# HOW MY SCHOLARSHIP PREPARES MY MIND TO RECEIVE ETERNAL TRUTHS:

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Through the Prophet Joseph Smith, God declared, "The glory of God is intelligence, or, in other words light and truth. Light and truth forsake that evil one" (Doctrine and Covenants 93: 36-37). Likewise, He said, "Whatever principle of intelligence we attain unto in this life, it will rise with us in the resurrection. And if a person gains more knowledge and intelligence in this life through his diligence and obedience than another, he will have so much the advantage in the world to come." (Doctrine and Covenants 130: 18-19). In my personal intellectual and spiritual journey, secular scholarship has been absolutely essential. Scholarship has added significantly to both the depth of my theological understanding and my ability to grasp gospel truths. I know that secular scholarship has been a stumbling block for many, but it has helped me personally to *not* be "carried about by every wind of doctrine" (Ephesians 4:14). It has prepared my mind to receive deep eternal truths.

The topic of this lecture series is "How My Scholarship Enables My Theology," or rephrasing the question "How Does My Scholarship Prepare My Mind to Receive Eternal Truths." Because of the topic, I think it is important for you understand something about my personal intellectual journey. I began at Ricks College with a burning desire to become an astronomer, so I studied Physics. After graduating, I transferred to BYU–Provo. There I had two courses that profoundly affected my thinking: a course on the history and philosophy of science and a course on the relationship between science and religion. I came out of those courses questioning whether I wanted to spend the effort to become an astronomer, so I did something rather rash—I joined the Navy. I don't recommend that course for everyone, but it worked for me. During that period I came to the conclusion that science was worthwhile, so I pursued a graduate degree in Planetary Science. There, my scholarship focused on the origin of the Solar System, especially the origin of the Earth and Moon. I studied the thermal effects of the colossal collisions that scientists think took place in the early Solar System. Since coming to BYU–Idaho, my scholarship has gone a different direction. I broadened my knowledge of stellar and deep space astronomy and returned to the history and philosophy of science. These studies have given me additional insights into the relationship between science and the gospel, particularly the origin and resolution of science and religion conflicts. I'd like to share some of those insights with you.

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I firmly believe that we must recognize the limitations of how scholarship can inform theology. My scholarship into the history of science teaches great lessons. Our scholarship alone cannot teach us the saving truths of the Gospel. We must rely on God to reveal Himself and His will to us. An incident from the history of science emphasizes this point. After Sir Isaac Newton's monumental work that explained so much about the world in which we live, scientists, who were clergymen more often than not, felt that they were seeing how God created and operated the universe by studying nature. A group of these scientists formed a philosophical school called "Natural Theology." These scientists believed that their scholarship could inform their theology to the point that God's nature would be revealed by studying His creations. Some even denied the need of revelation and holy books. The Natural Theologians argued for God's existence by the things science discovered. To account for the things science could not explain, they argued that God governs the universe. However, this line of reasoning backfired. As science progressed, more and more of the gaps traditionally attributed to God's power were explained. God began to look impotent, unnecessary. As a result, the scientific enterprise became increasingly atheistic. Charles Gillispie (1960, p. 265), a historian of science, put it this way:

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> Theology put itself at a quite unnecessary disadvantage as compared to science, so that (as Whitehead once noticed) whenever scientists are forced by evidence to modify their theories, it seems a triumph for science, whereas when theologians find themselves under the same necessity, it is taken as a defeat for religion.
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> This continuing humiliation is a heavy price to exact for the fault of the first generations who had to live with modern science.

The First Presidency under President Joseph F. Smith (1909) said, "Man, by searching, cannot find out God….The Lord must reveal Himself, or remain unrevealed…." The caution that Nephi's brother Jacob spoke is worth always keeping in mind:

> 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.
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> But to be learned is good if they hearken unto the counsels of God. (2 Nephi 9:28-29)

With this caveat firmly in mind, let's explore how my scholarship has prepared my mind to receive eternal truths.

My scholarship prepared me to receive eternal truths in many ways, too many to discuss in a single essay. I could describe the effect my scholarship has had on honing my mind's ability to use language, on examining the logic of a problem, on developing the relationships between cause and effect, on recognizing the relationship between evidence and conclusions, and so forth. Development of these mental skills is a natural outgrowth of scholarship in the sciences, and these skills are certainly helpful in understanding eternal truths. However, my personal intellectual journey prepared my mind to receive eternal truths in other ways that I would like to illustrate here. First, my scholarship prepared me to understand specific passages of scripture in a way that I simply could not otherwise. Second, it strengthened and deepened my testimony of God's power and intelligence. Third it deepened my testimony of the prophetic calling of the Prophet Joseph Smith. Fourth, it taught me principles that I personally use to understand and reconcile conflicts between science and religion.

