Other (non-scientist) Church authorities, principally Joseph Fielding Smith, writing in the first half of the twentieth century, and later Bruce R. McConkie, vigorously criticized the ideas of some that the scriptures could be reconciled with scientific theories, in particular, evolutionary accounts of the origin of man.

Talmage, Widtsoe, and B. H. Roberts, writing in the first half of the twentieth century, probably have contributed more than any other LDS authorities—with the possible exception of the Pratt brothers—after the initial years of Church growth to scientific topics and their assumed general harmony with the gospel. That this attitude continues and is presently sustained within the larger Latter-day Saint culture, particularly among LDS scientists, is also supported by recent studies that suggest that the LDS community has produced more scientists per capita than most religious groups in twentieth-century America (see SCIENCE AND SCIENTISTS).

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SCIENCE AND SCIENTISTS
In a world where science and religion have sometimes been at odds, Latter-day Saints stand out for their positive attitudes toward science and their high proportion of involvement in scientific careers. Active scientists are often called to positions of Church leadership, and a number of LDS scientists have been internationally recognized for scientific work. With Church sponsorship, Brigham Young University maintains sizable programs in most scientific fields of study and supports significant research in many of these. The positive attitude toward science is often attributed to distinctive theological beliefs.

In the nineteenth century, some Latter-day Saints showed great interest in science, but none were broadly known as practicing scientists. Their experience in those early decades included constantly moving from place to place, struggling with persecution and economic loss, carrying the message of the restored gospel to the nations of the earth, and establishing new communities on the American frontier. While this life afforded little opportunity to become professional scientists, several pursued their scientific interests as they were able, including Orson Pratt’s early establishment of an observatory in Salt Lake City. Distinctive cultural factors present from the earliest years eventually led Latter-day Saints to pursue careers in science in large numbers.
The commitment to education and the pursuit of truth was reinforced by teachings of early Church leaders and specifically by revelations received by Joseph Smith. One statement based on revelation explains that “whatever principle of intelligence we attain unto in this life, it will rise with us in the resurrection” (D&C 130:18). Another scripture asserts that “all things are created and made to bear record of me, . . . things which are in the heavens above, and things which are on the earth, and things which are in the earth: . . . all things bear record of me” (Moses 6:63). Thus, for many Latter-day Saints, the pursuit of scientific knowledge is a religious quest.

Latter-day Saints also teach that God created all things using laws natural to his environment; that the natural world is a world of pattern, law, order, and meaning; and that men and women possess the ability to discover truth and to use that knowledge to improve the world in which they live. Because they believe that God works by law, the study of the world can also be seen as a study of the divine. From this perspective they see themselves as coworkers with God in improving the human condition. These same ambitions are reinforced by the instillation of the value of hard work and the idea that all men and women are responsible to the larger society as well as to their immediate families. Further support for scientific activity can be found in repeated encouragement to young people to work for long-term goals and to leave the world a better place than they found it. These indirect sources of encouragement for scientific endeavor are often supplements by LDS leaders teaching that God reveals certain truths through scientific research and not alone through prophets. President Brigham Young claimed that “God has revealed all the truth that is now in the possession of the world, whether it be scientific or religious. The whole world [is] under obligation to him for what they know and enjoy; they are indebted to him for it all” (JD 8:162).

As the LDS community stabilized and became part of mainstream America in the twentieth century, these attitudes began to bear fruit in scientific endeavor. A 1940 study established that Utah led all other states in the number of scientific men born there in proportion to the population (Thorndike, pp. 138–39). A thorough analysis of state-by-state contributions to science from 1920 to 1960 found that Utah led all other states by a wide margin in the proportion of its university graduates who eventually received doctoral degrees in science (Hardy, p. 499). Unpublished research indicates that this high productivity continued through the 1970s, though Utah dropped to second place among the fifty. It is generally recognized that the high percentage of Latter-day Saints in Utah largely accounts for Utah’s distinctiveness in these studies. Researchers find that the LDS beliefs described above correlate strongly with positive attitudes toward science, as they also distinguish Latter-day Saints in this regard from most other Christian groups.

