

# MORMON SCIENTIST

THE LIFE AND FAITH  
OF HENRY EYRING

HENRY J. EYRING



DESERET  
BOOK

Salt Lake City, Utah

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*For Parker Fairbourne Bradford, Hero  
1989–2007*

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*Greater love hath no man than this, that a man  
lay down his life for his friends.*

—JOHN 15:13

*To accept the idea that the human personality ends with  
death is to accept life as a futile, meaningless gesture. God  
would be less compassionate than many good men if life ended  
at the grave. Broken, uncompleted lives are the best possible  
reason for a hereafter in which the scales of  
justice are balanced by a just God.*

—HENRY EYRING

*He that endureth in faith and doeth my will, the  
same shall overcome, and shall receive an inheritance upon  
the earth when the day of transfiguration shall come.*

—DOCTRINE AND COVENANTS 63:20

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## 2

# FAITH

The first half of the twentieth century, when Henry began his career, saw unprecedented technological progress. Great good flowed from a wave of scientific discovery. Yet there was also great destruction of life and threat to traditional beliefs. Science had to take some responsibility for that, as well. The seeming tension between the good and ill that science wrought put Henry in an important, potentially difficult position.

### THE THREAT OF SCIENCE

The world had changed so quickly. In 1900 the Wright brothers were preparing for their historic first flight. Marie Curie and her colleagues were just beginning to understand radioactivity. By the mid-1950s, the most terrible war in history had ended with the explosion of two atomic bombs; hydrogen bombs a hundred times more powerful were being tested. Sputnik, a Soviet satellite, could be seen overhead in the U.S. every ninety minutes. The world shuddered at the thought of combined missile and nuclear technology, of death raining down from space.

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The religious faithful also shuddered at certain scientific developments. At the turn of the twentieth century, for instance, the theory of evolution was yet incomplete. Charles Darwin had demonstrated natural selection, or survival of the fittest, but couldn't show the mechanism by which a parent produced a more or less fit offspring. With the theory incomplete and the scientific community divided over the missing elements, evolution in 1900 was a subject of concern only to scholars.

That began to change rapidly, though, when Gregor Mendel's work on genetic inheritance was rediscovered in 1901, the year of Henry's birth. Within a few decades, the combination of Darwin's evolution and Mendel's genetics had resulted in a theory of evolution that the scientific community accepted as all but fact. The social influence of evolution was graphically apparent in 1925's "Scopes Monkey Trial," when the news media ridiculed William Jennings Bryan's defense of divine creation. Though the Scopes trial was legally inconclusive, it demonstrated evolution's wide acceptance in the media and its potential power even in children's classrooms.

As with the military threats of the day, science seemed to be at the root of this attack on religion. Ironically, the very radiation science that made nuclear bombs possible also provided evidence for an earth age much greater than previously thought. By studying the decay of radioactive elements in rocks, scientists determined the earth to be more than four billion years old. To creationism's critics, an old earth was helpful in two ways: it not only debunked the biblical creation time line, but it also provided the theory of evolution with an essential ingredient—enough time for man to evolve from lower species.

Of course, religionists were worried about where science was taking the world. However, the concern was shared by some scientists as well. Einstein, for example, is famously quoted as

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saying, “God does not play dice with the universe.” Einstein’s real statement, written in a letter to fellow physicist Max Born, is more complex and revealing.

Einstein was writing to Born about quantum mechanics, the theory that aided Henry’s creation of ART. A key tenet of the theory is the “uncertainty principle,” which holds that the exact position and speed of an electron cannot be known, only guessed at probabilistically. Quantum mechanics’ enthronement of uncertainty as a principle overthrew centuries of science dedicated to understanding the universe with mathematical precision. To some, it cast into doubt the order and rationality of the universe, an order and rationality that many scientists took as evidence of a divine architect. That is the context for Einstein’s actual statement to Born, which amounts to a caution:

Quantum mechanics is certainly imposing. But an inner voice tells me that it is not yet the real thing. The theory says a lot, but does not really bring us any closer to the secret of the Old One. I, at any rate, am convinced that He does not throw dice.<sup>1</sup>

If all scholars were as reverential and deliberate as Einstein, the religious faithful would have had little to fear from the discoveries of the early twentieth century. That wasn’t the case, however. Even in the schools and seminaries of The Church of Jesus Christ of Latter-day Saints, some instructors began to teach secular theories as though they superseded Church doctrines. These instructors, many educated in prestigious secular universities, saw an either-or choice between religious orthodoxy and scholarly credibility, and they chose the latter. Trusting, young Latter-day Saint students were in many cases led to doubt their faith.

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### AN ECCLESIASTICAL RESPONSE

Leaders of the Church moved to counteract this trend. The centerpiece of their response was an address given to the Church's full-time educators in 1938 by J. Reuben Clark Jr., a counselor in the Church's First Presidency. President Clark was an attorney by training, a former U.S. State Department lawyer, Undersecretary of State, and Ambassador to Mexico.

Speaking for the Church, President Clark made a powerful case for honoring faith. He reaffirmed the two key tenets of LDS faith, first that Jesus Christ is the Son of God and Savior of the World, and second that Joseph Smith was divinely authorized to restore the Church. Building upon that foundation, he then addressed the subject of religious education. He described the natural faithfulness of young LDS students, and he challenged the Church's teachers to have courage in their instruction:

I mean intellectual courage—the courage to affirm principles, beliefs, and faith that may not always be considered as harmonizing with such knowledge, scientific or otherwise, as the teacher or his educational colleagues may believe they possess.

