insects do not look much like a rhinoceros, and as a group, they look even less like dandelions. Darwin recognized that all species can in fact be tied together into a pattern that unfolds into a great tree of life, and he explained these and other patterns with a coherent set of processes—natural selection, descent with modification, and sexual selection—all of which form the basis for modern evolutionary research.

WHERE DID ALL THE GRANDEUR GO?

From the moment that Darwin formally published his ideas of descent with modification in his book *On the Origin of Species*, there has been a nearly steady stream of public outcry over evolution; here we are more than 150 years later, and the outcry has largely not abated. What happened to the grandeur in Darwin's view of life? What is it about evolution

that causes blood pressure to rise? How many times have you heard someone express a passionate opinion on one side or the other of the subject of evolution? I have never witnessed people on a bus arguing about the laws of thermodynamics, but I have overheard heated arguments about evolution. I have yet to meet a student who is repulsed by the periodic table of elements or links it to the rampant degradation of society, but I continually encounter both reactions to evolution. Legislators do not push the teaching of an "intelligent falling theory" as a scientific alternative to gravity, but we encounter efforts to teach "intelligent design" as a scientific alternative to evolution. People who are normally oblivious to the theories used to describe observations in chemistry, physics, geology, or any other scientific field somehow have developed strong opinions about the theories evolutionary biologists use to describe observations in the natural world. Evolution is in fact the only scientific theory of which I am aware that has ever been battled over in the Supreme Court, and many organizations engage all their efforts and influence to renounce it.

THE CHURCH AND EVOLUTION

Of course, The Church of Jesus Christ of Latter-day Saints has not been immune to this controversy, and one need not dive deep into Church history to recognize that different Church leaders at different times have expressed very different views on evolution. I am not aware of any other scientific idea that has generated as many diverse views in the Church as evolution has, and very often the discussion of this wide range of ideas has resulted in more heat than light. When I teach evolution in the BYU classroom, I must often curtail students who begin selectively quoting their favorite General Authorities and pitting the quotations of one against another, as if one General Authority could beat the other up. While I am grateful that the Church has never expressed the same extreme views about evolution as have other religious denominations, there still persists a belief that evolutionary ideas and Church doctrine are fundamentally hostile to each

other and that the full acceptance of one requires the compromise of the other. I often encounter individuals who question whether one can be a faithful member of the Church and also study evolutionary biology. Others have expressed to me that it is impossible to reconcile scientific theories concerning the creation of the world with fundamental gospel principles, and that any attempt to do so is flawed from the beginning. I have also met with individuals for whom evolution is really not an issue, and while they are curious about my perspective, they simply have decided that there are more important things to worry about.

It is not surprising that given the wide range of opinions on evolution as expressed by Church leaders at various times, many members desire a pronouncement of the Church's official position on evolution. When I was an undergraduate student at BYU in the 1980s, I vividly recall receiving one set of General Authority statements on evolution that were assembled by biology professors and another very different set from professors in Religious Education. These compilations generally did not reflect the full spectrum of statements that had been given on the matter but instead supported only the particular positions held by the professors who assembled them. In 1992, under the direction of the university's board of trustees, which consisted of the First Presidency, many members of the Quorum of the Twelve, and other General Authorities, a packet on evolution was assembled and made available to BYU faculty and students. This packet consisted of all statements issued by the First Presidency on the subject of evolution and the origin of man. It included an introductory cover page approved by the board of trustees and four official statements: the First Presidency statement titled "The Origin of Man," which was released in 1909; a First Presidency message from 1910 that included brief comments relative to these topics; the statement titled "Mormon View of Evolution" published in 1925; and the article on evolution published in the *Encyclopedia of Mormonism* in 1992.[3] A thorough analysis of these statements is beyond the scope of this short essay,

but I will briefly highlight some points that resonate the most with me.

The introductory cover page makes two important points that help to put the other statements in their proper context: "Although there has never been a formal declaration from the First Presidency addressing the general matter of organic evolution as a process for development of biological species, these documents make clear the official position of the Church regarding the origin of man" (paragraph 1). "Various views have been expressed by other Church leaders on this subject over many decades; however, formal statements by the First Presidency are the definitive source of official Church positions" (paragraph 3). It is thus clear that these official statements are not centered on whether evolutionary theory does an adequate job of describing a wide range of biological observations, but rather focus on the origin of man. Moreover, it makes it abundantly clear that any statement outside of the four included in the packet are views of their respective authors, no matter how passionate or authoritative they may appear, and do not constitute any official Church position.