A number of LDS apostles and other General Authorities have been scientists. Even in the earliest decades, Orson Pratt demonstrated exceptional interest and competence in his scientific avocations; his contributions were highly valued by the Mormon people. Later, in the frontier period, individual Latter-day Saints began to pursue formal scientific studies, first by correspondence courses, and later by traveling out of the state for enrollment in scientific institutions. James E. Talmage graduated from Lehigh University and studied at
Johns Hopkins University before completing a Ph.D. through correspondence work at Illinois Wesleyan University. He undertook pioneering geological studies on the Great Salt Lake before his call to the apostleship in 1911. John A. Widtsoe studied biochemistry at Harvard University and in 1899 received a Ph.D. in chemistry from Göttingen University in Germany. Joseph F. Merrill received his Ph.D. in physics from Johns Hopkins University in 1899. These three succeeded one another in the European mission presidency and contributed a great deal to the enthusiasm for scientific thinking among Latter-day Saints in the first half of the twentieth century. The rise of European ideologies that embraced science and technology while rejecting Christian values led them to a more cautious endorsement of scientific realism in later years.

Examples of prominent LDS scientists in the mid-twentieth century include chemist Henry Eyring and physicists Harvey Fletcher and Willard Gardner. Eyring pioneered the application of quantum mechanics to chemistry and developed the Absolute Rate Theory of chemical reactions, for which he received the National Medal of Science. He was elected president of the American Chemical Society (1963) and of the American Association for the Advancement of Science (1965). Fletcher directed research at Bell Labs, where he played a central role in the development of stereophonic reproduction. He was elected president of the American Physical Society (1945). The American Society of Agronomy cited Gardner as “the father of soil physics” for his descriptions of the movement of water through unsaturated soils by reference to capillary potential. The number of Latter-day Saints significantly involved in scientific pursuits continued to grow throughout the twentieth century.

Two apostles were called in the 1980s from careers in medicine and engineering. Russell M. Nelson, a prominent heart surgeon, received a Ph.D. in surgery from the University of Minnesota for his research on gram negative bacterial toxemia. Richard G. Scott used his degree in mechanical engineering as a base for advanced studies at the Oak Ridge laboratory in Tennessee and a career in nuclear engineering.

Like people in other religious traditions, the Latter-day Saints have also discovered scriptural reasons for some ambivalence toward modern science. In some instances, prominent Church leaders have voiced strong skepticism about science in general and about certain theories of psychology, evolutionary biology, and astronomy in particular. Some have suggested that a number of these scientific ideas are incompatible with the scriptures and the basic doctrines of the Church. Others have proposed ways to reconcile these and have emphasized the ultimate compatibility of all truth, whether revealed to prophets or discovered by scientists.

The Church’s governing councils have consistently refrained from being drawn into official discussions of such matters. Early-twentieth-century controversies over biological evolution did stimulate formal statements from the First Presidency. But these were carefully drawn to avoid dampening legitimate scientific activity while clearly articulating and defending basic doctrinal positions of the Church. Church leaders and scientists have repeatedly noted the essentially tentative character of scientific theorizing and experimentation and have emphasized the necessity of divine revelation for sure guidance in their lives. Similarly, scriptures have been frequently invoked to indicate that religious understanding also is incomplete and that additional revelation is both expected and necessary (D&C 101:32–34; A of F 9). Such statements have reminded Latter-day Saints that both science and revealed religion are continually building toward greater understanding of truth.

[See also Intellectual History; Matter; Metaphysics.]

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SCOUTING

The Boy Scout movement began in England under the guidance of Lord Robert Baden-Powell in 1909. It appeared in the United States early in 1910 as the Boy Scouts of America (BSA), where a variety of churches used its programs as a part of their ministries to youth and families. After investigating the new scouting movement, the Young Men's Mutual Improvement Association (YMMIA) of The Church of Jesus Christ of Latter-day Saints organized the MIA Scouts on November 29, 1911, with the intent to provide worthwhile leisure time and athletic activities for its young men. On May 21, 1913, the MIA Scouts, upon invitation from the National Council, became part of the BSA.

Under YMMIA direction, this program moved rapidly forward in the Church. In 1928 Church leaders designated scouting as the activity program for the Deacons and Teachers of the Aaronic Priesthood and transferred its administration to the Presiding Bishopric.

In that same year the Vanguard program was developed by the Church for young men older than Boy Scout age. In 1949 Cub Scouting was officially adopted by the Church, and the Primary

Mutual Improvement Association (MIA) Scout Band in front of the LDS Church Office Building, c. 1917. The Boy Scouts of America was organized in 1910. Inspired by this movement, the Church organized the MIA Scouts in 1911 and became one of the first sponsoring organizations of Boy Scouts of America in 1913. Courtesy Utah State Historical Society.