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Abstract Review of *Farewell to Eden: Coming to Terms with Mormonism and Science* (2003), by Duwayne R. Anderson.

SCIENCE VS. MORMONISM: THE DANGERS OF DOGMATISM AND SLOPPY READING

Robert R. Bennett

I have trouble understanding why people drift away from the Church. I'm sure the reasons are different and varied. I can understand if a person wants to misbehave and has to rationalize to himself. He has to think he's all right. But I also understand that people who think they have to be as smart as the Lord, understand everything, and have no contradictions in their minds may have trouble. There are all kinds of contradictions that I don't understand, but I find the same kinds of contradictions in science, and I haven't decided to apostatize from science.

In the long run, the truth is its own most powerful advocate. The Lord uses imperfect people. He often allows their errors to stand uncorrected. He may have a purpose in doing so, such as to teach us that religious truth comes forth "line upon line, precept upon precept" in a process of sifting and winnowing similar to the one I know so well in science.

Henry Eyring¹

1. Henry Eyring, *Reflections of a Scientist* (Salt Lake City: Deseret Book, 1983), 47.

Review of Duwayne R. Anderson. *Farewell to Eden: Coming to Terms with Mormonism and Science*. Bloomington, IN: 1st Books Library, 2003. xxx + 350 pp., bibliographical references, appendixes, and index. \$29.95 hardcover, \$22.95 paperback.

Duwayne R. Anderson is a former member of the Church of Jesus Christ of Latter-day Saints who decided that his understanding of Mormonism was incompatible with his understanding of science. *Farewell to Eden* is his attempt to show how the two are irreconcilable. It contains an interesting mixture of science—explained at roughly the level of *Scientific American*—and Anderson’s thin understanding of Latter-day Saint theology.

While serving as elders quorum president, Anderson began to question his faith. He read the Old Testament for the first time and learned that, according to the Pentateuch, Moses had ordered (under God’s direction) the slaughter of all the males of the Midianites whom they had conquered in war (Numbers 31:14–18). Anderson calls any “God” that demanded such actions a monster. He felt that his concerns with this passage in the Old Testament were not adequately answered by his church leaders.

Would a loving God command such a thing of his children? Is there a way to rationalize the command to destroy human life while maintaining a belief in the goodness of God? God obviously regards life and death differently than mortals. He gives a general prohibition against the taking of life—“thou shalt not kill” (Exodus 20:13)—and in fact classifies murder as the most grievous sin next to denial of the Holy Ghost.² However, he at times makes exceptions to this prohibition, as in the cases of Nephi slaying Laban and the armies of Israel being commanded to kill conquered peoples. It is not impossible to believe that God recognizes that mortality is but a step in an eternal existence, that all people will eventually die, and that he, as our creator, holds the right to determine the timing.

For Anderson, however, it appears that there is no possible exception to the prohibition against killing or no possible reason for God to order the deaths of people. All is black or white.

2. See, for example, W. Cole Durham Jr., “Murder,” in *Encyclopedia of Mormonism*, 2:970: “Murder is condemned in latter-day scripture just as it is in the Ten Commandments and numerous other passages in both the Old and the New Testament. The Doctrine and Covenants declares that ‘thou shalt not kill’ (D&C 42:18). The murderer ‘shall not have forgiveness in this world, nor in the world to come’ (D&C 42:18). In Latter-day Saint doctrine, murder is second in seriousness only to the unpardonable sin of blasphemy against the Holy Ghost.”

I finally decided that I simply had two choices. On the one hand, I could accept the story as written, and conclude that Moses was doing God's will. In this case, I would be forced logically to reduce God to a butchering monster. My second choice was to retain my concept of a benevolent God, full of goodness and virtue, and conclude that Moses was either a false prophet or that the historical record had been seriously corrupted. (p. xvi)

The fact that millions of people have read that identical scripture and still managed to maintain both a belief in a loving God and a belief in the prophetic mission of Moses seems beyond consideration for Anderson. That there could be a time, place, and circumstance in which God determined that it was in the best interest of his children to return the Midianite sons to him in the spirit world is simply impossible in Anderson's black-and-white world. This passage of scripture, of course, is not unique to Mormonism or even to Christianity. Three major faiths, comprising over three billion of the earth's population, regard Moses as a prophet and accept the Old Testament as the word of God. Anderson's argument is actually with all of Christianity, Judaism, and Islam.

Anderson started to "examine critically the church's conflicts with geology, physics, chemistry, and biology, and . . . [began] to realize that the church's position on many issues related to these branches of science are [*sic*] in direct conflict with well-established scientific facts" (p. xxi). He describes going to his stake president to discuss this issue, but "the scientific problems simply went over his head" (p. xxi). Anderson discovered that he no longer believed. He then read several books critical of the church, including Fawn Brodie's *No Man Knows My History*.³

The most immediate thing I learned from Brodie were [*sic*] the many details about Joseph Smith and church history that the church ignored, glossed over, or denied. I began to resent

3. Anderson claims that "the Church had taught me that Brodie was an evil apostate who had been seduced by the Devil" (p. xii).

what was emerging as a pattern of official intellectual dishonesty by the church and its apologists, in denying or sidestepping intellectual issues that conflicted with LDS doctrine. I began to see a pattern, and that pattern was one of deception. (p. xxii)

This is vintage anti-Mormonism—general accusations of “official intellectual dishonesty” against any and all who are not in agreement with a critic, without providing any detail for examination. Reputable scholars have disputed Brodie’s arguments, objecting, for example, to her tendency to declare what a long-since deceased person’s motives or thoughts must have been.⁴

Anderson then discusses his disillusionment with the Book of Mormon and its defenders. He specifically takes Hugh Nibley to task for “his continual habit of making arguments that are so broad they can be used to justify belief in virtually anything, including UFOs and little green men” (p. xxii). By associating him with “little green men,” Anderson attempts to make Nibley look absurd to the reader—without engaging any of his arguments. Of course, the reference to “little green men” is wholly Anderson’s invention. Nibley never said any such thing. Anderson goes on in his criticism of Nibley: “Basically, he argued that until someone manages to absolutely prove with no uncertainty at all that the Book of Mormon is false, then it has to be admitted that it could be true” (p. xxii). Once again, this is a gross mischaracterization of any argument that I’ve ever seen Nibley make, and I daresay he never made such an argument.

In another vein, Anderson conjectures that his life is in danger because of his apostasy. “Solemn priesthood brethren had taught me that those who apostatized from the LDS Church died mysteriously of awful diseases” (p. xxiii). Who are these “solemn priesthood brethren”? The closest I have ever heard to such teachings are some

4. One of the more entertaining discussions of some of the problems in Brodie’s work is Hugh Nibley’s “No Ma’am, That’s not History,” which is now included in Hugh Nibley, *Tinkling Cymbals and Sounding Brass: The Art of Telling Tales about Joseph Smith and Brigham Young*, ed. David J. Whittaker (Salt Lake City: Deseret Book and FARMS, 1991), 1–45.

accounts of the allegedly untimely deaths of those who participated in the murders of Joseph and Hyrum Smith.⁵ I have never heard that apostasy leads to death from awful diseases. Anderson cites nothing in Latter-day Saint publications to illustrate this charge. He struggles to put some stamp of official church sanction on these reported teachings by referring to their being spoken by “solemn priesthood brethren.” To the uninitiated, this sounds like official clergy of the church. In reality, though, the phrase *priesthood brethren* is synonymous with male church members over the age of eleven.

Anderson also claims to have been taught that, if he lost his testimony, he was evil and would lose his job, his wife, his children, his sanity, and his health. It would be consistent with church teachings to say that it is unlikely that the apostate would have his wife or children *after* this life, but Anderson seems to imply that the church teaches that these things will be lost in this life. Losing one’s family after this life should be utterly meaningless to an atheist such as Anderson since he believes there is nothing after this life.

The book is dedicated to Duwayne Marlo Anderson, a relative of the author who seems to have followed a similar path out of the Church of Jesus Christ. The author Anderson gives a rather strange account of the effects of Marlo’s name being mentioned in a family setting, which gives us significant insight into his own thought processes. He maintains:

Sometimes I’d overhear a conversation between adults in the other room, someone commenting that Marlo was “some big shot” working for the government on scientific equipment destined for a Mars mission. Some in the room would usually remain silent at the mention of Marlo’s name, and I could read in their silent expressions the pain of knowing that Marlo was a likely Son of Perdition. (p. xiii)

5. N. B. Lundwall, comp., *The Fate of the Persecutors of the Prophet Joseph Smith* (Salt Lake City: Publisher’s Press, 1952); see Dallin Oaks and Marvin S. Hill, *Carthage Conspiracy: The Trial of the Accused Assassins of Joseph Smith* (Urbana: University of Illinois Press, 1975).

Anderson apparently has the ability, by looking at their faces, to read the minds of those who remained silent, knowing by their expressions that they believed that Marlo was a likely son of perdition. Did anyone actually say this, or is Anderson simply ascribing his thoughts to others?