The 1909 statement was prepared in anticipation of the centennial celebration of Charles Darwin's birth and the fiftieth anniversary of the publication of *On the Origin of Species*, and it is by far the longest one in the packet (2,737 words). It quotes extensively from Moses, Ether, and other scriptures and "proclaims man to be the direct and lineal offspring of Deity" (paragraph 34). There is a bit of anti-evolution tone in statements such as this: "It is held by some that Adam was not the first man upon this earth, and that the original human being was a development from lower orders of the animal creation. These, however, are the theories of men" (paragraph 31).

The 1910 statement comes from a First Presidency Christmas Message. It is much shorter (99 words), and can be quoted here in its entirety:

> Diversity of opinion does not necessitate intolerance of spirit, nor should it embitter or set rational being against

> each other. The Christ taught kindness, patience, and charity.
>
> Our religion is not hostile to real science. That which is demonstrated, we accept with joy; but vain philosophy, human theory and mere speculations of men, we do not accept nor do we adopt anything contrary to divine revelation or to good common sense. But everything that tends to right conduct, that harmonizes with sound morality and increases faith in Deity, finds favor with us no matter where it may be found.

The 1925 statement was released during the fury of media attention surrounding the Scopes "monkey trial" and is specifically titled "Mormon View of Evolution." This statement quotes exclusively from the 1909 statement, but it is about one-fifth the length and omits all of the anti-evolution sentiments in the 1909 statement, including paragraph 31 (quoted above).

The 1992 *Encyclopedia of Mormonism* statement is short (250 words) and emphasizes that "the scriptures tell why man was created, but they do not tell how, though the Lord has promised that he will tell that when he comes again (D&C 101:32–33)" (paragraph 3). It further states: "Upon the fundamental doctrines of the Church we are all agreed. Our mission is to bear the message of the restored gospel to the world. Leave geology, biology, archaeology, and anthropology, no one of which has to do with the salvation of the souls of mankind, to scientific research, while we magnify our calling in the realm of the Church" (paragraph 3).

So what can one take from all of these statements? The 1910 statement makes clear that there are two major conditions for accepting a scientific theory or idea "with joy": (1) the ideas espoused must be good science and not just mere speculation and (2) the ideas should not contradict revelation or "common sense" but increase faith in God and harmonize with sound morality. Regarding the first condition, evolutionary biology is solid science by any measure. Regarding the second condition, I would suggest that whether evolution contradicts

revelation or promotes faith is largely a matter of perspective. Some have passionately expressed the feeling that any sort of biological connection between humans and other species on the planet is degrading and leads to immorality and the corruption of society. Others have suggested that since evolutionary biology does not specifically recognize God as Creator to explain biological observations, it is therefore hostile to the notion of a divine creation. I believe both points of view are extreme. God is not invoked to explain biological phenomena in evolutionary biology for precisely the same reason he is absent from other scientific theories: God is not a testable scientific hypothesis that is open to refutation with empirical evidence.

From my perspective, I find it ennobling to think that I share some sort of biological heritage with all of God's glorious creations, and I am amazed to contemplate a Creator who made sets of laws that guided the creation of the world and led to the outpouring of biological diversity. All of my studies lead me to believe in a God who created a creation with the ability to create and modify itself. There clearly is sufficient latitude in these statements to allow the exploration of evolutionary biology without surrendering faith.

ARE MORMONS CREATIONISTS?

There has been a temptation for some members of the Church to place us in the same category as religions that identify themselves as creationists. I tell my students that Mormons are creationists in the same way we are born-again Christians. Does the Church have a doctrine of being "born again"? It certainly does, but it is so radically different from churches that label themselves as born-again Christians that we have not adopted the name because we do not embrace the dogmas associated with being "born again." Likewise, the Latter-day Saint doctrine of creation is sufficiently distinct from those religious groups that label themselves "creationists" that I am grateful the Church has not adopted this label.

