

## Module 5 Lecture: Leveling the Playing Field—Why Science Is Not a Trump Card

In the past, when I have discussed the conceptual conflicts between the basic assumptions of the restored gospel and those of modern, naturalistic science, many of my students feel an immediate conciliatory instinct: they wish to find some way to unite the two differing perspectives so that there is no longer any conflict or disagreement.

I think this is because most of us tend to take both perspectives for granted. Because of our religious tradition, we assume the existence of a personal, loving, embodied God. However, because of our Western intellectual heritage, we also take for granted the assumptions about truth and reality that we have been taught to value as the foundation of Western progress and scientific reasoning.

### Non-Overlapping Magisteria

One way some have tried to reconcile the Greek and Hebrew worldviews is by assuming that the two worldviews are valid for only certain realms, or “magisteria,” of knowledge.

For example, the famous paleontologist Stephen Jay Gould has spoken of “non-overlapping magisteria”<sup>1</sup> (NOMA) as an approach to reconciling the secular and the religious worldviews. Those who adopt the NOMA approach assert that “science and religion cannot conflict because they deal with different domains.” In this approach, “Theology tells us one set of truths, science tells us another.”<sup>2</sup>

In short, this perspective holds that the world of truth should be thought of like two bordering nations where one realm is populated by physical things and abstract principles (rocks, electrons, plants, animals, neurons, DNA, natural laws, causal forces, and so forth), and which is best understood in terms of Greek truth, while another realm is populated by people and divine beings (as well as values, goals, aspirations, purposes, and so forth) and which is best understood in terms of Hebrew truth.

“[A]nother distinction,” philosopher David Ray Griffin has noted, “used especially in discussions of evolution and creation, says that science asks *how* while theology asks *why*.”<sup>3</sup>

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1 Gould, S. J. (1999). Nonoverlapping magisterial. *The Skeptical Inquirer*, 23(4), 55–61.

2 Griffin, D. R. (2000). *Religion and scientific naturalism: Overcoming the conflicts*. Albany, NY: State University of New York Press.

3 Ibid.

Realm of Science	Realm of Religion
<ul style="list-style-type: none"> <li>• Greek assumptions</li> <li>• World of things</li> <li>• “What?”</li> </ul>	<ul style="list-style-type: none"> <li>• Hebrew assumptions</li> <li>• World of people</li> <li>• “Why?”</li> </ul>

There are, however, at least three important challenges to taking such an approach:

1. The increasing popularity of scientism.
2. The fact that the social sciences are a contested territory and a corridor through which scientism is staking claims in moral, spiritual, and religious realms.
3. The fact there is simply little scriptural evidence to justify the NOMA approach.

### The Increasing Popularity of Scientism

In the world at large, there is a troubling trend toward viewing science as not just a sturdy approach to answering some important questions about the world, but rather as the only reliable source of truth, and as a way of making sense of the world that is superior to all others.

Many scientists unquestioningly adopt the position articulated by the British chemist Peter Atkins:

Although some may snipe and others carp, there can be no denying the proposition that science is the best procedure yet discovered for exposing fundamental truths about the world. . . . There appear to be no bounds to its competence.<sup>4</sup>

Atkins has further stated, “Science is the only path to understanding.”<sup>5</sup>

*Scientism* is a thoroughly unscientific approach to the world. This is because science, truly and properly understood, is inseparable from a deep epistemic humility—a genuine and thorough-going acknowledgement of the inherent limitations and fallibility of human understanding.

Genuine science, at the very least, does not permit making the sorts of sweeping metaphysical, theological, and moral claims to which the advocates of scientism are so frequently prone, since these sweeping metaphysical claims cannot be grounded in empirical experience.

For example, Atkins’s claim that “science is the only path to understanding” is not some truth discovered by the methods of science and empirical observation. Rather, it is just a sweeping philosophical assertion.

