Inherit the Wind, Mormon Style

Can Science be Faith-Promoting? by Sterling B. Talmage, ed. Stan Larson. (Salt Lake City: Blue Ribbon Books, 2001). 253 pp.

Evolution and Mormonism, by Trent D. Stephens and D. Jeffrey Meldrum with Forrest B. Peterson (Salt Lake City: Signature Books, 2001). 238 pp.

Reviewed by Richard F. Haglund, Jr., Professor of Physics, Vanderbilt University.

IN 1925, THE TOWN FATHERS of Dayton, Tennessee secured their place in history by trying John Scopes for teaching evolution in the public schools.[1] With William Jennings Bryan as prosecutor, Clarence Darrow for the defense, and reportage by H. L. Mencken, the trial was a unique American blend of materialistic science, fundamentalist religion and hyperbolic rhetoric that would later be captured imaginatively in the play *Inherit the Wind*. The title comes from the first scene, in which the fiery Reverend Brown calls down the wrath of God on Cates (Scopes) and his supporters, including Brown's own daughter. Horrified, Matthew Harrison Brady (Bryan) implores the preacher to remember that "it is possible to be overzealous, to destroy that which you hope to save—so that nothing is left but emptiness. Remember the wisdom of Solomon in the Book of Proverbs—'He that troubleth his own house. . .shall inherit the wind.'"[2]

In the play's final scene, the reporter Hornbeck (Mencken) exults that in these lines, Brady has written an epitaph for himself and for the fundamentalist faith he sought to erect as a bulwark against modern science. But no such simple end to the religion-evolution controversy was to be found. The two books reviewed here—one a period piece from the decade after the Scopes trial, the other a wide-ranging discussion about evolution for today's Latter-day Saint students—show that the winds from Tennessee still blow fiercely three quarters of a century later.

Sterling Talmage's essays were a contemporaneous response to a controversy that had been simmering for two decades before boiling over among Mormon authorities B. H. Roberts, Joseph Fielding Smith, and James E. Talmage (Sterling's father) in 1930.[3] In that year, Roberts, of the

[1]For details, see Edward J. Larson, *Summer for the Gods: The Scopes Trial and America's Continuing Debate over Science and Religion* (Cambridge, MA: Harvard University Press, 1997).

[2]*Inherit the Wind*, in *The Selected Plays of Jerome Lawrence and Robert E. Lee*, ed. Alan Woods (Columbus: Ohio State University Press, 1995), Act 2, Scene 1, 42.

[3]The controversy began at Brigham Young University in 1911; see Thomas G. Alexander, *Mormonism in Transition 1890-1930* (Urbana: University of Illinois Press, 1986), 171-173, 272-275. See also Richard Sherlock and Jeffrey E. Keller, "The B. H. Roberts/Joseph Fielding Smith/James E. Talmage Affair," reprinted in *The Search for Harmony*, ed. Gene A. Sessions and Craig J. Oberg (Salt Lake City: Signature, 1993), 93-116.

Seventy, asked the church's First Presidency to authorize publication of *The Truth, the Way, the Life,* in which he proposed an "old earth" creation scenario and the possibility of "pre-Adamic" human life. Shortly thereafter, apostle Joseph Fielding Smith denounced evolutionary biology and geology in a church magazine, an action Roberts viewed as a thinly veiled attack on his manuscript. Heated debate continued until the First Presidency asked the leaders of the church to "leave geology, biology, archaeology, and anthropology, no one of which has to do with the salvation of the souls of mankind, to scientific research, while we magnify our calling in the realm of the Church."[4]

Talmage, a respected geologist in whom his apostle father confided frequently, addresses four critical questions at the core of these debates:

- What subject matter and ways of knowing are appropriate to science and religion, and what dangers (e.g., dogmatism, overreaching) confront the seeker after truth?
- If geological evidence points increasingly to an "old earth" creation scenario, should we still argue that a God of natural law and universal order did something else?
- What is the evidence that an evolutionary principle is at work in nature, particularly in the creation of man; further, is theistic evolution compatible with the Gospel?
- Fundamentalists claim that their interpretations of scripture prove conclusively that scientific theories of earthly origins cannot be true. Are there alternative readings?

