

# Scholarship and Faith

ROSS SPENCER

**I**t is a privilege to be here today, but I have to tell you that it is pretty intimidating to be the poor fellow who has to follow Apollo 13 astronaut Jim Lovell. I actually want to follow up on something that was evident as I listened to him speak: it is possible to be both professionally excellent and to be a person of faith. I am going to tell you today that striving for this kind of balance in your life is the best way to live.

When Karl G. Maeser was called by Brigham Young to come down here and rescue the struggling Brigham Young Academy, President Young gave him a famous charge:

*Brother Maeser, I want you to remember that you ought not to teach even the alphabet or the multiplication tables without the Spirit of God. That is all. God bless you. Good-bye.* [In Reinhard Maeser, *Karl G. Maeser: A Biography by His Son* (Provo: Brigham Young University, 1928), 79]

This remains at the core of what we try to do here at BYU, and it's not easy. Balancing is hard, as all dancers and gymnasts know, and the intellectual balancing in President Young's challenge is hard, too. One of these hard things grows out of the emphasis on "logical reasoning [and] critical analysis" that appears in the *The Aims of a BYU Education* (*The Mission*

*of Brigham Young University and The Aims of a BYU Education* [Provo: BYU, 1995], 5).

I've been involved in logic and criticism for a long time now, and it is often an ugly and unfriendly business. Unlike the title of the popular book *I'm OK—You're OK* by Dr. Thomas Harris, critical analysis often feels more like "I'm OK—you're an idiot."

When I write papers and submit them to the editors of journals, I have a great sense of happiness and accomplishment when the paper is finished and sent out. But the editor doesn't just congratulate me and schedule my paper for publication. It is first sent out to a few of my colleagues for their review. After a few weeks comes the dreaded day when these reviews arrive. The first time I got one, I just opened it and happily started to read. I couldn't even finish it in one sitting because the comments were so cruel. With later papers I learned to let the reviews sit for a day to steel myself for the ordeal and was then tempted to look for strategies that would get the paper published with the minimum number of changes. The fighting and the cynicism didn't

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feel like what I had signed up for when I went into science.

It seems that for many of us, the more we learn, the more we get puffed up with pride. Intolerance then sets in, and balance becomes impossible. This process is described often in the Book of Mormon, and there are many warnings against it. A really good one is given by Jacob in 2 Nephi 9:28–29:

*O that cunning plan of the evil one! O the vainness, and the frailties, and the foolishness of men! When they are learned they think they are wise, and they hearken not unto the counsel of God, for they set it aside, supposing they know of themselves, wherefore, their wisdom is foolishness and it profiteth them not. And they shall perish.*

*But to be learned is good if they hearken unto the counsels of God.*

I received a similar message from a rather unlikely source early in my career. When I was just out of graduate school, I attended my first meeting of the American Physical Society in New York City. It was a heady experience, and a highlight was a special event arranged by the conference organizers: the great science fiction writer Isaac Asimov had been invited to speak to us.

He began by telling us about something that had happened to him when he was a young student. He was hired to help a historian do research on social resistance to technological change. Hour after hour he wrote down the stories he found in books in the university library about people protesting the invention of things like machines to spin thread and to weave cloth, steam-powered trains, automobiles, airplanes, etc. All of these advances were perceived by the general public either to be physically dangerous or to be a threat to the livelihoods of workers in trades that were about to be destroyed by these advances.

He regaled us with these stories for a long time, and they were very funny, but it went

on so long that I began to wonder where he was going. Finally he got to the point. He said that when he started to write science fiction, he remembered all of this work he had done. So while his fellow writers were all rhapsodizing about the thrill of rockets and space travel (long before such things were possible), he wrote a story about how the local populace showed up at the launch site with torches and pitchforks in opposition to space travel. Years later, when rockets and travel outside of the earth's atmosphere became possible, there were protests, and many of Mr. Asimov's colleagues were astounded that he had predicted so far in advance that this would occur.