### The Social Sciences Are a Contested Territory

The truce between science and faith-based systems of belief often breaks down in the social sciences. In the field of psychology, for example, the nice and tidy distinction between the

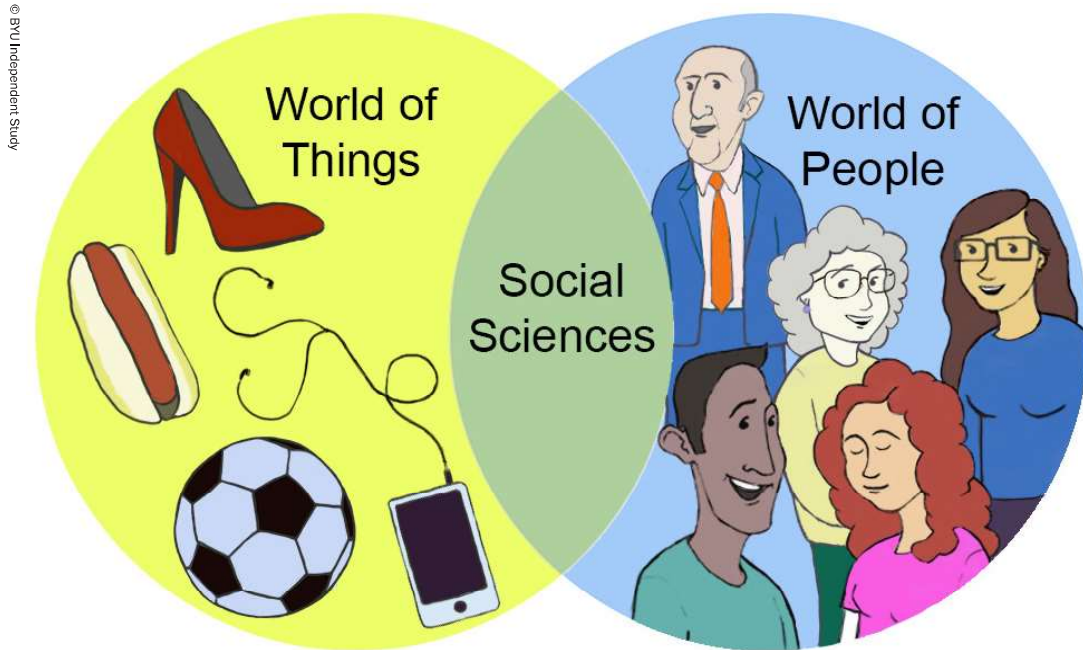
<sup>4</sup> Atkins, P. (1995). Science as truth. *History of the Human Sciences*, 8(2), 97–102.

<sup>5</sup> Atkins, P. (2006). Atheism and science. In Clayton, P. & Simpson, Z. (Eds.), *The Oxford Handbook of Religion and Science*. (p. 124–138). New York, NY: Oxford University Press.

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world of things and the world of values, aspirations, and human action ceases to be quite so tidy because human beings engage with both the physical and the spiritual.

Regardless of how strictly “descriptive” psychological inquiries strive to be, there are invariably moral, religious, and spiritual implications to the kinds of observations that psychologists make and the explanations that they offer.



Social sciences are contested territory.

Psychology, and the way psychology is used in political, philosophical, moral, and religious debates as an authoritative source of knowledge and truth, provides us with ample evidence that a growing scientism in our society will prevent Stephen Jay Gould’s “Non-overlapping Magisteria” (NOMA) approach from working without threatening our long-term fidelity to a Hebrew perspective on truth.

### **There Is Simply Little Scriptural Evidence to Justify the NOMA Approach**

The idea of Western truth (as independent of, but coexisting with, Hebrew truth) is not easily found in the scriptures. As Dr. Richard Williams, in a BYU devotional address, has explained,

Often, even on this campus, we academics divide truth neatly into sacred truths and secular truths. In our reason-driven intellectual pursuits we are on the trail of what we call secular truths, and we even claim to have found some. Although this is a convenient way of speaking about our disciplines, we should ponder why the phrase “secular truth” is not found in scripture.<sup>6</sup>

6 Williams, R. N. (2000, February 1). Faith, reason, knowledge, and truth. Retrieved from <http://speeches.byu.edu/?act=viewitem&id=324>.

Dr. Williams continues,

Rather than a scriptural distinction between types of truths, we find the Lord’s proclamation that “all things unto [Him] are spiritual” (D&C 29:34). From Doctrine and Covenants 29:31–35 we learn that there are temporal (not secular) and spiritual created things, but this does not necessarily imply that there are secular truths. If the distinction between sacred and secular truth were a genuine epistemological watershed, we might reasonably expect in holy writ at least a mention of it.<sup>7</sup>

In conclusion, then, it seems that the NOMA approach is, at best, not very useful to Latter-day Saints, and, at worst, entirely mistaken and misleading.

### Epistemic Humility

Due to our Western intellectual heritage, we have learned to venerate science as a reliable source of truth. Because science is typically understood to be grounded in a Western or Greek conception of truth, it is sometimes assumed that a Western perspective on truth *must* be legitimate—because, well, *science* says so.

