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Introduction: Science and Mormonism

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SCIENCE & MORMONISM SERIES 1

COSMOS, EARTH, AND MAN

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GREGORY L. SMITH, AND MICHAEL R. STARK



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INTRODUCTION: SCIENCE AND MORMONISM

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We often hear claims that science and religion are separate, incompatible domains waged in all-out war. For example, in a 2015 Pew Research Center survey, 59% of Americans say that science and religion are “often in conflict.”¹

Yet the leaders of The Church of Jesus Christ of Latter-day Saints have rejected this notion from the beginning. As Brigham Young explained, “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.”² He later elaborated on this point as follows, contrasting the LDS Church’s teachings on science with those prevailing among numerous other Christian denominations at the time:³

I am not astonished that infidelity prevails to a great extent among the inhabitants of the earth, for the religious teachers of the people advance many ideas and notions for truth which are in opposition to and contradict facts demonstrated by science, and which are generally understood. ... In these respects we differ from the Christian world, for our religion will not clash with or contradict the facts of science in any particular. ... [W]hether the Lord found the earth empty and void, whether he made it out of nothing or out of the rude elements; or whether he made it in six days or in as many millions of years, is and will remain a matter of speculation in the minds of men unless he give revelation on the subject.

In a recent study, Latter-day Saints (50%) were more likely than atheists or agnostics (13%), and than any other religious group surveyed (31-48%) to believe that science and religion can work together in collaboration.⁴

Another precept taught from early on in the Restoration — and also in sharp contrast to prevailing religious discourse at the time — is that God operates within the bounds of natural law rather than by contravening natural law. As Elder James E. Talmage, a twentieth-century Apostle, wrote:⁵

Miracles are commonly regarded as occurrences in opposition to the laws of nature. Such a conception is plainly erroneous, for the laws of nature are inviolable. However, as human understanding of these laws is at best but imperfect, events strictly in accordance with natural law may appear contrary thereto. The entire constitution of nature is founded on system and order.

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. As President Hugh B. Brown wrote:⁶

We should all be interested in academic research. We must go out on the research front and continue to explore the vast unknown. We should be in the forefront of learning in all fields, for revelation does not come only through the prophet of God nor only directly from heaven in visions or dreams. Revelation may come in the laboratory, out of the test tube, out of the thinking mind and the inquiring soul, out of search and research and prayer and inspiration.

Similarly, President Ezra Taft Benson said:⁷

Religion and science have sometimes been in apparent conflict. Yet the conflict should only be apparent — not real — for science should seek truth, and true religion is truth. There can never be conflict between revealed religion and scientific fact. That they have often occupied different fields of truth is a mere detail. The gospel accepts and embraces all truth; science is slowly expanding her arms and reaching into the invisible domain in search of truth. The two are meeting daily — science as a child, revealed religion as the mother. Truth is truth, whether labeled science or religion. There can be no conflict. Time is on the side of truth — for truth is eternal.

What can be said about the professional participation of Mormons in science and academia?

In the 1990 listing of 120,000 individuals in *American Men and Women of Science*, “Utah stood 21 percent above the second place state, which was Delaware.”⁸ This was despite the fact that there were more Mormon scientists outside of Utah and Idaho than inside, that practicing Mormons no longer constituted the majority population in Utah, and that there has been an increase in the overall orthodoxy of Mormon scientists. Noel B. Reynolds reports his informal observation that: “The overwhelming majority of LDS academics and intellectuals are active, faithful Latter-day Saints.”⁹

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.”¹⁰

The reasons for the attraction of science and academia for members of the Church have not received the formal study they deserve. However, BYU professor and administrator Noel B. Reynolds offers a personal opinion on the matter:¹¹

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. 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.¹²

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. 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.

In line with what Reynolds expresses above, Elder Neal A. Maxwell wrote: “For the disciple of Jesus Christ, academic scholarship is a form of worship. It is actually another dimension of consecration. Hence one who seeks to be a disciple-scholar will take both scholarship and discipleship seriously; and, likewise, gospel covenants.”¹³ Gerald Stott similarly concludes from his research that “Latter-day Saint theology appears to negate the secularizing impact of education by sacralizing it.”¹⁴

What do American academics and scientists think of religion in general and Mormons in particular?