"Why," Mr. Asimov then asked us, "among all of these talented and visionary writers, was I the only one who was able to predict that this resistance to change would occur?" He let us think about the question for an uncomfortably silent minute, then leaned into the microphone and said in an intense voice that I still vividly remember: "It's because people are stupid!" And he included himself. He said that if he hadn't had this idea pounded into his head daily for several months, he was sure that he wouldn't have been able to foresee it either.

The lesson I take today from my memory of this experience and from my reading of the Book of Mormon is that the proper attitude to have when confronted with the vast complexity both of the universe and of the ideas and activities of the people who live on this small planet orbiting an ordinary star far away from the center of things in our galaxy is profound humility.

Consider, for example, what the electron does as it hovers around the proton of the hydrogen nucleus. We have illustrations that depict the electrons as fuzzy areas, which give us an indication of what's going on, but the pictures don't really represent an electron—electrons are always detected as tiny little dots of mass and energy. When we detect one, it

isn't fuzzy at all. So what is the fuzziness? Well, it's a representation of where we might find one of these little dots. We never find one in the dark places in the diagram, only in the fuzzy areas.

We try to make sense of this by saying that the electron has both wave and particle natures. But if you push us to explain how such a crazy thing can be, we really can't. If you continue to push, we will show you some horrible equations and assure you that they describe where an electron dot might be found, on average, with impressive precision. But if you ask us why the world is built in this weird, incomprehensible way, we really have no good answer. All we can say is that the mathematics seem to work.

I have had similar experiences in my spiritual life. At Christmastime, after my first child was born, Margo and I traveled back to Utah from Wisconsin, where I was studying physics. When my daughter, Melanie, got an ear infection, we found that we were missing two really important things: insurance coverage and money—two things that many of you have trouble with, too. She cried and cried, and it started to look like a budget-busting Sunday night trip to the emergency room was going to be required. In desperation I went to a bedroom in my in-laws' house, where we were staying, closed the door, held her in my arms, and gave her a priesthood blessing. She immediately settled down and went to sleep, and the next day a kind doctor treated her ear infection (for cheap) in his office.

Now, I don't really understand the details of why this works any more than I understand why the mathematics of quantum theory can predict where electrons will be found. But the priesthood and science both help us live better in this complex world.

It seems to me that the right thing to do is to follow the practical counsel of Brigham Young. He taught that we should use everything we can lay our hands on, both physically

and spiritually, when faced with problems that need solving:

*If we are sick, and ask the Lord to heal us, and to do all for us that is necessary to be done, according to my understanding of the Gospel of salvation, I might as well ask the Lord to cause my wheat and corn to grow, without my plowing the ground and casting in the seed. It appears consistent to me to apply every remedy that comes within the range of my knowledge, and to ask my Father in heaven, in the name of Jesus Christ, to sanctify that application to the healing of my body. . . .*

*. . . But supposing we were traveling in the mountains, . . . and one or two were taken sick, without anything in the world in the shape of healing medicine within our reach, what should we do? According to my faith, ask the Lord Almighty to . . . heal the sick. This is our privilege, when so situated that we cannot get anything to help ourselves. Then the Lord and his servants can do all. [JD 4:24–25]*

Dr. Henry Eyring, the great LDS chemist and father of President Henry B. Eyring, was a great example of how to combine professional excellence with faith and humility. He was world-famous for his work on chemical reactions and was also known both to his scientific colleagues and to members of the Church as a man of faith and devotion. He said:

*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." "It is impossible for a man to be saved in ignorance." "Whatever principle of intelligence we attain unto in this life, it will rise with us in the resurrection." [Henry Eyring, *The Faith of a Scientist* (Salt Lake City: Bookcraft, 1967), 32–33; quoted in Henry J. Eyring, *Mormon Scientist* (Salt Lake City: Deseret Book, 2007), 50]*

In speaking to youth, he once said:

