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SCIENCE & MORMONISM SERIES 1

COSMOS, EARTH, AND MAN

DAVID H. BAILEY, JEFFREY M. BRADSHAW, JOHN S. LEWIS,
GREGORY L. SMITH, AND MICHAEL R. STARK



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ANSWERING NEW ATHEISM AND SEEKING A SURE KNOWLEDGE OF GOD

Amy L. Williams

Through the ages, men and women have sought answers about the meaning of life, expending great effort to understand the nature of their existence and to worship their own concept of divinity. At the same time many have wondered which concept of God is correct and, moreover, whether divine beings exist at all. The debate over the existence of God has been ongoing for centuries and took on new life when modern science began to offer materialistic explanations for the formation of life and other natural phenomena. Using scientific discoveries and philosophical arguments, prominent naturalists and philosophers have argued both for and against the existence of God, and the debate continues today.

Atheism, or a lack of belief in God, has existed for centuries, but a more recent atheist movement, termed *New Atheism*, has become influential in this discussion. Over the past decade, New Atheist scholars and public figures have published widely read books,¹ organized large public rallies,² and written articles in the popular press³ that have been harshly critical of religion and belief in God. The New Atheist messages often carry an impassioned tone and have the zealous aim of converting individuals away from belief in God.

The *Internet Encyclopedia of Philosophy* entry for “New Atheists” describes adherents to this movement as follows:

The “New Atheist” label for these critics of religion and religious belief emerged out of journalistic commentary on the contents and impacts of their books. A standard observation is that New Atheist authors exhibit an unusually high

level of confidence in their views. Reviewers have noted that these authors tend to be motivated by a sense of moral concern and even outrage about the effects of religious beliefs on the global scene. It is difficult to identify anything philosophically unprecedented in their positions and arguments, but the New Atheists have provoked considerable controversy with their body of work.⁴

Additionally, a 2006 Cable News Network article characterized New Atheism as “[The] belief that religion should not simply be tolerated but should be countered, criticized and exposed by rational argument wherever its influence arises.”⁵

The debate over atheism and belief in God is sometimes seen or suggested as a conflict between science and religion. Some appear to view science and religion as opposing one another and even to think they are mutually exclusive or contradictory. Yet the examples of accomplished scientists who believe in God and observe religious practices provide a striking counter-example to the claim that these two views are antithetical.

Careful consideration of the arguments and evidence in this debate is warranted in order to have a view consistent with reality and not merely informed by the ideas of prominent scholars or theologians. In our quest to understand and find truth, we must not prematurely discard unpopular or uncomfortable ideas but expend effort both to understand the philosophical underpinnings of science and to explore any spiritual sources of enlightenment.

This chapter considers several New Atheist arguments from a philosophy of science perspective while exploring the necessity of faith to scientific inquiry. It also elaborates on a religious concept espoused by The Church of Jesus Christ of Latter-day Saints that includes answers to prayer and an empirical way of knowing that God exists and that religious texts are true. This view, while not accepted by atheists, is philosophically defensible and stands as a compelling claim in opposition to atheism.

The Paradox of Atheism

Atheism is a lack of belief in God. Such a position is curious in light of the following paradoxical thought experiment. Assume for the moment that there is no God. In such a case, the fact is that there would be no way to verify that there is *no* God. Suppose we wished to prove there is no God. We could begin by attempting to search the physical universe to ensure that we do not, in fact, find God. However, searching the universe is impossible — it is far too large. Moreover, any effort to search the physical universe would be unable to rule out the possibility that God exists in a spiritual realm. Because the number of possible ways to explore spirituality is vast, it is impossible to prove that God does not exist, either by searching the physical universe or through spirituality.



In contrast to the atheist claim that God likely does not exist, theism — the belief that there is a God — has the potential to be verified. This is so because if God exists, He can reveal Himself to us as individuals, thus proving His existence.

This thought experiment and the paradoxical nature of atheist belief falls short of proving the existence of God. Yet the fact remains that a claim that God does not exist is unverifiable, regardless of whether God actually exists. Notably, although atheists sometimes accuse theists of blindly believing in God, a belief that there is no God is always and will forever be blind belief in something unverifiable

The statement that God's existence is verifiable (supposing that God exists) is not meant to oversimplify the complexity of determining whether God lives. If, in our quest to find God, we were to come across a being who claims to be God, this would not settle the question. One would undoubtedly want to find out for certain that any such majestic being is in fact God. Yet having a personal, spiritual experience with a divine Being and becoming certain that that Being is God — whether by the profound nature of the experience or by other miracles He performed — forever closes the door to atheism and firmly solidifies theist belief for that individual.

Considering New Atheist Arguments

New Atheists make several arguments against belief in God that ultimately fall short of deciding the question of God's existence. This section summarizes several New Atheist arguments and provides an analysis and counter-arguments. The aim here is first to dispel the notion that belief in God is an untenable position and second to add clarity to the debate. Clarity and understanding ought to be the aim of any dialog on a topic as fundamental as belief or lack of belief in God. We must avoid

intimidation, obscurity, omitting facts, and making false claims, since our goal is a correct and enlightened view of reality.

Russell's Teapot and the Flying Spaghetti Monster

“Russell's teapot” is the name given to a concept put forth by the late philosopher Bertrand Russell. Russell said that as far as common people were concerned, he could be considered an atheist, but from a technically philosophical perspective, he was agnostic. In an article on the subject of religion, he wrote:

If I were to suggest that between the Earth and Mars there is a china teapot revolving about the sun in an elliptical orbit, nobody would be able to disprove my assertion, provided I were careful to add that the teapot is too small to be revealed even by our most powerful telescopes. But if I were to go on to say that, since my assertion cannot be disproved, it is intolerable presumption on the part of human reason to doubt it, I should rightly be thought to be talking nonsense.⁶

He went on to compare this to religious claims about the existence of God.

A related concept that has been used in a logically equivalent — albeit sometimes insulting — sense is that of the Church of the Flying Spaghetti Monster (FSM). Adherents claim to believe that the FSM can perform godlike acts. Those who promote the FSM sometimes compare this “God” to traditional concepts of God, concluding that belief in the FSM is just as reasonable as belief in God. This comparison suggests that since the FSM is quite obviously the invention of a human mind, belief in God is as unreasonable as belief in the divinity of the FSM.

At their core both Russell's teapot and the FSM argue that the burden of proof for claims about the existence of an unfalsifiable entity like God lie with those who claim that such a being exists. These arguments make a valid point: we should not accept a claim merely because someone else believes it is true. And yet if an individual wishes to discover the truth about the existence of God, an investigation of the question and an exploration of potential avenues for discovering God's existence are necessary.

Here a scientific analogy is useful: I may doubt the claim made by Copernicus and Galileo that the earth revolves around the sun and instead believe that the sun revolves around the earth. I could look to the sky and argue that this is the simplest and most obvious interpretation of the daily rising and setting sun. If a patient individual came to me and wished to dispel this myth, he might suggest that I begin studying the movement of the stars each night so that I could discover the facts for myself. Faced with this proposal I could chose to dig in my heels, stick to my beliefs, and refuse to explore further. In so doing, I would believe a falsehood but would not need to expend any effort to learn that I was wrong.