In 2013-2014, Rice University sociologist Elaine Howard Ecklund conducted the largest study to date of American views on religion and science, including a nationally representative survey of 10,000 Americans along with over 300 in-depth interviews with Christians, Jews, and Muslims. She found that the size of the segment of American scientists characterizing themselves as “very religious” and engaged in some key traditional religious practices — though different from the public at large — was still in the same general ballpark. Roughly 18% of the scientists in her sample attended weekly religious services, compared with 20% of the general population; 15% considered themselves “very religious,” compared with 19% of the population; 13.5% read some religious text weekly, compared with 17% of the population; and 19% prayed once or more per day, compared with 26% of the population.¹⁵

Although Ecklund’s survey revealed that the sizable segment of U.S. scientists involved in religious practice and identifying themselves as “very religious” was not too different from the general public, another segment of scientists described themselves as indifferent to religion and skeptical of a belief in God. In a study

of university faculty published in 2007, 75% of the sample said that religion was not important to them.¹⁶ Only about 36% of scientists have no doubt about God's existence, compared to 55% of the general population.¹⁷ However, it still should be recognized that 36% represents a significant segment of American scientists.

In the 2007 study previously mentioned, 53% of university faculty surveyed held unfavorable views of evangelical Christians, "leading Mormons as the least liked religious group by 20%."¹⁸ Notably, faculty opinion about the LDS tended to be much more polarized than that of the general public, with significantly fewer reporting neutral feelings (20% vs. 42% of the general population) and 40% (vs. 33%) reporting favorable feelings.¹⁹

One of the possible reasons for such polarization is suggested in a 2007 poll of the general public. The results revealed that "having an acquaintance who is Mormon is linked with more positive opinions of Mormons and Mormonism. The large majority of those who know a Mormon (60%) express a favorable view of Mormons, compared with fewer than half (44%) of those who do not personally know a Mormon. And those who are acquainted with a Mormon are 11 points more likely than others to say that Mormonism and their own religion have a lot in common."²⁰

Why might many thoughtful people be disinclined to take religion seriously?

Among the reasons for this state of affairs is the fact that popular religious understanding often solely "rests on a caricature of religious fundamentalism" which is seen "as a reactionary movement bent on reversing all the progressive measures achieved over the last ... decades."²¹

In addition, many scientists who consider themselves spiritual (comprising 51% of the believers, 27% of the agnostics, and 22% of the atheists²²) reject institutional religion because of its deep dependence on authority as a primary source of truth (e.g., church leaders, scriptures). "Spirituality," according to Ecklund's study, "has more potential to align with scientific thinking and reasoning" because it is "open to being shaped by personal inquiry."²³ The study also elaborates on reasons why, for many scientists, science trumps religion of any sort:²⁴

When scientists take the norms they perceive as governing science and apply them to all of life, religion is weighed against science, and it does not measure up. Religious views are not based on the kind of information that can be judged impartially, such scientists would argue. There is a personal bias in religion; religious individuals have a stake in findings that support their faith (they lack the disinterest that scientists have). These scientists ... compare all religion to science and find it wanting.

Scientists who have this view think that in all spheres of life, only knowledge that is found through science is reliable. Likewise, for them, only questions answerable

through science are worth exploring. Questions concerning the *meaning* of life are not even worth asking.

Some scientists have become disenchanted with religion because of experiences similar to non-scientists. These include negative encounters with leaders and teachers who have dismissed or ridiculed their sincere questions, unsatisfying struggles with the problems of evil and pain in a world that religion claims is created and managed by God, and what are perceived as harmful social and political consequences of some religious beliefs and practices.²⁵

Moreover, as fewer people in America than ever before are being raised in homes where religion is regularly discussed and practiced, many of the influences and much of the knowledge of religion formerly obtained in childhood are waning.²⁶ It is not surprising that many people today simply don't connect with religion, since they may not have anyone in their family or close circle of acquaintances who is at all religious.²⁷ In such cases, their perspective may be shaped in large measure from current events noteworthy enough (i.e., extreme or unusual) to make the daily news or humorous enough to be remembered and repeated. Data points of this sort provide little insight on the lives and views of the more typical believer.

According to sociologist Rodney Stark, thoughtful people may be put off from religion in knowing "that many illusory or even fraudulent religious claims have been advanced" over the course of history.²⁸ Moreover, "comparisons among religions can easily be corrosive to faith because one must confront the fact that, since they disagree, not all religions can be entirely true. From there it is a small step to conclude that all religions are false, that 'all are refuted by all,' as the renegade monk Jean Bodin put it in 1593."²⁹ Conversely, "similarities among the world's religions ... [sometimes may be] taken as 'proof' that they all are human inventions."³⁰ Finally, some people are swayed by arguments that religious belief is nothing more than a combination of biological, psychological, and/or cultural imperatives.