*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 possible by the redemption wrought by the Savior. This is the spirit of true science: constant and eternal seeking.* [Henry Eyring, in *Era of Youth: “Henry Eyring Speaks to Youth,” Improvement Era*, November 1970, 133; quoted in Henry J. Eyring, *Mormon Scientist*, 50–51]

For Brother Eyring, however, the things that we discover in our seeking are no occasion for pride:

*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 Omniscience.* [Henry Eyring, “Speaks to Youth,” 133; quoted in Henry J. Eyring, *Mormon Scientist*, 52]

Brother Eyring wanted to see the whole picture, physical and spiritual combined, but even he couldn’t see how to fit everything together. But he had faith that the whole picture existed.

*So this, then, is sort of the picture that I would give you and end on the note that I can’t see any difference between the kinds of arguments that you make to support religion and the arguments that you make to support science. I understand, of course, that there are contradictions of all kinds in science, and there are contradictions between science and religion, and there are contradictions between various parts of religion in every*

*human mind (but not in God’s mind; in a billion years you’ll have your problems solved, if you can wait).* [Henry Eyring, “You Don’t Have to Make All the Mistakes There Are,” speech given at Brigham Young University, no date, Henry Eyring Papers, Manuscript Division, Special Collections, J. Willard Marriott Library, University of Utah, box 20, folder 23; quoted in Henry J. Eyring, *Mormon Scientist*, 302]

I take from the counsel of President Young and Dr. Eyring that we should seek all the good we can from the world of scholarship and also seek the blessings of the Lord by asking and having faith in Him. Even if we can’t see how everything fits together into a complete picture, we can have faith that there is such a picture and find joy in working and serving in both realms.

Looking back on the journey I have taken from the perspective of my advancing years, it feels like I have been trying to build an arch bridge, like the one over Sydney Harbor, which was constructed inward from the two shores it rested on until the two halves met in the middle. In the case of my unfinished bridge, the two ends seem to be reaching for each other, and the finished span promises to be wonderful. But like Brother Eyring, I don’t expect my bridge to be finished anytime soon. I am confident that truth is a great unity, but I’m just not smart enough to figure it out.

I know this isn’t very satisfying intellectually, but I have come to find some peace in the observation of Isaac Asimov. Sometimes I really am stupid. In my fumbling attempts to better understand how physics works, I use more erasers than pencil lead, and the most common key for me to press when I am writing computer code is the delete key. But flashes of success come, too. It really is exciting to discover how something works. And it is equally exciting to feel the thrill of knowing that the Lord has worked through me to bless someone else’s life.

Even though we can't see how the two spans of the bridge come together, we can make some connections between the two partial spans by the way we live our lives. I recommend this course to each of you. Let me close with a few examples.

I have a testimony of the power of Amulek's admonition given in Alma 34:17–21:

*Therefore may God grant unto you, my brethren, that ye may begin to exercise your faith unto repentance, that ye begin to call upon his holy name, that he would have mercy upon you;*

*Yea, cry unto him for mercy; for he is mighty to save.*

*Yea, humble yourselves, and continue in prayer unto him.*

*Cry unto him when ye are in your fields, yea, over all your flocks.*

*Cry unto him in your houses, yea, over all your household, both morning, mid-day, and evening.*

I testify that this works for all fields and for all flocks. My field is physics; yours may be linguistics, construction management, or nursing. Or maybe you're in business management—you will have flocks to tend. Whatever the area of study, the Lord has mastered it. If you ask Him, He can help you in your studies. I have felt comfort, confidence, and a much-needed flow of ideas come through prayer about technical matters and can promise you that the Lord is interested in every part of your life.