Not unknown are cases where men of presumed faith, holding responsible positions, have felt that, since by affirming their full faith they might call down upon themselves the ridicule of their unbelieving colleagues, they must either modify or explain away their faith, or destructively dilute it, or even pretend to cast it away. Such are hypocrites to their colleagues and their co-religionists.<sup>2</sup>

President Clark also addressed the advance of scientific knowledge:



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I urge you not fall into that childish error, so common now, of believing that merely because man has gone so far in harnessing the forces of nature and turning them to his own use that therefore the truths of the Spirit have been changed or transformed. It is a vital and significant fact that man's conquest of the things of the Spirit has not marched side by side with his conquest of things material. Remember always and cherish the great truth of the Intercessory Prayer:

“And this is life eternal, that they might know thee the only true God, and Jesus Christ, whom thou hast sent.”<sup>3</sup>

This is an ultimate truth; so are all spiritual truths. They are not changed by the discovery of a new element or a new ethereal wave, nor by clipping off a few seconds, minutes, or hours of a speed record.<sup>4</sup>

President Clark's speech stands as a constitutional statement of the Church's commitment to faith in education. Then, as now, it strengthened the resolve of many instructors to stand by their faith even in the face of intellectual criticism.

Some Church leaders, though, felt the need to go further. One, Elder Joseph Fielding Smith, sensed that intellectualism—both within and without the Church—would only increase, and that science might produce discoveries more threatening to faith even than evolution. For instance, given the pace of exploration of invisible phenomena such as the working of the atom, it was perfectly reasonable to assume that scientists might soon explore and explain away spiritual phenomena, or even the human spirit itself.

Elder Smith was a member of the Church's Quorum of the Twelve Apostles, subordinate to President Clark but recognized nonetheless as a prophet, seer, and revelator. His father had been

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President of the Church, and his grandfather, Hyrum Smith, was the brother of the Church's founder, Joseph Smith. At the time President Clark gave his 1938 speech, Elder Smith had already served as an Apostle for twenty-eight years and was the Church's official historian. He was also a master of scripture and Church doctrine.

The Church had taken no official position on either evolution or the age of the earth.<sup>5</sup> Elder Smith, though, felt the necessity of claiming the strategic high ground relative not only to these challenges, but also to any others that science might present. He did this by advocating scriptural literalism. In other words, all scriptural accounts—including those of the creation—were to be read literally, regardless of contrary evidence or opinions. The advantage of this position was that it preempted threats not only from existing scientific theories such as evolution, but also from any future discoveries potentially inimical to faith. The scriptures would be taken as authoritative, come what may. The drawback of this position, of course, was that it required scientific findings contrary to scripture to be disregarded.

### THE FAITHFUL SCIENTIST'S DILEMMA— THE CASE FOR A VERY OLD EARTH

Believing LDS scientists and students thus found themselves in a quandary. It was one thing to hold fast to spiritual beliefs that couldn't be proven scientifically, as President Clark had challenged. It was another thing to deny—as a condition of faith—science itself.

The age of the earth was a particular problem. Whereas evolution was just a theory (albeit a broadly accepted one), virtually all serious scientists accepted a four-billion-year-old earth as fact. The evidence was both old and new. For hundreds of years before

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radioactive dating, geologists had compared observed rates of sedimentation (the pace at which mud accumulates at the bottom of an ocean or lake) to the thickness of sedimentary rock layers exposed in places like the Grand Canyon. They calculated that the time necessary for all of the observable sedimentary rocks to form would be over one billion years.

Radioactive dating makes the case for an even older earth. When certain radioactive materials decay, they produce lighter elements, such as the gas helium. In rocks formed deep in the earth's crust, trapped helium can come from only one source—radioactive decay. Thus, a scientist who knows how fast radioactive decay occurs can measure the amount of helium in a rock and tell how long ago it was formed. Using such rock “clocks,” the earth is shown to be between four and five billion years old. The evidence is strong enough that arguing for a younger earth—such as the one implied by a literal reading of the biblical creation account in Genesis—is nearly as bold as arguing for a flat earth.

## CALLING ON HENRY

It was natural, then, for LDS scientists and educators to wonder what Henry Eyring had to say on the subject. Here was not only the Church's most preeminent scientist, but a chemist whose early specialty was metallurgy or, in other words, the chemistry of metals such as those in radioactive “clocks.”

Henry was also a faithful Church member. Throughout his fifteen years in New Jersey he served in lay leadership positions. At the time of the 1946 move to Utah, he was president of the New Jersey District, a fact recognized in the Church's official newspaper under the headline, “Noted American Scientist Presides over Church Unit.”<sup>6</sup>

Upon arriving in Utah, Henry received an appointment to the

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general board of the Sunday School, a general Church office that, though subordinate to the Twelve Apostles and the First Presidency, gave him substantial stature and opportunity to address the membership at large. He wrote articles, for instance, for official Church magazines, and in 1948 he gave a nationwide address on CBS's *Church of the Air* program. The title of the CBS address was "Science and Faith."

In "Science and Faith,"<sup>7</sup> as in hundreds of similar speeches that Henry would give throughout his life, both scientists and religionists could find support for their respective positions. The strength and source of his personal religious conviction was obvious:

The four gospels tell the story of the Son of God who came into the world, lived an exemplary life, died, and was resurrected. If accepted as accurate, this record puts the necessity of being religious beyond question. History, unlike laboratory experiments, cannot be tried over again, just because we are not quite sure what the happenings meant. In this sense, religion differs from such laboratory sciences as chemistry and physics. We must depend in part on inference. In the end however, if the inquiry is broad and careful enough, we need be no less sure of our final conclusions.

The Lord himself outlined the procedure when he said: "If any man will do his will, he shall know of the doctrine, whether it be of God, or whether I speak of myself."<sup>8</sup>

Henry made many arguments for faith similar to those of President J. Reuben Clark. For instance, having described the progress of scientists in exploring the majesty of the physical

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world, he challenged skepticism and preached the benefits of belief:

Now, curiously enough, there are good people who would have you believe that man who conceives all these wonderful things, and masters them in part, is no more than the dust of the earth to which his body returns. To me, this is unbelievable.