The assumption is that through science, we have established beyond a reasonable doubt that the Western view of the truth is the only appropriate way to make sense of the world. In short, science is often used as a sort of ultimate trump card.

The conclusion I hope you will arrive at is that what we generally refer to as scientific explanations of the world and scientific methods of getting at truth are *not the only ways* of accounting for human action or testing truth claims, nor are they always as indubitably reliable as we often imagine them to be.

There are at least two popular perspectives on the nature of science:

1. Science is a particular way of explaining the world—a way of explaining the world that is naturalistic rather than supernaturalistic or religious.
2. Science is a publicly replicable, systematic method for testing truth claims against empirical evidence.

### Science-as-Naturalism

Let us imagine that there were two competing explanations for why it rains:

- Water evaporates from the world’s oceans, condenses into clouds in the cooler atmosphere, and then precipitates into rain, all based solely upon universal, scientific relationships between the chemical properties of water and its environment.
- A supernatural being—a god—creates rain in response to our submission to his laws and our ritualistic dances.

Which of those two explanations would count as a scientific explanation for rain?

Clearly, the first explanation would generally be considered a scientific explanation, and the second explanation would not. When used this way, the terms “scientific” and “science” refer to a particular worldview: the worldview of *naturalism*.

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ibid.

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Naturalism is a philosophical perspective (or worldview) that assumes that everything that happens in this world can be explained in terms of physical processes and scientific laws. A naturalist, in this context, is someone who assumes that we do not need to invoke God, supernatural entities, or any religious mystery to fully explain events in the world.

To explain an event or process means to have articulated universal, scientific laws that we can use to *predict* future events or processes. To explain is to be able to predict, and to predict with any certainty, we need to have identified generalizable, universal laws that govern the process we wish to explain.

In short, by its very *definition* of the word “explain,” a naturalistic worldview assumes that explanations that invoke an agentive, active God in the world are unscientific and not truly explanatory.

There are at least four important challenges to the definition of science as a naturalistic worldview

1. Observing regularities and patterns in the world does not itself warrant the belief that these “laws” cause events, or even serve as sufficient explanations for them. Merely observing regularities in the world is not itself reason to believe we have actually explained anything. We all know, from personal experience, that unsupported objects fall. These are undeniable regular and consistent patterns, and we give these patterns a name: *gravity*.  
However, to this day, nobody actually knows why things fall. We often say, “Things fall because of gravity.” However, this is a logical fallacy, known as the *Nominalistic Fallacy*. To commit the Nominalistic Fallacy is to make the mistake of assuming that merely because we have given something a name or described it in great depth we have, therefore, explained it. Things do not fall because of gravity; rather, gravity is simply the name we have given for the observed pattern of things falling.
2. The naturalistic worldview cannot be proven to be true by empirical evidence because it is really just a philosophical assumption.  
Assuming that observed regularities are immutable or universal is entirely unjustified by empirical experience. We simply do not know and cannot know until we have made systematic observations of all of reality.  
We cannot make broad, sweeping metaphysical claims about the world without leaving the realm of systematic empirical observation and entering the world of philosophical speculation.
3. Naturalism has not been a very successful approach in the social sciences—psychologists simply have not discovered the kinds of scientific laws they hoped to find. Despite their best efforts, social scientists have not been able to “formulate universal laws that fully account for human behavior.”  
Human beings are fundamentally different from the sorts of things that can be explained in terms of universal laws. For this reason, the assumptions of naturalism are simply inadequate in the social sciences.

4. The naturalistic worldview, by definition, precludes explanations that do not assume the sufficiency of scientific laws in accounting for the world.  
For example, some psychologists attempt to explain religious experiences in naturalistic ways. That is, they presuppose that it is not necessary to invoke God and His actions in order to fully understand, explain, and account for religious experiences. If we as Latter-day Saints believe that God really is involved in religious experiences, we would consider naturalistic explanations that exclude Him as, at best, incomplete—if not entirely mistaken and misleading.

### Science-as-Method

Another way to conceptualize science is to define it as a systematic method or algorithm for testing truth claims against empirical evidence.

According to Slife and Williams, “This method involves careful empirical observation, control and prediction in the experimental setting, and most often, measurement and mathematization of the phenomena being studied.”<sup>8</sup>

As we generate theories about the world, a scientific approach would test these theories by comparing them against measured data. We generally do that by making predictions based on our theories, and then observe if our prediction holds true.