Our studies can also inform our faith. Jacob was right: it is good to be learned. My life has been richly blessed by the appreciation I gained here at BYU for art, literature, and music. The more-technical things you learn in your studies are valuable, too, even if you don't major in them. You should use your critical-thinking skills to carefully examine propositions that are made to you, whether by well-disguised criminals or by those who are well-meaning but uninformed. You may be invited to participate in business ventures

promising fabulous rates of return, offered wonderful elixirs that will cure everything that ails you, or be given the opportunity to invest in the 200-miles-per-gallon SUV, the development of which is being suppressed by the government and the oil companies. Your studies in economics, physiology, and physical science will come in handy here. Situations like this deserve the best critical analysis you can muster, and being learned may save you thousands and thousands of dollars.

There are also matters of public policy on which we as citizens must vote. It will take the combined learning and faith of all of us if we are to preserve our society and our planet.

A word of caution: it is important to learn when to use critical thinking and when to be still and listen. Around the time I was a student here, a young lady in one of the BYU wards bore her testimony on fast Sunday by saying, "I know that my roommates are true!" There was a flood of letters to the *Daily Universe* about the incident, sparked by those who made fun of the young lady. Testimony meeting is not such a good time to apply critical analysis. Those who were wise and compassionate, however, might have been able to look beyond the awkward use of the English language to focus more on what was being said in the language of the heart.

The Savior counsels us in the Sermon on the Mount:

*And why beholdest thou the mote that is in thy brother's eye, but considerest not the beam that is in thine own eye?*

*Or how wilt thou say to thy brother, Let me pull out the mote out of thine eye; and, behold, a beam is in thine own eye?*

*Thou hypocrite, first cast out the beam out of thine own eye; and then shalt thou see clearly to cast out the mote out of thy brother's eye.*

[Matthew 7:3–5]

We echo this counsel when we sing in the sacrament hymn “In Humility, Our Savior”: “Fill our hearts with sweet forgiving; Teach us tolerance and love” (*Hymns*, 1985, no. 172). I hope that in spite of all that we learn and achieve—and I hope that we learn and achieve in abundance—that we will also learn patience, humility, tolerance, and love.

Finally, please stay close to the Church. Do the simple things: have daily prayer, read the scriptures, hold family home evening, attend your Church meetings, worship in the temple.

When I was a graduate student, I had some trouble balancing my spiritual life and my scholarly life. Most of the other graduate students didn’t have children and Church callings. I felt like a juggler who was about to drop all of the balls he was trying to keep in the air. To make ends meet, we sometimes took care of the children of people with money while they flew to the Caribbean to escape the bleak Wisconsin winter. After we would get their and our children to bed, I would do my physics homework at the kitchen table. One night after working for hours on a particularly difficult assignment, I knelt on the kitchen floor to ask the Lord for some help and encouragement. I also asked for some kind of a testimony boost. The answer I got surprised me a little. It went something like this: “I have given you a testimony, and you have made covenants. This should be enough for now. Just hang on, and the blessings will come.”

And the blessings have come. I have been molded and shaped by the things I have learned in the Church over the years and by the service I have given in the callings I have received. President Gordon B. Hinckley often repeated President David O. McKay’s saying that the Lord’s program is to make bad men and women good and good men and women better as He prepares us for eternal life. Participation in His kingdom here on earth can change us in wonderful ways if we are faithful.

In closing I would like to read this passage from Jacob 4:8–10:

*Behold, great and marvelous are the works of the Lord. How unsearchable are the depths of the mysteries of him; and it is impossible that man should find out all his ways. And no man knoweth of his ways save it be revealed unto him; wherefore, brethren, despise not the revelations of God.*

*For behold, by the power of his word man came upon the face of the earth, which earth was created by the power of his word. Wherefore, if God being able to speak and the world was, and to speak and man was created, O then, why not able to command the earth, or the workmanship of his hands upon the face of it, according to his will and pleasure?*

*Wherefore, brethren, seek not to counsel the Lord, but to take counsel from his hand. For behold, ye yourselves know that he counseleth in wisdom, and in justice, and in great mercy, over all his works.*

I testify that the Lord lives, that He loves us, and that He will bless us in our righteous endeavors at both ends of the bridge. We may not see it in all of its completed glory, but it is there. In the name of Jesus Christ, amen.