Anderson's explanation of the sons of perdition is illustrative of his tendency to misread Latter-day Saint scriptures and teachings:

In LDS theology a Son of Perdition is someone who has been a member of the LDS Church, known its doctrinal secrets, had the witness of the Spirit, and turned away from the Church. Such apostates are considered to be worse than the devil, and LDS scriptures describe them as being better off having never been born (see D&C 76:31–32). (p. xiii n. 1)

Language in Doctrine and Covenants 76 describes those who become sons of perdition, but Anderson has misread the text. It does not teach that simple apostasy from the church relegates one to being a son of perdition. The full text states:

Thus saith the Lord concerning all those who *know my power*, and have been *made partakers thereof*, and suffered themselves through the power of the devil to be overcome, and to *deny the truth* and *defy my power*—

They are they who are the sons of perdition, of whom I say that it had been better for them never to have been born;

For they are vessels of wrath, doomed to suffer the wrath of God, with the devil and his angels in eternity;

Concerning whom I have said there is no forgiveness in this world nor in the world to come—

Having *denied the Holy Spirit* after having received it, and having *denied the Only Begotten Son of the Father, having crucified him unto themselves and put him to an open shame.* (D&C 76:31–35)

To be a son of perdition requires more than a witness of the Spirit—they must have known God's power and been made partakers thereof.

Further, they must defy God’s power—not merely deny, but defy. Further, they must crucify Christ unto themselves and put him to an open shame. Joseph Smith taught:

All sins shall be forgiven, except the sin against the Holy Ghost; for Jesus will save all except the sons of perdition. What must a man do to commit the unpardonable sin? He must receive the Holy Ghost, *have the heavens opened* unto him, and *know God*, and then sin against Him. After a man has sinned against the Holy Ghost, there is no repentance for him. *He has got to say that the sun does not shine while he sees it; he has got to deny Jesus Christ when the heavens have been opened unto him, and to deny the plan of salvation with his eyes open to the truth of it; and from that time he begins to be an enemy. This is the case with many apostates of the Church of Jesus Christ of Latter-day Saints.*⁶

In this statement, Joseph Smith does not describe an apostate who simply leaves the church. Anderson displays a fundamental misunderstanding of Latter-day Saint doctrine.

What Is Mormonism?

In this first chapter, Anderson acknowledges the stress that church leaders place on education, yet states, “At the same time, while recognizing the church’s legitimate support of education and learning, it would be an equal mistake to ignore or deny the force with which the church opposes intellectual issues that the brethren consider threatening to the institution and/or its members” (p. 9). He leaves this statement unsupported. The reader is left to wonder what intellectual issues the Brethren supposedly oppose, and how exactly this opposition is manifest.

Anderson explains that the Saints are asked to speak in church services but adds the caveat that “only members who are perceived as

6. *Teachings of the Prophet Joseph Smith*, comp. Joseph Fielding Smith (Salt Lake City: Deseret Book, 1976), 358, emphasis added.

being uncontroversial are invited to speak” (p. 14). The bishop may assign a specific topic for the speaker, but in my experience there is no degree-of-perceived-controversy analysis for potential speakers. The Saints who teach and speak in sacrament meetings are encouraged to teach correct doctrine. Anderson views this as oppressive.

Anderson has a rather interesting perception of a term that the Book of Mormon uses—the “church of the devil”; he claims that the Book of Mormon “describes how all churches except the LDS Church constitute the great and abominable church of the devil” (p. 15). This represents an extremely narrow reading of the Book of Mormon and is inconsistent with the manner in which church leaders from the beginning have described other churches. Can Anderson come up with a quotation from one of the prophets asserting that “all churches except the LDS Church constitute the great and abominable church of the devil”? I’ve certainly not seen one. Generally speaking, leaders are quite complimentary of the Protestant Reformers, seeing their work as a necessary step in laying the foundation for the restoration.⁷ In a discourse delivered in Rexburg, Idaho, on 17 August 1884, President John Taylor reviewed the accomplishments of Martin Luther and his able coworker Philipp Melancthon and acknowledged that they performed their labors under the influence of the Spirit of God: “They were good men. They sought to do good, and did do good; for he that doeth righteousness is righteous. They followed the leadings of that portion of the Spirit of God which is given to all men to profit withal. They operated in the interests of humanity.”⁸

In his book, Anderson presents his own hierarchy of doctrinal authority in the Church of Jesus Christ (pp. 16–17):

1. General conference addresses (by General Authorities)
2. Church magazine articles by General Authorities

7. For example, see Thomas S. Monson, “Led by Spiritual Pioneers,” *Ensign*, August 2006, 3; Joseph B. Wirthlin, “The Restoration and Faith,” *Ensign*, January 2006, 32–34; Gordon B. Hinckley, “At the Summit of the Ages,” *Ensign*, November 1999, 73.

8. John Taylor, in *Journal of Discourses*, 25:264. This example could be multiplied manifold and hardly represents a belief that all who are not Latter-day Saints are part of the church of the devil.

3. The words of living General Authorities
4. The Book of Mormon, Doctrine and Covenants, and Pearl of Great Price
5. The Bible
6. Sermons by General Authorities to local members
7. Sermons by local leaders (inconsequential)

Anderson includes a note explaining why he places the standard works as number 4 and not higher. “Mormons will say (and honestly believe) that they hold their scriptures as being more authoritative than pronouncements by their apostles and prophets. In practice, however, it doesn’t work that way” (p. 17 n. 17).

According to Anderson, since prophets and apostles interpret the scriptures, their words carry more weight than the scriptures themselves. Anderson’s example to illustrate his point is fallacious in that it relies on a misreading of the Book of Mormon: “Even though the Book of Mormon seems to condemn polygamy (see Jacob chapters 1 and 2), the LDS Church practiced it under the direction of the General Authorities” (p. 17 n. 17). Anderson has simply misread the Book of Mormon. Jacob condemns the unauthorized practice of polygamy:

Behold, David and Solomon truly had many wives and concubines, which thing was abominable before me, saith the Lord. . . .

Wherefore, my brethren, hear me, and hearken to the word of the Lord: For there shall not any man among you have save it be one wife; and concubines he shall have none;

For I, the Lord God, delight in the chastity of women. And whoredoms are an abomination before me; thus saith the Lord of Hosts. (Jacob 2:24, 27–28)

This seems to be where all those seeking to condemn the church’s practice of polygamy stop reading. If they were to read verse 30, they would discover qualifying language: “For *if I will*, saith the Lord of Hosts, raise up seed unto me, *I will command my people; otherwise they shall hearken unto these things*” (Jacob 2:30). If the Lord commands polygamy, it is acceptable to him. Thus the position of the

nineteenth-century church in practicing polygamy is completely consistent with the Book of Mormon and Anderson's is a false contradiction. Living prophets can instruct the members of the church when practices should be changed. Nevertheless, the scriptures continue as the standard by which doctrines and practices are judged.

In a section titled "Hidden doctrines," Anderson asserts that the Brethren are not open about the teachings of the church and that "one cannot simply trust Mormons to be particularly forthcoming about what the church teaches" (p. 25). He attacks President Gordon B. Hinckley in his oft-quoted discussion of the teaching that God was once a man in an interview with the *San Francisco Chronicle*, 13 April 1997. If there was ever a case of making a man an offender for a word, this is it. The damning citation is as follows:

Q [SFC]: There are some significant differences in your beliefs. For instance, don't Mormons believe that God was once a man?

A [GBH]: I wouldn't say that. There was a little 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. (p. 22)

Anderson then quotes several church publications that discuss the doctrine that God was once a man and claims that President Hinckley is "minimizing the doctrine" (p. 22); Anderson uses this as an example of the church hiding its doctrines. The publications Anderson cites are certainly available to anyone who is interested. A better question might be—is an interview with a newspaper really the place to go into the significance of this couplet? President Hinckley merely indicated that we do not know very much about these matters. In the King Follett funeral discourse, Joseph Smith taught that God had a mortal existence. But that is about all we know. In fact, Joseph intimated that God's mortal existence was similar to Christ's rather than to the typi-

cal human's.⁹ To insist that President Hinckley's preference to refrain from discussing an idea about which we know very little with a newspaper reporter somehow amounts to hiding doctrines seems a significant distortion.

What Is Science?

Anderson offers a definition of science for the purpose of contrasting it with Mormonism. He describes science as "a way of thinking that begins by assuming the universe is knowable and that we can understand it by study, experimentation, and observation" (p. 27). He strives to describe the scientific method and some of the achievements of science; he elaborates on the application of scientific theories, which has given us "faster ships, rockets, . . . computers, . . . and vaccines." He then concludes that "nobody can deny the practical and verifiable success of the scientific process. In short, we have faith in the philosophy of science because it produces such spectacular results" (p. 30).

Anderson claims that "science is based on observations that are verified by other, critical experimenters. Mormonism is based on revelation that is accepted by faith, and not generally, reliably, or universally verifiable by independent and critical observers" (p. 40). Whatever one might think of this assertion, it does not preclude the truthfulness of Mormonism. In matters of faith, what constitutes an "independent critical observer"? One that has no faith? If faith is a necessary part of obtaining a witness of the spirit, can one without faith conduct an independent assessment? Certainly tens of thousands of people each year claim to have received a confirmation of the truthfulness of the Book of Mormon.