Bringing this analogy back to the argument that the burden of proof lies with those claiming God's existence, if a skeptic wishes for enlightenment, he or she

cannot passively demand “proof.” The evidence for many claims — including many scientific ones — cannot be directly given to a person who asks. Instead, the evidence can be described (sometimes including figures and photos) along with instructions detailing the methods used to obtain the evidence. One can describe the observations that suggest the earth revolves around the sun — in which case a skeptic can choose to doubt that the description matches reality — but real proof comes by direct observation. No one can hand a proof that the earth revolves around the sun to a heliocentric skeptic. Instead, the proponent can point to a methodological formula for obtaining such proof: a set of instructions that will produce the same observations as others have had.

When it comes to belief in God, although I cannot *give* my observations of God’s existence to another person, I can *describe* them, and I can describe the methods I and others have used to make these observations. A skeptic may choose to dismiss my claims or can instead begin to explore the spiritual world through honest study of the scriptures and prayer. I propose that, as with my experience, this would bring spiritual manifestations: firsthand experience with the divine. Below I describe in more detail an LDS-based methodology for knowing God.

A final note: a requirement Russell gave for his imagined teapot is that it is too small to be detected by any telescope. The analogous position would be for a theist to argue that God exists but is imperceptible. Some theists may have this position, but there are many religions, including Mormonism, that claim God can be observed, and in general there is no reason to suppose we cannot observe God. Indeed, many claim that God is observable by ordinary human beings, not just prophets.

Intimidation and Mockery

A tactic promoted by the biologist and prominent atheist Richard Dawkins is that of forcefully challenging believers and mocking their beliefs. Dawkins often emphasizes that atheists should not mock the believers themselves but should instead mock their ideas. He suggests challenging individuals as to their beliefs on selected topics for which a materialistic explanation may be lacking, and he employs a tone that emphasizes incredulity. In a recent talk to a large audience, Dawkins said:

When I meet somebody who claims to be religious, my first impulse is, “I don’t believe you. I don’t believe you until you tell me. Do you really believe,” for example, if they say they are Catholic, “Do you really believe that when a priest blesses a wafer, it turns into the body of Christ? Are you *seriously* telling me you believe that? Are you *seriously* saying that wine turns into blood?” *Mock* them. Ridicule them. In public. Don’t fall for the convention that we’re all too polite to talk about religion. Religion is not off the table. Religion is not off limits. Religion makes specific claims about the universe which need to be substantiated and need to be challenged and, if necessary, need to be ridiculed with contempt.⁷

One wonders what in our modern society would *necessitate* ridiculing religion with contempt, but more fundamentally, this statement and suggestion completely lack reason. Dawkins gives no argument here that atheism is a more enlightened worldview. Instead, he proposes an interchange that relies on emotion. The intent is to intimidate the believer and convey disdain for his or her views with a potential effect of public embarrassment or fear of being seen as irrational. To the extent that believers' views are unpopular, this sort of bullying has the potential to cow some believers into silence. Exploiting the potential unpopularity of a perspective ought to be unsettling to atheists whose views have historically been extremely unpopular or even dangerous to hold.

If atheism has merit, it ought to stand on and be promoted on those merits, not by intimidation or diminishing other people and their beliefs. Why is it that atheism seeks to win adherents through bullying? If, as the name of Dawkins's "Reason Rally" suggests, we wish to reason our way to a better understanding of reality, intimidation tactics have no place in our discourse.

On the subject of mockery, while Dawkins does advocate mocking others' beliefs only, the deeply personal nature of religion and belief (or lack of belief) makes it inevitable that mocking someone's beliefs will trigger an emotional response. As noted, such an approach inhibits the aim of clear dialog and rational analysis of the question of belief in God.

False and Overreaching Statements

Atheism has at times been promoted using views that are false or unsubstantiated. This section gives just two egregious examples.

The first example is from Steven Pinker, a professor of psychology at Harvard University. In August 2013 he wrote an article about science and the humanities, indicating that scientific approaches are applicable to all areas of scholarly thought. One particular paragraph is noteworthy for the present discussion. In it Pinker argues that modern science has shown that religious concepts about the origins of life and human beings are incorrect.

We know, but our ancestors did not, that humans belong to a single species of African primate that developed agriculture, government, and writing late in its history. We know that our species is a tiny twig of a genealogical tree that embraces all living things and that emerged from prebiotic chemicals almost four billion years ago. We know that we live on a planet that revolves around one of a hundred billion stars in our galaxy, which is one of a hundred billion galaxies in a 13.8-billion-year-old universe, possibly one of a vast number of universes. We know that our intuitions about space, time, matter, and causation are incommensurable with the nature of reality on scales that are very large and very small.⁸

This statement is generally consistent with the scientific consensus, although Pinker's characterization emphasizes his own interpretation. The idea that there

are universes outside our own is controversial and unsubstantiated. Pinker's intent here is to argue that our earth — and perhaps even our universe — and mankind itself are not very significant. The facts given here agree with Pinker's own view and interpretation of the science. That being said, Pinker then departs from scientific fact:

There is no such thing as fate, providence, karma, spells, curses, augury, divine retribution, or answered prayers — though the discrepancy between the laws of probability and the workings of cognition may explain why people believe there are. And we know that we did not always know these things, that the beloved convictions of every time and culture may be decisively falsified, doubtless including some we hold today.⁹

The reality is that we *do not* know that there is no such thing as fate, providence, karma, spells, curses, or answered prayers. In fact, many trustworthy individuals — including scientists — claim that some of these things *do* exist. Most, if not all, religious convictions have *not* been decisively falsified. The article gives no citations, and such far-reaching claims cannot be substantiated.

Pinker's argumentative device here is to stand on the shoulders of the scientific statements made earlier in the paragraph and attempt to foist other completely uncertain claims as being on equal footing — even a logical consequence of — the earlier statements. And this is not the only instance in this article of his making unsupported statements: Jackson Lears, a professor of history at Rutgers University wrote a letter to the editor (now available online [4]) saying that a quotation of Lears's was falsely construed to suit Pinker's argument.

The second example of an overreaching statement is by Jerry Coyne, a professor of ecology and evolution at the University of Chicago. Coyne has written about free will, arguing that it is an illusion on the basis of "the laws of physics" and their supposed determinism. This argument is not new, and before scientists discovered quantum physics, it had a degree of plausibility. The argument is that the chemicals in your brain have a certain makeup that, in principle, allows for determining every action you would take in your life from the necessary derivations based on the laws of chemistry. The trouble with this claim is that we now know that at the molecular level, physical and chemical interactions are not deterministic. We could not predict every action you are going to take merely by knowing the chemical state of your brain. The laws of physics simply are not deterministic at the molecular level.