His exploration of these questions reveals Talmage to be unstinting in his commitment to unfettered scientific inquiry but firmly anchored in his religious faith.

Talmage wrote the eighty-page title essay in 1935 as a text for the Mutual Improvement Association in the halcyon days when individuals rather than committees wrote such manuals. Each chapter within the essay covers a single discussion topic, for example "What Say Physics and Chemistry?" and "What is Dogmatism?" He argues that many controversial questions about the origin of life are nonscriptural, rather than unscriptural, and cannot be studied from the perspective of either science or religion alone: "[T]hose whose minds are attuned exclusively to spiritual things may miss altogether the foundation for great spiritual truths that exist in the truths of nature. And the mind attuned solely to measurable facts not only cannot see but may even deny the existence of the higher truths to which these facts bear witness. And neither can hear or understand the other; their shutters are too strongly made" (p. 71). What if "we carry some doubts until we die? Unless we know enough to resolve them we will. But would it be a calamity if we had to remain open-minded all of our lives?" Not to Talmage, for the ideal investigator "takes his free agency out and exercises it, instead of trying to embalm it permanently at every real or fancied opportunity" (p. 34).

Elsewhere, Talmage argues that when properly understood, evolution is a principle that promotes rather than destroys faith:

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[4]First Presidency minutes of 7 April 1931, quoted in William E. Evenson, "Evolution," in *Encyclopedia of Mormonism,* ed. Daniel H. Ludlow (New York: Macmillan, 1992), 2:478.

> I asked a question of a dozen of my acquaintances. . . ."What is the first thing you think of when someone mentions evolution?" Ten out of the dozen answered: "Monkeys," "Ape ancestors," or some variant on the same idea. The eleventh said: "William Jennings Bryan." I did not ask him to explain. The twelfth was a physician. He answered: "The hatching of an egg." He was the only one of the twelve who had any idea of the principle; all of the others were thinking of a theory. (p. 114)

This principle is exemplified in the fact that "throughout all of the time covered by the paleontological record, there has been a general tendency toward progressive development, from the simple to the complex and from the generalized to the specialized" (p. 127). That the human embryo recapitulates the development of simpler living organisms during gestation shows that man's body is "simply one. . .of the many living organisms that have been created (p. 133).

The final section of Talmage's book contains previously unpublished correspondence from 1931 to 1935. His "Open Letter" to Joseph Fielding Smith conveys the deep feelings that fueled the controversy:

> In your boyhood and in mine, the statements of the general authorities of the Church were considered to be final; nobody in good standing in the Church presumed to question them. Today this is not so, and I believe for only one reason, namely, that some of the authorities have made statements that are not worthy of belief, and I cite your explanation of the miracle at Joshua's battle as a conspicuous but by no means an isolated example of what I mean. (p. 213)

The tone of this letter suggests why the First Presidency asked Church authorities to halt public discussion some time after James E. Talmage's Tabernacle address on "The Earth and Man."

During the half century after the Roberts-Smith-Talmage affair, a generally positive view of science in Mormon culture was gradually supplanted by one in which "science so-called" was associated with doctrinal heresy and social plagues. The controversy flared again when Smith, having outlived scientifically trained apostles Talmage, John A. Widtsoe, and Joseph F. Merrill, published *Man, His Origin and Destiny* in 1954,[5] voicing anti-evolutionary tirades that still reverberate. In characterizing the development of this "uncomfortable interface" dividing religious belief from scientific thought, Duane Jeffery observes that "the intense polemics of the theology-biology debate [have] polarized people into opposite camps. . .detrimental to the cause of both. . . .The concept that God works through universal law. . .is fundamental, [giving] Mormonism a basis for synthesis of the two camps that exist in few if any other Western religions."[6] *Mor-*

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[5]In what Duane Jeffery has called the "first explicitly anti-scientific treatise of the Restoration," Smith condemns evolutionary theory as "a tool of Satan" and scientists as "miserable fools." See Jeffery, "Seers, Savants and Evolution: The Uncomfortable Interface," reprinted in *The Search for Harmony*, 176-177.

