

Excursus 5

Science and Mormonism

SCIENCE and Mormonism have nearly always been on very friendly terms, with Church members sharing the deep conviction that, as expressed by former scientist and apostle Elder James E. Talmage, “within the gospel of Jesus Christ there is room and place for every truth thus far learned by man, or yet to be made known.”¹²² With respect to the idea that the Church is required to welcome religious and moral truth from all sources, President Brigham Young stated:

“Mormonism”... embraces every principle pertaining to life and salvation... no matter who has it. If the [unbeliever] has got truth, it belongs to “Mormonism.” The truth and sound doctrine possessed by [other churches], and they have a great deal, all belong to this Church... All that is good, lovely, and praiseworthy belongs to this Church... “Mormonism” includes all truth. There is no truth but what belongs to the Gospel.¹²³

With specific regard to scientific truth, President Young’s approach was no less open and all-embracing. As Barlow summarizes:

Brigham Young’s position was in one sense more “liberal” even than that of [many contemporaries]. Not a scholar himself and easily put off by what he saw as scholars... pretentious ways, Young still wished to distance the Mormon response to science from what he took to be the common Christian reaction. Widespread infidelity in the world did not surprise him, he said, because religious teachers often advanced notions “in opposition to... facts demonstrated by science,” making it difficult for honest, informed people to embrace the claims of religion. Geology, to take a specific instance, “is a true science; not that I would say for a moment that all the conclusions and deductions of its professors are true, but its leading principles are; they are facts...” “[Our] geologists... tell us that this earth has been in existence for thousands and millions of years... [and Mormonism] differ[s] from the Christian world, for our religion will not clash with the facts of science.”¹²⁴

Moreover, President Young said:

The idea that the religion of Christ is one thing, and science is another, is a mistaken idea, for there is no true religion without true science, and consequently there is no true science without true religion.¹²⁵

Subsequent Presidents and General Authorities of the Church have advanced similar views about the ultimate compatibility of religious and scientific truths and, with notably few exceptions, have maintained markedly positive attitudes toward both the methods and conclusions of mainstream science and the advance of modern technology. A barometer for the positive attitude toward science among the membership of the Church has been a series of studies over the last several decades documenting numbers of scientists with backgrounds in different faith groups. For example, LDS historian of science Erich Paul noted:

... a 1974 article appearing in *Science*—published by the largest scientific society in America, the *American Association for the Advancement of Science*, and, along with the British journal *Nature*, certainly the most influential science magazine—reported that Mormonism had

122 J. E. Talmage, *Earth and Man*, p. 252.

123 B. Young, 8 April 1867, p. 375; B. Young, *Discourses*, p. 3.

124 P. L. Barlow, *Bible*, pp. 90-91. See B. Young, 14 May 1871, pp. 115-117.

125 B. Young, 3 May 1874, p. 52.

produced more scientists per capita than virtually all religious movements in twentieth-century America.¹²⁶ Although there are social, religious, and theological reasons for this mostly supportive relationship, the facts strongly indicate that Mormonism and at least science as philosophy are basically non-combative.¹²⁷

A more recent study reported that in the 1990 listing of 120,000 American Men and Women of Science, “Utah stood 21 percent above the second place state, which was Delaware.”¹²⁸ This was despite the fact that there were more Mormon scientists outside of Utah and Idaho than inside, that practicing Mormons no longer constitute the majority population in Utah, and that there has been an increase in the overall orthodoxy of Mormon scientists.¹²⁹

Such findings about LDS scientists are consistent with other studies affirming an exceptional proportion of Mormons in American university faculties across all disciplines. A major survey published in 2007 reported that while non-LDS “Christians are underrepresented among faculty,” Mormons are “overrepresented compared to the general public.”¹³⁰

Although the reasons for the attraction of science and academia for members of the Church have not been adequately studied, BYU professor and administrator Noel B. Reynolds offers one opinion:

In spite of occasional eruptions of anti-intellectualism in the LDS community, the long-term reality has been that Mormons, perhaps more than any other religious group, seek and respect learning.¹³¹ Joseph Smith set the example himself, establishing schools for adults and studying biblical languages. The LDS community has always produced far more than its share of highly educated people.... [and in the LDS community] the more educated a person is, the more likely he or she is to be fully observant and faithful.¹³²

There may be good reasons for this surprising characteristic of the Latter-day Saints. Mormonism is a religion of both the spirit and the intellect. Mormon missionaries tell their investigators that they have answers to the great human questions. Conversion stories are always stories of learning and inspiration... Mormonism is not a religion that tells its members they have no right to know the divine mysteries.¹³³ Rather, it tells them to seek knowledge of all things. There is nothing that God is not willing to reveal to his children, even to the point of showing himself to them on special occasions.