Here are Coyne's words from an article published in March 2012:

Free will is ruled out, simply and decisively, by the laws of physics. Your brain and body, the vehicles that make "choices," are composed of molecules, and the arrangement of those molecules is entirely determined by your genes and your environment. Your decisions result from molecular-based electrical impulses and chemical substances transmitted from one brain cell to another. These molecules must obey the laws of physics, so the outputs of our brain — our "choices" — are dictated by those laws. (It's possible, though improbable, that the indeterminacy of



quantum physics may tweak behavior a bit, but such random effects can't be part of free will.)¹⁰

Coyne fails to mention that gene expression is a stochastic process that is highly variable among cells even in the same environment, and he only admits that physics is not actually deterministic in the final, parenthetical statement. Coyne first says that the indeterminacy of quantum physics may “tweak behavior a bit” when in fact he has no idea of the extent to which quantum physics may tweak behavior. Our current techniques for observing active brains cannot delve deeply enough to observe molecular-scale interactions, so we simply do not know.

Curiously, Coyne goes on to claim that quantum physics “can't be part of free will.” While indeterminacy is of course not free will, Coyne has no argument to make. He cannot argue that our behavior is deterministic on the basis of physics since we are made up of elements that interact on the molecular scale. He cannot argue that behavior is non-deterministic, since we are able to make predictions about our own actions (i.e., by planning ahead, etc.). Is quantum physics the basis upon which free will operates? We do not know enough to say, and from a scientific perspective, we do not know how — or if — free will operates. What is certain is that much research remains to be done, but claiming that physics is deterministic is false, and subsequently concluding that free will is an illusion is dubious.

Regarding free will, Coyne says, “And deliberating about your choices in advance doesn't help matters, for that deliberation also reflects brain activity that must obey physical laws.” Coyne here does not mean to say that deliberation is fruitless; his is a statement about whether or not we can prove free will through the act of deliberation. Yet one wonders if we would be less inclined to deliberate

about the effects of our choices if we believed that free will does not exist. The social implications of a lack of free will are widespread. For example, should individuals be punished for crimes they did not actually choose to commit?

Coyne has no basis for ruling out free will. On the other hand, there is in all of us the intuitive sense that we have a will and an ability to choose between alternatives. Barring further evidence, it seems wise to maintain our intuitive senses about free will and to deliberate thoughtfully between alternatives.

Scientific Arguments

Sometimes, scientific arguments against belief in God have been based on the theory of evolution. Other arguments are based on the multiverse hypothesis. This section discusses both these concepts.

Evolution and Belief in God. Before Darwin the fact that life exists was thought to be strong evidence of God's existence and of His creative power. With the advent of the theory of evolution by means of natural selection as Darwin proposed, the possibility of life being formed without God's involvement became a scientifically tenable position. Since that time, many have argued for or against the theory of natural evolution rather than that of divine creation. Most of these arguments are beyond the scope of this chapter.

As a geneticist, I believe that evolution explains the descent of all forms of life upon the earth, including mankind. However, I am keenly aware that no scientific evidence exists for or against the position that either (a) God set up the universe and the earth in such a way that evolution was carried out or (b) God has intervened in the evolutionary process, thus partially directing the formation of life. Many theist scholars have argued in favor of position (a), often using the analogy of a watchmaker, but it is noteworthy that position (b) cannot be falsified, either. While both these positions are distasteful to atheists who promote evolution as being at odds with the existence of God, still it is the case that no one has disproven them.

The relationship between God's involvement in human affairs and the strong evidence in favor of evolution is worth considering. I do not hold with those who believe that God *did not* intervene at various points in the history of life upon the earth. At the same time, I readily admit there is no physical evidence for God's intervention, and I think it unlikely we will ever recognize such evidence, if it exists. (The reason is that God's involvement would almost certainly appear similar to other natural effects, such as selection.) The idea that God has intervened in evolutionary history is unpopular in some circles, yet it remains a viable possibility.

Regarding God's existence, it does not follow that evidence in favor of evolution argues against belief in God. And merely because scientists agree upon a theory that does not invoke God does not mean the theory is a perfect descriptor of reality or that God was not involved. Scientific explanations aim to omit scientifically obscure

concepts such as God, but forming a theory that assumes God was not involved and then concluding on the basis of that theory that God does not exist is circular reasoning.

To be clear, I am not advocating that scientists start searching for evidence of God. Science rightly concerns itself with matters it can explain by natural means. We must be careful, however, when attempting to translate scientific discoveries into other areas, such as theology. If we wish to learn something theological from archaeological or genetic evidence, we should consider those observations in a theological sense, asking what relevance they may have. Some observations surely *are* relevant to theological questions, but they do not disprove God and cannot be used to dismiss the possibility of God's existence.

The Multiverse Hypothesis. Cosmology is the branch of physics devoted to the study of the origin and evolution of the universe. Discoveries made throughout the twentieth century in cosmology showed that certain fundamental constants of the universe make it extremely well suited for the formation of life. Moreover, it was found that if these physical constants had deviated by even a small fraction from their current values, stars and other essential physical structures could not form, and life as we know it would not be. The conclusions of these studies have suggested that we live in a “fine-tuned universe” — a universe that is finely tuned for life's existence.

Recently cosmologists have proposed a theory termed “the multiverse hypothesis,” which suggests that the physical constants of our universe could have arisen randomly. This hypothesis posits that many universes exist and that new universes are generated every fraction of a second, with the physical constants of each one taking on random values. If this hypothesis is correct, the argument is that with an uncountably infinite number of universes in existence, one will eventually



Conceptual Representation of the Multiverse Hypothesis

form that has constants set to values that are perfectly suited for life. The argument proceeds by invoking the anthropic principle, saying that since we are here to observe the physical constants tuned as they are, we should not be surprised by the fine tuning we observe. We observe tuning because we are in such a rare universe in which life can exist.

Several issues arise in using the multiverse hypothesis to argue against belief in God:

- There are, as yet, no observations to support this relatively new and little-evaluated hypothesis. Thus, at present, believing in this hypothesis as an argument against God is not rational: there is no evidence in favor of it.
- The predicted observations from this theory are indirect, so it remains to be seen how much empirical support the hypothesis will ever receive.
- Consistent with the above, there is a lack of consensus among cosmologists as to the validity of the multiverse hypothesis.
- Even if the multiverse theory is correct, it does not and cannot prove that God does not exist.

Given this state of things, forming theological conclusions based on multiverse would be misguided. Notably also, the multiverse proposal, while having many scientific implications worthy of exploration, may have been conceived as a response to the claims of a fine-tuned universe. Scientific theories derive from many sources, and forming a theory that points to a conclusion opposed to an existing theory is a valid means of furthering science. However, it is incorrect to conclude that God does not exist by virtue of a theory formed to refute another (arguably theistic) theory. Once again, that amounts to circular reasoning.

Rejecting 100% of Gods vs. 99%

Dawkins has argued, “We are all atheists about most of the gods that humanity has ever believed in. Some of us just go one god further.”¹¹ This argument suggests that theists are very close to being atheists, and some versions of it use percentages to emphasize this point, saying that theists reject 99% of gods while atheists reject 100%.

