

PALEY'S STONE, CREATIONISM, AND CONSERVATION

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Recently I visited a friend in Princeton, New Jersey. While we discussed scientific topics in his well-appointed living room, I kept glancing at a small landscape painting on the wall. When my host was called away for a few moments, I stood to examine the painting. Light seemed to emanate from the canvas, which depicted a farmer's field bordered by poplar trees. Clearly the artist had been deeply informed by impressionism. The longer I examined the painting, the more convinced I was that I stood in the presence of a masterpiece. Who was this unknown New Jersey artist who wielded luminescence with the tip of his brush? When my host returned, I told him that I was

stunned by the painting on his wall. "This artist is incredible! Who was he?" My friend smiled and said, "You have a good eye, Paul. That canvas is by Pissarro."

There is something that inspires us when we view a great work of art. Fortunately this experience is available to even those who are distant from an art museum or treasured private collection—we need only look at a flower, a sunset, or the stars above our head to realize that we live within an artistic masterpiece. As Emerson wrote, "If the stars should appear one night in a thousand years, how would men believe and adore; and preserve for many generations the remembrance of the city of God which had been shown!"¹

Just as my friend's painting bore the hallmarks of a great French impressionist, this earth we live on evidences the brilliance and love of its Creator. As the ancient prophet Alma said to an atheistic Korihor, "The scriptures are laid before thee, yea, and all things denote that there is a

God; yea even the earth, and all things that are upon the face of it" (Alma 30:44).

In this article, I wish to discuss the precise nature of evidence for the Creation. Some believe that through rational means the brush strokes of the Creator can be found and measured, thus proving to any other truly rational being the existence of God. To others, the overall harmony and beauty of the Creation can indicate to a spiritually sensitive Alma, but not to a spiritually dead Koriher, the divine origins of the earth. Undergirding these two different approaches to the divinity of the earth are two different sets of assumptions. The rational approach, termed "the argument from design," is based on a literal interpretation of the Bible and, in its extreme form, concludes that the world was created suddenly, in the space of seven days, miraculously from nothing. A different approach, which might be termed "the argument from history," suggests that the earth was formed over eons of time in accordance with natural law, which vast scale gives an even greater panorama for the working of God's majesty. I think it is important to distinguish these two differing views of creation since they have very different implications for both eschatology—the last days—and for conservation of the earth and its resources.

My primary hope is to speak with reverence and humility about the Creation. In particular, I am not here to take a firm stand on the precise timing or mechanisms employed by the Creator. In considering such mechanisms, I am reminded of a story about the great scientific pioneer Wolfgang Pauli (1900–1958), the Austrian physicist who won the Nobel prize for his discovery of the exclusion principle—that no two electrons (or fermions) in an atom can exist in exactly the same quantum state. Professor Pauli was famed for his brilliance but unfortunately also had a reputation of pride and pugnaciousness.

Pauli died, so the story goes, and had the opportunity to ask God how the world was created. Pauli listened attentively to the divine explanation and then at the end said, "Well, you

got this point wrong; you got that point wrong. . . ."

I never want to be in a position to argue with God. In section 101 of the Doctrine and Covenants, we are promised: "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" (D&C 101:32–33).

When the Lord comes again and tells us "hidden things which no man knew," I suspect that there will be plenty of surprises for all of us, scientists and lay people alike. I want to be there as a student, to learn but not to debate with the Lord. As scientists we still know so little, and as Latter-day Saints we must always be open to the light of new revelation which the Lord has promised. Meekness, teachability, and diligence will perhaps best prepare us for that incredible millennial lecture in geology, biochemistry, physics, and botany.

Let us begin by considering the argument from design, which underlies the philosophy termed by modern Christian fundamentalists as "creationism." Although Latter-day Saints deeply believe in the divine creation of this world, I suggest that the fundamentalist concept of creationism is alien to Latter-day Saint belief. While respecting the beliefs of those who embrace creationism, I wish to distinguish between this and our concept of the Creation.