While ultimate satisfaction of such concerns cannot be obtained by reasoned argument alone, perhaps at least a few fallacies can be swept aside. First, no serious believer would hold that each of the sundry, contradictory collections of spiritual beliefs and practices held at one time or another by individuals are rooted in divine revelation. "Some revelations are of God," the Prophet Joseph Smith is remembered as saying, "some revelations are of man: and some revelations are of the Devil."³¹

Moreover, it should not be forgotten that even authentic revelations may be "subject to misunderstanding, exaggeration, and faulty transmission."³² Regarding religious similarities among diverse groups, many believers are prepared to accept the possibility that "authentic revelations underlie many of the major faiths."³³ Finally, with respect to the "insufficiency of all biological approaches to explaining religion, or any other aspects of human culture," the most important consideration in Stark's view "is that they are unnecessary! The fundamental biological basis of all culture is general intelligence, and nothing more needs to be postulated."³⁴

“Thus,” writes Stark, “we reach the fundamental question: Does God exist? That is, have we discovered God? Or have we invented him? Are there so many similarities among the great religions because God is really the product of universal wish fulfillment? Did humans everywhere create supernatural beings out of their need for comfort in the face of existential tragedy and to find purpose and significance in life? Or have people in many places, to a greater and lesser degree, actually gained glimpses of God?”³⁵ Once the possibility of authentic divine revelations is granted, attention can be turned to the “immense and humbling challenge” of determining “which ones are valid.”³⁶

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Endnotes

1. C. Funk et al., *Religion and Science*. A 2013-2014 study by Ecklund concluded that “27 percent of Americans feel that science and religion are in conflict” (E. H. Ecklund, *Religious Communities*, p. 16. Cf. R. David, *Misconceptions*). According to the same study, nearly 20 percent of the general population and 22 percent of scientists think that religious people are hostile to science, and nearly 22 percent of the general population think that scientists are hostile to religion (E. H. Ecklund, *Religious Communities*, pp. 17-18. Cf. R. David, *Misconceptions*). That said, in Ecklund’s large 2005-2008 study of science and religion, she found only “five (!) of the atheist scientists [she] talked to were so hostile that they were actively working against religion” (E. H. Ecklund, *Science vs. Religion*, p. 150).
2. B. Young, 3 May 1874, p. 52.
3. B. Young, 14 May 1871, pp. 115-117.
4. E. H. Ecklund, *Religious Communities*, p. 16.
5. J. E. Talmage, *Articles of Faith*, p. 20.
6. H. B. Brown, *An Abundant Life*, p. 138.
7. E. T. Benson, *In His Steps*, p. 546.
8. R. T. Wooton, *Saints*, p. 58.
9. N. B. Reynolds, *Preface*, p. x.
10. G. A. Tobin et al., *Religious Beliefs*, p. 20. Other groups specifically noted as being overrepresented were Jewish faculty, faculty espousing atheism or no religion, and Buddhist faculty (ibid). Similar results were found in Ecklund’s 2013-2014 study, which ranked proportions of scientists in various religious traditions as follows: Muslims/Hindus/Buddhists/Sikhs/Jains (13.7%), Jews (10.1%), Atheists/Agnostics/No Religion (7.7%), Mormons (4.6%), Mainline Protestants (4.5%), Catholics (3.9%), and Evangelical (3.6%) (E. H. Ecklund, *Religious Communities*, p. 9).
11. N. B. Reynolds, *Preface*, pp. x-xi.
12. While national data indicate that, overall, the most educated are the least religious, among some denominations — and most dramatically among Mormons — a strong positive correlation has been reported. “Highly educated Mormons are more likely to pray frequently, to have strong religious beliefs and to attend meetings, suggesting that devotion is even more important for

those with higher levels of education than those with lower educations” (S. L. Albrecht et al., *Secularization*, p. 308). This is due at least in part to the fact that from its very beginning, the Church has placed significant emphasis upon education. “One result of this has been a standard of educational attainment that is significantly higher than the national average. ... For both males and females, the percentage of Mormons who have completed post-high-school education is significantly higher than is the case for the [U.S.] population as a whole. For Mormon males, 53.5 percent have some post-high school education compared to 36.5% for the U.S. population. For females, the figures are 44.3 for Mormons and 27.7 for the U.S. population generally” (ibid., p. 302). That said, “the results are not consistent across college majors (philosophy and religion majors do not fare well in maintaining ‘high orthodoxy,’ for example)” (T. L. Givens, *Paradox*, p. 238, citing Armand Mauss) — though it is possible that LDS students fare better in religiosity than students with such majors from other Christian denominations.