9. See, for example: "As the Father hath power in Himself, so hath the Son power in Himself, to lay down His life and take it again, so He has a body of His own. The Son doeth what He hath seen the Father do: then the Father hath some day laid down His life and taken it again" (*Teachings of the Prophet Joseph Smith*, 312); and "The Scriptures inform us that Jesus said, As the Father hath power in Himself, even so hath the Son power—to do what? Why, what the Father did. The answer is obvious—in a manner to lay down His body and take it up again. Jesus, what are you going to do? To lay down my life as my Father did, and take it up again. Do we believe it? If you do not believe it, you do not believe the Bible." (*Teachings of the Prophet Joseph Smith*, 346).

He also asserts that “science has no sacred principles that cannot be questioned. Mormonism is based on certain sacred principles, the questioning of which is socially taboo, resisted, sometimes punished, and viewed as personal weakness to be overcome” (p. 40). This assertion is not true. I would dispute the notion that the principles of science can be freely questioned without social consequences. Attempts to question fundamental scientific theories have been met with derision, hostility, and personal attacks. Here, as in other places in which Anderson attacks the Church of Jesus Christ, no references are provided to back up the accusations.

Anderson further maintains that “critical, skeptical thinking is central to science, fostered, encouraged, and often rewarded in terms of the quality of work performed. Mormonism resists and sometimes punishes skeptical thinking, especially regarding core sacred principles” (p. 40). Again, the dichotomy is overstated in both directions. In practice, scientists do not always encourage and foster skeptical thinking, and the church does not necessarily resist or punish such thinking. It depends on the forum and the attitude.

And Anderson argues that “science demands that theories change or be discarded when they fail to describe observations. Mormonism demands faith in sacred principles whether or not they are in disagreement with observation” (p. 44). I would argue that Mormonism doesn’t *demand* anything. It teaches principles regarding man’s origins, destiny, and purpose; what constitutes good and evil; the nature of God; the role of Jesus Christ; and so forth. It provides a path for people who accept these teachings to attain and maintain membership in the Church of Jesus Christ. The church is not in a position to demand.

With these alleged differences between Mormonism and science in mind, Anderson attempts in subsequent chapters to show how Mormonism is incompatible with scientific observations.

Mormonism and the Science of Complexity

Anderson begins this chapter with a discussion of the Latter-day Saint concept of God, including the unique belief that God has a body

of flesh and bones and was at one time a mortal man who progressed in knowledge. But his understanding of Latter-day Saint scripture is rather tenuous. For instance, Anderson makes the following claim:

At times, though, the LDS concept of God seems positively inconsistent. For example, even though the Doctrine and Covenants clearly states that God has a physical body of flesh and bone, as tangible as man's, the Book of Mormon clearly states that God is a spirit:

“And Ammon began to speak unto him with boldness, and said unto him: Believest thou that there is a God? And he answered and said unto him that I do not know what that meaneth. And then Ammon said: Believest thou that there is a Great Spirit? And he said Yea. And Ammon said: This is God” (Alma 18:24–28). (pp. 48–49)

Anderson then explains:

Historians of Mormonism are likely to view Alma 18:24–28 and Doctrine and Covenants 130:22 as illustrative of the evolution of Joseph Smith's concept of God. Latter-day Saints, on the other hand, are likely to explain Alma 18:24–28 as e[ither a reference to the Holy Ghost, or possibly as Alma speaking in a language that the Lamanites could understand; basically giving them “milk” before “meat.” (p. 49)

Alma 18:24–28 is a particularly poor choice of scriptures to use to define the Latter-day Saint concept of God and to show a contradiction to other scriptures. First, this is not a doctrinal sermon, but simply an account of a missionary (Ammon, not Alma, as Anderson mistakenly claims) and an investigator (King Lamoni) seeking common ground for a discussion. Second, part of what Anderson claims as a possible Latter-day Saint explanation (speaking in a language the Lamanites could understand) is actually quite reasonable. This is an account of a Nephite missionary speaking to a person unfamiliar with the Nephite concept of God. When Lamoni is not sure what Ammon means by the question, Ammon reframes it in terms that Lamoni can

understand. Third, it would be helpful if Anderson engaged the actual statements that Latter-day Saint scholars make about this and other topics rather than invent likely explanations. I personally know of no Latter-day Saint who ever claimed that Ammon was referring to the Holy Ghost in this passage. Finally, outside of Ammon's attempt to speak in a language that Lamoni could understand, this scripture is actually doctrinally correct without the need to reference the Holy Ghost. In Latter-day Saint doctrine, Jehovah, the God of Abraham, Isaac, and Jacob (and Nephi, Alma, and Ammon) is identical to Jesus Christ. A simple glance at the bottom of page 255 in the current edition of the Book of Mormon will show that Ammon's missionary work to the Lamanites occurred in approximately 90 BC, at which time the premortal Christ was, indeed, a "Great Spirit."

None of these explanations is acceptable to Anderson. Instead, he portrays Latter-day Saints as either inconsistent in their doctrine or simply dishonest. A footnote to the milk-before-meat sentence above once again impugns the honesty of Latter-day Saints: "This explanation further illustrates the justification held within the LDS Church of not always being totally honest and forthcoming about doctrines espoused by the Church" (p. 49 n. 32). Shall we also accuse mathematicians of not always being totally honest and forthcoming when they refrain from teaching sixth graders the principles of calculus? Are chemists dishonest when they describe atoms to their beginning chemistry students as planets (electrons) rotating around a star (nucleus), completely failing to mention the particle wave duality of electrons and the fact that the electrons' locations are best described by a probability function—concepts students will understand only after considerable additional education?

Further, Anderson betrays a fundamental misunderstanding of the nature of the Holy Ghost. He states:

LDS doctrine, then, teaches that God the Father and Jesus Christ are literally two individual men with physical bodies. These bodies are described as being similar to ours in shape and in size. As such, God the Father and Jesus Christ occupy a finite amount of space. The Holy Ghost, though, is a spirit,

and through means not described in detail apparently can permeate space. (p. 50)

Actually, Latter-day Saint doctrine teaches that the Holy Ghost is a personage of spirit. It is also clear in Latter-day Saint doctrine that a personage of spirit cannot permeate space. A personage of spirit occupies a specific physical space every bit as much as a person of flesh and bones, as shown by Christ's great revelation to the brother of Jared in which he showed him his spirit body (see Ether 3:16). This spirit body was the same size and shape as his physical body. Anderson confuses the physical location of God (or the Holy Ghost) with his influence. The light of Christ is indeed understood to permeate all space (D&C 88:7–12), despite the fact that Christ himself occupies a finite space. Similarly, the Holy Ghost can influence people across the earth without his spirit body actually being present.

According to Anderson, Latter-day Saint doctrine proclaims that God and Christ (and indeed all resurrected beings) have physical bodies that exist within our universe. Anderson uses the doctrine of the physical nature of God and the finite dimensions of his brain to theorize that a brain of this finite dimension could not possibly be omniscient because of the impossibility of storing that much information in so small a space. Even granting the possibility of a planet-sized Urim and Thummim to aid God in storing information (referencing D&C 130:1–10), Anderson insists that this is insufficient storage space for all knowledge. He thus believes that he has demonstrated the impossibility of the Latter-day Saint concept of God. Personally, I am unwilling to take the position that I understand enough about every possible realm of existence and every possible method used by God to know all things to make this rash claim. It seems the ultimate arrogance for man to assume that because he cannot comprehend how such a thing could be, given his understanding of the universe, such a thing cannot be.

It is true that God is a physical being, according to the Latter-day Saint doctrine of God, but it is also true that Latter-day Saints believe that God is a spiritual being and that he has a glory far beyond that comprehensible to mortal man. Indeed the glory of God is such

that mortal man cannot survive his presence without a quickening or translation from his current state (see Moses 1:2, 9–11). Anderson never addresses this part of Latter-day Saint theology but instead assumes that God's body consists of nothing more than standard protons, electrons, and neutrons, of which we have a relatively complete understanding.

The final twenty pages of the third chapter are devoted to a fairly detailed discussion of quantum mechanics and the Heisenberg uncertainty principle. Briefly, this principle states that a particle's momentum and position cannot both be known precisely at a given instant and that there is an inherent uncertainty in these values that is not the result of our inability to measure precisely, but rather a property of matter in our universe. This discussion is all fairly standard physics and would not likely be disputed by any Latter-day Saint scientist. However, Anderson then uses the Heisenberg principle as proof that God cannot possibly know all things. "Quantum physics prohibits it. Deterministic nonlinear chaos prohibits it. This represents, I think, one of the most significant conflicts between Mormon doctrine and modern science" (p. 74).