The Argument from Design

In 1802 the Reverend William Paley published his influential book, *Natural Theology or Evidences of the Existence and Attributes of the Deity Collected from the Appearances of Nature*. Paley began his essay by contrasting a stone and a watch. "In crossing a heath, suppose I pitched my foot against a *stone*, and were asked how the stone came to be there; I might answer, that, for anything I knew to the contrary, it had lain there for ever. . . . But suppose I had found a *watch* upon the ground. . . . I could hardly think of the answer which I had before given, that for

anything I knew, the watch had might have always been there. Yet why should not this answer serve for the watch as well as the stone? . . . the inference, we think, is inevitable, that the watch must have had a maker."²

Paley argued that the finding of a watch invariably implies the existence of a watchmaker. He suggested that there had not "existed in things a principle of order, which had disposed the watch into their present form and situation,"³ and argued that a watch could not be made merely through operation of a natural law: "It is a perversion of language to assign any law, as the efficient operative cause of anything."⁴

Paley's ultimate point was that by studying the mechanism of the watch, a great deal could be deduced about the watchmaker himself. If nature itself is a mechanism and "the contrivances of nature surpass the contrivances of art, in the complexity, subtlety, and curiosity of the mechanism,"⁵ could not then the character of the Creator be deduced from a study of nature? Paley examined the various hand and glove adaptations that are so prevalent in natural history and presented these adaptations as evidences for the existence of God. The approach pioneered by Paley's book forms the basis for the argument from design. Whether cited or not, Paley's book has been both the underlying philosophy of the fundamentalist creationist literature as well as the critical response to creationism.

Although Paley's argument reflected the contemporary nineteenth-century enthrallment with mechanism at the beginnings of the industrial age (which was used as a metaphor for everything from the human body to the solar system), Paley's use of nature as evidence of the divinity of the Creation had been foreseen by many others. Erasmus Darwin, the grandfather of Charles Darwin, argued in his epic poem (1791), *The Botanic Garden*, that the water pollination of *Vallisneria* flowers is so remarkable that the capture of floating male flowers by the petals of the female flowers is itself evidence for the existence of God. But I suggest that all such allu-

sions to arguments from design can ultimately trace their intellectual heritage to Thomas Aquinas, who, in his *Summa Theologica*, argued that the very fact of motion implies the existence of a prime mover: "It is certain, and evident to our senses, that in the world some things are in motion. Now whatever is in motion is put in motion by another. . . . Therefore it is necessary to arrive at a first mover, put in motion by no other; and this everyone understands to be God."⁶ In Aquinas's view, the natural state of the universe is motionlessness, and only God Himself could have been the prime mover.

Naturally, this argument of Aquinas parallels in many ways the fundamentalist assertion that God created the universe from nothing. This belief assumes that the primal state of the universe is absolute void—no matter, energy, or anything else—and that only God could have brought something out of nothing. Thus, the fact that anything exists at all evidences the existence of God. Although Aquinas was original in his conception of a "Prime Mover," the theme of a creation out of nothing—an *ex nihilo* creation—was articulated centuries before by St. Augustine: "For though God formed man of the dust of the earth, yet the earth itself, and every earthly material, is absolutely created out of nothing; and man's soul, too, God created out of nothing, and joined to the body, when He made man."⁷ Therefore, according to Augustine, the base state of the universe is nothing, and, as later articulated by Aquinas, the base state of the universe is total stasis—motionless.

In summary, then, the argument from design as expounded by William Paley, and now largely adapted by the modern fundamentalist movement as creationism, is itself founded on several important assumptions:

1. The universe was originally empty.
2. The universe was originally motionless.
3. The universe was created out of nothing.
4. God can be discovered via reason.
5. God's attributes can be deduced from a study of nature.

With great respect to our brothers and sisters who are Christian fundamentalists, I suggest that none of these assumptions are supported by modern-day revelation and the teachings of the living prophets. Let us take, for example, the belief that God created the universe and man out of nothing. The Prophet Joseph Smith rejected this concept completely. “Now I ask all who hear me, why learned men who are preaching salvation, say that God created the heavens and the earth out of nothing? The reason is, that they are unlearned in the things of God, and have not the gift of the Holy Ghost.”⁸ “The pure principles of element are principles which can never be destroyed; they may be organized and re-organized, but not destroyed. They had no beginning and can have no end.”⁹ An ex nihilo creation is contrary to the teachings of the Church of Jesus Christ of Latter-day Saints.