One of the most vocal advocates for creationism is Henry Morris, who is associated with the Creation Research Institute. He states, "Since nothing in the world has been created since the end of the creation period, everything must then have been created by means or methods of processes which are no longer in operation and which we therefore cannot study by any of the means or methods of science. We are limited exclusively to divine revelation as to the date of creation, the duration of creation, the method of creation, and every other question concerning the creation."[4] In stark contrast to 1910 First Presidency statement, Morris's view is hostile to real science and specifically requires the belief in doctrines that Latter-day Saints would be uncomfortable with. These doctrines include a belief in ex nihilo ("out of nothing") creation, which was specifically rejected by Joseph Smith, biblical literalism that requires a literal interpretation of such things as time periods, biblical exclusivity that excludes other revelatory sources or scientific investigation as providing insight into creation, and the sole authority of the Bible as the comprehensive source of all details on creation.

Recently there has been a movement in the United States seeking to teach "intelligent design" as a scientific alternative to evolution. Intelligent design is based on the (flawed) notion that there are certain features in the biological world that are too complex to be explained via evolution and that the probability of evolution giving rise to complexity is so vanishingly small that it is simply not possible. Consequently, they argue, the only scientific explanation for biological complexity is that there must be an intelligent designer working behind the scenes. The attempt to mandate the teaching of intelligent design in public schools led to a lengthy trial centered in Dover, Pennsylvania, in 2004. The overwhelming evidence during the trial established that intelligent design was a mere relabeling of the type of creationism described above and that it is not a scientific alternative to evolution. So while the Latter-day Saints do indeed have a doctrine of creation and certainly a belief in a Supremely Intelligent Creator, we

are neither creationists nor proponents of intelligent design because both labels come with unwanted and uncomfortable doctrinal baggage.

MY OPINION ON EVOLUTION

Being a Latter-day Saint evolutionary biologist always leads to interesting conversations. Whenever I visit a new ward in my travels, a typical conversation goes something like this:

I am asked, "What do you do for work?"

I respond, "I study insects."

I see an eyebrow raise, and then I am asked, "What is it about insects that you study?"

I respond, "Their genealogy or evolutionary relationships."

"Well, who pays you to do that?"

I respond, "BYU."

Their eyes open wide, their jaws drop, and I can tell what they are thinking. Their first thought is, "Does the Church have some new family history program that I haven't heard of?" But invariably their second thought is, "How can you do that at BYU? Isn't evolution diametrically opposed to the teachings of the Church?"

For me, evolution is simply the scientific study of the underlying mechanics of the creative process. It studies the patterns of creation and seeks to define the processes which gave rise to these patterns. It does not preclude the existence of God, nor does it challenge his role in the Creation. Recall the analogy of my daughter that I used earlier. I knew who was responsible for smearing her food; I was only interested in how she did it. But by studying the pattern she created, I learned something about her. She is messy. Perhaps she is creative. Or maybe she just really likes pudding. This is very much the way I view my own research. I know who is responsible for the Creation, but my research focuses on learning something about how it was done. Much like a natural theologian, I seek to learn something about the Creator by studying the Creation; but I move it back one step by asking, what does the creative process teach me about the nature of the Creator?

We often glory in the end products of the creative process: all the species that surround us and stun us with their vibrant colors, amazing behavior, and peculiar features. And we are right to do so; there is something that brings us closer to the divine by contemplating the grand diversity of life. But I think we do not give the Creator enough credit for his wisdom and divine forethought in establishing the laws that have led to this diversity. I believe the Lord set certain laws in place which resulted in a world filled with diversity, beauty, and form, with each species interacting with every other, tied together in a glorious whole. Now I do not understand what all these laws are—this is why I study the things I do—but from what little I know, I am struck with amazement at just how clever this creation is.

All of my studies lead me to believe that the Lord created the earth in a supremely intelligent fashion. Consider for a moment DNA. There are four basic blocks that comprise the DNA molecule. From a biological standpoint, the only difference between every species that inhabits the planet is the pattern in which these four blocks are arranged in long strings, like numbers in a telephone book. When we look at how these blocks are arranged via modern DNA research, we get a very consistent story of the past. Alma was right: "By small and simple things are great things brought to pass" (Alma 37:6).