[6]Jeffery, "Seers, Savants and Evolution: The Uncomfortable Interface," *Dialogue* 8 no. 3-4 (1973): 41. The original differs here and in a few other instances from the version cited in note 5.

monism and Evolution is a noteworthy attempt by Latter-day Saint life scientists Trent D. Stephens and D. Jeffrey Meldrum to provide that synthesis.[7] To do so, they present the scientific evidence underlying contemporary evolutionary science and attempt to reconcile it to passages of scripture commonly cited as "proof" that evolutionary theory must be not only wrong, but false and indeed deceptive.

The book is addressed to the kind of student audience Sterling Talmage imagined for *Can Science be Faith-Promoting?* Where Talmage's focus was primarily geological, however, *Mormonism and Evolution* is aimed almost exclusively at the life sciences; the general "principle of evolution" Talmage espoused with little evidence except analogies is replaced by detailed documentation of evidence for the neo-Darwinian synthesis. Like the Talmage essays, *Evolution and Mormonism* reads more like a series of fireside talks than a comprehensive, systematic approach to the issues.

Over half of the book is devoted to preliminary chapters that establish the authors' commitment to LDS beliefs and the established order of the Church and assure us that the sense of wonder experienced by scientists increases religious faith. "The Evidence of Things" and "What about Darwin?" provide a rather oversimplified view of both science and Darwin's immense contribution to modern biology. Rhetorical bows to Galileo and Copernicus give the impression that Darwin is one more victim of religious intolerance—a caricature that belies the complex circumstances of all three cases. However, the outline of the plan and contents of *The Origin of Species* is useful, and the discussion of the inadequacy of the crucial concept of "species" for the weight that theologians often want to put on it is invaluable.

The most successful chapters focus on specific scientific questions about evolution and creation. In "DNA on the Witness Stand," Stephens and Meldrum describe the use of DNA sequences as molecular markers that quantify the degree of similarity between the human genetic endowment and that of other living creatures. Moreover, the memory of previous mutations found in the noncoding segments of DNA helps us to reconstruct the evolutionary history of today's living creatures and confirms the picture of descent with modification. The authors emphasize that faith in the orderliness of the universe precludes accepting scientific conspiracy theories alleging that similarities between animal and human DNA are part of a deceitful scheme to confuse inquiring students. "Our Place in Nature" explores the relationship between humankind and the great apes, and asks pointedly whether our aversion to being related even distantly to other creatures is more vanity than theology.

"Written in Stone" deals with two critical issues for which much more physical evidence is available now than was available to Talmage: first, transitional forms in the fossil record, indicating changes of species; and second, paleontological records of the evolution of human kind. In the early days of evolutionary theory, the lack of such transitional forms was frequently taken as a clear indication that Darwin's theory could not possibly be true. In recent years, however, the fossil record has yielded volumes of evidence that ani-

[7]Stephens is professor of anatomy and embryology, Meldrum associate professor of anatomy and anthropology, both at Idaho State University. Forrest B. Peterson, a contributor whose role is not elaborated, is a writer and producer.

mal species evolved to produce species that clearly made the transition from aquatic to land mammals, and the reverse. A survey of the family tree of humankind leads Stephens and Meldrum to a strong conclusion in favor of theistic evolution: "The fossil evidence of human evolution is one of the best examples of transitional evolution in the fossil record. Does this necessarily eliminate the need for a Creator? No. Instead, this implies a natural process by which God carried out his creative design and ultimately prepared suitable physical tabernacles for his spirit offspring" (p. 164). This sets the stage for the authors to explore interesting alternative interpretations of the Genesis creation account consistent with evolutionary theory.

Scientists often seize upon the neo-Darwinian idea of random, unpredictable variation as evidence that God is an unnecessary hypothesis. However, evolutionary pathways are constrained by developmental barriers—such as those imposed by the strength of materials out of which living beings are created—so, in fact, evolution cannot be truly random. The authors do a real service in calling attention to the work of D'Arcy Thompson, *On Growth and Form*, which first explored these limitations in detail.[8] They also briefly discuss other possibilities for ameliorating the role of randomness in evolutionary theory, including nonlinear dynamics and chaos theory. Surprisingly, however, they make little mention of self-assembly and self-organization, concepts that would fit nicely into their alternative interpretations of the creation scriptures.