First, my scholarship allows me to understand specific passages of scripture. Allow me to illustrate with a few short examples. Take Isaiah 40:22, 42:5, and 45:12, which read respectively: "Is it he that sitteth upon the circle of the earth…that stretcheth out the heavens as a curtain, and spreadeth them out as a tent to dwell in," "Thus saith God the Lord, he that created the heavens, and stretched them out," "I have made the earth, and created man upon it; I, even my hands, have stretched out the heavens." All three passages refer to God as having stretched out the heavens. What does this mean? It is certainly possible that Isaiah is using some sort of poetic language that has no relationship to physical reality. Certainly everyone would have interpreted it that way until 1929.

**All three passages refer to God as having stretched out the heavens. What does this mean?**

That year, astronomer Edwin Hubble announced one of the most profound results in the history of science. He and his colleagues announced that except for a few relatively close galaxies, the galaxies are moving away from each other. They also discovered that the farther away they are, the faster they are moving. The easiest, perhaps the only reasonable interpretation of this observation is that the universe is expanding. Let me illustrate. Imagine that you make a chocolate chip cake. After you toss it in the oven, the batter expands. For the purpose of discussion suppose the cake doubles in size in a half-hour. As the cake is expanding, imagine what you would see if you were sitting on one of the chocolate chips. You would measure each chocolate chip in the cake moving away from you. The distance between you and each chocolate chip would double in the one-half hour it took the cake to double in size. Since the distance to far away chips was larger to begin with, distant chips would move farther than closer ones. It took the same amount of time for the distant chips to move farther than the close chips, so the far away chips must be moving faster. Notice that it would make no difference *which*

chip you were sitting on—you'd see the same thing. This is exactly what Hubble's law shows—all galaxies are moving away, and the farther they are, the faster they're moving. Could this be what God is explaining when He says that He stretched out the heavens?

Here's another Old Testament example, Isaiah 51: 6: "Lift up your eyes to the heavens, and look upon the earth beneath: for the heavens shall vanish away like smoke, and the earth shall wax old like a garment…but my salvation shall be for ever." Again, Isaiah may have been using poetic language to drive home a point. Throughout history, most people believed that the heavens were constant and unchanging and that the Earth is eternal—they cannot vanish away, so this passage doesn't make much sense. These people knew nothing about what we call the second law of thermodynamics.

This law, developed during the mid 1800s, states that useful energy always flows from hot to cold. In doing so, the temperatures of the two regions become closer together. The principle requires that after a long time the entire universe will arrive at the same temperature, and no more useful energy can be liberated. In other words, the universe is slowly, slowly winding down. Its stars will burn out one by one; the gas from which they are made will eventually be incorporated into dense black objects. Certainly the Earth will wear out. The Sun, according to modern astronomy, can only last a finite number of years. It is giving off large quantities of energy. It has a finite amount of fuel. Eventually, its fuel supply will be completely used up. The processes that occur are somewhat complex, but the bottom line is that the Earth will become uninhabitable. These scriptures are just a few examples of how my scholarship provides insights into the scriptures that are simply unavailable otherwise.

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Second, the prophets on all continents have appealed to the heavens as a source of inspiration and testimony. The Psalmist declared "The heavens declare the glory of God; and the firmament sheweth his handywork" (Psalm 19:1). Alma appealed to the heavens as a testimony of God in trying to convince Korihor of the error of his ways. He declared, "Thou has had witnesses enough, will ye tempt your God? Will ye say, Show unto me a sign, when ye have the testimony of all these thy brethren, and also all the holy prophets? The scriptures are laid before thee, yea, and all things denote there is a God, yea, even the earth, and all things that are upon the face of it, yea, and its motion, yea, and also all the planets which move in their regular form do witness that there is a supreme Creator" (Alma 30:44). Finally, the Savior said through the Prophet Joseph Smith, "Any man who hath seen any or the least of these (referring to the celestial objects) hath seen God moving in his majesty and power" (Doctrine and Covenants 88: 47).