Dawkins here modifies the meaning of “atheist” in a confusing way. Disbelieving one concept of God does not make a person an atheist, either about that God or any other. One must lack belief in all concepts of God to qualify as an atheist. The question under examination is not, “Which concept of God do you believe or not believe in?” Rather, the question is if you believe in a divine being at all. For example, Muslims believe in a very different concept of God than did those who worshipped Baal and Thor, yet all theists believe that divine beings exist. This is very different from atheists who do not believe in God.

Rather than being atheist about differing concepts of deity, theists hold some concept of God, and that concept may be closely related to or different from that

of others. Regardless of how much one concept of God is related to another, belief in a divine being unites all theists, and that is the very point on which theists and atheists disagree.

A separate issue arises in the quantification of “rejecting” 99% vs. 100% of gods. This is faulty math: most concepts of God are not independent of each other and so are not fully rejected by most theists. Religions have and do influence each other, and by embracing one concept of God, a person will invariably embrace aspects of other conceptions of God. For example, as a devout member of The Church of Jesus Christ of Latter-day Saints, I reject the view that God will damn those who, through no fault of their own, never receive baptism on earth. Many Christians espouse a different belief. Does that mean I reject their God? No, rather I reject one aspect of the God they worship. One could attempt to quantify the extent to which I reject various concepts of God, and in so doing they would find that not only do I agree with many aspects of traditional Christianity and Catholicism, I agree with many aspects of Islam and Judaism. Taking this a bit further, I hold that much of Hinduism and Buddhism is inspired and draws individuals closer to divinity. Hinduism and Buddhism have very different tenets than Mormonism, yet their teachings point individuals to sources of inspiration that lie outside themselves — to some form of divinity. Surely not all members of The Church of Jesus Christ of Latter-day Saints would agree with what I view as godly, but this is part of the point: religious interpretation and beliefs differ among individuals and religions, and that does not suddenly transform theists into atheists.

Scientific Inquiry: The Role of Faith and Verifiability

The view that science and faith in God are very different (or even opposed to each other) is taken for granted in too many discussions. Examination reveals that science is completely dependent upon faith and that for some, belief in God can have underpinnings that are similar to those of science. This section discusses the role of faith and verifiability in the scientific enterprise, and a later section discusses the proposal that religious belief can be verified in a fashion that could be compared to the scientific means of verification.

In examining how much science relies on faith, I do not aim to discredit science or even to equate it with religion. I am a scientist, and I believe that science that is carried out ethically and methodically uncovers truth. The authoritative position society gives to well established scientific theories is generally valid: when scientific claims are testable or verifiable, they often lead us to a more accurate view of reality.

Faith enters science in two fundamental ways: scientists themselves depend on faith in order to carry out their work, and the lay public depends on faith in learning about and believing scientific theories. Below, I first discuss what faith is and then describe these two features of how faith is essential to science. Next I examine the role of verifiability in science.



What Is Faith?

There are those who view faith as equivalent to blind belief, but this is not what faith is. The first dictionary definition for faith is “confidence or trust in a person or thing.”¹² Other definitions are related to devotion to God or a religion, and those are expressions of the aforementioned definition but are directed specifically to God or a religion.

Another definition of faith is “belief that is not based on proof.”¹³ This definition may appear to be inapplicable to science, but in reality, few individuals actually observe scientific proof directly. Instead they have confidence or trust in scientists who report their observations and conclusions.

A final notable definition is from the Book of Mormon in Alma 32:21, which says that faith is to “hope for things which are not seen, which are true.” This definition implicitly proposes that there are true things we do not always see and that when we have faith, we hope for those true things. A scientist who trusts another scientist’s claims without verifying them him or herself is using faith when believing those claims.

Faith of the Public in Scientific Claims

Most of us believe with little doubt the scientific claims that are widely known and for which there is strong scientific consensus, including the science taught in public schools. Examples of scientific claims that most people believe without their own evidence are: that the earth is round, that it orbits the sun, that germs cause illness and thus good hygiene helps prevent disease, that genetic material encoded in DNA is transmitted from parents to children, and that the universe and the earth are arguably several billion years old. Few if any have verified these claims, and because of economic and technical limitations, not even a small fraction of all scientific claims have been independently verified.

Scientific claims that make testable predictions, have stood the test of time (i.e., were proposed at least, say, a few decades ago), and for which there is clear consensus among the majority of scientists in the discipline are likely to be reliable. In this case, it is reasonable to feel confident that any conflicting findings would have been reported and the theories modified accordingly.

Absent rare exceptions, scientists are unlikely to have a conflict of interest: there is little if any reason for a scientist to hold back on reporting findings that disagree with previous reports. Overturning a well-established theory brings instant notoriety, and, at the same time, when scientists report a potential groundbreaking observation, they immediately make themselves vulnerable to scrutiny and criticism. Indeed, there are many examples, including several recent ones, where the scientific community has debunked new observations as the result of poor experimental design, faulty equipment, or errant analysis.

Faith Is Essential to Scientific Inquiry

Beyond nonspecialists believing scientific authority, scientists themselves rely on faith — not faith in God, but faith even so — in their pursuit of discovering truth. Scientists utilize faith in two key ways.

First, when a scientist conducts an experiment, he or she does so on a form of faith. One cannot know before beginning an experiment whether or not it will work, and the majority of experiments or analyses fail. It is faith that enables scientists to persevere past setbacks and failure: faith that by continuing to adjust the experiment or by trying a wholly different technique, they will eventually acquire a greater understanding of their chosen questions. For some graduate students, such faith can wane when their experiments fail repeatedly, but faith is required for scientific progress and greater understanding to be achieved. Faith comes easier when prior successes feed the idea that future attempts will be worthwhile.

The second way scientists employ faith is in learning of and accepting the claims of other scientists. This occurs first when a scholar reads a paper or listens to a talk: the mere act of reading or listening is one of faith — faith that the effort and time will be worthwhile. In the process of internalizing the other scientist's report, the listener typically has faith that the observations are truthfully represented (though there is variation in this, and extraordinary claims receive much initial skepticism). Last, if the paper or talk appears sound, and if the listener believed it was truthfully reported, most often the new claims go unverified. Whereas it is possible for another scholar to redo the experiments described, he or she usually will not, but will rather accept them on the word of the scientist. All this process of accepting the claims of another scientist is an expression of faith.

It is essential for scientists to have faith in the (otherwise reasonable) claims of other scientists. To make progress, scientists learn from each other, and they do not conduct their work in isolation from the larger community. Scholarly publications



Roger Bacon (1214-1294) Conducts an Experiment
Colorized from an engraving in Michael Maier, *Symbola aureae*, 1617

and conferences enable scientists to convey their findings to each other, and one person's research often influences the inquiry and directions of another. Without faith and scientific integrity, progress would be extremely slow and cumbersome.

It is important to stress that the necessity of faith to science does not diminish science's standing. No purposeful act is carried out without faith, and scientific experiments and progress are no different. Faith in one's own ability to obtain enlightenment through well-designed experiments is, for those with the expertise and desire, typically reasonable, but it is still faith.

Independent Verification Justifies Scientific Authority

In principle, scientific claims are verifiable by independent third parties. This characteristic, while not unique to science (more on this below), endows science with greater authority and trust than other disciplines. We cannot replay history to ensure that its telling is accurate, but scientific experiments can be performed more than once to ensure that results remain consistent across labs, etc.