Nor are Mormons taught to be irrational or to despise logic in their understanding of the divine. From Joseph Smith to the present prophets, the Saints have always been urged to grasp a grand and coherent vision of themselves and their relationship to God. They are urged to acknowledge contradictions in their own lives and beliefs and to reconcile themselves to the full set of gospel truths. Latter-day Saints learn early that the Spirit can be their most valuable asset in this great quest, and that there is no true opposition between mind and spirit. The two must function harmoniously together to reach fully satisfying truth.

It would be fair to say that Latter-day Saints see themselves as both prophets and intellectuals. They depend daily on spiritual guidance, and they treasure deeply the understanding of God and his world that they have been given. They feel responsible to search the scriptures as a means of strengthening their spirits and their understandings simultaneously. They are

126 K. R. Hardy, *Origins*.

127 E. R. Paul, *Science*, pp. 6-7.

128 R. T. Wooton, *Saints*, p. 58.

129 See *Endnote E-14*, p. 707.

130 G. A. Tobin et al., *Religious Beliefs*, p. 20. See *Endnote E-15*, p. 707.

131 See *Endnote E-16*, p. 708.

132 See *Endnote E-17*, p. 708.

133 See *Endnote E-18*, p. 708.

suspicious of people who seem to emphasize one of these sources of knowledge to the neglect of the other.¹³⁴ Both are God-given, and both are necessary for a fullness of life.

The testimony that individual Latter-day Saints bear of the truthfulness of the Church and the Book of Mormon, as well as the other revelations of Joseph Smith is highly personal. The mind and spirit of a man or woman are finally quite private in their innermost workings. Each person must come to that mix of understanding and spiritual assurance that he or she finds adequate. There is nothing that others can hand out off a shelf that will do the job. It requires personal inquiry, reflection, prayer, and openness to God's revelations.¹³⁵

With respect to the creation account in Genesis, the Latter-day Saints have avoided some of the serious clashes with science that have troubled other religious traditions. For example, they have no serious quarrel with the concept of a very old earth whose "days" of creation seem to have been of very long, overlapping, and varying duration.¹³⁶ With respect to beliefs about the origin of man, Sorenson emphasizes the point that acceptance of essential doctrinal claims rather than belief in a particular *modus operandi* for the creation of man is ultimately the determinant of Mormon orthodoxy:

While the current state of revealed truth on the LDS doctrine of man's origin may permit some differences of opinion concerning the relationship of science and religion, it clearly affirms that God created man, that the Fall of Adam was foreknown of God and was real and significant, and that the Atonement of Christ was foreordained and necessary to reverse the effects of the Fall. Perhaps because these claims embrace the main doctrinal issues relevant to the condition of man, the description of the actual creation process does not receive much attention from the general membership of the Church or from the authorities.¹³⁷

There are other indicators of LDS moderation on these potentially divisive issues. For example, while the issue of how school teachers should handle questions about the origin of man has occasionally surfaced in public discussion, Utah and other states with large LDS populations have wisely refrained from embracing creationist agendas in their science curricula. Consistent with this stance, LDS scientist David Bailey has very competently summarized scientific inadequacies and theological incompatibilities of the creationist movement in both its "young earth" and "intelligent design" forms.¹³⁸ No matter how well-intentioned, Gingerich insightfully observes that intelligent design is "misguided when presented as an alternative to the naturalistic explanations offered by science, which do not explicitly require the hand of God... This does not mean that the universe is actually godless, just that science within its own framework has no other way of working."¹³⁹ He characterizes the universe in which we live as one "... where God can play an interactive role unnoticed by science, but not excluded by science."¹⁴⁰ Similarly, BYU Philosophy Professor James Faulconer argues that although scientists need not take a strictly scientific attitude except when they are explicitly doing science, the "scientific region, the region in which one investigates bodies using the assumptions, methods, and background of science, is necessarily godless. Scientific objects, themselves 'impoverished' or abstracted objects,