### Verificationism

Historically, scientists have imagined that if predictions (hypotheses) based on their theories came true, then their theories have been verified (in other words, proven to be true) by empirical evidence. That is, the best way to prove a theory true is to make a prediction and then make measurements. If whatever the scientists predict will happen does happen, then it is assumed that the theory that gave rise to the predictions is true.

It is important, however, to consider the logic of this approach. A prediction based on a theory usually takes this form: **“If Theory X is true [antecedent], then we will observe Y [consequent].”**

The following logical argument outlines the basic approach that had been taken by scientists:

- If Theory X is true, then we will observe Y.
- We observe Y.
- Therefore, Theory X is true.

This sort of thinking, however, reflects a logical fallacy called *affirming the consequent*. Here’s a comparable example to demonstrate:

- If Sally’s pet is a cat, it will have a tail.
- Sally’s pet has a tail.
- Therefore, Sally’s pet is a cat.

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8 Slife, B. D., & Williams, R. N. (1995). *What’s behind the research? Discovering hidden assumptions in the behavioral sciences*. Thousand Oaks, CA: Sage Publications.

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We can easily see that this logic is fallacious. Just because we observe Y (a pet with a tail) that does not mean that our theory X (the pet is a cat) is true. (After all, dogs and lizards have tails too.)

### Falsificationism

There is a different argument structure that scientists have begun to use instead of verificationism. It is called the *falsificationism* approach to science. This approach is much more logically sound than the verificationism approach.

The argument structure for falsificationism looks like this:

- If Theory X is true, then we will observe Y.
- We don't observe Y.
- Therefore, Theory X is not true.

Rather than *verifying* a theory, this approach *falsifies* a theory. Unlike the verification argument, this argument is logically sound. The idea is that although we can't ever know (based on empirical data alone) when a theory is true, we can know (based on empirical data) when a theory is *false*.

In other words, we develop a theory, make predictions based on that theory, and if those predictions come true, rather than claim that we have confirmed our theory, we more humbly claim that our theory has not yet been proven false. "Eventually," according to Slife and Williams, we "arrive at the truth by a process of elimination."

The problem with this approach, however, is that there is no way to actually falsify a theory with absolute certainty. Theories are a patchwork of assumptions, presuppositions, and ideas, and there is no way to know which of those are wrong if the predicted events don't occur in our experiments.

Also, more importantly, theories and worldviews guide our assumptions about what might even constitute falsifying evidence in the first place. So, a theory that holds that God is not real or active should, in theory, be falsified by actual encounters with God. But, instead, such experiences are usually bracketed off as things yet to be fully explained by the theory, while the theory itself is still assumed to be true.

### Epistemic Humility Summary

In summary, the science-as-method approach to science doesn't provide us with a trump card against all other perspectives. The theoretical conclusions that result from the scientific process have not been undoubtedly demonstrated by evidence—they are, rather the product of social forces, philosophical presuppositions, and theoretical biases.

This feature of science is *inescapable*. There simply is no way around it. We, through mortal means alone, cannot dodge this issue. Science, as a social process, cannot be used to automatically trump alternative voices and perspectives without a thorough examination of the competing philosophical worldviews that lurk beneath the surface of the conversation.

Duane Boyce explains,

[I]t is impossible to know the degree to which we are cognitively captive to any number of worldviews and to trace all of the limitations and errors, large or small, that are entailed by this unavoidable, but constricting, reality of intellectual life. . . . By ignoring them we are apt, in our naïveté, to ascribe more certainty than is warranted at any given moment to a particular discipline's range of intellectual conclusions . . . and to risk developing an attitude of dogmatism and defensiveness as a result.

Recognizing such factors, on the other hand, we can be saved from such dogmatism and instead attain something approaching wisdom: a lingering tentativeness and humility about many of the beliefs we hold at any one time.<sup>9</sup>

### Science as a Language

Slife and Williams ask, "If science cannot enable us to definitively settle theoretical questions and establish truth with certainty, the question arises, What can we accomplish with science as a method for studying human behavior?"

They argue that science can be conceptualized as one particular language amongst many by which we communicate with each other about the world and make sense of our experiences of it.

In other words, science is a way of talking about the world, a language with which we can meaningfully communicate about our experiences. It is a language that is really well adapted to communicating a naturalistic worldview, since the language of science (and its metaphorical rules of grammar) developed in a Western world saturated with Greek thought.