Just what is this testimony of the Heavens the prophets are referring to? Certainly, part of it is the awe, the reverential feeling we experience when we look at the starry heavens and consider how vast it all is. If you haven't experienced this feeling, you either have not spent much time under a truly dark, starry sky or you're comatose! In addition to this reverential feeling, the scholarship of my field shows just how special a world this Earth is and how much effort and preparation was required for it to be habitable. Through Isaiah, God said, "For thus saith the Lord that created the heavens; God himself that formed the earth and made it; he hath established it, he created it not in vain, he formed it to be inhabited" (Isaiah 45:18). So just what does it take to create an inhabitable world?

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One of the most interesting books I've read in the past year is called *Rare Earth* by Peter Ward and Donald Brownlee (2000). From before Newton's era to the present, most scientists believed that inhabited earth-like planets would be the common result of the natural processes that cause planets to form. During the twentieth century, biologists emphasized the role of historical contingency in the development of life on this planet. In the late twentieth century, astronomers and geologists began to discover many aspects of the Earth that indicate it may not be the typical outcome of planetary formation and development. Ward, a biologist, and Brownlee, an astronomer, synthesized the work of these astronomers, geologists, and biologists into their "rare earth" hypothesis. They suggest that inhabitable worlds like ours may indeed be rare in our universe. Perhaps the Earth is unique. I don't agree with their conclusion—theologically we know that there are many inhabited planets—but their synthesis shows the extent of planning and development that must go into making an inhabitable world. I discuss a few details to illustrate. I recommend their book if you're interested in more.

The astronomical setting of the Earth is special and probably necessary. You've probably heard scientists refer to the Sun as an average star. Well, it isn't—at least not in the context of providing an inhabitable planet. Of the 67 stars within ten light-years of Earth, the Sun is the 5th brightest star. Most of the stars in our neighborhood are small, dim, red stars. The Sun contains a relatively high abundance of elements heavier than helium. It is among the stars with the richest amount of these elements. The Sun is located in what appears to be a fairly typical spiral galaxy, at the edge of one of its spiral arms about three-fifths of the way from the center to the outside edge. How do these properties affect the Earth's habitability? From everything we know, life requires at least some solid surface—a large gas planet like Jupiter will not support life as we know it, so a habitable planet requires heavy elements like carbon, oxygen, silicon, and iron (among others). According to our understanding of

planetary formation, the elements that a star contains are the raw materials from which planets form. Stars with small amounts of heavy elements might produce gas giants like Jupiter, but they probably cannot form large, rocky worlds. Earth's size and mass are critical for life on this planet. A planet's size and mass determine its gravitational field. Small rocky worlds simply don't have enough gravity to hold onto gases like nitrogen, oxygen, carbon dioxide, and the other constituents of Earth's atmosphere. To contrast, just look at our closest celestial neighbor, the Moon. This world is about the same distance from the Sun, but is totally inhospitable. Why? The main reason is because it is too small to hang onto an atmosphere. If we released samples of Earth's atmospheric gases on the Moon, they would quickly escape into interplanetary space. To build a big enough solid planet, the star must contain a relatively large concentration of elements heavier than helium.

Stars with large abundances of heavy elements are found in specific regions of a galaxy. Stars in the galaxy's nucleus tend to be old and have only small amounts of heavy elements. The abundance of heavy elements becomes larger as we move outward in the galaxy but begins to drop off again as we move closer to the outer edge. Unlike in the *Star Wars* movies, stars in the "outer rim" of a galaxy do not have large, rocky planets.

In addition, stars are nicely spread out in our galactic neighborhood. Seldom do stars come close to our Sun. As a result, the Sun has a low risk of being close to highly energetic celestial events like supernovae. A supernova is the spectacular end of a highly massive star. When conditions are just right in their deep interiors, these stars rapidly collapse on themselves, then detonate as the biggest hydrogen bomb imaginable. In addition to the physical shock, these exploding stars give off copious amounts of gamma and x-rays. A supernova within ten light-years of an inhabited planet would probably spell doom for animal life on it. Even within 50 light-years, a supernova explosion would be bad news. If the Sun were in a more crowded neighborhood, the likelihood of such an event would dramatically increase. Being in the galactic suburbs has its advantages!

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The Earth's distance from the Sun is also "just right" to provide the planet with the correct range of temperatures. If the average temperature of a planet is below freezing, it will become an iceball; if its temperature averages above 40°C, animal life would have a hard time of it (plant life probably would too). The Earth's distance from the Sun gives it the correct temperature range for animal life to thrive.