13. N. A. Maxwell, *Disciple-Scholar*, p. 7.
14. G. Stott, *Effect*, p. 52. See also T. L. Givens, *Paradox*, pp. 65-99, 195-240; J. W. Welch, *Thy Mind*.
15. E. H. Ecklund, *Religious Communities*, p. 11; D. Ruth, *Misconceptions*.
16. G. A. Tobin et al., *Religious Beliefs*, p. 12.
17. E. H. Ecklund, *Religious Communities*, p. 11; D. Ruth, *Misconceptions*. In a different study by Ecklund conducted in 2005-2008 (E. H. Ecklund, *Science vs. Religion*) that included 1,700 natural and social scientists at elite universities (a much more narrowly defined and less religious set of scientists than the ones sampled in the 2013-2014 study), results were significantly different. In this earlier study only “about 64 percent of scientists at elite research universities either are certain that they do not believe in God, the classic atheist position, or they do not know whether or not there is a God, the classic agnostic view,” compared to about 6 percent of the general public (ibid., p. 16). Put another way, “only 9 percent of scientists say they have no doubt that God exists, compared to well over 60 percent of the general public.” Of course, “agnosticism may mean something different to scientists than it does to members of the general public. By definition, their life-work of science requires insurmountable evidence. ... A scientist is rarely absolutely convinced about anything!” (ibid., p. 36). That said, 71 percent of scientists were willing to grant that there are basic truths in many religions (ibid., p. 35).

Results of religious surveys can be appreciated fully only if a nuanced view is taken of the findings. For example, Ecklund’s survey found that nearly 50% of American scientists identify with a religious label, compared to 84% of the general population (ibid., p. 33). However, of those who believe, “the highest proportion are Jewish (about 16 percent), but many of these identify as Jewish as

an ethnicity, not in terms of an active religious faith” (ibid.). This is why nearly 50% of scientists surveyed could identify themselves with a religious label, even though 64% declared themselves to be atheists or agnostics.

18. G. A. Tobin et al., *Religious Beliefs*, p. 12.
19. A September 2007 Pew opinion poll (Public Expresses Mixed Views of Islam, Mormonism), taken of the general American public following a period of greater visibility of Mormonism during the Mitt Romney presidential campaign, gave the following Favorable-Unfavorable-No Opinion breakdowns: Jews (76-9-15%), Catholics (76-14-10%), Evangelical Christians (60-19-21%), Mormons (53-27-20%), Muslim Americans (53-29-18%), Muslims (43-35-22%), Atheists (35-53-12%).
20. Public Expresses Mixed Views of Islam, Mormonism.
21. C. Lasch, *Revolt*, p. 215. E. H. Ecklund, *Science vs. Religion*, pp. 153-155. See also D. Kinnaman et al., *Unchristian*. The authors of this book are evangelical Christians who think that it’s important to understand some of the stereotypes (all admittedly having some basis in reality) that people of the Mosaic (born 1984-2002) and Buster (born 1965-1983) generations have of religion. Some of the chapters are entitled: “Hypocritical,” “Get Saved!,” “Antihomosexual,” “Sheltered,” “Too Political,” and “Judgmental” — thus making clear many of the issues that make it difficult for religion to get a serious hearing among some people today.
22. E. H. Ecklund, *Science vs. Religion*, p. 58.
23. Ibid., p. 56.
24. Ibid., p. 17. For example, Robert T. Pennock writes (R. T. Pennock, *Tower*, pp. 178, 179):

To the faithful, having faith means sustaining belief despite the lack of [observable] evidence and sometimes even in the face of countervailing evidence. This accounts for the difference between a scientific test of a hypothesis and a theological test of faith. In the former case, we believe a proposed hypothesis only because it is supported by [observable] evidence and has survived attempts to disconfirm it [through the scientific method], and we reject it if the evidence opposes it. In the latter case, to survive a test of faith means to hold fast to one’s belief even when everything goes against it. ... [S]cience, far more than any of its specific conclusions, is fundamentally scientific method. Creationists would have us turn science on its head and replace scientific reasoning based on observable evidence with human interpretations of revealed truth. The confusion of human languages would be nothing compared to the great confusion that would result from such a program.