To enable third party verification, scholarly papers describe how the authors collected the data for the study, their analysis methods, and the observations they

made. While papers usually do not describe every aspect of a study in perfect detail, yet, in practice, someone with sufficient training and adequate equipment would usually be able to repeat the experimental methods after carefully studying a paper. This property enables science to check itself, and since a unique claim has the potential to open new avenues of research and new understanding of our world, individuals do scrutinize such claims. Whether by reanalyzing the original data underlying a study or by collecting new data to check a claim, independent verification can and, for important findings, does occur. Claims for which a consensus develops over time within the scientific community will invariably have undergone scrutiny before they are widely accepted.

Even as scientific claims are in principle verifiable, it remains the case that verification itself involves faith. Redoing an experiment or performing an independent analysis requires an investment of time and the use or purchase of sometimes expensive equipment. Faith is evident in that the verifier must believe it is worth his or her time and sometimes laborious effort to check the claim — regardless of whether that effort is to support or overturn it — in addition to any equipment costs.

Once an individual verifies a claim he or she can begin to feel quite confident in its truth. At that point, the individual truly begins to see for him or herself that the claim is real, rather than merely having faith that it is (or, alternatively, is not).

Mormonism's Theology: Witnesses and Verifiability

Mormonism proposes that we can all have personal revelation, a relationship with God, and spiritual manifestations confirming that the Book of Mormon is true. The claim that personal revelation is available to everyone is put forth by other faiths as well. If personal revelation is possible, then avenues exist for all of us to come to know that God lives by empirical means. That is, we can have direct experience with God. Obtaining a sound empirical basis for the notion that God lives (assuming this is possible) can become a powerful demonstration that God both exists and interacts with those who seek Him. Eventually one's faith in God's existence can become a sure knowledge, as God becomes an active, integral part of that person's life.

The remainder of this section outlines my own perspective on belief in God and religion. I have a profound belief in Mormonism and see it as having unique tenets that endow it with great power from God. I testify by my own experience that these unique doctrines are verifiable. In conjunction with my love and admiration for Mormonism and my allegiance to it, I am certain that God speaks through other faiths as well. I have felt God's spirit as I have worshipped with friends in various churches. Those that seek godly ways receive God's guidance and spirit. As a divine, all loving, and all knowing Being, God always answers the heartfelt and earnest prayers of His children, regardless of the name or shape they use to call on or think of Him. God is the good shepherd. He loves us and blesses those who love and



The Desires of My Heart, 2004. Walter Rane (1949-)

seek after goodness and godliness through uplifting worship of all varieties.

I commend those who seek to know God to seek proactively. It is worth the effort to take time to know God and to kindle a deep desire to understand whether He lives and what kind of Being He is. The words that inspired Joseph Smith to seek after Godly wisdom succinctly describe the process of how to obtain revelation from God:

If any of you lack wisdom, let him ask of God, that giveth to all men liberally, and upbraideth not; and it shall be given him. But let him ask in faith [i.e., actively and with hope that God can answer], nothing wavering [i.e., with a focused desire and belief that God can answer if He exists].
(James 1:5–6.)

May James's words serve as an invitation to all who seek wisdom concerning the reality of God. He lives and loves all.

Witnesses of the Divinity of the Book of Mormon

To begin exploring the possibility of belief in God, one first hears the witness and testimony of others, often through scripture and sometimes directly from someone else. Since The Church of Jesus Christ of Latter-day Saints was organized in 1830, individuals have recorded their testimony and witness of divine revelations they have received concerning the truth of the Book of Mormon, the reality of God the Father, Jesus Christ and the Holy Ghost, that Joseph Smith was a prophet, and that God loves His children.

When considering individuals who testify of these things, there are three possibilities: they were lying, deluded, or were actually seeing and describing reality. The notion that individuals were lying about these divine revelations concerning

Mormonism appears fatuous. There is no meaningful benefit to lying about a testimony of Mormonism. No one has ever received monetary gain for declaring these things. Moreover, members of the LDS church have been mercilessly persecuted in the past, and such persecutions, while less extreme and less obvious now, still continue today. Indeed, testifying of God or Mormonism today can bring risks to individuals' careers or reputations. Because of this, I do not believe that any sizable fraction of the testators to the authenticity and divinity of the Book of Mormon or the LDS Church were attempting to deceive others. Instead, it seems evident that these were their deeply held beliefs.

Ascertaining whether or not someone is delusional cannot be done easily, nor is the accusation of delusion a light matter. Having been told, myself, I was delusional on numerous occasions, I have come to realize a few features of this claim, as elaborated below. For the present discussion, I note that we have no evidence at all to suggest that those who have and do testify of the LDS Church are delusional. Further, the LDS faith and spiritual manifestations that believers describe brings them comfort and reassurance. This contrasts strongly with the standard experience of delusion in which an individual often feels an overpowering fascination and strong emotional attachment to the delusion, to the exclusion of day-to-day responsibilities and otherwise positive life experiences. As we lack evidence for delusion and observe positive effects of these believers' spirituality, dismissing these testimonies quickly or arbitrarily appears misguided.

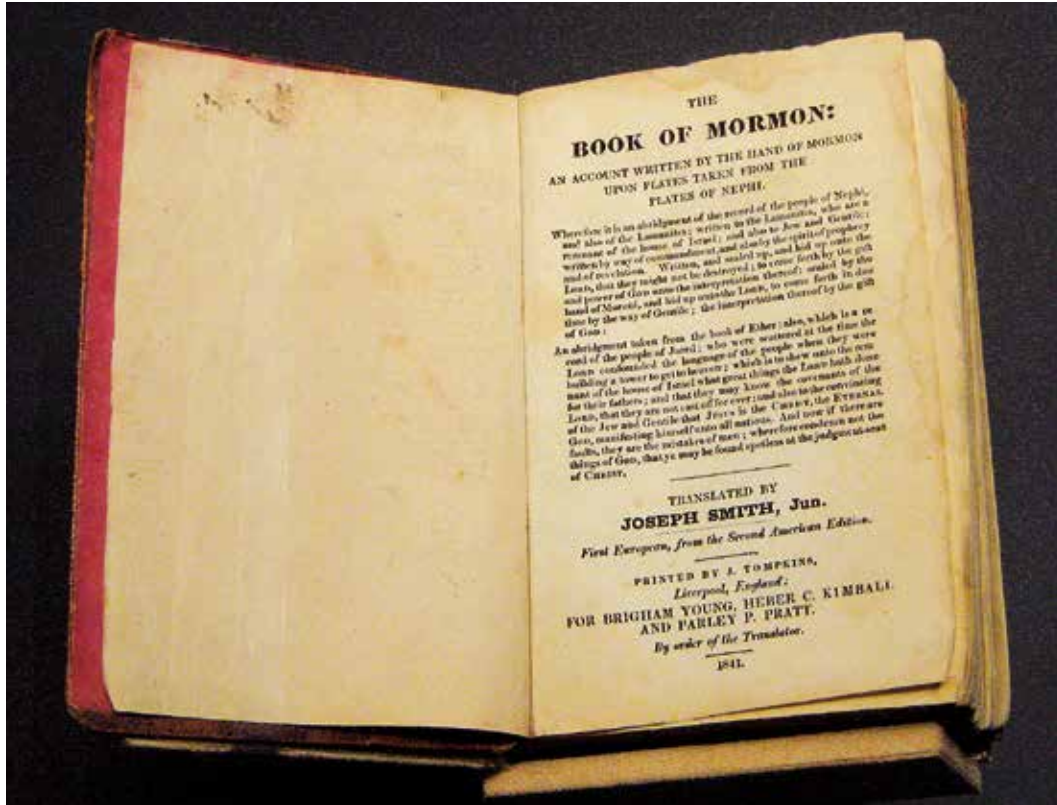
Given the status of these witnesses as possibly true, and in light of the varied and important implications of Mormonism if it is true, exploring Mormonism is justified. As such, the question becomes: how can we as individuals decide for ourselves if the LDS Church is true? Note that some of the proposals outlined hereafter apply to religions besides Mormonism. I examine the LDS Church because of my allegiance to it and because it focuses more than some faiths on the importance and opportunity of obtaining direct witness for oneself that God lives and that Mormonism is true. That is, it is perhaps more empirical in its directives for obtaining a testimony than many other religions, and I find that perspective appealing.