Let me put it another way. I can observe a collection of clay pots arranged in a row and marvel at the diversity of shapes, forms, and colors. I can admire the potter, and even try to learn something about how those pots were made. But I fail miserably when I try to make a pot, and I marvel at the skill displayed when I watch a really excellent potter throw a really excellent pot. It is not as easy as it looks, and not just anyone can do it. So I admire the potter, the pot, and the skill required—the process—to make a pot. It seems to me that it is the knowledge, the process, the skill possessed by the potter that is truly what is most impressive here. And who am I to tell the potter how a pot can and cannot be made, seeing that I cannot make one myself? I can likewise marvel at the skill of

a Creator who has made a very excellent creation in a very excellent way. I likewise am not comfortable in setting a limit on the divinely clever processes the Creator used to bring about the Creation, seeing that none of these processes have been described in revelation.

Recall that Joseph Smith and Darwin were contemporaries. While Darwin was in the midst of his travels on the HMS *Beagle*, Joseph Smith received the following revelation: "Yea, verily I say unto you, in that day when the Lord shall come, he shall reveal all things—things which have passed, and hidden things which no man knew, things of the earth, by which it was made, and the purpose and the end thereof—things most precious, things that are above, and things that are beneath, things that are in the earth, and upon the earth, and in heaven" (D&C 101:32–34). The Lord indicates that the day will come when he will reveal more about the earth and how it was made, along with many other precious things. However, I do not think that this verse means that we can learn nothing about creation until the Lord comes or that we should not try. To claim that we should not attempt to learn anything about the creative process in this life through study and effort is the same to me as the claim that we should not strive to learn anything about the nature of God until he comes and reveals himself to us.

THE HARD QUESTIONS

I have not attempted in this short essay to address all of the mysteries that arise when one tries to reconcile current understanding of the scriptures with current understanding of evolutionary biology. I have not delved into pre-Adamites, death before the Fall, the history of disagreement among Church leaders on this issue, nor any number of controversies that one typically associates with the discussion of evolution and Latter-day Saint faith. My goal has been to try and give you one scientist's perspective on science and faith and why I personally find evolution to be faith-affirming. To be honest, I do not spend much time worrying about the mysteries.

I, of course, recognize that there are ideas in evolutionary theory that can be spun in such a way as to be in direct conflict with the doctrines of the Church, and unfortunately some prominent evolutionary biologists have gained great fame by doing so. Likewise, I recognize that there are interpretations of Latter-day Saint scripture that can be formulated in such a way as to contradict current ideas in evolutionary theory. What I would caution against is forcing a Joshua ultimatum here with "Choose you this day whom ye will serve" (Joshua 24:15), as if these are fundamentally and diametrically opposed views of creation with no degree of overlap and no possibility of reconciliation. In my experience, students who continue to think of this as a dichotomy will either have their faith so shaken when they learn the evidence for evolution that they drift away from the Church, or they will simply shut their eyes and their minds to what I consider to be a glorious way to view creation.

What we need to recognize is that we know very little about the Creation from either a religious or a scientific standpoint. Pitting these different perspectives against each other in a winner-takes-all cage fight seems perilous and something that I believe is not pleasing to the Lord. The Lord has not yet revealed the mechanics of creation: Doctrine and Covenants 101:32–34, quoted above, confirms this. And scientists are still probing around in the dark, the best we can, to try and understand even the basics of the creative process. In the meantime, I would suggest that it is best to be humble and grateful to live in a world that invokes such a feeling of awe and wonderment. I appreciate working at an institution that has been so supportive of my research in evolutionary biology. Much like Darwin, I believe there truly is grandeur in this view of life.

NOTES

1. Darwin, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle For Life* (London: John Murray, 1860), 490.

2. See G. E. Hutchinson, "Homage to Santa Rosalia or Why Are There So Many Kinds of Animals," *American Naturalist* 93, no. 870 (May–June 1959), 146n.
3. The text of the packet is reprinted in William E. Evenson and Duane E. Jeffery, *Mormonism and Evolution: The Authoritative LDS Statements* (Salt Lake City: Greg Kofford Books, 2005). The packet's contents are also available online at http://whitinglab.byu.edu/PDF/Evolution%20Packet.pdf.
4. Henry M. Morris, "The Testimony of Geologic History," http://www.the-highway.com/geologic-history_Morris.html.