25. See *ibid.*, pp. 20-24. In an article in *The Instructor*, for many years the Church's magazine for teachers, we read (E. L. Poulsen, *Make Your Teaching*, pp. 179, 199):

The Sunday School teacher who makes a pastime of ridiculing men of science, and of holding them up as the arch enemies of religion, usually loses the respect of the most intelligent members of his class. Others, who for the time being accept his conclusions, are forced later on to believe they must choose one or the other. Sometimes, they don't choose religion. And if they don't, the deceptions of unscrupulous and irreligious teachers of science may have been one of the causes; but it's equally true that the Sunday School teachers themselves may have been the worst offenders.

Little good comes from overstressing immature, childish versions of the creation, or from castigating unpopular political and economic theories, though this sort of thing is frequently done. Perhaps such a tendency is the second line of defense for those teachers who find themselves facing their classes without adequate preparation for the lesson at hand.

Many notable men and women, as everyone knows, have given the Sunday School credit for successfully laying the spiritual foundations of their lives, or of guiding them through periods of doubt and uncertainty when they were wavering. ...

There are safeguards, however, with which the Sunday School teacher can surround himself so that he will almost certainly be able to inspire youth. The first of these is humility. Nothing so completely disarms an opponent or softens the edge of an argument as the removal of all sham and pretense from one's character, revealing a mind willing to learn, and eager to enlarge its own horizons, and a heart beating with good will for every individual God has created.

26. See *ibid.*, pp. 24-26.
27. Some years ago in Edinburgh, the city of the common sense philosophers where Charles Darwin's interest in natural history had budded, where his father and uncle and grandfather had studied before him, and where Elder Orson Pratt poured out his soul in discouragement on the top of Arthur's Seat for the Lord to give him just 200 Scottish converts (J. B. Allen et al., *Men*, pp. 163-164), Bradshaw remembers having lunch with a few colleagues:

The topic of religion came up, and though the comments were derisive, I held my peace for the moment. Later, sitting with the faculty on the hard wooden pews of the 300-year old chapel waiting for a lecture to begin, an opening came for me to share the fact that I was an active member of the LDS Church with a friend seated to my left. In shock, the friend expressed his sincere apologies for his comments at lunch. He said that the idea that I was a believer had never occurred to him, that there was only one other person he knew at work who had any kind of religious belief, that both he

and his wife were both raised without any religion, as were their parents before them. Once rare, this situation has become commonplace.

28. R. Stark, *Discovering*, p. 8.

29. *Ibid.*, pp. 1-2.

30. *Ibid.*, p. 2.

31. Cited in D. Whitmer, *Address*, p. 31; cf. J. Smith, Jr., *Teachings*, 16 May 1841, p. 189. See also B. H. Roberts, *Comprehensive History*, 1:162-163; J. Smith, Jr. et al., *Manuscript Revelation Books, Facsimile Edition*, Canadian Copyright Revelation, circa early 1830, BCR 30-31, pp. 31, 33.

32. R. Stark, *Discovering*, p. 52.

33. *Ibid.*, pp. 2-3.

34. *Ibid.*, p. 43.

35. *Ibid.*, p. 20.

36. *Ibid.*, p. 8. See, however, the findings of Guy Consolmagno, who concluded from his interviews that while younger scientists and engineers often saw religion as a source of truth, older ones, already settled in what they believe, tended to see it principally as a source of community (G. Consolmagno, *God's Mechanics*, pp. 102-118).

DAVID H. BAILEY



David H. Bailey is a mathematician and computer scientist. He recently retired from the Lawrence Berkeley National Laboratory, but is still a very active research scientist. He has published six books and over two hundred technical papers on topics such as high-performance scientific computing, computational mathematics, financial mathematics, and computational biology. He has received the Sidney Fernbach Award from the IEEE Computer Society, the Gordon Bell Prize from the Association for Computing Machinery, and the Chauvenet and Merten Hesse Prizes from the Mathematical Association of America — the only person to have received major awards from each of these three professional societies.