The generally laudable presentation is not without evident, and in some cases crucial, flaws of omission. The concept of truth in scientific discovery is presented without reference to the way new paradigms lead to scientific revolutions.[9] There is nothing to suggest the complex, subtle interplay of scientific data and theory;[10] there is, however, an off-hand remark that Mendel's published data were probably too good to be true, which might leave a mathematically unsophisticated reader wondering if Mendelian genetics is valid at all. This seems an unkind recompense for Mendel, whose work answered a critical question about natural selection that drove Darwin almost to despair and laid the foundation for the modern synthesis. The well-documented influence of nineteenth-century ideas about probability and thermodynamics in physics, Darwin's self-confessed debt to Malthus's *On Population*, and the pervasive materialism and utilitarianism of the nineteenth century all go unremarked. We are not told that Darwin, like Newton, was standing on the shoulders of giants, including Cuvier, Lamarck, and his own grandfather Erasmus Darwin.[11] *Mor-*

[8]*On Growth and Form*, 2nd ed. (Cambridge: Cambridge University Press, 1952).

[9]Thomas Kuhn, *The Structure of Scientific Revolutions*, 2nd ed. (Chicago: University of Chicago Press, 1968); for a critical evaluation of Kuhn's model for evolution, see John C. Greene, "The Kuhnian Paradigm and the Darwinian Revolution in Natural History," in *Science, Ideology, and World View: Essays in the History of Evolutionary Ideas* (Berkeley: University of California Press, 1981).

[10]For example, see Norwood Russell Hanson, *Patterns of Discovery: An Inquiry into the Conceptual Foundations of Science* (Cambridge, Cambridge University Press, 1958).

[11]See Jacques Barzun, *Darwin, Marx, Wagner* (New York: Doubleday, 1941); Loren Eiseley, *Darwin's Century* (Garden City, NY: Doubleday, 1958); and Robert J. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior* (Chicago: University of Chicago Press, 1987).

monism and Evolution thus conveys an incomplete and in some ways naïve picture not only of Darwin's properly honored place in the history of science, but also of the vast web of scientific observation and experiment that supports modern evolutionary theory.

Nevertheless, these irritations should not blind us to what Stephens and Meldrum have achieved. They present up-to-date evidence for evolution and, like Talmage, confront thorny questions about scriptures that seem to rule out death before the Fall (Genesis 2) and to limit the existence of the earth to seven thousand years (Doctrine and Covenants 77:6). They would probably agree with Talmage that believers too frequently substitute zealotry for knowledge when the knowledge is available for the taking: "The things that properly lie within the field of faith are not subject to evaluation by measurement, and those things that can be measured should not be taken on faith" (p. 162). This sensible division of intellectual and spiritual labor is not a design for compartmentalization, but an operational accommodation that can succeed because of the intrinsic complementarity of scientific and religious perspectives on truth.

In the end, however, these two books seem to show that Mormon dialogue about evolution has changed little in nearly a century. We are still arguing whether men are descended from apes, whether Darwin's theory (not the modern synthesis) is really supported by evidence, and whether evolutionary thinking causes contemporary social problems.[12] A catalog of wondrous discoveries—evidence for evolution at the molecular level,[13] tantalizing ideas about self-assembling and self-organizing systems,[14] recent studies on the role of design in evolution[15]—is largely unknown to Latter-day Saints. And we still seem reluctant to accept the fact that, while evolutionary science is certainly a work in progress, the remaining puzzles will be solved by following accepted norms of science, not religion.

Indeed, it may be that no discussion of facts will bring closure, because the real conflict is over whose rhetoric about "faith," "truth," and "reality" will be normative. Kary Smout argues that "both the creationists and evolutionists misconceive of language as a simple mirror for reality instead of as a tool to create and sustain various human communities."[16] If we Latter-

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[12]For example, see Clark A. Peterson, *Using the Book of Mormon to Combat Falsehoods in Organic Evolution* (Springville, UT: Cedar Fort, 1992), the avowed purpose of which is to "combat the falsehoods in socialism, organic evolution, rationalism, humanism, etc." (p. 1). Michael F. Whiting discusses the manifold problems of this work in *Review of Books on the Book of Mormon* 5 (1993): 209.