Anderson is really stretching here. He ignores the Latter-day Saint belief that there is a whole realm of spiritual existence beyond the measuring capabilities of mortal man-made devices. How does spirit matter (D&C 131:7–8), for example, interact with physical matter? What does "the glory of God" mean in a scientific sense? What sorts of laws govern spirit matter and spirit beings? It is illogical to postulate that the Latter-day Saint concept of an omniscient God is impossible because he has a physical nature and the laws of physics prohibit all things being known, while ignoring the Latter-day Saint concept of the spiritual nature of all things. It fails to account for all the data and thus goes against the very philosophy with which Anderson is so enamored. If Latter-day Saint theology stated that there is nothing in the universe beyond that which our senses can detect, then Anderson might have grounds for his argument. But that is not the case. Latter-day Saint belief in a spirit realm beyond our physical realm and senses can be neither proved nor disproved using scientific methods. A

Latter-day Saint scientist will seek to use the scientific method to better understand the physical universe and leave the spiritual realm to other methods.

Mormonism and Astronomy

Much of chapter 4 is devoted to Anderson's interpretation of astronomy in Abraham 3 and the possibility of extraterrestrial life. Latter-day Saints believe that God has created numerous other worlds besides the earth and has placed his children upon them. Anderson describes the attempts scientists on earth have made to detect extraterrestrial life and suggests: "If there really are extraterrestrials out there, and they are transmitting electromagnetic radiation into space, we ought to be able to detect them" (p. 108). He further affirms that "intelligent life should be able to spread through the universe on a timescale that's short compared with the life of the universe. So if there's intelligent life somewhere, it should be everywhere, and we should have met or heard from them by now. So the fact that, after all our searching, we haven't contacted extraterrestrials suggests strongly that there are *none*" (p. 109).

This is a very bold statement resting solely on conjecture. Many scientists have argued that we are unlikely to encounter extraterrestrials simply because the distances between stars are so vast as to make interstellar travel impractical. Anderson also fails to take into account the length of time that would be required for signals from extraterrestrials to reach the earth. There could well be civilizations such as ours sending electromagnetic signals off into space as we are, but if their technology was acquired more recently in time than they are light-years away, we wouldn't be able to detect them yet. To state, as Anderson does, that the fact that we haven't yet contacted other civilizations from other worlds strongly suggests that they don't exist seems premature.

Anderson attacks the Book of Abraham because of its focus on the rates of rotation of heavenly bodies (see, for example, Abraham 3:4–10) and because it calls bodies with slower rotations greater than

those with more rapid rotations. He even carries the argument to man-made satellites:

It's easy to make a satellite artificially, for example, that does not rotate at all. In fact, the Hubble space telescope is such a satellite. For very precise astronomical observations it must point directly at a particular part of the sky with exact precision (without rotating) while its instruments image stars and galaxies. Using Joseph Smith's criterion, which equates greatness with slow rotation, we'd have the odd conclusion that such a satellite would be greater than the greatest star in the universe. (p. 111)

Aside from the fact that Anderson is stretching the analogy here, since the Book of Abraham is speaking of the creations of God, not of man, he really doesn't even have the science right. The Hubble telescope Web site reveals that the telescope is hardly stationary in space. The Hubble site discusses the difficulty of keeping the telescope pointed in the direction of interest:

Imagine trying to take a picture of someone from a seat on a moving Ferris wheel. You'd have a hard time keeping that person in the camera's field of view. Astronomers using Hubble have to take this concept to the extreme. Their "camera" is revolving around Earth at 17,500 mph . . . and the Earth is moving around the Sun at 67,000 mph.¹⁰

The telescope is thus constantly being adjusted to compensate for its rapid revolution around the earth, and the analogy, already tortured, simply falls apart.

Anderson never really addresses what the Book of Abraham may mean when referring to some heavenly bodies being greater than others. While it does connect rate of revolution with greatness, it doesn't really spell out what that means, other than the rate of revolution or the reckoning of time. The Book of Abraham refers to the moon (the

10. See hubblesite.org/sci.d.tech/team_hubble/operations/ops3.shtml (accessed 22 August 2006).

lesser light to rule the night) as being “above or greater than that upon which thou standest in point of reckoning, for it moveth in order more slow” (Abraham 3:5). It isn’t clear exactly what the Book of Abraham means regarding greatness other than what it spells out—the rate of revolution and therefore the reckoning of time on a celestial body. Anderson insists on a reading that is not obvious from the text and interprets it in a way that makes it look as bad as possible for the Latter-day Saint scriptures.¹¹

Mormonism and Geology

Anderson explains what science has discovered about the history of the earth and its origins and then contrasts this with his understanding of Latter-day Saint doctrine. Again, his argument isn’t so much with Mormonism here as it is with anyone who believes the book of Genesis to be a literal account of the creation of the earth. Anderson’s actual argument is with his own literal interpretation of Latter-day Saint scriptures and his own application of that interpretation as broadly or as narrowly as he chooses.

For example, Anderson provides a table comparing the creation accounts from the Book of Moses and the Book of Abraham and discusses aspects of them (p. 120). He claims that

One of the first things the astute reader notices in the creation accounts of Moses and Abraham is the lack of internal logical consistency. For example, Abraham 4:1–2 says:

“And then the Lord said: Let us go down. And they went down at the beginning, and they, that is the Gods, organized and formed the heavens and the earth. And the earth, after it was formed, was empty and desolate, because they had not formed anything but the earth; and darkness reigned upon

11. For some Latter-day Saint viewpoints on the concepts of astronomy as taught in the Book of Abraham, see John Gee, William J. Hamblin, and Daniel C. Peterson, “‘And I Saw the Stars’: The Book of Abraham and Ancient Geocentric Astronomy,” and Michael D. Rhodes and J. Ward Moody, “Astronomy and the Creation in the Book of Abraham,” both in *Astronomy, Papyrus, and Covenant*, ed. John Gee and Brian M. Hauglid (Provo, UT: FARMS, 2005), 1–36.

the face of the deep, and the Spirit of the Gods was brooding upon the face of the waters.”

Notice that, in verse 1, the gods are depicted as organizing the heavens and the Earth, and in verse 2 the argument is given that the Earth was “empty and desolate” because the God’s [*sic*] had not “formed anything but the earth.” Yet the story had just described that the heavens had been organized, and Facsimile 2 states the [*sic*] Kolob was the first creation (not Earth), so the story, and its sequence of events, is inconsistent. (p. 121)

The inconsistency here is entirely of Anderson’s making, based completely on his reading of the scripture. Should we really insist that the account of the creation of *this earth* in Abraham 4 (as it clearly is from the remainder of the chapter) has anything to do with the creation of the rest of the universe? Does the statement “And the earth, after it was formed, was empty and desolate, because they had not formed anything but the earth” necessarily apply to the entire universe? The sentence itself indicates that it is only referring to the earth.

It is often quite helpful to look at other scriptures when attempting to understand which interpretation of a particular passage makes the most sense. The Book of Moses gives an account of Moses’s vision of the earth’s history and of a conversation Moses had with God. The Lord told Moses,

And worlds without number have I created. . . . But only an account of this earth, and the inhabitants thereof, give I unto you. For behold, there are many worlds that have passed away by the word of my power. And there are many that now stand, and innumerable are they unto man. (Moses 1:33, 35)

Here God clearly specifies that this earth is neither the first nor the last of his creations. This is consistent with Abraham’s placing the creation of Kolob prior to that of this earth and with the understanding that the creation account given in Abraham 4 describes only the creation of this earth. The inconsistency only comes with Anderson’s

insistence that a verse describing the creation of the earth is really describing the creation of the universe.

There have been many attempts both by Latter-day Saints and other believers in Genesis to reconcile the scriptural account of the creation with the theories of science. None, as far as I am concerned, has been completely successful. One problem may be that they are trying to assign to the scriptures the same strictly literal chronological precision demanded by science, a claim that the scriptures themselves do not necessarily maintain.

Mormonism and Biology

Anderson's argument in this chapter is not so much with Mormonism but with creationism—the belief that God had a hand in creating the earth and its inhabitants. While he specifically attacks anyone who doesn't fully accept the theory of evolution, his implication is that anyone who believes in God is quite ignorant of science.

As is typical in this book, Anderson fails to engage in any meaningful way thoughtful scientists, whether Latter-day Saint or not, who believe in the existence of God and that God played an active part in the creation of the world and the life thereon. As with other chapters, Anderson spends most of his time giving a primer on one aspect of science (in this case evolution and the structure of DNA) and then contrasting that with statements from various Latter-day Saint General Authorities.

Anderson prefers the theory of evolution to explain life on the earth in all its complexity and goes into some detail to explain why the diversity of life is consistent with the theory of evolution as it has developed over the past century or so. Where I believe Anderson makes his mistake is that, along with thousands of atheistic scientists like him, he assumes that because it is possible to explain life on the earth through the theory of evolution, without bringing God into the equation, this is the only or even the best explanation. While creative evolutionists have come up with various naturalistic reasons why these types of changes occurred, there is nothing to prove that God didn't have a hand in the direction and magnitude of these changes. The

problem is that the naturalistic evolutionist begins with the premise that all changes in nature are explainable by natural laws, without the need to invoke the divine. Thus, any explanation proffered will naturally exclude any type of divine intervention. But in the end, all that remains is a theory developed to explain a set of observations. There is no proof, and likely none possible, to show that God did or did not direct the development of species.