I would like to suggest to the youth who may feel inclined to disparage religion as they pursue other studies, that they might bring enrichment to their lives by cultivating faith and an interest in things of the spirit as they follow their other pursuits. Such faith will never detract from their abilities in other fields, but it will broaden their thinking and give added depth to their character.

Henry also preached the need for religious tempering of science:

In times of uncertainty, such as the present, the increasing effort to understand man's place in the grand scheme of things proceeds at an accelerated pace. That understanding is a problem not alone for the laboratory; many of its answers will be found in the realm of the spiritual. It is important that all men of good will use their energies, their talents and their learning in their chosen fields, mutually assisting one another toward the building of a better world—that world which men of faith of all ages have envisioned and toward which they have labored.

The scientific method which has served so brilliantly in unraveling the mysteries of this world must be supplemented by something else if we are to enjoy to the fullest the blessings that have come of the knowledge gained. It

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is the great mission and opportunity of religion to teach men “the way, the truth, the life,” that they might utilize the discoveries of the laboratory to their blessing and not to their destruction. There is a need for added spirituality, of the kind that leads to brotherhood, to go hand in hand with the scientific progress of our time.

God grant that in seeking the mysteries of his handiwork, we may also learn his great religious truths, which we have been prone to disregard, that our efforts might become a blessing to us.

### BACKING BOTH SCIENCE AND RELIGION

President Clark himself could have asked for no better defense of faith. However, Henry didn't advocate just religion; he was also strong in his support of science. Remarkably, he used scripture in advocating scientific reasoning every bit as much as he had in advocating faith:

I am happy to represent a people who throughout their history have encouraged learning and scholarship in all fields of honorable endeavor, a people who have among their scriptural teachings such lofty concepts as these: “The glory of God is intelligence, or, in other words, light and truth.” “A man cannot be saved in ignorance.” “Whatever principle of intelligence we attain unto in this life, it will rise with us in the resurrection.”<sup>9</sup>

We learned from the Prophet Joseph Smith that man lived before he was born; that life is a school where man is sent to learn the things the Lord intends; and that he continues on into life after death. Death is not the end; it is but one more step in a great forward march made

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possible by the redemption wrought by the Savior. This is the spirit of true science—constant and eternal seeking.<sup>10</sup>

The truly remarkable thing about Henry's stance was that he disappointed anyone hoping to resolve the supposed conflict between science and religion in favor of one side or the other. To him, there was simply no conflict:

I have been announced as a student of science. But I also like to think of myself as one who loves the Gospel of Jesus Christ. For me there has been no serious difficulty in reconciling the principles of true science with the principles of true religion, for both are concerned with the eternal verities of the universe.

And yet there are many people, and particularly among our youth, who regard the field of science and the field of religion as two wholly different spheres, the one entirely separated from and unrelated to the other. In fact, there are those in both fields who have done themselves and the causes to which they give their interests a distinct disservice in teaching that the two are opposed and that they cannot be harmonized with the other.

In support of his argument for harmony, Henry referenced the faith of great scientists, notably Newton and Gauss. As he said, their scientific expertise “seemed only to strengthen their sense of a great spiritual realm beyond their ken.”

He went further, suggesting a symbiosis between science and religion:

I am now going to venture to say that science has rendered a service to religion. The scientific spirit is a spirit of inquiry, a spirit of reaching out for truth. In the final

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analysis, this spirit is likewise of the essence of religion. The Savior said: "Ask, and it shall be given you; seek, and ye shall find; knock, and it shall be opened unto you."<sup>11</sup> The scientist has in effect reaffirmed this great fundamental laid down by the Master, and in doing so has given a new impetus to religion.

Just as science has proved a help to religion, so religion in its finest expression has given impetus to science. I should like to quote again from modern scripture: "That which is of God is of light; and he that receiveth light, and continueth in God, receiveth more light; and that light groweth brighter and brighter until the perfect day."<sup>12</sup>

### RECONCILING THE APPARENT CONFLICT

Had Henry left his argument at this, he might have been written off as little more than a hopeful diplomat promoting tolerance of conflicting opinions, rather than reconciling them. Yet he did in fact offer a theory of ultimate reconciliation. The catch is that the theory demands both humility and patience.

In essence, Henry argued that God's wisdom is so great that man is incapable of understanding—let alone reconciling—the apparent conflicts between science and religion. In support of that argument, he expressed his own humility as a scientist:

Contemplating the awe-inspiring order in the universe, extending from the almost infinitely small to the infinitely large, one is overwhelmed with its grandeur and with the limitless wisdom which conceived, created, and governs it all. Our understanding, great as it sometimes seems, can be nothing but the wide-eyed wonder of the child when measured against the Creator's omniscience.<sup>13</sup>



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Henry argued that this kind of childlike humility is required of the religious faithful, who must expect to be given the truth line upon line, rather than all at once:

The restored gospel teaches that certain things are known by revelation and study, but much more remains to be learned. God in his wisdom will reveal more as the need arises. We are engaged in a never-ending program of eternal progression.<sup>14</sup>

In short, Henry argued that apparent conflicts between science and religion are the result of incomplete understanding, an inevitability given our modest intelligence relative to God's. In the case of the creation of man and the Earth, for instance, he recognized the incompleteness of both scientific and religious understanding of the complex processes involved. He was sure, though, that however man and the Earth were created, "God was at the helm." He trusted that God, as creator of both Heaven and Earth, saw no conflicts between science and religion:

The gospel, then, is the search for truth, and there is only one truth—there is a God in Heaven, who, if He is God over the world and over the universe, certainly understands everything, and inside His mind there must be no contradiction.<sup>15</sup>

Henry also had faith that, as his intelligence grew to approach God's, he too would see how the findings of science and religion ultimately meshed. Rather than being frustrated by his limited understanding, Henry reveled in the chance to learn and grow. He made it clear that he would continue both to believe and to study:

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I should like to say that true religion was never a narrow thing. True religion concerns man and the entire universe in which he lives. It concerns his relationships with himself and his fellowmen, with his environment, and with his Creator. It is therefore limitless, and as boundless as that eternity which it teaches lies ahead of every son of God. "Be ye therefore perfect, even as your Father which is in heaven is perfect."<sup>16</sup> What a challenge to every man lies in these words from the Master, to develop himself, to strive, to learn, to seek, to go forward that he might become as God.