Verifiability of the Book of Mormon and God's Existence

In October, 2003, the late Elder Neal A. Maxwell of the Quorum of the Twelve Apostles, when speaking about Joseph Smith, said:

The "choice" translator brought forth — "by the gift and power of God" (D&C 135:3) — the Book of Mormon, *something tangible and verifiable*. For all who heed it, the Book of Mormon is like the flinging open of long-closed doors on what was assumed to be a complete canon of scripture.¹⁴

As one of the highest authorities of the LDS Church, the words of this apostle carry weight, and he suggests that the Book of Mormon can be verified. As independent



verification is one of the key reasons that science has the special recognition it does, such a claim stands out.

Although Elder Maxwell does not elaborate further on verification in the aforementioned talk, anyone familiar with the Book of Mormon knows of the promise of a divine witness from God that is recorded in the final chapter of the book:

And when ye shall receive these things, I would exhort you that ye would ask God, the Eternal Father, in the name of Christ, if these things are not true; and if ye shall ask with a sincere heart, with real intent, having faith in Christ, he will manifest the truth of it unto you, by the power of the Holy Ghost. (Moroni 10:4.)

The method is simple, but it requires a level of psychological awareness and clarity of desire that may take effort to acquire.

The specific requirements for obtaining an answer, as outlined in this verse are as follows. Implicitly, first you must have a desire to know if the book is true, and you must study and read it (see the previous verse, Moroni 10:3). Second, you must pray, and you must do so with a sincere desire to know if the Book of Mormon is true. Third, you must have “real intent.” Fourth, you must have faith in Christ.

Before elaborating on these requirements, I wish to emphasize the depth of this message. Moroni is suggesting the possibility — and many confirm the

experience — of having a divine manifestation of the truth of the Book of Mormon. Furthermore, the requirements for receiving such a profound manifestation can be and are written down in one short verse along with the promise. Few religions make claims such as this: pray earnestly, with great desire, and with belief that God can answer, and He will answer you, confirming the words of a book of scripture to be true. It is a staggering promise and one that the LDS Church rests on in order to invite individuals to join its ranks.

The requirements listed above describe what we could call a “method” for obtaining revelation from God, arguably related somewhat to methods described in scientific papers. And the prediction (or promise) Moroni gives is that God will manifest to you, by the Holy Ghost, that the Book of Mormon is true. How this manifestation occurs differs from person to person, yet despite some variation, the promise is that a witness from the Holy Ghost, one of the three members of the Godhead, will come to those who seek. Most often this manifestation takes the form of a spirit of great peace and solace, a spiritual feeling that is deep and profound enough to convince one that it comes from God Himself.

One can view the method outlined in Moroni 10 and the prediction given in comparison to scientific claims. Using astronomy as an example, science teaches that I can come to see with my own eyes that the earth revolves around the sun by studying the constellations. To obtain these observations requires effort. Specifically, I must desire to see the reported observations in the first place, then I must act on that desire by studying the constellations, and I must devote some of my time to that study. These requirements to verify science mirror some of the requirements in Moroni 10 listed above.

A key strength of science is that if someone doubts scientific claims, he or she can redo experiments. Mormonism stands on similar footing: if someone wants to know whether the witnesses of the Book of Mormon are correct, he or she can expend the same effort that previous witnesses did, and he or she can have the same sort of manifestations about it.

Lest my brief summary of what is being proposed in Moroni 10 be misunderstood, I will clarify that the suggestions here are ones that often require soul-searching evaluation to obtain. The psychological requirement does not have a parallel in the physical sciences. I can be angry that the stars move the way they do, but unless I shut my eyes or do not look at them, I will still see them move just as they do. (Of course, my attitude could bias what I choose to look at in the cosmos and how hard I try to interpret it in my preferred way.) Having an attitude of sincerity and resultant humility when approaching God is one of the requirements Moroni mentions, and while this seems intuitively sensible on religious matters, such an attitude is possibly less important when performing traditional science.

The final requirements in Moroni 10:4 are to have “real intent” and faith in Christ. Clayton Christensen, a devout Mormon and Professor at Harvard Business School

has suggested that “real intent” here is not the same as being sincere, since the immediately previous phrase speaks of sincerity. Instead, Christensen proposes that this means to have an intent to act on the knowledge if it is given .

Elaborating on this, I believe God wants to reveal Himself to us and have His Spirit dwell with us, but I also believe that He gives these powerful manifestations to those who show Him they are ready for such responsibility. Knowledge of moral matters and of the purpose and nature of life convey a great responsibility on the recipient. For example, suppose I know there is a God and that He expects me to live by a high moral standard. If with this knowledge I then disobey God’s commands, my fault is much greater than if I disobey without knowing the commands are truly from God. In requiring deep commitment and a willingness to change one’s life before God will answer, God prevents those who are merely curious about Him from being condemned for receiving a quick answer to a fleeting curiosity and then disobeying Him. One must have intent to act, one must be committed to giving their life to Godly ways and His will for them, and then God will answer.

Some may misunderstand the meaning of having faith in Christ and think that Moroni 10:4 is circular. Joseph Smith, in the *Lectures on Faith*, said that “Faith is ... the principle of action in all intelligent beings.”¹⁵ All purposeful acts are based on some degree of faith. Thus merely opening the Book of Mormon or any book at all is an act of faith. And this is akin to the faith scientists use when reading scholarly articles.

Moroni suggests having faith in Christ, not to believe a priori that the Book of Mormon is true. I suggest that this means to have faith enough to take action by *asking in prayer* and to believe in the *possibility* that God can answer because of the grace of Christ. The belief in the possibility that God can answer is related to the kind of faith that scientists employ in the laboratory. Scientists do not know ahead of time whether their experiments will work, but they have faith in the possibility that they could work, and that faith motivates their *action* of experimenting.