Anderson himself admits that not all of the details of the theory of evolution have been filled in:

While the general forces that drive evolution are understood, factual, and non-controversial, there are many details that apply to local situations, and are not fully understood or agreed upon. Roughly 100 years after Darwin we are still working through the details of exactly what the theory of evolution is all about. (p. 217)

After saying this, Anderson goes on to bolster the theory of evolution by observing that virtually all scientists believe it to be correct, despite disagreements on the particulars, and thereby seems to anticipate any potential detractor's arguments that there are holes in the theory. That said, it still appears to me that belief in the theory of evolution requires a certain faith. All the answers are not yet there. The evolutionist simply has faith that they will be there some day.

In the end, I cannot accept the atheistic assertion that there is no ultimate purpose to life and that the wondrous diversity of life we see all about us, and indeed in mankind itself, is simply a chance occurrence of randomly changing DNA molecules. I cannot accept that the beauties and glories of life are simply due to some fortunate combination of molecules under the right circumstances. Anderson cites as evidence against divine direction such examples as junk DNA—DNA that appears to be left over from previous evolutionary processes and that no longer serves any useful purpose. While that is certainly one possible explanation or conclusion that could be drawn, is it really the only one? Anderson makes final pronouncements on topics such as evolution, while at the same time recognizing that the picture is still

incomplete. He presumes that if he can't think of a good reason for God to act in a certain way, there must be no God at all.

Mormonism and Archaeology

In my opinion, this chapter is the weakest in the book. Much of Anderson's dispute with Mormonism is dependent on his broad (geographical and temporal) reading of certain Book of Mormon passages. For example, he claims that

The idea of America as a promised land, reserved exclusively for those who worship Jesus Christ and preserved as an inheritance for God's chosen people, is a fundamental and persistent theme throughout the Book of Mormon. [Ether 2:9–12 is then quoted.] (p. 225)

This seems rather an odd statement since the Book of Mormon itself describes many people who do not worship Jesus Christ but who inhabited the continent nonetheless. As a matter of fact, it claims that, with the destruction of the Nephites, none save Moroni (and perhaps the three Nephites) is known to worship Christ. Since the Book of Mormon places the destruction of any in the Western Hemisphere who claimed to be Christian at around AD 400, we have at least an additional 1100 years prior to the coming of Christians to the New World during which distinctly non-Christian peoples possessed the whole of the Americas.

Another broad reading leads Anderson to state,

According to the Book of Mormon, the ancient American continent was populated by three different migrations of people who traveled by ship from the Old World to the western hemisphere. (p. 225)

While it is certainly true that the Book of Mormon identifies only these three groups specifically as coming to the Western Hemisphere, it by no means declares that these groups were exclusive—that they were the only peoples ever to come to the Americas anciently. The Book of Mormon is essentially silent regarding others whom the

Jaredites, Mulekites, and Lehites might have found once they arrived. However, several scholars have pointed out passages in the text of the Book of Mormon that suggest the presence of others.¹² Book of Mormon descriptions of early wars when the Lehite population couldn't have consisted of more than a hundred or so adults, of people seeking riches, of polygamous relationships in Jacob's day, and of Sherem's apparent lack of acquaintance with Jacob all speak of a larger population than could have been derived from Lehi's group.

In his discussion of the journeys of the Jaredites, Anderson conflates the accounts of their travels through the Old World with their journey to the New.

Upon entering their boats for the yearlong trip to the Promised Land, the people brought aboard all sorts of plants and animals from the Old World:

“And it came to pass that Jared and his brother, and their families, and also the friends of Jared and his brother and their families, went down into the valley which was northward, (and the name of the valley was Nimrod, being called after the mighty hunter) with their flocks which they had gathered together, male and female, of every kind. And they did also lay snares and catch fowls of the air; and they did also prepare a vessel, in which they did carry with them the fish of the waters. And they did also carry with them deseret, which, by interpretation, is a honey bee; and thus they did carry with them swarms of bees, and all manner of that which was upon the face of the land, seeds of every kind” (Ether 2:1–3). (p. 227)

The problem with this citation is that it is not a description of what the Jaredites took with them to the New World but what they took as they journeyed across the Old. Ether 2:5–6 gives a brief description of these travels (most assume across Asia):

12. See, for example, John L. Sorenson, “When Lehi’s Party Arrived in the Land, Did They Find Others There?” *Journal of Book of Mormon Studies* 1/1 (1992): 1–34.

And it came to pass that the Lord commanded them that they should go forth into the wilderness, yea, into that quarter where there never had man been. And it came to pass that the Lord did go before them, and did talk with them as he stood in a cloud, and gave directions whither they should travel.

And it came to pass that they did travel in the wilderness, and did build barges, in which they did cross many waters, being directed continually by the hand of the Lord. (Ether 2:5–6)

While they travel across many bodies of water in this journey, they do not cross the ocean. When verse 13 picks the narrative back up, the Jaredites have arrived at the seashore, where they spend four years:

And now I proceed with my record; for behold, it came to pass that the Lord did bring Jared and his brethren forth even to that great sea which divideth the lands. And as they came to the sea they pitched their tents; and they called the name of the place Moriancumer; and they dwelt in tents, and dwelt in tents upon the seashore for the space of four years. (Ether 2:13)

It is only after their four-year sojourn on the seashore that they build additional boats to take them on their journey to the New World; these boats are compared to the barges that they had previously built, to which Anderson wrongly refers as submarines. (That they could be submerged under waves without sinking is true, but they are actually described as being “light upon the water” Ether 2:16.)

When Moroni finally gets back to the narrative of the Jaredites following his account of the brother of Jared’s encounter with the Savior, he gives a somewhat different description of what they took in the barges to cross the ocean:

And it came to pass that when they had prepared all manner of food, that thereby they might subsist upon the water, and also food for their flocks and herds, and whatsoever beast or animal or fowl that they should carry with them—and it came to pass that when they had done all these things they got aboard

of their vessels or barges, and set forth into the sea, commending themselves unto the Lord their God. (Ether 6:4)

This passage does not mention their carrying the fish or honeybees that they had carried in the Old World. While it could be argued that this is a minor point of error, I believe it is symptomatic of Anderson's careless reading of the scriptures (he exhibited similar sloppiness in his reading of Doctrine and Covenants 76 regarding the sons of perdition, as discussed above).

Anderson insists on Book of Mormon inconsistency when it is actually only his flawed reading of the text that leads to the contradiction. He claims:

Lehi's comments in 2 Nephi 1 also illustrate a point of logical inconsistency in the Book of Mormon, for although Lehi clearly states that the land had been kept "*as yet*" from other nations when he and his family arrived, Joseph Smith's later inclusion of the Jaredite nation (inserted out of sequence near the end of the Book of Mormon) clearly has the Jaredite nation hidden somewhere on the American continent when Lehi landed there. The confusion, no doubt, resulted from the elapsed time between Smith's dictation of Lehi landing, and his later decision to include the account of the Jaredites arriving from the Tower of Babel. (p. 230)

Anderson's reading and assumptions are simply flawed here. Nothing in Lehi's statements about the promised land require inclusion of the entire Western Hemisphere, any more than the Israelite's promised land of necessity included all of Europe, Asia, and Africa. It is rather unlikely that Lehi had any concept of the extent of the American continents when he arrived. The fact that there was a Jaredite nation some hundreds of miles to the north of his landing site does not negate his statements regarding the land that his family was to occupy. Certainly people have read Lehi's statements as being inclusive of all of North and South America, but that, like the hemispherical model for the Book of Mormon lands is simply not supported by the text. Throughout the Book of Mormon, a careful reading of the

text reveals that the “lands” that Nephite prophets describe can be no more than around two hundred miles wide and several hundred miles long. There is nothing to suggest that the Nephite writers had a continental concept in mind when writing.

Anderson’s assumption that Joseph Smith somehow forgot about the prophecies of Lehi when composing the book of Ether seems difficult to reconcile with the fact that while Joseph was allegedly forgetting whole chapters of prophecy regarding the New World, he managed to accurately recall dozens of geographical features of Nephite and Lamanite lands, all the time keeping them consistent with one another in terms of name, direction, elevation, and distance.

Anderson further compounds his misreading by dreaming up another explanation for this apparent inconsistency.

An alternate explanation is that Smith inserted the story about the Jaredites because he’d realized he’d made a mistake in 2 Nephi. According to the Book of Mormon, when Lehi and his family arrived in the Promised Land there is the implication that they found domesticated animals:

“And it came to pass that we did find upon the land of promise, as we journeyed in the wilderness, that there were beasts in the forests of every kind, both the cow and the ox, and the ass and the horse, and the goat and the wild goat, and all manner of wild animals, which were for the use of men. . . .” (1 Nephi 18:25).