Ah, but you may say that if the Sun were dimmer, Earth could still be the right temperature though it were closer. You might say that if the Sun were brighter, the Earth's temperatures would be just right if it were farther from the star. You would be correct in saying that. However,

there are a couple of other effects that play an important role. You've all heard of tides. Tides result from the gravitational interaction of the Moon and Earth and, to a lesser extent, the Sun. We think of tides as occurring in the oceans. However, tides also occur in the solid planet too. Tidal interaction between the Earth and Moon is slowly causing the Earth's rotation rate to slow down and the Moon to migrate away from the planet. For example, in the year 2000, we added a second to the length of a day.

Tidal interactions also occur between planets and their parent stars. The rotation rates of planets close to their parent stars tend to slow down due to tidal interaction. The amount of tidal interaction strongly depends on a planet's distance from its star. Mercury, for example, has spun down and is trapped in a ratio of three rotations to two orbital periods. Earth-like planets orbiting within the zone of habitability of small stars likewise would probably be spun down so that one side of the planet is exposed to the star's light for a long time. This situation would make the planet uninhabitable.

Earth-like planets orbiting larger stars experience a different problem. According to modern science, it took nearly four billion years for animal life to develop on this planet. For the vast majority of the Earth's history, life existed only as single-celled organisms. If this trend is typical, a star must be stable for a very long time. Astronomers estimate that the Sun is 4.5 billion years old. They also estimate that it will last a total of about 10 billion years before the fuel in its center runs out and its structure changes significantly. The amount of time a star will last strongly depends on its mass. More massive stars are more luminous. Although they start out with more fuel, they are burning that fuel exceptionally fast, kind of like the difference between an economy car and a semi truck. Although the economy car has a much smaller fuel tank, it may still travel farther on a tank of gas than a semi because the semi is guzzling its fuel. We estimate that a star only has to be about one and one-half times more massive than the Sun before its stable lifetime is less than four billion years. That leaves only stars with approximately the Sun's mass and brightness as possible candidates for inhabited planets.

Many, many more aspects of the Earth's astronomical setting and geological development seem to be required for the planet to be habitable. The Earth's relatively large moon appears to keep the tilt of Earth's axis nearly constant. The presence of Jupiter acts as a shield, deflecting many of the comets that otherwise might strike the planet. The Earth's atmosphere is critical to animal life on Earth. However, the atmosphere we now enjoy is not the same as the original. Carbon dioxide gas has been converted into carbonate rocks, and plant life has liberated free oxygen into the atmosphere. The timing of these events is critical—if

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carbon dioxide were converted into carbonate rocks too rapidly, Earth would have become a lifeless iceball. The Earth's plate tectonic engine interacting with the Earth's hydrological and carbon cycles provides a way to keep the temperature of the planet within the narrow range required for animal life to exist. Earth is the only planet in our Solar System that has plate tectonics. The fossil record shows that life developed on Earth largely in response to seemingly random events, including the effects of mountain building, the movement of continents, and astronomical events like large meteorite impacts. If the timing of these events had been different, life may have developed very differently.

Not all scientists accept Ward and Brownlee's "rare earth" hypothesis. Many still hold onto the Newtonian notion that the outcome of these processes will necessarily create an inhabitable planet. An increasing number of scientists are accepting the notion that life on this planet developed by an intricate series of exceptionally lucky accidents. However, I see the hand of Divine Providence at work. My scholarship deepens my appreciation of God as the great planner and Creator of this universe. The planning and execution described in the creation accounts become even more impressive. Additionally, I more fully appreciate God's omniscience: "For he knoweth all things, and there is not anything save he knows it" (2 Nephi 9:20). My scholarship deepens my understanding of and appreciation for God's intelligence and power.

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Third, my scholarship deepens my appreciation for the prophetic calling of Joseph Smith. The Prophet received several revelations that relate directly to the physical universe. Take, for example, the Word of Wisdom in Doctrine and Covenants 89. In the revelation, the Lord makes it clear that certain foods are healthful for our bodies and certain substances are not. God does not reveal the physiological details about why these things are bad or what they will do to us. He simply says they are bad for our health and promises physical and spiritual blessings for our obedience. Modern medical science has verified the Lord's word in exquisite detail. We now know the physiological effects of the banned substances. If Joseph Smith was a fraud, how could he have guessed so accurately?