Latter-day Saints should also be uncomfortable with the assertion that God can be known by reason. While the gospel is reasonable in the sense that its precepts are not contrary to reason as well as in the sense that its teachings are internally consistent, Latter-day Saints believe the things of God can only be known by the Spirit of God. The Prophet Joseph Smith said that “the human family has been enveloped in gross darkness and ignorance for many centuries past, without revelation, or any just criterion [by which] to arrive at a knowledge of the things of God, which can only be known by the Spirit of God.”¹⁰

This belief, that one can know God only through the agency of the Spirit of God, is contrary to William Paley’s assertion that a knowledge of God’s attributes can be obtained solely through a study of nature. Without the Spirit of the Lord, mere scientific observation will not lead one to the Savior. Equally important, the Lord is “no respecter of persons.” If some great unarguable proof of the existence of God were to be found in an artifact of natural history, or a biochemical pathway, or a geological feature, then natural historians, biochemists, or geologists

would have the fast lane to salvation—in fact, faith would no longer be required for them. So to Latter-day Saints, Reverend William Paley’s attempt to prove the existence of God through nature, like that of Aquinas and Augustine’s before him, must fail in the light of latter-day revelation.

Is there, therefore, any alternative to Paley’s argument from design for those who believe that the earth was created by a loving God? Does not the Creation bear any imprint of the Creator? What did Alma mean when he told Korihor that “all things denote there is a God” (Alma 30:44)?

The Argument from History

I would like to propose one possible alternative to the argument from design, which I will label with a phrase suggested over dinner one night by my friend, University of Utah biology professor Jon Seeger, as “the argument from history.” To explore the argument from history, we need to go back to Paley’s original metaphor. Paley wrote, “In crossing a heath, suppose I pitched my foot against a *stone*, and were asked how the stone came to be there; I might answer, that, for anything I knew to the contrary, it had lain there for ever. . . . But suppose I had found a *watch* upon the ground, . . . I could hardly think of the answer which I had before given.”¹¹

The rest of Paley’s book, indeed his entire argument, was based solely on the consideration of a pocket watch. But as a scientist, I find the world to be far more complex than a pocket watch. I also want to suggest that Paley chose the wrong object for study. What would have happened had Paley instead focused his attention on the stone? Now you might ask, “Why should we consider a simple stone instead of a gleaming, shiny pocket watch?” The answer, simply put, is that a stone, unlike a pocket watch, has a very long history—it has a priority of provenance over any watch made by human hands. Understanding the history of a stone will, I suggest, bring one closer to an understanding of the majesty of creation than a consideration of a simple clockwork mechanism such as a pocket watch.



Figure 1. A stone.¹²

Consider, for example, this stone (Fig. 1), which is about 0.3 meters in length. What could this small stone tell us about the Creation? How much would one be willing to spend to investigate this stone?

Let me answer the second question first. As of today, approximately \$800 million has been expended to study this particular stone. This photograph was taken on the surface of Mars on January 18, 2004, by NASA's Spirit probe. The Mars probe is equipped with exquisite instruments, including microscopes and spectrometers to deduce the chemical composition and history of this stone. Teams of scientists believe that understanding this stone will yield deep insights into the origins of Mars. Now it may surprise you that this is not the first stone from Mars that has been investigated. In fact, a stone from Mars was studied by scientists here on the earth a decade before the Mars Spirit probe was launched. A meteorite was collected from the MacAlpine Hills Icefield in Antarctica during the 1988–89 field season, where it landed after having been forcefully ejected from the Martian surface by the impact of an asteroid. As a scientist, I find both the Antarctic meteorites and the stone being studied on Mars as far more precious and interesting than any pocket watch, including those of Paley's era. It is one of the great miracles of our age that each morning my nine-year-old daughter Jane and I can download real-time photographs of Mars to discuss while she eats

her cereal prior to going to school on our island of Kauai.

But getting back to Paley's metaphor, let's assume that the stone we examine is indeed from earth. What could we learn from such a stone? By comparing the ratio of radioactive to non-radioactive isotopes, we could come up with a rough guess of the age of the stone. In most cases, the age of the stone will indicate extraordinary antiquity, measured not in thousands or even tens of thousands of years but in millions of years. Such experiments, which to the best of our ability are well considered and performed, of course, fly in the face of fundamentalist dogma, which teaches that the earth was created in seven 24-hour periods approximately six thousand years ago.