Notice that the Book of Mormon mentions both goats *and* wild goats, which might imply that there were domesticated animals that had gotten [loose] and were running around when Lehi arrived in the Promised Land. Having realized this earlier error, Smith may have invented the Jaredite nation as a means of trying to fix the problem. Unfortunately, however, he forgot to go back and fix Lehi’s prophetic statement in 2 Nephi 1:8. (pp. 230–31, emphasis in original)

Again, any problems here are entirely of Anderson’s making and are based on his insistence on reading Lehi’s prophecy as encompassing all

time periods and an entire hemisphere. Like many other anti-Mormon writers, he claims to see an error in the text by forcing a certain interpretation on it, and then attempts to read Joseph Smith's motives for writing the misread text.

First Nephi 18:25 has been used as evidence for the presence of others in the Americas prior to Lehi's arrival. Nothing in the Book of Mormon precludes many people or nations in many parts of the Western Hemisphere sharing the continent with the Lehites. Second Nephi 1:8 only speaks of the *land* being kept from the knowledge of other *nations*. This prophecy doesn't even preclude people from living in the land of Lehi's landing, only *nations*. Nothing in the text would prevent the presence of people in villages possessing domesticated goats and losing some into the wilderness. But, to Anderson, this perfectly reasonable reading is at most a "long-shot" (p. 231 n. 118); the more likely explanation for him is that Joseph is simply covering up for earlier mistakes.

Anderson again errs in his basic ability to comprehend the text of the Book of Mormon in discussing the languages used by the Book of Mormon people.

The Book of Mormon also states that Lehi was able to read the Brass Plates only because he could read Egyptian (Mosiah 1:3–4). This combined with the fact that the Book of Mormon says the language of the people was preserved by the Brass Plates establishes the Book of Mormon claim that the ancient Americans used Egyptian. Later descriptions in the Book of Mormon describe the ancient Americans also using Hebrew, which illustrates yet another failure at internal consistency within the Book of Mormon, since the Book of Mormon is quite specific that the language which was preserved was the same as on the Brass Plates, which was Egyptian. (p. 233 n. 121)

Let's see what the Book of Mormon actually says and whether Anderson is accurate in his claim of inconsistency. Mosiah 1:3–4 states:

And he also taught them concerning the records which were engraven on the plates of brass, saying: My sons, I would that ye should remember that were it not for these plates,

which contain these records and these commandments, we must have suffered in ignorance, even at this present time, not knowing the mysteries of God.

For it were not possible that our father, Lehi, could have remembered all these things, to have taught them to his children, except it were for the help of these plates; for he having been taught in the language of the Egyptians therefore he could read these engravings, and teach them to his children, that thereby they could teach them to their children, and so fulfilling the commandments of God, even down to this present time.

Anderson fails to cite verse 2 in Mosiah 1, which asserts that King Benjamin “caused that they [his three sons] should be taught in all the language of his fathers, that thereby they might become men of understanding; and that they might know concerning the prophecies which had been spoken by the mouths of their fathers, which were delivered them by the hand of the Lord.” Although not explicitly stated, this verse actually implies that the “language of their fathers”—presumably Hebrew or Egyptian—was not the common language of the Nephites at this time, some 470 years after Lehi left Jerusalem. It appears that they had to undergo special training (caused to be taught) in this language so they could understand the prophecies that had been written.

Anderson’s statement that “the Book of Mormon claim[s] that the ancient Americans used Egyptian” is too broad and nonspecific. It would be better to assert that the Book of Mormon claims that some ancient Americans (possibly a rather small class of nobles in a relatively small geographical region) wrote in a modified (reformed) form of Egyptian.

The later verses to which Anderson is apparently alluding when claiming inconsistency between Hebrew and Egyptian, even though he doesn’t cite them, are Mormon 9:32–33:

And now, behold, we have written this record according to our knowledge, in the characters which are called among

us the reformed Egyptian, being handed down and altered by us, according to our manner of speech.

And if our plates had been sufficiently large we should have written in Hebrew; but the Hebrew hath been altered by us also; and if we could have written in Hebrew, behold, ye would have had no imperfection in our record.

I'm searching to find the “yet another failure at internal consistency within the Book of Mormon” that Anderson is claiming here. He seems to confound language with script. The verses in Mormon 9 describe two forms of script used by the Nephite record keepers—reformed Egyptian and Hebrew (also modified). It actually says nothing of the language used. It is also not unprecedented, nor even unusual, for the educated class of a people to be bilingual. It appears that in Anderson's mind if someone knows Egyptian, or at least how to write using the reformed Egyptian script, it is impossible or inconsistent that he also knows how to write using the Hebrew script. The meaning of the text is quite clear—Mormon had the option of writing his record in either reformed Egyptian or Hebrew, and he chose reformed Egyptian because it apparently required less space on the plates. There actually is no inconsistency, regardless of Anderson's claims.

Anti-Mormons have frequently attacked the Book of Mormon for its claim of coins in the ancient Americas at a time when there apparently were no such things.¹³ Apparently aware that numerous Latter-day Saint commentators have noted that the Book of Mormon text never uses the word *coin*, despite the chapter heading of Alma 11, Anderson still insists that the Book of Mormon peoples were described as using coins.

Alma, chapter 11, describes metal coins made of gold and silver. Although the Book of Mormon does not use the word “coin,” it is clear from the context. For example, verse 4 begins:

13. See, for example, John Ankerberg and John Weldon, *Everything You Ever Wanted to Know about Mormonism* (Eugene, OR: Harvest House, 1992), 285–86. This particular anti-Mormon book was reviewed by Daniel C. Peterson in *Review of Books on the Book of Mormon* 5 (1993): 1–86, with a brief discussion on coins in the Book of Mormon on p. 55.

“Now these are the names of the different pieces of their gold, and of their silver, according to their value . . .” (p. 240 n. 125)

Actually, though, nothing here suggests that these pieces of gold and silver were anything more than that—pieces of gold and silver. Nothing indicates that they were minted coins—rounded and flat pieces of metal with inscriptions stamped or engraved on them. This is all in Anderson’s imagination.

The Book of Mormon makes no sweeping claims of the type Anderson seems wont to make. It does not state that “the ancient American continent was populated by three different migrations of people”—at least not exclusively, as seems to be implied by Anderson here. Later, Anderson explicitly claims that “in summary, the Book of Mormon describes ancient America as a land kept apart and reserved exclusively for the Christians that God led to the land” (p. 241). Since the Lamanites and even the Jaredites, for that matter, are certainly not Christians for most of their history (nor are the Mulekites, since they spent several hundred years with no teachings of God), Anderson’s interpretation of the scripture is far too narrow and is simply inconsistent with the text. Anderson does not seem to allow for the possibility that God could lead people to the promised land without requiring that they be Christian. He seems to insist on this narrow interpretation of the scripture so he can claim that all the people of ancient America must be Christian or else the Book of Mormon is false.

Anderson spends twenty pages describing current scientific understanding of the history of man in the Western Hemisphere. (I presume that his summary is accurate, although I’m not an expert in this field; given his propensity to misread the Book of Mormon, I’m not sure how valid my presumption is.) There really isn’t anything here that argues against the Book of Mormon. He then tries to compare his summary history of the Americas before Columbus with the Book of Mormon, but he fails to engage seriously any of the substantial body of literature on the subject, choosing rather to misrepresent it and then dismiss it almost out of hand. He never actually interacts with the Latter-day Saint scholars who have studied both Mesoamerican archaeology

and history and the Book of Mormon, such as John Sorenson or John Clark.

For example, he states:

Some apologists place the Book of Mormon lands in Central America [so far, so good]. These arguments as they relate to the narrow neck of land are especially ad hoc and unconvincing. [How about actually engaging the arguments instead of simply dismissing them? Show us *why* they are unconvincing.] Some apologists have tried to associate various Amerindian civilizations, such as the Maya, with the Nephites, but the dates don't match up. The Maya were established in the Americas before the Book of Mormon says Lehi arrived, they are not Hebrews from Jerusalem, and their language . . . is not related to Hebrew or Egyptian. (p. 271)

It would be helpful if Anderson could show where any of the more scholarly treatments of a Mesoamerican setting for the Book of Mormon made any of these claims that he seems to be attributing to them. Is Anderson claiming, because he can apparently find at least one (unspecified) person who thinks the Mayas were Nephites, that all proposals about how the Book of Mormon fits into a Mesoamerican setting are therefore false? This seems to be the implication. In fact, though, scholars such as Sorenson explicitly address possible interactions between Lehitites and Mayas. And their discussions bear little resemblance to the simplistic and rather simple-minded caricature that Anderson supplies on their behalf.

Anderson claims that the civilizations of Mesoamerica during Book of Mormon times do not look like the civilizations described by the Book of Mormon, yet he fails to engage those Latter-day Saint scholars who suggest that the two actually correspond quite closely. He has failed to consider a large body of scholarship on this topic, particularly that of John Sorenson in *An Ancient American Setting for the Book of Mormon* and more recently of John Clark in the *Journal of*

Book of Mormon Studies.¹⁴ These scholars go into great detail to show how the culture and geography of the Book of Mormon match well with what we know of Mesoamerican societies at that time. Rather than engage these types of scholarly arguments, Anderson takes the rather bizarre course of comparing Book of Mormon peoples to the Romans, using as evidence the paintings of Arnold Friberg: “So clear is the Roman imagery in the Book of Mormon that Mormon artists have inadvertently captured it in brilliant paintings. Among the best-known LDS painters is Arnold Friberg” (p. 260). Anderson describes Friberg’s paintings, noting the heavy musculature on the Friberg men and then drawing the extraordinary conclusion that “except for the dark skins of the stripling warriors (who were Lamanites) the painting looks very much as Joseph Smith might have imagined a legion of Roman soldiers marching off to battle” (p. 262).