To us has come the following which we regard as a divine injunction: "Teach ye diligently and my grace shall attend you, that you may be instructed more perfectly in theory, in principle, in doctrine, in the law of the gospel, in all things that pertain unto the kingdom of God, that are expedient for you to understand; of things both in heaven and in the earth, and under the earth; things which have been, things which are, things which must shortly come to pass; things which are at home, things which are abroad; the wars and the perplexities of the nations, and the judgments which are on the land; and a knowledge also of countries and of kingdoms."<sup>17</sup>

Here is the spirit of true religion, an honest seeking after knowledge of all things of heaven and earth.

### A PROPHETIC TRADITION OF CONFIDENCE

In fact, novel as it may have sounded coming from a twentieth-century scientist, Henry's philosophy of seeking truth via both science and religion was nothing new in the Church. He often cited Joseph Smith's statements advocating the pursuit of

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knowledge, as noted earlier: “The glory of God is intelligence, or, in other words, light and truth.” “A man cannot be saved in ignorance.” “Whatever principle of intelligence we attain unto in this life, it will rise with us in the resurrection.”<sup>18</sup>

Joseph Smith’s successor, Brigham Young, elaborated on the charge to seek truth, arguing that it be sought everywhere and that there was nothing to fear from scientific discoveries. Given that President Young was not himself a learned man, and that he had a fledgling church to protect, his confidence is remarkable:

Our religion will not clash with or contradict the facts of science in any particular. You may take geology, for instance, and it 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—they are eternal. How long the Earth has been organized is not for me to say, and I do not care anything about it. As for the Bible account of the creation we may say that the Lord gave it to Moses, or rather Moses obtained the history and traditions of his fathers, and from these picked out what he considered necessary, and that account has been handed down from age to age, and we have got it, no matter whether it is correct or not, and whether 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. If we understood the process of creation there would be no mystery about it, it would all be reasonable and plain, for there is no mystery except to the ignorant.<sup>19</sup>

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Of course, Henry's testimony lacked the prophetic weight of Brigham Young's. However, Henry's witness had several advantages. One was his scientific training. Whereas President Young disavowed knowledge of—or even interest in—the process by which the Earth was formed, Henry was both interested and expert.

Henry's declarations of faith also carried special weight because he had seen the wave of scientific discovery that occurred after President Young's time, including the broad acceptance of evolution. That he was unperturbed in the face of so much change was a great source of confidence to those who heard his testimony. In fact, far from being worried about new scientific findings, Henry welcomed them. He saw them as helping to focus the faithful on the core of their religious beliefs. As he said:

It is interesting to recall that, in ages past, religious men felt that their faith hinged on the notion that the earth was flat. However, when it was found to be round, they discovered that their basic religious ideas had survived without perceptible damage. In fact, the great underlying principles of faith were brought into bolder relief when the clutter of false notions was removed from about them.<sup>20</sup>

### THE CHURCH'S UNOFFICIAL SPOKESMAN AND ADVISOR ON SCIENCE

Henry's comforting view of the compatibility of science and religion was warmly welcomed by his faithful LDS colleagues. It also drew the tacit support of the senior-most leaders of the Church. Though the Church made no official statement on either the age of the Earth or evolution, Henry was privately encouraged to address the subject of science and religion as the opportunity

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presented itself. In 1951, for instance, he received an invitation to speak at a “Religious Emphasis Week” at the Oklahoma Agricultural and Mechanical College. Henry forwarded the invitation to the office of the Church’s First Presidency, asking their opinion of his participation. In response, he received approval to proceed:

We think it would be very desirable for you to accept this invitation, if you feel you are able to do so, having in mind your other duties and responsibilities. We congratulate you upon the receipt of this invitation and believe that you can render a real service in spreading the truths and principles of the Restored Gospel by acknowledging the invitation and performing the work outlined.<sup>21</sup>

The letter was signed by Church President David O. McKay and both of his counselors, Presidents Stephen L Richards and J. Reuben Clark, author of the landmark 1938 speech.

Henry’s work at the Oklahoma Agricultural and Mechanical College must have been well-received. The following year, Presidents McKay and Clark again wrote to Henry. They had been contacted by the University of Oklahoma, which asked for a Church representative at their annual “Religious Emphasis Week.” Presidents McKay and Clark identified Henry as their go-to man:

We recalled the excellent service which you did on another occasion when you visited the Oklahoma A. and M. College. We decided that we would ask you to be good enough to fill this new assignment, if it be possible for you to do so.<sup>22</sup>

Henry accepted not just these requests, but many others. In 1955, four years after the First Presidency’s initial request to speak for the Church, he made this report to them:

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Dear Brethren:

I just returned from a Conference on Religion at the University of Oklahoma, where I gave twenty-two lectures and seminars during Sunday through Thursday, February 12–17. I treated various aspects of science and religion. The visit was pleasant, though strenuous, and what was said seemed well received. I hope that some good was done. This is my fourth religious conference in Oklahoma, twice at Oklahoma A. & M. and twice at the University of Oklahoma. I thought that you would be interested in this brief report.<sup>23</sup>

In addition to speaking publicly, Henry acted as an informal science advisor to the senior leaders of the Church. At the same time that the First Presidency were dispatching him to seminars, they sought his opinion on scientific matters. He was quick to reply, for instance, to a March 26, 1952, request from the First Presidency for insight into the age of the Earth. His reply included a mix of science and religious philosophy. He began with the science:

