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Mormon Scientist: The Life and Faith of Henry Eyring

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Henry J. Eyring. *Mormon Scientist: The Life and Faith of Henry Eyring.*

Salt Lake City: Deseret Book, 2007

Reviewed by Ned C. Hill

Henry Eyring (1901–1981) is undoubtedly the most celebrated scientist produced within the Mormon faith to date. He published over six hundred scientific papers and about a dozen books, and he received almost every prize science has to offer. His theories form the core of modern chemistry. One of his colleagues said, “The contributions of Dr. Henry Eyring touch practically every field of chemical science and technology in a very fundamental manner” (xx). Not only was he a brilliant scientist, he was also a man with deep faith in God and in the restoration of the gospel in modern times. This biography by his grandson Henry J. Eyring highlights his scientific achievements and gives the reader a faith-affirming look into the mind and soul of an exceptional man of science. The book captures his simple yet powerful faith, his love of people, his wry sense of humor, and his incomparable work ethic. One needs no scientific background to find resonance with this remarkable man.

Henry Eyring was born in 1901 on a fourteen-thousand-acre cattle ranch in Colonia Juarez in the Church’s Mexican colonies. Raised in a large polygamous family, Henry was completely at home on the back of a horse. The author argues effectively that Henry’s unusual upbringing—two “mothers,” many siblings, a revolution that drove the family out of Mexico, and the demands of the harsh environment of the Southwest—contributed to his eclectic scientific interests, fertile curiosity, and remarkable problem-solving skills. His formal university training was an unusual mix of mining engineering, metallurgy, and chemistry. He was able to study under the best scientists of his day and spent fifteen years on the faculty at Princeton University during the same time Albert Einstein was there. Henry was one of the bright lights in this golden age of science that saw the development of relativity, quantum theory, and many fundamental concepts in chemistry—his own absolute rate theory key among them. He came to the University of Utah in 1946 to be its first dean of the

graduate school, a position he filled for twenty years. During his many years as a professor, he produced hundreds of doctoral graduates, personally taught thousands of students, and profoundly influenced many tens of thousands, young and old, through his writing and speaking.

Eyring had a lively and engaging speaking style, which made him a natural mentor to the young. When surveyed, over ninety percent of his students said they would take another chemistry course from him (82). The book captures the same essence of the man and teacher I once encountered. As one of his part-time undergraduate research assistants, I had a laboratory across the hall from his office. One evening I asked if he could explain his absolute rate theory so an undergraduate could understand it. He said he would be glad to explain it to me and Mary Lou, his secretary. He happily arranged a large pile of books as a sort of barrier on top of his desk. Jumping up on the desk, he asked us to pretend he was a molecule slowly gyrating around. He explained that the barrier of books kept him on the desk as long as the temperature of the molecule was low. Then, as the temperature warmed up (he began to gyrate around faster), the molecule gradually got enough energy to jump over the barrier (he suddenly bounded over the books and landed on the floor) to transform down to a lower energy state represented by the floor. I never forgot that visualization—and we were both glad he did not break his leg. Eyring had the notion that if you really understand a concept—no matter how complex it is—you should be able to explain it to an eight-year-old. If you cannot, “you don’t really understand it yourself” (80).

Henry Eyring’s personal touch was legendary. He responded with kindness and patience to the many letters he received, even responding with sensitivity to those who were “on the crusade” to stamp out scientific theories he entertained (173). One day, as I worked in his laboratory, I heard him talking with animation to someone in the hall. I peeked out to see who this person might be. It was the custodian. A few days later I overheard him conversing with someone else in the hall—using the same friendly, animated voice. I again looked out, and he was speaking with an internationally recognized visiting scientist. Dr. Eyring obviously showed no difference in his level of respect for both of these individuals.

The book chronicles his exchanges (and disagreements) with Joseph Fielding Smith concerning the theory of evolution and the age of the earth (61–63). Again, the exchanges reveal not a scientific hubris but a simple faith—a most remarkable characteristic considering his station in the scientific community. He once debated Dr. Melvin Cook on the topics of evolution and the age of the earth at a fireside. Dr. Cook favored a very literal interpretation of the biblical account of the creation: no evolution and an

age of the earth measured in thousands of years, not millions or billions. Both subjects were of concern to faithful members of the Church—especially college-age students who were encountering these tensions between science and religion for the first time. I attended and saw that Dr. Eyring took a most refreshing approach. He was not bothered in the least by the theory of evolution or radio-dating techniques showing the earth to be billions of years old. He was absolutely confident that, once we more fully understood the creation and how it relates to science, we would see there was no conflict.

To him there was no religious truth separate from scientific truth—truth was simply truth. Religion may seek it one way and science another—but both would eventually get to the same conclusion. He took great comfort in the advice his father gave him when he left to study mining engineering at the University of Arizona in 1919: “In this Church you don’t have to believe anything that isn’t true. . . . Whatever is true is part of the gospel” (4). Henry believed fully in God, Jesus Christ, and the Restoration through the Prophet Joseph Smith. That belief was independent of the method God used to create the earth and put man upon it. He was not afraid of any scientific inquiry—it would only add to our understanding and eventual discovery of the truth. Hearing the assurances of a man of such towering intellect and faith gave young students of that era needed comfort and patience.

The book is not a critical examination of the relative scientific merits of Henry Eyring’s contributions to the field of chemistry and is therefore very accessible to those lacking a scientific background. Any readers, especially Latter-day Saints, will find this biography of Henry Eyring’s life and faith to be an informative, engaging, and lovingly written account of one of the most remarkably gifted souls of the twentieth century.

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