The idea that Joseph Smith imagined the Nephites as Romans is completely an invention of Anderson’s mind. Anderson created a table comparing Rome with the Nephites (p. 261), apparently to show the connections between the two civilizations, although many of his connections are tenuous to the point of absurdity. For example, he suggests that a significant parallel between the two is the fact that Rome was attacked and pillaged by the Gauls and that the Nephites were attacked by Lamanites and plagued by Gadianton robbers. Rome had wars and the Nephites had wars. But so did Paris, Athens, London, Peking, Jerusalem, and virtually every other city or state that has existed for centuries. What exactly is the point? Anderson’s chart also notes that food staples for both civilizations were wheat and barley. These are certainly not unique to the Roman Empire. They were staples across Europe. How do wheat and barley tie the story of the Nephites to the

14. John L. Sorenson, *An Ancient American Setting for the Book of Mormon* (Salt Lake City: Deseret Book and FARMS, 1985); John E. Clark, “Archaeology, Relics, and Book of Mormon Belief,” *Journal of Book of Mormon Studies* 14/2 (2005): 38–49. See John L. Sorenson, “Viva Zapato! Hurray for the Shoe,” *Review of Books on the Book of Mormon* 6/1 (1994): 297–361; Sorenson, *Mormon’s Map* (Provo, UT: FARMS, 2000); John E. Clark, “Archaeological Trends and the Book of Mormon Origins,” *BYU Studies* 44/4 (2005): 83–104; and Matthew Roper, “Limited Geography and the Book of Mormon: Historical Antecedents and Early Interpretations,” *FARMS Review* 16/2 (2004): 225–76.

Roman Empire specifically? Anderson somehow finds significance in the fact that both civilizations had silk. But so did the Chinese. Why isn't Nephite civilization compared with China? This is a strange table that Anderson has assembled in an attempt to show parallels between Nephite and Roman civilizations. Many of the examples are not parallels at all, and the others could apply equally to many ancient civilizations. Moreover, Anderson once again completely fails to engage Latter-day Saint scholars such as Sorenson (and more recently Clark) who have written extensively on parallels between Book of Mormon and Mesoamerican societies.

Anderson discusses what some view as archaeological evidences for the Book of Mormon and accepts none of them as valid, arguing that any and all things mentioned in the Book of Mormon would be what a nineteenth-century author would naturally imagine ancient America to be like, including the presence of cement (see Helaman 3:7) and the people being descendants of Hebrews.¹⁵

One example that Anderson cites of Latter-day Saint apologists using recent archaeological discoveries to support the Book of Mormon is the location on the Arabian Peninsula of a candidate for the river Lehi (presumably he means the river Laman). Anderson dismisses this discovery as trivial—"why would we expect a 19th-century writer *not* to imagine a river in Arabia?" (p. 268). Anderson notes, just to throw in a little more doubt, that its verification is still lacking. One wonders what sort of verification he is talking about—verification that the river is there? Certainly photos of the river verify that it is there. Does he mean verification that the river is actually the river Laman? This is impossible without a twenty-six-hundred-year-old inscription saying, "Lehi was here with his two recalcitrant sons Laman and Lemuel and his two good kids Nephi and Sam." Of course, Anderson never troubles himself to try to find out what nineteenth-century authors might have thought about Arabian rivers. But he goes on to

15. On cement, see John L. Sorenson, "How Could Joseph Smith Write So Accurately about Ancient American Civilization?" in *Echoes and Evidences of the Book of Mormon*, ed. Donald W. Parry, Daniel C. Peterson, and John W. Welch (Provo, UT: FARMS, 2002), 287–88; and "Concrete Evidence for the Book of Mormon," in *Reexploring the Book of Mormon*, ed. John W. Welch (Salt Lake City: Deseret Book and FARMS, 2002), 212–14.

criticize the candidate for the river Laman, presumably that identified by George Potter, though he never references Potter's work.¹⁶

Anderson continues his criticisms of proposed Book of Mormon geographies:

In all these attempts to find support for the Book of Mormon, there are always some details—hundreds of them, actually—that don't add up. If the geography can be shoehorned into the Book of Mormon's description, the civilizations and dates don't come even close. If the dates can be shoehorned into agreement by ignoring what the Book of Mormon says, and hypothesizing pre-Lehites that are specifically rejected by the description in 2 Nephi 1, the geography and specific details of the civilizations (their foods, animals, etc.) don't agree. What we are left with is something of a hodgepodge of explanations that lack any coherent, unifying or consistent theme among them, and disagree in almost every detail with the scientific evidence. (p. 272)

It is clear that Anderson has done at least some reading of current Latter-day Saint scholarship on the topic of Book of Mormon geography and cultural connections to ancient Americans. However, his summary of it is virtually unrecognizable. Once again, Anderson fails to engage LDS scholarship in any meaningful way. He interprets 2 Nephi 1 as requiring the American continents to be empty at Lehi's arrival (although this interpretation is explicitly contradicted by the presence of the Mulekites and Jaredites) and then dismisses any argument that requires pre-Lehites. Since Anderson never does address or reference Sorenson, Clark, Gardner, or any other Latter-day Saint scholar's work explicitly, it is difficult to tell which portion he finds so scientifically untenable.

Anderson does manage to misread a passage from the *Encyclopedia of Mormonism*. In a discussion on horses, an ever-favorite target of opponents of the Book of Mormon, Anderson cites the *Encyclopedia* thus:

16. See George D. Potter, "A New Candidate in Arabia for the 'Valley of Lemuel,'" *Journal of Book of Mormon Studies* 8/1 (1999): 54–63.

Book of Mormon mention of horses in pre-Columbian America has drawn much criticism, and no definitive answer to this question is at present available. Linguistic data suggest that Book of Mormon “horse” need not refer to equus, but could indicate some other quadruped suitable for human riding, as Mesoamerican art suggests (Sorenson, 1985, p. 295). (p. 273)

He then argues:

This is an extremely specious argument for a number of reasons. First of all, there is no “linguistic data” at all. No known ancient American language is a derivative of Hebrew or Egyptian, which are the languages the Book of Mormon claims were used by the ancient Nephites.

Anderson here misunderstands the point that the encyclopedia is trying to make. It doesn’t state that the linguistic data refers to the Nephite’s language, to Hebrew, or to Egyptian. The argument that has been made by several Latter-day Saint authors is that there is evidence from other studies that the names of animals don’t always translate well between languages and that history shows that explorers tend to name newly discovered animals after the names of animals with which they are familiar.¹⁷ Examples that have been given include the Greeks naming an animal that was new to them a “river horse” (hippopotamus), even though it has no connection to a horse. The native Americans apparently called the Spaniards’ horses “deer that men ride.”¹⁸ The linguistic argument rests on how names of animals translate between languages, and the existence of Hebrew or (reformed) Egyptian in the Americas is irrelevant to the argument.

Anderson goes on: “Second, the Book of Mormon says the ancient Americans were Hebrews who sailed to the Americas about 600 BCE. As such, they would have known what a horse is. In such circumstances, if they found an animal like a horse, the convention would be for a qualifier on the term, and not to simply use the naked word ‘horse’” (p. 273). To

17. See Daniel C. Peterson and Matthew Roper, “*Ein Heldenleben?* On Thomas Stuart Ferguson as an Elias for Cultural Mormons,” *FARMS Review* 16/1 (2004): 202–4.

18. See Sorenson, *Ancient American Setting*, 295–96.

what “convention” does Anderson refer? Is he simply imagining what an ancient explorer would do? Did all ancient explorers go to explorer school so they could be sure to follow the standard convention when they found new animals? I suspect Anderson uses this insistence on a qualifier to argue that the hippopotamus analogy is invalid here because it was called a “river horse” as opposed to simply a “horse.”

Another of Anderson’s arguments against the Latter-day Saint position is that since the Book of Mormon is supposed to be an inspired translation, God would not allow translation errors to creep into the text. I always find it interesting when atheists purport to know what God would or would not do. Why is God required to be taxonomically precise, according to current conventions, when aiding in the translation of a sacred record?