One of the most profound prophecies given to man is found in Doctrine and Covenants 121: 26-31. You recall that this section begins with the Prophet Joseph's humble petition to God for relief from the agonies of Liberty Jail. God comforts the Prophet, in part, by giving this prophecy:

> God shall give you knowledge by his Holy Spirit, yea, by the unspeakable gift of the Holy Ghost, that has not been revealed since the world was until now…,

> A time to come in the which nothing shall be withheld, whether there be one God or many gods, they shall be manifest….
>
> And also, if there be bounds set to the heavens or to the seas, or to the dry land, or to the sun, moon, or stars—
>
> All the times of their revolutions, all the appointed days, months, and years, and all of the days of their days, months, and years, and all their glories, laws, and set times, shall be revealed in the days of the dispensation of the fullness of times.

This marvelous prophecy promises that God will reveal two types of knowledge, knowledge about "spiritual" things, some of which I skipped in the above quotation, and knowledge about the physical universe around us, especially knowledge related to astronomy. Now, I don't know what all of these statements mean. For example, what does the statement "all of the days of their days, months, and years" mean? Even though we don't understand everything the prophecy may be telling us, it certainly predicts that we will learn tremendous details about the heavens. When will this prophecy be fulfilled? It will be fulfilled during the days of the dispensation of the fullness of times. According to the prophecy, we should expect to see this promise fulfilled in the day in which we are now living!

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This is an exceptionally bold prophecy considering the state of astronomy during Joseph Smith's lifetime. The telescope had been invented, but the technology was backward. We knew that the heavens contained myriads more stars than we can make out with the unaided eye. We suspected that the Sun was simply another star, but we did not know its composition, temperature, or energy source. In fact, in the early 1800s, the French philosopher Auguste Comte argued that man simply could never know the true temperatures and compositions of the stars. The Sun-centered Solar System was well accepted and we knew that the Sun had seven planets (Neptune and Pluto had not yet been discovered), comets (but not how many), and four asteroids that lie between the orbits of Mars and Jupiter. We knew that the Earth had a moon; we knew that Jupiter had four moons, Saturn had six moons, and Uranus had three. But even in the largest telescope, these moons appeared only as star-like pinpoints of light with no details whatsoever. We could tell that Mars had surface features but could not map it. We could see no surface features of the planet Venus at all. Mercury was completely shrouded in mystery. We had observed Jupiter's Great Red Spot and its bands and knew that Saturn had rings (Hoskin 1997; Arnett 2005). We had measured the rotation period of only Mars, Jupiter, and Saturn. In 2000 years of naked eye observations and 200 years of telescopic observations, man's knowledge arrived at this point. Could anyone in the Prophet's

generation make such a bold prediction about what would be "revealed," especially someone as unschooled as Joseph Smith?

Now contrast that level of knowledge to what we know today. The size and quality of telescopes have increased beyond comprehension since the days of the Prophet. We discovered means of finding the true temperatures and compositions of the stars by analyzing their spectra. In the 1920s the true temperature and composition of the Sun was discovered, and in the 1940s the methods could be applied to other stars. The organization of stars into galaxies and the expansion of the universe were discovered by Edwin Hubble in the 1920s. The monster telescopes we have today and the Hubble Space Telescope show the time period close to the beginning of the Universe itself!

Closer to home, we continue probing the planets and their moons. Neptune was discovered in 1845 and Pluto in 1930. In the 1960s and 70s we began to send robotic space probes to the planets in our Solar System. These surrogate eyes have completely transformed our understanding of these worlds and their moons. We've discovered a myriad of moons around each of the giant gas planets: we know that Jupiter has over 60 moons, Saturn and Uranus each have over 30. Space probes have converted many of these pinpoints of light into real worlds with real, complex geological characteristics. We know the rotation rates of many (but certainly not all) of these worlds. Indeed, we are much closer to a fulfillment of the prophecy "All the times of their revolutions, all the appointed days, months, and years…and all their glories, laws, and set times shall be revealed" than we have ever been before.

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The Prophet Joseph Smith had no formal training in either astronomy or the medical sciences, yet the prophecies he uttered resonate as truth through the subsequent discoveries of science. Is this a coincidence? Did the Prophet just happen to guess correctly in these cases? I think not. I am convinced that these prophecies were not the work of Joseph Smith's rational mind but came by the revelation of the Holy Ghost. My scholarship strengthens my personal testimony of the Prophet Joseph Smith.