Accurate dating of events by radioactive elements decaying in the rocks and in textile fibers and elsewhere makes possible an accuracy in chronology which was undreamed of a generation ago. In effect, clocks are set going whenever these materials are laid down. These clocks can often be read with great accuracy. Such data, with many kinds of cross-checks, leads to an antiquity for life on this earth of at least some six hundred million years and an age of the Earth of upwards of two billion years. These conclusions are well known and will surprise no one.<sup>24</sup>

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After adding several paragraphs about specific techniques for measuring Earth's age, such as carbon-14 dating, Henry closed with this insightful statement of religious philosophy:

My conception of the gospel is that the scriptures record the dealings of God with His Prophets and His People. By living in accordance with their teachings, we may expect to reach the Celestial Kingdom. To be understood, the Lord must reveal Himself in a language His Children can understand. Of necessity, many things not necessary for their immediate progress are omitted, to be revealed later, and to be discovered by man's own enterprise. There are some people who throw away the scriptures and restrict themselves to science and related fields. Others use the scriptures to the exclusion of other truth. Both are wrong. Latter-day Saints should seek after truth by all avenues with earnest humility. There is, of course, no conflict in the gospel since it embraces all truth. Undoubtedly, however, science is continually challenging us to think through again our conceptions of the gospel. This should work both ways, of course.

Since I think we don't accept Archbishop's Usher's chronology<sup>25</sup> as final, it seems to me of interest to check it against other available time scales. Such an investigation won't affect fundamentals but it will help us as teachers.<sup>26</sup>

Henry also gave advice, when asked, about the Church's educational strategy. For instance, a senior Church leader forwarded to him a complaint from a rank-and-file member who felt that Brigham Young University was being spiritually compromised by requiring Ph.D. degrees of its faculty. Specifically, the complainant alleged that "men are incapable of serving more than one master at a time and this practice tends to enforce upon the teachers the

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obligation to serve those who issue these degrees rather than the Lord.”<sup>27</sup> The Church leader wrote to Henry asking what he would consider “a proper reply to such an inquiry.” Henry responded as follows:

The Gospel embraces all truth. Brigham Young especially emphasized the propriety of seeking all truth. The assumption that because a man understands something about the operation of the Universe he will necessarily be less faithful is a gratuitous assumption contradicted by numberless examples. God, who understands all about the Universe, is apparently not troubled by this knowledge.

Some people drift when they study, but some people drift when they don't study. If the Church espouses the cause of ignorance it will alienate more people than if it advises men to seek after the truth even at some risk.<sup>28</sup>

## A DELICATE DIALOGUE

Henry continued to receive requests from Church leaders for his scientific opinions, particularly after 1954. That was the year that Elder Joseph Fielding Smith published a book called *Man, His Origin and Destiny*. In the book Elder Smith reiterated the position that scripture should be read literally as it pertained to the Creation.

One of Henry's wife's cousins, Elder Adam S. Bennion, wrote asking what Henry thought of *Man, His Origin and Destiny*. Henry responded with comments about both the book's strengths and also its shortcomings. On the latter score, he particularly noted the book's inconsistency with scientific findings and with the beliefs of two deceased Church leaders, James Talmage and John Widtsoe, both accomplished scientists and both former members of the Quorum of the Twelve Apostles. Henry



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concluded, “Since the Gospel is only that which is true, this book cannot be regarded as more than the private opinion of one of our great men to be admired for the fine things in it.”<sup>29</sup> Significantly, he ended the two-page letter with this invitation:

I hope my opinions offered for what they are worth will not seem presumptuous. Please feel free to make such use of this letter and the enclosed material as you may choose.<sup>30</sup>

Henry likely knew that, given this license, the letter would circulate. It did. Before long Henry heard from Elder Smith. In fact, it wasn't the first time that Elder Smith had written him. Four years earlier, in 1950, Elder Smith penned a five-page letter to Henry, explaining his view of the creation of the Earth.<sup>31</sup>

The 1954 letter from Elder Smith was similarly lengthy, but the tone was more emphatic.<sup>32</sup> Elder Smith stated his pleasure at Henry's achievements and his confidence in the divine inspiration behind great scientific discoveries. However, he reiterated his contrary views and challenged Henry to respond. He also warned sternly against scientific arrogance, and he referenced and even quoted from Henry's letter to Elder Bennion. Though the tone of Elder Smith's letter wasn't confrontational in a personal way, it seemed to invite a formal debate.

Henry replied to Elder Smith without delay. His letter was brief and conciliatory, but gave no ground:

Thanks for your letter of April 15, 1955. I am happy that you read my letter, which you refer to, as it expresses accurately my point of view.

Given the differences in training of the members of the Church, I never cease to marvel at the degree of agreement found among believing Latter-day Saints. So far

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from being disturbed to find that Brother Talmage, Brother Widtsoe and yourself didn't always see scientific matters alike, this situation seems natural and as it should be. It will be a sad day for the Church and its members when the degree of disagreement you brethren expressed is not allowed.

I am convinced that if the Lord required that His children understand His works before they could be saved that no one would be saved. It seems to me that to struggle for agreement on scientific matters in view of the disparity in background which the members of the Church have is to put emphasis on the wrong place. In my judgment there is room in the Church for people who think that the periods of creation were (a) 24 hours, (b) 1000 years, or (c) millions of years. I think it is fine to discuss these questions and for each individual to try to convert the other to what he thinks is right, but in matters where apparently equally reliable authorities disagree, I prefer to make haste slowly.

Since we agree on so many things, I trust we can amicably disagree on a few. I have never liked, for example, the idea that many of the horizontally lying layers with their fossils are wreckage from earlier worlds. In any case, the Lord created the world and my faith does not hinge on the detailed procedures.