134 See, e.g., D&C 88:118.

135 N. B. Reynolds, *Preface*, p. xi.

136 See the overview of Moses 2, p. 84 and *Commentary* 2:5-e, p. 103.

137 J. L. Sorenson, *Origin*, p. 1053. See *Endnote E-19*, p. 709.

138 D. H. Bailey, *Mormonism*; D. H. Bailey, *Deceiver*; D. H. Bailey, *Latter-day*; D. H. Bailey, *Church and Evolution*; D. H. Bailey, *What's Wrong*. See *Endnote E-20*, p. 709.

139 O. Gingerich, *Universe*, p. x.

140 *Ibid.*, p. 111.

incarnate the work and understanding of that region. Other objects incarnate other regions and orderings.”¹⁴¹ Continuing, he explains:

This is not to criticize scientists for that attitude or to suggest that God ought to be part of science. A great many other important things also do not exist in a world inhabited scientifically, things such as morality and value or, of less consequence, good taste in food or clothing. That absence is the consequence of the specialized incarnation required of science and is only a problem if scientists (or more often those who idolize science because they know too little of it) forget that such a specialized incarnation is not the only one, the best one, or the final one.¹⁴²

Even some of the most doubting of scientists have stated their willingness to keep their mind open to the possibility of a God—so long as it is a God “worthy of [the] grandeur”¹⁴³ of the Universe. For example, the well-known skeptic Richard Dawkins stated: “If there is a God, it’s going to be a whole lot bigger and a whole lot more incomprehensible than anything that any theologian of any religion has ever proposed.”¹⁴⁴ Similarly, Elder Neal A. Maxwell approvingly quoted the unbelieving scientist Carl Sagan, noting that he:

... perceptively observed that “in some respects, science has far surpassed religion in delivering awe. How is it that hardly any major religion has looked at science and concluded, ‘This is better than we thought! The Universe is much bigger than our prophets said—grander, more subtle, more elegant. God must be even greater than we dreamed’? Instead, they say, ‘No, no, no! My god is a little god, and I want him to stay that way.’ A religion, old or new, that stressed the magnificence of the Universe as revealed by modern science might be able to draw forth reserves of reverence and awe hardly tapped by the conventional faiths. Sooner or later, such a religion will emerge.”¹⁴⁵

The characteristic of awe mentioned by Sagan—so vital to the pursuit of knowledge in both science and religion—has been equated by Elder Maxwell with the scriptural term “meekness.”¹⁴⁶ Among other things, an attitude of meekness requires moving forward according to the best of our knowledge while simultaneously recognizing the provisional nature of our current understanding.¹⁴⁷ Indeed, it is because of the limits of our knowledge that we court danger when we try to effect a premature reconciliation of scientific and religious issues. BYU emeritus Professor of Physics and Astronomy B. Kent Harrison wisely wrote:

Some disagreements [between science and religion] are inevitable because our knowledge is incomplete. But we believe in a unified truth and so we eventually expect agreement. It is tempting to seek agreement now. *However, it is inappropriate, and often dangerous, to attempt a premature reconciliation or conflicting ideas where there is a lack of complete knowledge.*¹⁴⁸ If a scientist concludes that there is no God—based on inadequate evidence!—and thereby casts doubt on those who believe in God, he does them a disservice. For example, it is inappropriate for a scientist who accepts organic evolution to claim that there is no God. (However, many scientists do indeed take the position that they cannot comment on religious truth because they have little or no information on it.)

141 J. E. Faulconer, *Incarnation*, p. 41.

142 *Ibid.*, p. 59. See also F. J. Ayala, *Darwin’s Gift*, pp. 171-202; M. Heidegger, *Technology*, pp. 115-182.