Furthermore, alternative, non-naturalistic worldviews are difficult to communicate within the grammatical constraints of the language of science. However, this does not mean that naturalism, and the Greek understanding of reality, exhausts the realm of rational ways of making sense of our experiences.

Naturalism, then, is simply one worldview amongst many, and the language of science is a powerful and persuasive medium through which that worldview is communicated and the contours of that worldview explored.

If we can conceptualize *science as a useful, pragmatic tool wielded by human beings* in the pursuit of social ends or goals, we will move a long way toward the genuine epistemic humility that a true scientific enterprise requires.

### Two Metrics

It is important to note that the position we are advancing here is not one of relativism. Relativism holds that there are no reliable metrics for evaluating truth claims, which is not what we are claiming.

According to Richard Williams, "It seems unarguable that reason—our capacity and tendency to 'make sense' and to engage in consistent, meaningful understanding and expression—is intrinsic to our nature,"<sup>10</sup> but this does not mean that we all engage our rationality in equally meaningful ways.

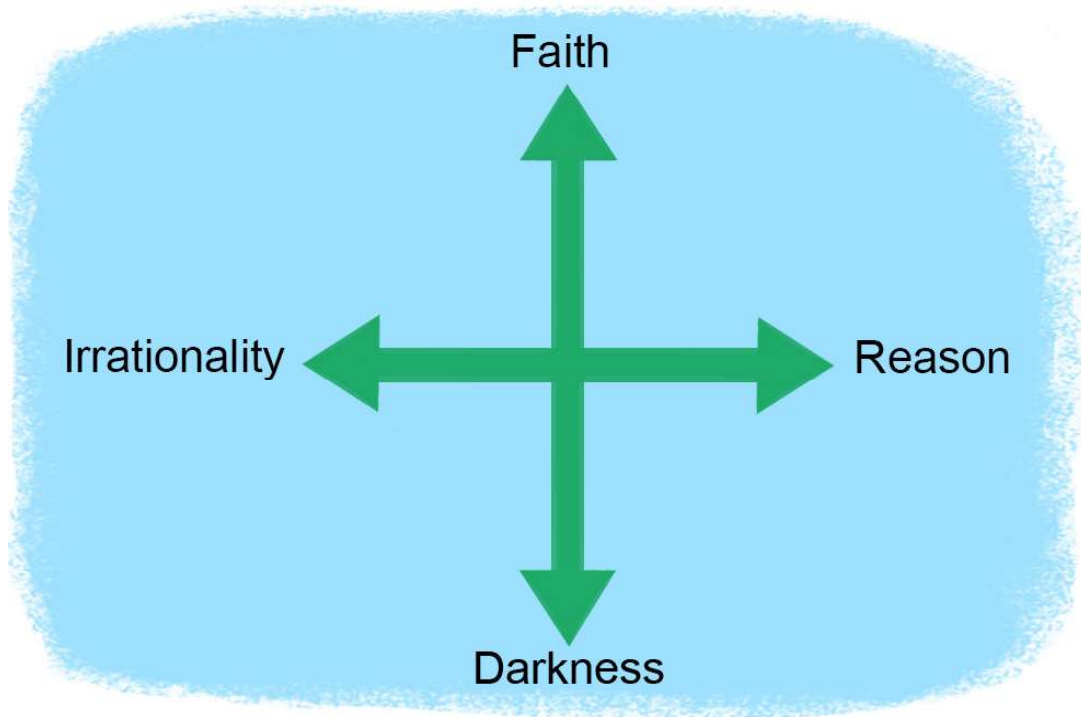
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9 Boyce, D. (2008). Of science, scripture, and surprise. *FARMS Review*, 20(2), 163–214.

10 Williams, R. N. (2000, February 1). Faith, reason, knowledge, and truth. Retrieved from <http://speeches.byu.edu/?act=viewitem&id=324>.



There are at least two metrics which we can use to evaluate our interpretations of the world.



Two metrics for evaluating our interpretations of the world.

**Metric #1: Internal Coherence/Rationality**

The first is the metric of internal coherence. This is a very Western idea, because we are valuing consistency in our way of thinking about things. We want to be able to communicate our worldview to others in a way that is comprehensible, and to do that, some kind of coherence and consistency is necessary.

**Metric #2: Fidelity to God**

The second metric is fidelity to our experiences with God. If we take our religious experiences seriously, *and* if we believe that Heavenly Father and Jesus Christ are real beings who communicate with us through the Spirit, and if we have made covenantal commitments to them, then there are some ways of making sense of the world that are more true to those commitments than others.