Fortunately for scientists of our faith, and unlike some fundamentalist religions, The Church of Jesus Christ of Latter-day Saints is not opposed to the teachings of science. President Brigham Young wrote:

I am not astonished that infidelity prevails to a great extent among the inhabitants of the earth, for the religious teachers of the people advance many ideas and notions for truth which are in opposition to and contradict facts demonstrated by science.

You take, for instance, our geologists, and they tell us that this earth has been in existence for thousands and millions of years. They think, and they have good reason for their faith, that their researches and investigations enable them to demonstrate that this earth has been in existence as long as they assert it has.

In these respects we differ from the Christian world, for our religion will not clash with or contradict the facts of science in any particular. You may take geology, for instance, and it is true science. . . . To assert that the Lord made this earth out of nothing is preposterous and impossible.¹³

Closer examination of Paley's stone may evidence other means of determining its antiquity, such as the presence of fossils. Elder John A. Widtsoe, himself a renowned scientist, wrote:

In the beginning, it appears that water covered the whole earth. . . . It was the great age of fishes. . . . Upon the land came, first, according to the story of the rocks, a class of animals known as amphibians. Then followed an age in which the predominating animals were gigantic reptiles. . . . During the age of these prehistoric monsters, the earth was yet more fully prepared for higher life.¹⁴

Beginning in the days of Brigham Young and later during the era of John Widtsoe, many fundamentalist theologians rose in opposition to science, and we still see this battle being waged today along many fronts. Elder Widtsoe continues: “When these immense periods of time were first suggested by students of science, a great shout of opposition arose from the camp of the theologians. The Bible story of creation had been taken literally. . . . The new revelation, given by God in the message of the rocks, was received as a man-made theory, that must be crushed to the earth.”¹⁵

Indeed, the presence of fossils in Paley’s stone might suggest that other epochs of life existed upon this planet long before humankind. Current scientific evidence suggests that vast assemblages of diverse organisms arose and then became extinct, perhaps through catastrophic consequences of the impacts of large asteroids or comets upon the surface of the earth hundreds of millions of years ago.

Some Latter-day Saints, unfortunately, have struggled with apparent contradictions between modern science and fundamentalist creationism that they believe to be part of our faith. Although I have deep compassion for those who experience such internal conflict, I personally sense no contradictions between our faith and modern science. I remember as a student hearing the famous Latter-day Saint chemist Henry Eyring say that “as Latter-day Saints, we are required only to believe what is true.” If we are to accept the scientific evidence that Paley’s stone is indeed millions of years old, would this diminish our respect for the Creator? I think not. Instead it

extends the vast panorama of the creative periods which, as the Book of Abraham suggests, were indeterminate in length. For example, I personally find it far more compelling to worship a God who foresaw the need for modern petroleum to be used today as jet fuel to speed the Lord’s servants and His missionaries in their travels around the world—and who made provisions for this need one hundred to three hundred million years ago—than to compare the Lord to a simple tinkerer who in a matter of days or weeks produces a shiny pocket watch. In fact, the thought that our Heavenly Father uses natural law in His creative processes inspires within me even greater reverence than I would have for a simple magician or conjurer who seems to produce watches out of nothing. Joseph Smith said, “God himself, finding he was in the midst of spirits and glory, because he was more intelligent, saw proper to institute laws whereby the rest could have a privilege to advance like himself.”¹⁶

The concept that “by small means the Lord can bring about great things” (1 Nephi 16:29, see also Alma 37:41) is replete in the scriptures. We need go no further than the tragic loss of 116 manuscript pages by Martin Harris of Joseph Smith’s translation from the large plates of Nephi. A God who works through magical means could have easily and instantaneously restored those pages and erased the memories of evil men who may have seen them. But instead the Lord foresaw this calamity 2,500 years before it occurred and inspired Nephi to create a second set of small plates “for other wise purposes, which purposes are known unto the Lord” (1 Nephi 19:3). Truly we worship a God who can work through small means since His perspective is unlimited by time or space.

I personally believe that the argument from history makes a more compelling case for environmental conservation because I worship a Heavenly Father who foresees needs millions of years in advance and who lovingly prepared this world over eons of time for our existence.