Thanks again for your kindly, thoughtful letter.<sup>33</sup>

Not long after this exchange of letters, Elder Smith invited Henry to his office to discuss the age of the Earth. Years later, Henry offered two versions of what happened that day. Both were positive, but the first was more diplomatic and philosophical:

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A lively discussion ensued. As so often happens, each person brought up the argument which supported his position and we parted each with much the same position he held when the discussion began. But what was much more important, the discussion proceeded on a completely friendly basis without recrimination and each matter was weighed on its merits. So far as I am aware the matter ended there. No one was asked to conform to some preconceived position. The Church is committed to the truth whatever its source and each man is expected to seek it out honestly and prayerfully. It is, of course, another matter to teach as a doctrine of the Church something which is manifestly contradictory and to urge it in and out of season. I have never felt the least constraints in investigating any matter strictly on its merits, and this close contact with Elder Smith bore out this happy conclusion.<sup>34</sup>

At a later time, Henry implied, somewhat mischievously, that the conversation may have been a little more heated, at least on his part:

We talked for about an hour. He explained his views to me. I said, "Brother Smith, I have read your books and know your point of view, and I understand that is how it looks to you. It just looks a little different to me." He said as we ended, "Well, Brother Eyring, I would like to have you come and let me talk with you sometime when you are not quite so excited."<sup>35</sup>

## THE FAITH OF A SCIENTIST

In the midst of private interactions such as these, Henry continued to write and speak publicly about science and religion.

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Always it was by invitation. In addition to “fireside” talks to local groups, there were articles in official Church magazines, *The Instructor* and *The Improvement Era*. In 1961 Henry was featured in a Church-sponsored film, “The Search for Truth.” The target audience was young people, and the film not only included Henry’s testimony of the compatibility of science and religion, but also dramatized scenes from his youth.

As early as 1954, when *Man, His Origin and Destiny* was published, Henry’s friends pushed him to write his own book. His brother LeRoy, a chemist at Iowa State University, made the case this way:

Henry, the Church must publish a book by a man of great stature showing that the theories of science are tentative, to be sure, but when the real truth is known all the present evidence must be accounted for. The Church must not divorce itself from honest scientific thought. Most of all a person must realize that if it is true that the Earth is 4 billion years old there is still every reason to believe in God. If you can think of anyone who can write such a book who can do it better than you and you can persuade them to do so you are exempted from the task, but otherwise you must do it yourself.<sup>36</sup>

In 1957, Henry’s friend Dr. Francis Kirkham made a similar proposal. Dr. Kirkham wrote, referencing a speech that Henry had given to a small group of Church members a few nights before. Dr. Kirkham was among those in the audience that night. Apparently, after Henry’s formal remarks there had been a question-and-answer period. In Dr. Kirkham’s opinion, the highlight of the evening was Henry’s answer to a question asked by a bishop. Dr. Kirkham recalled the bishop’s question and also his reaction to Henry’s answer:

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[The bishop] stated that he faced the problem of young men and women attending the University of Utah who felt the new knowledge in the field of science, which they now receive, apparently conflicted with their faith in God and the teachings of the gospel. At the close of the meeting [the bishop] said to me, "I would give \$100.00 for the record of Brother Eyring's talk tonight."<sup>37</sup>

Believing that others felt the same as this bishop, Dr. Kirkham proposed to collect Henry's published speeches and articles on the subject of science and religion and have the Church distribute them in book form. The idea to publish such a book was ten years in coming to fruition. Moreover, the book, *The Faith of a Scientist*, was published privately, rather than by the Church. It was long, a collection of twenty-seven articles and two biographical sketches. Some of the articles on science were quite technical. Nonetheless, *The Faith of a Scientist* proved popular, selling more than eight thousand copies. Scientifically minded Church members especially liked the book. One of them sent the following letter to Henry:

Dear Dr. Eyring:

I am a young member of our Church from Germany. Last year during my studies at Brigham Young University I got your book "The Faith of a Scientist" into my hands. Although it didn't appeal to me very much at first I bought a copy and sent it to my stepfather in Germany. He is a mathematician and loves his field. But in spite of my letters testifying of the truthfulness of our gospel I somehow doubted that he was at all interested in something what I called eternal truth. Nevertheless I tried to "infiltrate" little gospel messages into my regular letters addressed to my parents. Within a short period he had

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read your book and my mother described the enthusiasm he showed about your book—I was surprised and delighted! A little over one year later my aged stepfather was baptized on his own accord even to the astonishment of my mother, his wife. This happened last December and only a few weeks had passed when a sudden illness overcame him. He might still live long but not recover as far as the physicians are concerned.

Please, Dr. Eyring, write him a few lines (not concerning his illness but rather from scientist to scientist!). Your words from the book must have had some impact and surely were not the smallest fragment of the key to his conversion. I am certain that my stepfather will more than appreciate some personal words from a brother in the gospel who is a fellow scientist as well and whose judgment he apparently esteems.<sup>38</sup>

Henry received many such letters from appreciative strangers; he seems to have responded to all of them. In this case he honored the young German student's request for a letter to his ailing stepfather:

Dear Dr. Oetcke:

Your stepson has said that you found my book "The Faith of a Scientist" interesting. I am glad that you did since I think nothing is more important than the gospel. The gospel is the way God looks at things—the truth. I am sure our understanding of the gospel is always provisional and incomplete but it is a great comfort to feel sure in one's own mind that life continues after death, as it must be if the seeming injustices are to be made right.

I wish we could have the opportunity of getting better acquainted, as I'm sure I would enjoy talking to you

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about science, mathematics and the gospel. Please accept my kindest good wishes.