Statistics Relating Mormonism and Science

In this final chapter, Anderson takes sixteen pages to attempt to refute the teachings that he claims to have received as a young boy that

Mormons are the most scientific people on the Earth. This was a natural thing, of course, given the belief that all scientific achievements are the result of the Latter-day Saints who have brought the restoration to the Earth. The resulting flood of God’s spirit fills not only the Saints, but also all people. As proof of this, my teachers would point to statistical studies showing that Utah produces more scientists than any other state in the Union. What more proof could someone ask, than to see the state of Deseret leading the nation, even the world, in the discovery of God’s truth? These attitudes persist today, and can be found on several pro-LDS Internet sites aimed at mollifying Mormons concerned over the increasingly obvious and serious problems between science and their religion. Here is an example from the *Encyclopedia of Mormonism*. (p. 294)

I particularly like Anderson’s reference here to the “state of Deseret,” rather than calling it Utah. Is this an attempt to put Utah back into a nineteenth-century theocracy? The article Anderson references cites

research that makes three claims: (1) “A 1940 study established that Utah led all other states in the number of scientific men born there in proportion to the population”; (2) “from 1920 to 1960 . . . Utah led all other states by a wide margin in the proportion of its university graduates who eventually received doctoral degrees in science”; and (3) “unpublished research indicates that this high productivity continued through the 1970s, though Utah dropped to second place among the fifty.”¹⁹ While he attempts to connect the two, the *Encyclopedia of Mormonism* does not make the claims Anderson contends he was taught as a boy. It doesn’t say that Utah leads the nation and the world in the discovery of God’s truth. It doesn’t say that “all scientific achievements are the result of the Latter-day Saints who have brought the restoration to the earth” (p. 294). Nor does it substantiate Anderson’s earlier claim that his Latter-day Saint instructors taught him that “the Latter-day Saints directly or indirectly, were responsible for every scientific advance” (p. 294). Since one can point out numerous scientific advancements—such as the printing press, Newton’s delineation of the principles of physics, the development of calculus, and Galileo’s development of the telescope—that occurred prior to the restoration of the gospel, the claim that all advances came as a result of the restoration is demonstrably incorrect for anyone with even the slightest understanding of the history of science and technology. In any case, even if it is true that the rate of scientific advancement has been greater since the restoration than prior to it (a more reasonable claim for church members to make, and one that I have heard), it is not the Latter-day Saints but rather God who is responsible for this increase of knowledge, so individual Saints have nothing to boast about.

Anderson discusses problems he finds in the studies cited by the *Encyclopedia of Mormonism* article and some of the problems with the use of statistics. His warnings are certainly good advice, and statistical data should always be used cautiously and with an understanding of the methods used to acquire it and their limitations. It is not clear, however, that the warnings really apply to the articles cited in the *Encyclopedia on Mormonism*, although Anderson certainly implies that the studies are

19. Robert L. Miller, “Science and Scientists,” in *Encyclopedia of Mormonism*, 3:1273.

invalid. That said, Anderson's discussion of the difference between correlated and causal relationships is right on the mark and is a lesson more people need to understand.

My response to this whole chapter is—"So what?" So what if Anderson shows that some of the teachings he claims to have received as a child were overzealous and inaccurate regarding the accomplishments of Latter-day Saint scientists? Other than the quotation from the *Encyclopedia of Mormonism*, he never actually cites any statements by Latter-day Saint scriptures, manuals, or authorities to back up the things he claims he was taught. Even at that, the encyclopedia article does not make the claims that Anderson says he heard as a child.

In summarizing his statistics, Anderson falls into the very trap he so strongly suggests we avoid—he draws unsubstantiated conclusions. Witness the penultimate summary paragraph from Anderson, after having shown a number of statistical studies suggesting that Utah does not lead the nation in science education.

Reviewing all these data, we see that generally Utah has average to slightly above-average statistics, though in some important metrics regarding science education they are below the median. This is consistent with a world view in which truth and knowledge are respected, while maintaining a certain aloofness and wariness regarding the "wisdom of man." Within these data one can get a glimpse of the dual personality within Mormonism, in the simultaneous desire for knowledge, coupled with the all-important need to protect the literal myths of Joseph Smith's religion. (p. 309)

Again, Anderson is attempting to support his view of Mormonism with statistics that do not say any such thing. The statistics, if accurately portrayed by Anderson, simply show that Utah is somewhat above the median in some educational metrics. They do not speak of a "dual personality within Mormonism" or demonstrate the worldview of a respect for truth and knowledge while maintaining aloofness and wariness regarding the wisdom of man. Whether or not these things are true, Anderson

is abusing the statistics in his attempt to correlate his view of Mormonism with the results of these statistical studies.

Conclusion

Is it possible for a scientist to be a believing Latter-day Saint? Anderson suggests that it is not, at least if the scientist is honest. I consider Henry Eyring to be an example that contradicts this point. It is beyond dispute that Henry Eyring was a great scientist. He was one of the most brilliant chemists this nation has ever produced, while at the same time a most humble and likeable person. I believe that it is also beyond dispute that he was a believing Latter-day Saint and that he was honest about both his science and his belief. This single example alone refutes Anderson's absolute claim—and such examples could be multiplied many times over. I began this review of Anderson's book with a quotation from Dr. Eyring's book *Reflections of a Scientist*. Duwayne Anderson appears to me to fit Dr. Eyring's description of people who think they have "to be as smart as the Lord, understand[ing] everything, and hav[ing] no contradictions in their minds." With humility and faith instead of skepticism, Eyring addresses some of the topics that Anderson discusses:

Questions involving the age of the earth, pre-Adamic man, or organic evolution may seem to us to be interesting and important. However, I doubt that God thinks they matter enough to have provided definitive explanations in our current scriptures. They will all receive adequate answers in due course. Whatever the ultimate answers are, the gospel will remain, and new questions will take the place of those we solve. For me, the truth of the gospel does not hinge on such questions, interesting as they are.²⁰

On the other hand, the exact age of the earth is apparently of so little import religiously that the scriptures sketch earth history in only the briefest terms. The present heated religious

20. Eyring, *Reflections of a Scientist*, 51.

controversies on the subject will undoubtedly be resolved in time and will then appear as quaint as the medieval arguments on the shape of the earth seem to us now.

In my judgment, anyone who denies the orderly deposition of sediments with their built-in radioactive clocks places himself in a scientifically untenable position. Actually, the antiquity of the earth was no problem for two of our greatest Latter-day Saint leaders and scientists, John A. Widtsoe and James E. Talmage. However, there are vast differences in the training and background of members of the Church. Therefore, I am completely content that there is room in the Church for people who think that the periods of creation were twenty-four hours, one thousand years, or millions of years. I think it is fine to discuss these questions and for each individual to try to convert others to what he thinks is right. It is only fair to warn parents and teachers that a young person is going to face a very substantial body of scientific evidence supporting the earth's age as millions of years, and that a young person might "throw the baby out with the bath" unless allowed to seek the truth, from whatever source, without prejudice.

The Lord made the world in some wonderful way that I can at best only dimly comprehend. It seems to me sacrilegious to presume that I can really understand him and know just how he did it. He can only tell me in figurative speech that I dimly understand, but that I expect to more completely comprehend in the eternities to come. He created the world, and my faith does not hinge on the detailed procedures he used.²¹

Although not in the same class as Henry Eyring, I know for a fact that I am a believing scientist as well. As a scientist, my personal philosophy is to search for truth but to recognize that there are ways to access truth beyond the laboratory. Are there questions to which I don't know the answers regarding the scriptural accounts of the

21. Eyring, *Reflections of a Scientist*, 56–57.

creation and the accepted theories of modern science? Absolutely. Do I believe that modern science has sufficient understanding of the history of the earth to preclude a belief in the veracity of the scriptures? No. I believe that modern science has developed a reasonably consistent picture of the history of the earth and the cosmos given the data and the tools with which it has to work. Do I put such great faith and trust in the findings of science that I am willing to jettison my beliefs in God, my faith in Christ, and my testimony that the Book of Mormon is the word of God? I do not.

There are some questions for which I have no answers, but rather than throw in the towel and declare myself an atheist because I can't explain how current scientific theories square with scripture, I am willing to put those questions on the shelf, as it were, until additional information is available.

As much as I might try, I cannot explain away the events surrounding the restoration of the gospel, the coming forth of the Book of Mormon, the witnesses to the Book of Mormon, the life of Joseph Smith, or my own personal experiences with the workings of the Spirit as nothing more than fraud and wishful thinking. For example, if a single case of healing by the power of the priesthood, a visitation by spirit or resurrected beings, visions of the hereafter or any other spiritual manifestation is true and legitimate, then there are planes of existence and realities that science is incapable of penetrating or measuring. If Oliver Cowdery was telling the truth in his accounts of the visit of John the Baptist or of Peter, James, and John or of Moroni showing him the gold plates, then there is a vast world of reality that science has not discovered how to detect. Shall we be so arrogant in our knowledge and understanding that we simply dismiss anything undetectable with our current instruments as being not only unknowable but nonexistent? Doesn't that put us into the same category as Korihor, who proudly proclaimed, "Behold, ye cannot know of things which ye do not see" (Alma 30:15)?

I have no reason to doubt that Duwayne Anderson is sincere in his belief that science and Mormonism are incompatible. However, I believe that it is a mistake to presume to limit God by virtue of

man's current understanding of the physical universe. I believe that Anderson's readings of Latter-day Saint scriptures are flawed and literalistic in the extreme and that he fails to deal with the large body of literature that addresses some of the very points of Latter-day Saint doctrine with which he disagrees.