Eschatology: The Last Days

Eschatology is the theological study of the last and ultimate things, including the fate of the earth, the Resurrection, and the Judgment of mankind. The revealed doctrines of The Church of Jesus Christ of Latter-day Saints—as the term “Latter-day” implies—are highly focused on eschatology, since many of them pertain to the futurity of the earth and humankind in the last days of the earth. It is interesting to me that in many religions, beliefs about the earth’s origins seem to be inseparably linked to beliefs about the earth’s ultimate fate.

The two different types of religious beliefs concerning the genesis of the earth I have discussed—the argument from design espoused by Christian fundamentalists and the argument from history, which characterizes the beliefs of at least a few Latter-day Saints—produce very different perspectives on what will happen to the earth in these latter days. I’ve summarized some of these differences in Table 1.

Item 8 from the first column of Table 1—the “Rapture”—merits some comment. There has recently been a plethora of best-selling books, and even a feature film, based on the premise that when Christ comes again, the righteous will rise to meet Him, leaving only the wicked to persist on earth. I suspect that fundamentalist belief in the so-called Rapture stem, in part, from a mis-

reading of 1 Thessalonians 4:16–17: “For the Lord himself shall descend from heaven with a shout, with the voice of the archangel, and with the trump of God: and the dead in Christ shall rise first. Then we which are alive and remain shall be caught up together with them in the clouds, to meet the Lord in the air: and so shall we ever be with the Lord.”

Of these verses, Elder Bruce R. McConkie explains, “The living are caught up to meet their returning Lord, and with him they shall return to live on this earth, which will then be changed and receive its paradisiacal glory.”¹⁷ Contrary to those who teach that the earth will be ruined and abandoned at Christ’s coming, the Church of Jesus Christ of Latter-day Saints proclaims that this earth will become the personal abode of the resurrected Christ and those who follow him—literally becoming heaven on earth.

These two contrasting predictions of the fate of our planet in the last days generate in turn two very different views of our need to care for our earth. Perhaps there is less incentive to protect the planet for those who assume that the world was miraculously produced in a few days and which will ultimately become the abode of the wicked. After all, if we trash this planet, God could always pull another one out of a hat. Furthermore, why protect a place that is soon destined to be completely destroyed? Such sentiments were

Argument from design	Argument from history
1. Ex nihilo creation	1. Elements eternal
2. Seven-day creation	2. Long periods required for creation
3. Creation miraculous	3. Natural laws obeyed
4. Creator arbitrary, solitary	4. Creation planned, cooperative
5. Man contingent on God	5. Man coeternal with God
6. Earth inanimate	6. Earth has a spirit
7. Religion opposed to science	7. Religion consistent with science
8. Rapture: Righteous to be taken from earth	8. Zion: Righteous to return to earth
9. Earth abode of wicked	9. Earth to become celestial

Table 1. The origin and fate of the earth according to the argument from design and the argument from history

articulated by a former secretary of the interior, who argued during his Senate confirmation hearings that there is little need for environmental protection. “My responsibility is to follow the Scriptures which call upon us to occupy the land until Jesus returns. We don’t have to protect the environment, the Second Coming is at hand.”¹⁸

This secretary of the interior believed at the time that Jesus would come within “twenty years or so,” which was not an unreasonable claim for a millennialist in 1981. Obviously, though, his timing of the Second Coming was off, and we, as well as future generations, will likely regret decisions that failed to conserve precious wildlife and beautiful natural areas of this earth.

I concede that perhaps a Latter-day Saint could take a similar anticonservation stance based on our belief that the “earth will be renewed and receive its paradisiacal glory” (Articles of Faith 1:10), particularly if it is assumed that this renewal process will be automatic, instantaneous, and miraculous.

However, having worked the last six years in what is arguably the most beautiful—and certainly the largest—tropical botanical garden on earth, I suspect that the “renewal” process will require as much careful, dedicated work as the original planting of the Garden of Eden. Gardens, by definition, are planted and cultivated in a manner different from their surroundings, which is why Adam and Eve after their transgression were forcefully ejected from the Garden of Eden rather than being allowed to remain in place while the garden decayed around them. In fact, the Lord installed a rather unique security patrol to prevent their reentry! (see Moses 4:31, Alma 42:2–3). The National Tropical Botanical Garden, which has been compared to the Garden of Eden, requires a tremendous effort by teams of trained gardeners to “dress and keep” the gardens (see Genesis 2:15). If my understanding of the tenth article of faith is correct—that the entire earth will be renewed in some degree to resemble the Garden of Eden—then perhaps gardening and horticulture will be real growth industries among members of the Church.