As with Galileo’s claim that the earth revolves around the sun, if you wish to know for yourself that the Book of Mormon is true, you must not be passive. You can accept or reject Galileo’s claim, but either position is one of faith. You can accept or reject the Book of Mormon’s claims to authenticity and divine inspiration, but either position is one of faith. Rejecting it risks remaining in metaphorical darkness as to the truth of God’s existence and of the Book of Mormon.

Personal Experience as a Reason for Belief

The notion that revelation, if it occurs, would be somewhat scientific is supported even by the well-known atheist, Richard Dawkins. In the quote below, Dawkins is discussing one among a set of arguments for God that were proposed by theologians at a conference in Cambridge in which he participated.

The most important of these other ways of knowing [besides ones previously listed] turned out to be personal, subjective experience of God. Several discussants at Cambridge claimed that God spoke to them, inside their heads, just as vividly and as personally as another human might. I have dealt with illusion and hallucination [elsewhere in this book], but at the Cambridge conference I added two points. First, that *if God really did communicate with humans that fact would emphatically not lie outside science*. God comes bursting through from whatever other-worldly domain is his natural abode, crashing through into our world where his messages can be intercepted by human brains — and that phenomenon has nothing to do with science? Second, a God who is capable of sending intelligible signals to millions of people simultaneously, and of receiving messages from all of them simultaneously, cannot be, whatever else might be, simple. Such bandwidth! God may not have a brain made of neurones, or a CPU made of silicon, but if he has the powers attributed to him he must have something far more elaborately and non-randomly constructed than the largest brain or the largest computer we know.¹⁶

While I disagree with Dawkins on most theological positions, I find myself agreeing with much of this quote. Curiously, Dawkins wrote this in the context of a chapter devoted to dismantling arguments for God, yet here he says little against this approach to knowing God. Not only does he not claim that this is a poor argument, he indicates that it is relevant to science and that a God capable of communicating with humans is powerful indeed. His response first suggests that this may be hallucination, but as discussed previously, there can be no proof that a believer is delusional, and there may be countervailing evidence against it. For example, the lives of those receiving revelation are otherwise normal, and they *benefit* from these experiences. What repeated hallucination or delusion leaves the well-being of the recipient overall *improved*?

Dawkins also hints here that the complexity of a God capable of communicating with humans is somehow a reason for disbelieving that such a being exists. If that is Dawkins's position, it is at odds with scientific progress and research. Numerous scientific concepts are complex and are not yet fully understood (e.g., the human mind, the cosmos, etc.). Because we observe the effects of these phenomena, we accept them as real and set to the lofty task of understanding their workings. If we then begin to personally experience and observe God's effects in our lives, should we not accept Him as real? Parsimony of explanation has a good place in science, but when we observe complex phenomena, we must open our minds, admit they exist, and set out to more fully understand them by active inquiry. We adjust our view of the world when we see evidence of forces we had not seen before. That is how science progresses and that is a good attitude to have toward God.

My Testimony

I copy here the testimony I wrote for the website *Mormon Scholars Testify*.¹⁷ Many LDS scientists and scholars have submitted their testimony to this website and they are worth reading.

My testimony of the truth of The Church of Jesus Christ of Latter-day Saints and that of the Book of Mormon is certain. I say without any hesitation that I possess a knowledge that there is a God in heaven and that He has revealed Himself to me. That knowledge has come not through physical demonstrations or by reason alone, but by God's Spirit speaking to me personally, in a manner that could only have come from God. This knowledge and the relationship I have developed with my Maker have carried me through many difficulties, and I am grateful beyond measure to know these things for myself. Without a doubt, knowing the reality of God and of the truthfulness of His Church is the greatest blessing of my life.

Although my belief is certain now, it was not always so, and answers to my inquiries about God and religion did not come immediately when I asked.

I gained my knowledge of the reality of God and the truth of the Book of Mormon at a time of personal struggle. At the age of eighteen, having just finished my freshman year in college, I came to feel that I needed to know for myself whether there was a God and whether the things I had been taught in Mormonism as a child were true. To that point, I had prayed intermittently and had read — though somewhat irregularly — from the Book of Mormon, with an occasional inquiry to God asking to know if it was true. No answer that I could recognize came, and I wondered why my asking did not produce the answer that the Book of Mormon promises and if I was asking in the right way. However, despite the lack of an answer, I continued to believe in Mormonism because so many of its teachings made sense to me. The most compelling claims to me included the belief that God continues to send prophets to the earth in modern times, that God can and does speak by personal revelation to ordinary, lay members of the Church and not just to its leaders, and that spiritual gifts are available now, just as in ancient times. On this basis I formed a belief, yet I wondered when and if my prayers to know definitively concerning God and religion would be answered; I was sure that if Mormonism was true, I too had claim on personal revelation. In my early teenage years, I made the determination to stay true to Mormonism for a period of time, since I could not then decide whether it was true or not. If, by the time I reached twenty-one, I had not experienced divine revelation, I planned to reevaluate these questions.

It is now clear that the primary reason I did not recognize any answers to my prayers or perceive a witness about the Book of Mormon as a young teenager was because I put forth little effort and had only a small desire for an answer. Though I did want to know, I did not put my heart and soul into prayer the way I did years later.

My freshman year in college was an exciting one, as I had the opportunity to deepen my understanding of subjects I felt passionate about and also had the chance to interact with a wider range of individuals than I had grown up with. I attended the University of Utah, and although this campus is located in Salt Lake City, there were a large number of students who were not Mormons, and this was especially true in the sciences and in engineering.

I became good friends with a small group of atheists and agnostics and felt eager to share my beliefs with them, thinking that they would see the uniqueness of the tenets of Mormonism and would want to learn more about the Church. I am grateful for these friends and the discussions we had because I have had dozens more since then with other sincere disbelievers among my classmates, colleagues, and friends in academia. My freshman classmates challenged my beliefs in ways that were often constructive but also introduced me to the experience of being mocked and belittled for belief in God. Such is the persuasive device that some revert to in an attempt, if not to refute faith, at least to intimidate faith's adherents. (Paradoxically, atheism involves a unique style of faith that is not practiced by believers because, if God does exist, His presence has the possibility of being verified through divine communication, whereas a claim that there is no God can never be substantiated by any kind of evidence.)

I came away from these discussions with a greater desire to know for myself — sooner rather than later — if there were a God. If there were no God, I had no interest in aligning myself with a religious institution.

The questions that arose at this time served as a backdrop to a great challenge that came a short while later when I had a falling-out with a close friend that left me feeling sad and somewhat lonely.

In these circumstances, my attitude regarding the question of religion and God was quite different than it had been in prior years. I turned to my Maker and to the scriptures — most especially to the Book of Mormon and other modern revelations — with an eager yearning to know if God really lived. I asked in prayer more sincerely than I ever had before if there were a God and if the Book of Mormon were true. I read God's word with more intensity and desire than ever before. I needed to know. And I felt certain that if there were a God, and if The Church of Jesus Christ of Latter-day Saints were true, I would receive an answer as I had heard so many other members of the Church describe having received.