Sincerely your brother in the gospel,  
Henry Eyring<sup>39</sup>

### A PAPERBACK VERSION OF *FAITH*

Pointing to the popularity of *The Faith of a Scientist*, Dr. Kirkham encouraged the Church to officially sponsor a paperback version for young people. This idea was approved, and in 1969 Henry received a letter from a member of the Twelve, Elder Mark E. Petersen:

Several of us have read and re-read your wonderful book, and like it immensely. We are sure it would be a boon to the youth of the Church if it were widely distributed.

As our committee conferred on the matter, we felt that we would have a much larger readership if we could have a smaller volume made up of only about half of the chapters contained in the present book.<sup>40</sup>

Proposing to sell the book at its cost of production, Elder Petersen continued: “We would plan to print about 10,000 copies as the initial press run.”<sup>41</sup>

Henry gave his consent and contributed to the editing of materials from the old book. Just three months later, the slimmed-down, paperback version of *The Faith of a Scientist* was ready for distribution. Reporting this, Elder Petersen seemed to suggest that expectations of the book’s usefulness had risen:

We are beginning a Church-wide distribution of this book, and it is our hope now that every high school and

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college student in the Church will read it and obtain the strength from it that it can give.<sup>42</sup>

After another three months, Elder Petersen wrote to report that the higher expectations had been justified:

The orders are still coming in but we have already exceeded the distribution of 112,000. The book is being very well received throughout the Church and we are surely thankful.<sup>43</sup>

In the end, 146,000 copies of *The Faith of a Scientist* were sold. The number of books distributed is a measure of Henry's impact on a generation of Church members, young and old alike. Countless readers found in *The Faith of a Scientist* the courage to stand firm in their testimonies of the Church as they pursued secular learning.

## AN EDITOR AND A DIPLOMAT

Henry's influence wasn't limited to his own writing. As a member of the General Board of the Sunday School, his responsibilities also included compiling manuals for Sunday instruction. He took pride in creating lessons that built faith while also encouraging study.

Henry also served as editor of a special series of articles for *The Instructor*, the official Sunday School magazine. *The Instructor* solicited a dozen scholars for articles demonstrating the compatibility between their academic fields and Church doctrines. The chairman of this project described Henry's critical role:

As a method of working, it is our plan to have Henry Eyring read all articles and make recommendations to



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authors for revisions where needed. He is willing to do this. In fact, he will call the authors together and discuss the point of view to be expressed. He will also explain that we will not be obligated to publish anything that may be objectionable. However, it is the expressed desire of *The Instructor* Committee that authors present their views forthrightly, not as Church doctrine, but as their beliefs as members of the Church and as serious students in their own right. Considerable discussion was had in the committee on the point that we do not wish to inflate these problems beyond their importance. Brother Eyring was specific in stating that he thought controversy, as such, was definitely not our aim. He said he would like to bring these problems down to size in relation to basic religious belief and practice. He would like each author to be faithful in the Church and represent a high achievement of devotion to the Gospel in his own life. This would negate any criticism that study or differences arising from study of these problems was related to disbelief or agnosticism. Incidentally, during the discussion Brother Howard Bennion said he simply did not arrive at the same conclusions as Brother Eyring on some of these questions, to which Henry responded that he had never disagreed with anyone whom he respected more than Howard. This is the attitude which we hope will prevail in the series.<sup>44</sup>

Thanks in large measure to Henry's philosophy of conciliation and his personal efforts, the articles in *The Instructor* had their intended effect of building confidence in both religion and science.

He continued to exert a unifying influence throughout his life. Even after he was released from his position on the Sunday School

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Board, Henry's opinion was sought regarding articles to be published in the Church magazines. As always, he weighed in forthrightly but respectfully. In 1971, for instance, he was asked to comment on an article that attempted to explain controversial scientific findings in the light of Church doctrine. The author was a faithful man but lacked formal scientific training. The editors were dubious about his arguments, and they wondered if Henry felt the same. He did. He wrote,

I'm sure that [the author] is a fine man, and I like his zeal for the gospel. I feel that he has overstated his case to the point that it will offend many faithful Latter-day Saints who feel that God created the world but doubt that any man can find out how without intense study, and then only in part.<sup>45</sup>

The respect he conveyed for this writer with whom he disagreed was typical of Henry. No matter how much he differed with someone's opinions—or how they inveighed against his—he treated all with equanimity. His ability to disagree respectfully and even amicably was a tremendous asset in the delicate work of bridging science and faith. Others might have been as qualified and confident, but few would have been so kind. The combination of unimpeachable scientific and religious credentials, along with charity toward all, made him an unparalleled defender of faith and learning.

Of course, if Henry was good even to those who considered him a foe, one can imagine how he was loved by those who sought to be his friend. Along with his science and his faith, friendship, the subject of our next chapter, was Henry's other great legacy.



*Seventy-year-old Henry chases three graduate students on the track at the University of Utah football stadium.*

## NOTES

3. Eyring, "Men, Mines, and Molecules," 4; and Kimball, "A Dialogue with Henry Eyring," 101.
4. Brasted, "Interview with Professor and Mrs. Henry Eyring," 753.
5. Heath, "Henry Eyring, Mormon Scientist," 39.
6. As cited in *ibid.*, 41.
7. This quote, as well as the subsequent discussion of Henry's time in Berlin, draws from an untitled biographical transcript. See Eyring, "It's interesting to try to recall. . . ."
8. Eyring, "Men, Mines, and Molecules," 6.
9. Excerpted, with ellipsis, from Polanyi, "Michael Polanyi, the Scientist," 12.
10. Eyring, "It's interesting to try to recall . . . ," autobiographical transcript, Henry Eyring Papers, box 18, folder 6.
11. *Ibid.*
12. *Ibid.*
13. Brasted, "Interview with Professor and Mrs. Henry Eyring," 754.
14. Nye, "Working Tools for Theoretical Chemistry," 25.
15. Kauzmann, "Henry Eyring, February 20, 1901–December 26, 1981."
16. Miller, "Biography," 5, Henry Eyring Papers.
17. Eyring, *Faith of a Scientist*, 22.
18. Heath, "Henry Eyring, Mormon Scientist," 64.
19. *Ibid.*, 65.
20. *Ibid.*, 84.
21. Eyring, *Faith of a Scientist*, 24.
22. Heath, "Henry Eyring, Mormon Scientist," 90.
23. Kimball, "A Dialogue with Henry Eyring," 108.
24. Heath, "Henry Eyring, Mormon Scientist," 77–78.
25. *Ibid.*, 78.