In any case, our tenth article of faith explicitly states that “Christ will reign personally upon the earth.” If you knew that the Savior was personally coming to your home at some future date, wouldn’t you want to clean it up, plant some flowers and shade trees, and do whatever you could to make it more attractive? Isn’t it interesting in the context of this symposium how modern-day prophets from Joseph Smith to Gordon B. Hinckley have encouraged us to beautify our homes, treat wildlife with respect and kindness, and do whatever we can to help prepare ourselves and the earth for the Millennium?

Sometimes we are asked to take tangible steps to improve our communities. I recently had the opportunity to help plan the restoration of Hale La’a Boulevard, the road that leads from the sea to the entrance of the temple, in Laie, Hawaii. As I looked out from the front portico of the temple along Hale La’a to the ocean, the thought of extending the temple grounds and the positive influence of the Lord’s house clear to the beachfront came to my mind. For confirmation, I went to the home of a very spiritual Tongan man I know, Sione Feinga, and asked him to return with me to the same spot. There he saw in his mind’s eye the same vision I had for the road, and so both of us met with then temple president Richard Clarke, who felt impressed that we were on the right path. However, the logistical problem we immediately faced concerned the two rows of majestic royal palms—*Roystonea regia*—that parallel the linear fountain that leads to the temple door. Royal palms are slow growing and very difficult to obtain as mature specimens. Even when mature specimens of royal palms can be purchased, they are few in number and extraordinarily expensive. How could we possibly find and purchase numerous ten-meter-tall royal palms for Hale La’a Boulevard? After struggling with various botanical alternatives, we stumbled upon—in what I consider to be a botanical miracle—a small plot of land within several kilometers of the temple that had growing on it over 220 massive royal palm specimens. The owner of the

land agreed to sell them to the Church at a very modest price. Imagine how I felt as I sat as a fly on the wall in the back of the First Presidency conference room in Salt Lake City to hear President Gordon B. Hinckley articulate the same vision and sense of purpose for Hale La'a Boulevard that my Tongan friend and I had previously sensed. The restored Hale La'a Boulevard will be finished and dedicated prior to the publication of this volume. My point is that Hale La'a Boulevard, which will be one of the most beautiful roads in all of Hawaii, required a tremendous effort of skilled surveyors, landscape architects, gardeners, plumbers, electricians, road pavers, and many other tradespeople to vegetate and renew. As I think about our tenth article of faith, it is hard for me even to begin to contemplate the amount of work that will be required to renew the entire earth. If geophysics and astronomy were the lead sciences in the Creation, then surely restoration ecology will play a leading role in the Millennium. It seems to me that Latter-day Saints, of all people, should be conservationists—protecting the world's wild places, animals, and plants, while doing everything we can to beautify our own homes and communities.

Reverence for the Earth

Allow me now to ask forgiveness for expressing my admittedly personal views on the Creation of the world and our responsibilities to care for it. I typically do not do so in Church settings because we are taught that no scripture "is of any private interpretation" (2 Peter 1:20). Furthermore, in The Church of Jesus Christ of Latter-day Saints, only the First Presidency and Quorum of the Twelve—whom we sustain as prophets, seers, and revelators—are authorized to proclaim new doctrine or authoritatively interpret the scriptures for the entire Church. The gospel net is very large, and I am aware that many faithful members of the Church may have very different views concerning science and conservation than I have expressed here. As I mentioned at the beginning, I expect that there

will be many surprises for all of us when the Lord tells us exactly how He created the world, as well as when we are called to account as stewards "over earthly blessings, which I [the Lord] have made and prepared for my creatures" (D&C 104:13).

As members of the Church, we can all agree that the earth is sacred—indeed we teach that Jesus Christ Himself, in His premortal state, personally created the earth. As Paul taught the Colossians about Jesus: "For by him were all things created, that are in heaven, and that are in earth, visible and invisible, whether they be thrones, or dominions, or principalities, or powers: all things were created by him, and for him" (Colossians 1:16). Perhaps that is what Alma meant when he told Korihor that "all things evidence there is a God."