Through the act of reading the Book of Mormon and praying concerning it, I was following the invitation contained in its pages to “experiment upon the word” (Alma 32:27-37, 41-42). The book's predicted outcome of this experiment is divine communication confirming that the book is of God and is true (Moroni 10:3-5).

I did not have to wait long before discovering a sweet peace flowing into my heart both as I prayed and as I read scripture. This peace contrasted sharply with the feelings of sadness and loneliness that were otherwise in my heart. Soon my

desire to commune with God became frequent and deep. In the ensuing year, I often poured out my soul in private, seeking to know more of the Being who filled me with such peace and hope, feelings that otherwise seemed so elusive. The results of my experiment proved to be consistent with the outcome predicted in the Book of Mormon.

Through all of this I came to know that God does live and that He is the Father of my spirit; that He is a loving, tender, and devoted parent; and that He is keenly aware of me and my life. I came to know that God lives as certainly as I know that I exist. The spiritual manifestations that came were poignant and so sharp and profound at times that I knew my own mind could not conjure them. When I felt a heaviness of heart, I would turn to my Father in Heaven and, shortly thereafter, I would come away feeling buoyed up, lightened, and hopeful about the future. Sometimes the state of mind I was in before seeking God's support was heavy indeed, and the lightness and strength that came into my heart and soul through earnest seeking were the polar opposite of what I had felt beforehand.

I am a witness to the reality of the promise given throughout scripture, "seek and ye shall find" (Matthew 7:7-11). That phrase and other semantic equivalents are among the most common to occur in scripture. God is eager to reveal Himself to us. Despite His eagerness, however, God wants us to be clear — both to Him and to ourselves — that we really desire the manifestations we ask for. Receiving a knowledge that God lives has the power to fundamentally change the course of one's life and carries with it some responsibility (Alma 32:17-19). Because God does not wish to burden an individual with the responsibility of knowing concerning Him without that person's having a deliberate and earnest desire to know, His answers to some inquiries may be subtle and difficult to recognize.

In the varied conversations I have had with my disbelieving friends — and friends they are! — I have sometimes been accused of being brainwashed or deluded. I have considered these ideas very seriously because I know that our minds are complex and that self-deception is a possibility. Reflection has convinced me that my experience is simply too profound and too distinct from what I might envision by my own mental devices to be accounted for as springing from within me.

To some, this statement affirming a divine source of my spiritual experiences may not carry much weight. I offer three points in answer. First, one who dismisses my accounting of spirituality — or that of countless others — as delusional is deeming him or herself better judges of my experience and psyche than I am, even though he or she was not present during these experiences. Second, if such a person has not sought or had spiritual manifestations for him or herself, and if he or she has not experimented with prayer as I and others have, his or her pessimistic explanation about the fruitful results of others' efforts is at best hollow. Third, there is simply no evidence that I or other believers are delusional. Those claiming delusion rely on blind faith — blind disbelief — to support their claims that another's mental state is flawed.

The evidence I have in support of the truth of The Church of Jesus Christ of Latter-day Saints grows with time as I continue to seek to know God and to live by His teachings. The experiences I had when I was eighteen were only the beginning of what has become a rich and vibrant part of my life, and I now turn to God daily to deepen a relationship that provides me with support and answers to life's challenges. The depth and persistence of my connection to God expands, though in a nonlinear way, as I strive to devote myself more and more to Him. Because of my faith, I see others on this earth as my spiritual brothers and sisters with infinite divine potential. I vaguely glimpse the immensity of God's love for His children, and I am in awe of the Creator of the universe, our Heavenly Father.

I testify that God lives and loves us. I testify He knows your name just as He knows mine. He will answer any and all who earnestly seek a witness of His reality. You can know for yourself, independent of anyone else, that God lives and loves you. You can know that the Book of Mormon is true and that prophets are again on the earth, speaking boldly concerning proper morals and providing a code of conduct for life. As I have, you can feel a peace permeating through your heart that carries and sustains you and leads you to learn of God's plan for your life.

Most fundamentally, what draws me to Mormonism is the claim that all can know for themselves — through “experimenting upon the word,” as the Book of Mormon invites — that God lives and that Mormonism is true. I invite all to experiment upon the word as I have.

Conclusion

The debate concerning God's existence will continue for as long as human beings live on earth. Educated individuals on both sides of the debate have written and do write on this topic, yet few talk of an empirical means of knowing God. The God of Heaven and Earth does live and can be known by all. May those uncertain of God seek Him with great desire and sincerity. In so doing, they will discover His influence and receive a degree of peace and hope that is not possible by other means. I pray God will whisper peace to your soul and comfort in your journey through life. May you find Him, know Him, and experience firsthand His intervening miracles and boundless love.

Acknowledgments

I wish to thank those who have had discussions with me over the years on the topic of belief in God, including — and perhaps especially — those of atheist persuasion. These friends have asked meaningful and genuine questions that, while unsettling when I first considered them, pushed me to think carefully and deeply about my chosen faith and if it is true. I also thank the many religious leaders and teachers I have had over the years who have helped me see God's hand in their own lives,

the lives of those in the scriptures, and ultimately in my own life. Hearing of these individuals' experiences inspired me to seek out my own witness of God's existence. I am also grateful the Interpreter Foundation for allowing me to present on this topic as a speaker and in writing. Finally, I thank Michael Cotter for reading parts of the draft of this manuscript.

Endnotes

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17. See <http://mormonscholarstestify.org>

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Amy L. Williams is a Nancy and Peter Meinig Family Investigator in Life Science and Technology and Assistant Professor of Computational Biology at Cornell University. Amy grew up in a suburb of Salt Lake City and was raised as a member of The Church of Jesus Christ of Latter-day Saints. Her exposure to the Church led her to seek knowledge of God's existence directly from God and to explore questions relating to religion through prayer. These experiences have convinced her that knowledge of God can be had by following a methodological process proposed in the Book of Mormon. Through her interactions with peers during her academic training, Amy has engaged in discussions of belief in God with many atheists and agnostics. Because of her own experience with God and these discussions, she has become interested in communicating the view that belief in God can be obtained by direct interaction with God's Spirit.

Amy earned dual Bachelor of Science degrees in Computer Science and Mathematics from the University of Utah in 2003. She did graduate work at Massachusetts Institute of Technology where she received a Master of Science in 2005 and Ph.D. in 2010. Her thesis research focused on the development of a highly efficient algorithm for inferring the transmission of alleles from parents to children using genotype data from nuclear families.

From 2009-2013, Dr. Williams was a postdoctoral research fellow at Harvard Medical School where she continued her research on efficient computational techniques for modeling and inferring genetic variation and performed research on the genetics of type 2 diabetes in Latinos. From 2013-2014 she continued her research as a postdoctoral associate at Columbia University. She joined the faculty at Cornell University in the fall of 2014. Her research interests focus on human genetics and span the intersection of computer science and genetics. Key focus areas of her work include characterizing the forces that promote genetic variation as well as the development of computational techniques for modeling and performing inference on genetic variation in large scale genetic datasets.