143 R. Dawkins in D. Van Biema, *God vs. Science*, p. 55.

144 In *ibid.* See *Endnote E-21*, p. 710.

145 Cited in N. A. Maxwell, *Cosmos*, p. 1. See *Endnote E-22*, p. 710.

146 N. A. Maxwell, *Disciple-Scholar*, pp. 14-18. See *Endnote E-23*, p. 710.

147 See *Endnote E-24*, p. 710.

148 See *Endnote E-25*, p. 710.

Similarly, if an ecclesiastic states that such and such a scientific idea is not true—based on inadequate evidence!—then he does a disservice to the scientist who has carefully explored that idea. As a hypothetical example, it would be inappropriate for a church authority to make a flat statement that special relativity is invalid because it limits information transmission such as prayer to the very slow (!) speed of electromagnetic waves. It may later turn out to be invalid in some sense, but current experimental and other considerations support it strongly.¹⁴⁹

The proper stance, it seems, is to withhold judgment on such questions until we have more information¹⁵⁰—but also to take advantage of what knowledge we do have.¹⁵¹

Some take the fact that science reverses its positions from time to time as a disturbing thing. On the contrary, I feel that we should take such events as encouraging news. In this regard, I side with those who locate the rationality of science not in the assertion that its theories are erected upon a consistent foundation of undeniable facts, but rather in the idea that it is at heart a self-correcting enterprise that can put any of its claims in jeopardy—though, of course, not all at once.¹⁵²

The most effective scientists move forward by adopting a given way of understanding their domain of interest, not simply because they might feel “justified” by the best available evidence in doing so, but more fundamentally because in actual practice the most effective means of investigation available is to commit oneself to a position and then, from that vantage point, to explore its consequences thoroughly.¹⁵³ We put on our chosen perspectives like a pair of glasses, and then try them out for a while to see if our capacities both for navigation and for additional discovery have increased.¹⁵⁴ In this way, scientific theory becomes useful not merely as a picture of reality but, more importantly for the ongoing process, as “a device for the attainment or formulation of greater knowledge about it.”¹⁵⁵ This requires one to embrace not only the question “How do we know our hypotheses are correct?” but also “How can we, to the greatest possible degree, expose our hypotheses to the light of experience in order to evaluate and refine them as thoroughly as possible?” Relative to this point, Hugh Nibley has written that the aim of honest scholarly discussion should be “to talk about the material at hand, hoping that in the course of the discussion every participant will privately and inwardly form, reform, change, or abandon his opinions... and thereby move in the direction of greater light and knowledge.”¹⁵⁶ Speaking about religious matters, the Apostle Paul succinctly expressed a similar idea: “Prove [i.e., examine, put to the test] all things; hold fast that which is good.”¹⁵⁷

149 See *Endnote E-26*, p. 711.

150 See *Endnote E-27*, p. 711.

151 B. K. Harrison, *Truth*, pp. 153-154.

152 G. Bateson, *Mind*, p. 216; G. Bateson et al., *Angels*, pp. 36-49; W. Weimer, *Notes*, pp. 47-49.

153 W. Weimer, *Notes*, p. 49.

154 *Ibid.*, pp. 72-74.

155 A. Kaplan, *Inquiry*, p. 286. See *Endnote E-28*, p. 711.

156 H. W. Nibley, *Since*, p. xiv; cf. W. Weimer, *Notes*, pp. 78-86. See also M. J. Mahoney, *Scientist*, pp. 195-220.

157 1 Thessalonians 5:21. Representative works for understanding the broader history and the wide-ranging and complex sets of assumptions involved in recent debates about religion and science include D. N. Brems, *Divine Engineering*; A. R. Buskirk, *Science*; F. S. Collins, *Language*; G. Consolmagno, *God's Mechanics*; P. Dowe, *Galleo*; A. Flew, *There Is*; K. W. Giberson, *Saving Darwin*; O. Gingerich, *Universe*; K. R. Miller, *Darwin's God*; J. P. Moreland et al., *Views*; R. L. Numbers, *Creationists*; M. Ruse, *Evolution-Creation*. Walker provides a discussion of prominent works by proponents of scientific atheism from an LDS point of view (S. C. Walker, *Selling*).