[13]For a sampling, see Jonathan Weiner, "Evolution Made Visible," *Science* 267 (1995): 30; Richard A. Kerr, "Timing Evolution's Early Bursts," *Science* 267 (1995): 33; and M. W. Caldwell and M. S. Y. Lee, "A snake with legs from the marine Cretaceous of the Middle East," *Nature* 386 (1997): 705.

[14]See Stuart Kauffman, *At Home in the Universe* (New York: Oxford University Press, 1995); Charles Devillers and Jean Chaline, *Evolution: An Evolving Theory* (Berlin: Springer-Verlag, 1993).

[15]See Michael J. Behe, *Darwin's Black Box: The Biochemical Challenge to Evolution* (New York: Touchstone, 1996), and a critical response in Kenneth R. Miller, *Finding Darwin's God* (New York: Cliff Street, 2000).

[16]*The Creation/Evolution Controversy: A Battle for Cultural Power* (Westport, CT: Praeger, 1998), p. xi. See especially the introduction and Chapter 2.

day Saints are not going to ignore what science tell us about human life, we must not only uncover and recover the facts, but also find ways to speak about and understand evolutionary science that are sustainable in our community of faith in the twenty-first century.

In the concluding scene of *Inherit the Wind*, Drummond (Darrow) upbraids Hornbeck for denigrating Brady's convictions while simultaneously being hopelessly uncritical of his own dogmatic unbelief. Hornbeck exits in disgust. In the empty courtroom, Drummond stands at the counsel's bench and picks up first the Bible, then Darwin's *Origin of Species*, and—with a quizzical glance—places them side by side in his briefcase as the curtain falls. Contemporary Latter-day Saints need to find a way to keep both the scriptures, with their keys to religious belief, and science's constantly revised book of Nature in mind. The two books reviewed here illustrate possibilities for doing this without breaking faith with either science or religion. But they also remind us that those who have troubled the house of the Latter-day Saints with fiery rhetoric—on both sides—have left us the legacy of a hot wind that blew through Dayton during the summer of 1925.

Ridiculously Sublime

Madame Ridiculous and Lady Sublime, by Elouise Bell (Salt Lake City: Signature Books, 2001), 153 pp.

Reviewed by Kathryn Loosli Pritchett, Columnist, Knight Ridder newspapers, Piedmont, California.

MIDWAY THROUGH HER LATEST collection of humorous essays, former Brigham Young University professor Eloise Bell pleads for a calculated spontaneity in humorous writing. "I do in fact know that much humor is intentional and crafted. And in the Beauty division, my niece tells me it takes her an hour each morning to look "natural." My point is not that all humor, beauty, storytelling is unplanned, but that its charm lies in SEEMING so" (p. 56). With very few exceptions (a strained parody of photo-happy tourists in "Say 'Fromage'!" for example), Bell has crafted her essays with a sly, unforced charm that seems nearly effortless. This, as anyone who has ever tried to start a sacrament meeting talk with a crowd-pleasing quip knows, is tricky work.

The best contemporary humor writers meander through a folksy tale (Garrison Keillor) or a modern-day saga (Jonathan Franzen) only to surprise you with a well-timed punch line that induces a smile of recognition. Bell uses her anecdotes in much the same way to illuminate topics familiar to her readers. A Trivial Pursuit champ herself, she ponders the popularity of trivia contests: "Ultimately, maybe some of us collect answers to the little questions because we find so few answers to the big questions" (p. 127). She condemns those in the service trade who substitute a social demeanor for a professional one, including waiters who insist on being the highlight of a dinner party. "They seem to be saying, 'Don't think for a minute that I'm a servant: I'm your social equal and then some'" (p. 24).

But the commentaries that resonate most are those which tackle the frustrations of modern technology.