Fourth, my scholarship teaches me principles that help me personally reconcile science and religion conflicts. The prophets of this dispensation have universally taught that truths in science and religion cannot conflict. For example, Brigham Young said, "'Mormonism' embraces all truth that is revealed and that is unrevealed, whether religious, political, scientific, or philosophical. It comprehends all true science known by man, angels, and the gods." President Ezra Taft Benson taught:

> Religion and science have sometimes been in apparent conflict. Yet, the conflict can only be apparent, not real, for science seeks truth, and true religion is truth. There can never be conflict between true religion and scientific fact. That they have occupied different fields of truth is a mere detail. True religion accepts

and embraces all truth; science is slowly expanding her arms and reaching into the invisible domain, in search of truth.

Nevertheless, much of science's description of the origin of the Earth and development of life is inconsistent with the creation accounts given in the scriptures. God has been merciful to me and through my scholarship has taught me several principles that I personally use to reconcile science and religion. I share one of these principles to illustrate.

**I have learned that faith is the operative principle in both science and religion.**

I have learned that faith is the operative principle in both science and religion. "Now faith is the substance of things hoped for, the evidence of things not seen" (Hebrews 11:1). We know in religion we must accept many things by faith. We must accept God's existence. We must accept that there is a need for a Savior and that Jesus Christ came to Earth to fulfill that role. We must accept the Bible and the Book of Mormon as God's word. We must accept the mission of the Prophet Joseph Smith. Our faith in these concepts is not blind: we base them on evidence of various types, both physical evidence and evidence that comes from the heart.

My scholarship teaches me that science also depends on faith in precisely the same way as does religion. Many scientists do not believe that. In fact, a commercially prepared astronomy text I once used explicitly stated, "Unlike philosophy or religion, science accepts nothing by faith" (Fraknoi *et al.* 2000, p. 3). My scholarship in the history and philosophy of science teaches me clearly that this notion is incorrect. All intellectual systems require certain axioms that must be accepted without proof. Without going into the historical details, let me point out just a few of the axioms that science accepts by faith.

Science believes that the universe is understandable to human reason and is fundamentally simple. Who said so? Maybe the universe is incomprehensibly complex. Many of the ancient Greeks thought that the heavens, which they believed were the realm of the Gods, were beyond human comprehension, so it should not surprise us that their mathematical and physical descriptions of them were different. Today we believe that the mathematical description of the physical universe represents the same reality. There has been a lot of metaphysical discussion about whether mathematics is simply a useful invention of the human mind—or is inherent in nature and man has simply discovered its truths. How can we really know?

Likewise, we have sampled only the tiniest fraction of the universe. We also live in the here-and-now compared to the vast time periods that make up the eras of geology or the lifetimes of the stars. However, we accept the axiom that the laws of the universe that we discover on Earth or within our local stellar neighborhood apply throughout the universe and have been doing so since nearly the beginning of time. If we did not

make this assumption, it would be impossible to make progress. How could we possibly know about an object we see in the telescope millions of light years away? How could we say anything about the fossil that we dig up in the field? This notion makes sense. It seems to fit what we know about the universe. There are even some observations that support it. However, is this notion strictly true? Can we possibly know?

These axioms are the foundation of modern science. They make sense to our minds. Who knows? They might even be the truth. But how can we possibly know? They cannot be observed, at least not fully. The only way we can accept them as true is by faith in precisely the same way we accept religious principles by faith. As the Apostle Paul put it, "For now we see through a glass darkly, but then face to face" (1 Corinthians 13: 12). As religious people, we do not need to feel that our foundation is shaky, for in the final analysis, both science and religion are based on faith.

My personal intellectual journey has prepared my mind in many ways to receive eternal truth. I understand specific passages of scripture in a way that I simply could not otherwise. Learning and understanding how the laws of nature combine to allow this world to be habitable strengthens and deepens my testimony of God's power and intelligence. Examining how the prophecies of Joseph Smith have been literally fulfilled, in large measure through the discoveries of modern science, deepens my testimony of his prophetic calling. The principles or reconciliation that came from my scholarship teach me that faith is the operative principle in both science and religion. I thank my Father in Heaven for the opportunity I have had to study His creations through the scholarship of modern science and for the many principles He has taught me as I have sought learning "even by study and also by faith." ∞

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