## CHAPTER 2: FAITH

1. Albert Einstein to Max Born, December 12, 1926, quoted in Clark, *Einstein: The Life and Times*, 414.
2. Clark, "The Charted Course of the Church in Education," 7.
3. John 17:3.
4. Clark, "The Charted Course of the Church in Education," 10.
5. See Jeffrey, "Seers, Savants and Evolution," 41–75.
6. "Noted American Scientist Presides over Church Unit," *Deseret News Church Section*, February 24, 1945.
7. Except as noted, all of the following quotes are taken from "Science and Faith," reprinted in Eyring, *Faith of a Scientist*, 31–37.

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8. John 7:17.
9. See Doctrine and Covenants 93:36; 131:6; 130:18.
10. Eyring, "Henry Eyring Speaks to Youth," 132–33.
11. Matthew 7:7.
12. Doctrine and Covenants 50:24
13. Eyring, "Henry Eyring Speaks to Youth," 132–33.
14. Ibid.
15. Eyring, "Science and Religion," 1.
16. Matthew 5:48.
17. Doctrine and Covenants 88:78–79.
18. See Doctrine and Covenants 93:36; 130:18; 131:6.
19. *Journal of Discourses*, 14:116.
20. Eyring, *Reflections of a Scientist*, 40.
21. Letter of July 20, 1951, Henry Eyring Papers, box 22, folder 5.
22. Letter of November 12, 1952, Henry Eyring Papers, box 22, folder 5.
23. Letter of February 21, 1955, Henry Eyring Papers, box 22, folder 5.
24. Letter of March 28, 1952, 1, Henry Eyring Papers, box 22, folder 5.
25. This is the classic 6,000-year Earth age inferred from the Bible. It is attributed to the Archbishop of Usher, born in 1581.
26. Letter of March 28, 1952, Henry Eyring Papers, box 22, folder 5.
27. Letter of September 26, 1967; forwarded via letter dated October 19, 1967, Henry Eyring Papers, box 22, folder 6.
28. Letter of October 19, 1967, Henry Eyring Papers, box 22, folder 6.
29. See photocopy reproduction in Heath, "Henry Eyring, Mormon Scientist," 270.
30. Ibid.
31. Letter of June 12, 1950, Henry Eyring Papers, box 22, folder 3.
32. See photocopy reproduction in Heath, "Henry Eyring, Mormon Scientist," 272–76.
33. Ibid., 277.
34. Eyring, "A Tribute to President Joseph Fielding Smith," 16.
35. Kimball, "A Dialogue with Henry Eyring," 102.
36. Letter of December 28, 1954, Henry Eyring Papers, box 22, folder 8.
37. Letter of May 23, 1957, Henry Eyring Papers, box 22, folder 7.
38. Letter of February 21, 1970, Henry Eyring Papers, box 22, folder 10.
39. Letter of March 2, 1970, Henry Eyring Papers, box 22, folder 10.
40. Letter of April 18, 1969, 1, Henry Eyring Papers, box 22, folder 7.
41. Ibid., 2.
42. Letter of July 22, 1969, Henry Eyring Papers, box 22, folder 7.
43. Letter of October 28, 1969, Henry Eyring Papers, box 22, folder 7.

## NOTES

44. Lorin F. Wheelwright to General Superintendency, Deseret Sunday School Union, December 15, 1964, Henry Eyring Papers, box 21, folder 15.
45. Letter of October 8, 1971, Henry Eyring Papers, box 21, folder 15.

### CHAPTER 3: FRIENDSHIP

1. Mr. Darrow refers to Henry's responsibilities as Dean of the Graduate School at the University of Utah.
2. Letter of January 10, 1982, Henry Eyring Papers, box 22, folder 11.
3. David O. McKay would become President of the Church; the school over which he presided at the time the writer speaks of was the Weber Academy in Ogden, Utah; it is now Weber State University.
4. Logan is home to Utah State University.
5. This is an argument that Henry often made.
6. Letter of October 1, 1978, Henry Eyring Papers, box 22, folder 11.
7. Eyring, "Unforgettable General Board Experiences," unpublished manuscript, February 6, 1973; found in Heath, "Henry Eyring, Mormon Scientist," 161–62.
8. I.e., crazy.
9. I.e., abuse.
10. A type of carbon-chain molecule.
11. Eyring, "Science and Religion," 7–8.
12. Student evaluation.
13. Ibid.
14. Ibid.
15. Letter of April 13, 1976, Henry Eyring Papers, box 22, folder 11.
16. Henderson, *Journal of Physical Chemistry*, 2640.
17. Eyring, "Henry Eyring and the Birth of a Graduate Program," 5.
18. Heath, "Henry Eyring, Mormon Scientist," 101.
19. Eyring, Address to members of the University of Utah Athletics Department, about 1968, Henry Eyring Papers, box 34, folder 42.
20. Heath, "Henry Eyring, Mormon Scientist," 102.
21. Henderson, *Journal of Physical Chemistry*, 2639.
22. Heath, "Henry Eyring, Mormon Scientist," 148.
23. Letter of August 22, 1973, Henry Eyring Papers, box 22, folder 10.
24. Letter of March 26, 1979, Henry Eyring Papers, box 22, folder 11.

### CHAPTER 4: LOVE

1. Eyring, Interview by Leonard R. Grover, 2.
2. Ibid., 8.