I have spent most of my recent summer vacations with my children photographing the terrestrial orchids of Grand Teton National Park. As a botanist and as a member of the Church, I marvel at the Lord's goodness and wisdom when I see these extraordinary little flowers. Many of these orchid photographs were taken by me lying in the trail while my nine-year-old Jane held the reflector and my 19-year-old daughter Hillary held my backpack. My other children, Emily, Paul, Matthew, and Mary have also shown great patience through the years while I photograph these tiny orchids, some of which are smaller than my thumbnail. Sometimes as I am focusing my camera, hikers step over me without even seeing the tiny flowers I am attempting to photograph. The beauty and exquisite harmony of these little flowers testify to me of the love of the Savior for His creation. Every time I look at one of these miniature floral displays I am reminded of Lord Alfred Tennyson's poem:

*Flower in the crannied wall,
I pluck you out of the crannies, I hold you here,
root and all, in my hand,
Little flower—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is.¹⁹*

Brothers and sisters, if we truly love the Artist, let us not slash His painting. President David O. McKay taught that if we are to be great, we must reverence Deity and all things associated with Deity. To the degree that we believe the earth is associated with Deity, we must reverence the earth itself.

Let me conclude with a brief personal note: as a scientist, I know that perhaps many of the understandings that we currently hold will likely be refined, refuted, or even rejected. But my testimony of the Church, which I received through spiritual means, is sure and everlasting. I cannot walk into the rain forest and listen to the gentle song of the birds or look at the light filtering through the leafy canopy above without feeling the Spirit of the Lord. As a biologist, my scientific understandings will hopefully advance and change, and certainly as a Latter-day Saint, my understanding of the gospel will grow as I continue to pray, study the scriptures, attend Church services, listen to the council of my local leaders, and read the inspired sermons of the apostles and prophets. I know, and am sure, that our Savior lives and that He loves us. He who created the heavens and the earth, He who created the great whales and the tiny flowers—He knows us individually and loves us deeply. I hope that you may experience the same whisperings of the Spirit that I have felt as you ponder this artistic masterpiece, this beautiful earth, that the Lord personally created. That great gift—a testimony of the Savior and His atoning mission—can come only through the ministrations of the Holy Ghost. As we reverence the Savior, let us treat His masterpiece with reverence and humility.



Notes

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2. William Paley, *Natural Theology or Evidences of the Existence and Attributes of the Deity Collected from the Appearances of Nature* (London: Richardson & Co., 1802), 9–11.
3. Paley, *Natural Theology*, 13.
4. Paley, *Natural Theology*, 13.
5. Paley, *Natural Theology*, 22.
6. St. Thomas Aquinas, *Summa Theological*, Part 1, trans. Fathers of the English Dominican Province (Benziger Bros. edition, 1947).
7. Saint Augustine, *The City of God*, trans. Marcus D. D. Dods (New York: Modern Library, 1950).
8. Joseph Smith, *Discourses*, comp. Alma P. Burton (Salt Lake City: Deseret Book, 1977), 39–40.
9. Smith, *Discourses*, 126.
10. Smith, *Discourses*, 98–99; see also 1 Corinthians 2:10–11, 14–16.
11. Paley, *Natural Theology*, 9.
12. NASA/JPL/Cornell: <http://marsrovers.jpl.nasa.gov/gallery/press/spirit/20040119a.html>.
13. Brigham Young, *Discourses of Brigham Young*, sel. John A. Widtsoe (Salt Lake City: Deseret Book, 1954), 258.
14. John A. Widtsoe, *Joseph Smith as Scientist: A Contribution to Mormon Philosophy* (Salt Lake City: Bookcraft, 1964), 49.
15. Widtsoe, *Joseph Smith as Scientist*, 51.
16. Smith, *Discourses*, 45–46.
17. Bruce R. McConkie, *Doctrinal New Testament Commentary* (Salt Lake City: Bookcraft, 1973), 3:51.
18. James Watt, Secretary of the Interior for Ronald Reagan, quoted in the *Washington Post*, May 24, 1981.
19. Alfred Lord Tennyson, *The Holy Grail and Other Poems* (London: Strahan, 1870), 204.