Bailey is a strong believer in rigorous standards of ethics and reproducibility in scientific research. In 1991, concerned about lax standards in the field of high-performance computing at the time, Bailey wrote papers highlighting questionable practices and proposing more rigorous standards to analyze performance. In November 2015, one of these papers was recognized with the Test of Time Award from the ACM/IEEE Supercomputing Conference for its enduring impact on the field. More recently, he has also written about the lack of rigorous standards in the financial mathematics field, and has proposed new techniques and methodologies to ensure responsible research in the field.

Bailey has also written extensively on topics of science and religion in general, and on science and Mormonism in particular. He is the editor of the website ScienceMeetsReligion.org, which includes articles on topics such as evolution, geology, physics, cosmology, and how the awe-inspiring developments in these fields can be seen to be in harmony with modern, enlightened religion.

Bailey and his wife, Linda, live in Alamo, California. He served as a full-time missionary in the Hong Kong-Taiwan Mission, and currently teaches the High Priests Quorum. Linda volunteers at the Oakland Family History Center. They have four married daughters and seven grandchildren.

JEFFREY M. BRADSHAW



Jeffrey M. Bradshaw (PhD, Cognitive Science, University of Washington) is a Senior Research Scientist at the Florida Institute for Human and Machine Cognition (IHMC) in Pensacola, Florida (www.ihmc.us/groups/jbradshaw; en.wikipedia.org/wiki/Jeffrey_M._Bradshaw). His professional writings have explored a wide range of topics in human and machine intelligence (www.jeffreymbradshaw.net). From 1985 to 2000, Bradshaw led research groups at The Boeing Company. Jeff is an Honorary Visiting Researcher at the University of Edinburgh, a former Visiting Professor at the Institut de Cognitique at the University of Bordeaux, and a member of the Graduate Faculty, Human-Centered Design Institute of the Florida Institute of Technology.

Jeff helped pioneer the research area of multi-agent systems, and his first book on the topic, *Software Agents*, became a classic in the field and a best-seller for The MIT Press. In addition, Jeff's group at IHMC conducts research topics such as digital policy, identity management, semantic technologies, cyber sensemaking, self-driving cars, and visualizations that exploit principles of human perception and cognition. Results have been applied to scores of commercial and government applications. Jeff has organized a series of Human-Agent-Robot Teamwork (HART) workshops. He chairs the Scientific Advisory Council for the Nissan Research Center—Silicon Valley and co-edits the Human-Centered Computing Department for *IEEE Intelligent Systems*.

Jeff has been the recipient of several awards and patents and has been an adviser for weighty initiatives in science, defense, space, industry, and academia worldwide. He was a member of the Defense Science Board 2015 Study on Autonomy, the Board on Global Science and Technology for the National Academies of Science, and the National Research Council Committee on Emerging Cognitive Neuroscience Research. He is former chair of ACM SIGART (now SIGAI) and the RIACS Science Council for NASA Ames. He was a scientific advisor to the Cognitive Science Program at Sandia National Laboratories, the HCI and Visualization program at the German Research Center for Artificial Intelligence (DFKI), and to the Japanese NEC Technology Paradigm Shifts initiative. He received the Web Intelligence Consortium Outstanding Contributions Award.

Jeff has an abiding interest in Genesis, temples, and the ancient Near East (www.templethemes.net). He has lectured at BYU Campus Education Week, the Sidney B. Sperry Symposium, and at FairMormon meetings. He has published commentaries on the book of Moses and JST Genesis 1-11, and other volumes on temple-related topics. His articles have appeared in *Studies in the Bible and Antiquity*, *Element: A Journal of Mormon Philosophy and Theology*, *Interpreter: A Journal of Mormon Scripture*, *Meridian Magazine*, and *BYU Studies*. He is a vice president for The Interpreter Foundation and is on the Advisory Board for the Academy for Temple Studies.

Jeff was a missionary in France and Belgium from 1975-1977, and his family has returned twice to live in France: once from 1993-1994 as a Fulbright Scholar and a second time from 2005-2006 as an unexpected "sabbatical" in the aftermath of Hurricane Ivan. Jeff has served twice as a bishop and twice as a counselor in the stake presidency of the Pensacola Florida Stake. He and his wife, Kathleen, are the parents of four children and nine grandchildren. In 2016, they accepted a call to serve in the Democratic Republic of Congo, Kishasa Mission.