

Creationism, Postmodernism, and Mormonism

David H. Bailey

1 June 2009

Abstract

LDS writers addressing the challenges of modern science have frequently resorted to arguments from both the creationist and postmodern science studies communities. The literature of these two groups, while poles apart on most intellectual and social issues, exhibits characteristics of poor scholarship, including a preference for ideologically correct conclusions over sound evidence and reasoning, significant misunderstandings of mathematical and scientific principles, a reluctance to subject scholarship to rigorous outside review, and usage of gratuitous and often meaningless scientific jargon. In short, the creationist and postmodern science studies communities are hardly recommended as allies to LDS scholarship. The challenges of modern science must be addressed head-on.

Introduction

Recently astronomer Timothy Ferris introduced his book *The Whole Shebang* with the following warning:

The empirical spirit on which the Western democratic societies were founded is currently under attack, and not just by such traditional adversaries as religious fundamentalists and devotees of the occult. Serious scholars claim that there is no such thing as progress and assert that science is but a collection of opinions, as socially conditioned as the weathervane world of Paris couture. {Ferris, pg 1}.

In a similar vein, Larry Laudan introduced his book *Science and Relativism* with the following:

My larger target is those contemporaries who—in repeated acts of wish-fulfillment—have appropriated conclusions from the philosophy of science and put them to work in aid of a variety of social cum political causes for which those conclusions are ill adapted. Feminists, religious apologists (including “creation scientists”), counterculturalists, neo-conservatives, and a host of other curious fellow-travelers have claimed to find crucial grist for their mills in, for instance, the avowed incommensurability and underdetermination of scientific theories. The displacement of the idea that facts and evidence matter by the idea that everything boils down to subjective interests and perspectives is—second only to American political campaigns—the most prominent and pernicious manifestation of anti-intellectualism in our time. {Laudan, pg x}.

One set of scholars that Ferris and Laudan refer to are certain influential academics engaged in “postmodern” or “poststructural” science studies at major U.S. and European universities. These writers, drawing largely on postmodern studies in other fields, and extending earlier writings of Thomas Kuhn {Kuhn} and Karl Popper {Popper}, argue

that much of modern science is “socially constructed,” and that the scientific enterprise has no claim to objective truth—its analyses are, like literary and historical critiques, unavoidably dependent on individual perspectives.

Another set of scholars referred to by Ferris and Laudan are the “creation science” and “intelligent design” communities, even though on almost every intellectual and social issue the evangelical religious groups behind these movements stand at the opposite end of the spectrum from the postmodern community. Creationists typically point to some unanswered questions in current scientific theories, such as the lack of a solid theory of the origin of life, or the lack of clear-cut transitional fossils between some branches of the biological kingdom, and conclude that much of modern science is fundamentally in error. Creationists, like postmodern scholars, cite philosophical arguments against modern science, and dismiss troublesome aspects of science as mere “theories.”

Professional scientists and mathematicians are the first to admit that the process of discovery is rarely as clean and orderly as it is typically presented in textbooks: errors have been made; irrelevant tangents and dead ends have been pursued; prejudice towards established paradigms has retarded the adoption of new paradigms; new technology has rendered previous data obsolete; and well-established theories are occasionally displaced by more accurate, more encompassing theories. Even mathematics, that most pure and rigorous of all the sciences, is recognized as a fundamentally human endeavor, and, increasingly, is being pursued as an experimental discipline {Borwein, pg 40}.

But do any of these facts constitute sufficient grounds to fundamentally deny that modern science has made substantial progress in discovering objective truth? More to the point, do the creationist and postmodern science movements have significant, valid insights, and should LDS scholars align with these movements?

Creationism and Postmodernism in LDS Literature

The LDS Church officially has taken a neutral stance on scientific issues, as evidenced by the short, open-minded statement on evolution (essentially the article on evolution from the *Encyclopedia of Mormonism*) that is sent to those who inquire to Church offices on this topic. LDS scientists at BYU and BYU-Idaho unanimously accept (as far as I am aware) the conventional scientific worldview, and these subjects (including evolution) are taught and researched openly with full approval of the LDS First Presidency.

Nonetheless, a creationist mindset prevails in the hearts and minds of many Latter-day Saints {Jarvik}. Creationist precepts have even appeared in Church publications. For example, in 1998 the *Ensign* published an article asserting that Noah’s flood covered the entire earth and destroyed all living things not aboard Noah’s ark {Parry}. In 2002 the *Ensign* reprinted a 1909 First Presidency statement, which includes two negative paragraphs on evolution, as “the Church’s doctrinal position on these matters,” but failed to mention three more recent updates that omit this negative sentiment {Origin}. The Church’s manual for Old Testament classes at BYU and LDS institutes, in its 2003 edition, presents a highly negative view of evolution, epitomized by the quote, “I say most

emphatically, you cannot believe in this theory of the origin of man, and at the same time accept the plan of salvation as set forth by the Lord our God.” The manual mentions Velikovsky’s young-earth speculations, and reprints a lengthy anti-evolution article by a Seventh-day Adventist creationist {OldTestament, pg 27-36}. There are plans to revise this material, although it has not been done yet.

Many religion professors at BYU and BYU-Idaho remain opposed to evolution, and some are even reluctant to accept an old earth. One faculty member, for instance, recently wrote: “This world will know seven thousand years of temporal history” and, in the same work, “We can tug, twist, contort, and sell our birthright, but we cannot overcome the irreconcilable differences between the theory of organic evolution and the doctrine of the Fall.” {McConkie1988, pg 165, 158}.

Echoing this creationist sentiment is the 1992 book *Using the Book of Mormon to Combat Falsehoods in Organic Evolution* {Peterson1992}. In a FARMS review, BYU biologist Michael Whiting concludes that the work “is a disappointing book riddled with sloppy scholarship, flimsy arguments, unsupported scriptural interpretations, and misrepresentation of fact and theory.” {Whiting}. A more recent example is the article “Petri-fied Wood: Days or Millions of Years,” which argues that since petrification of wood can take place rapidly in some circumstances, this has implications for the age of the earth and the reality of Noah’s flood. This article suggests that the reason that the earth appears old by some measures is that this was necessary as a test of our faith {Pratt2005}. Recently, the “intelligent design” movement (see below) was endorsed by at least one LDS writer {Sherlock}. Some additional background on creationism in general, and on creationism in the LDS Church in particular, can be found in a previous paper {Bailey2002}.

Postmodern-style arguments are not as common as creationism in LDS literature, but numerous instances can be found {Boyd, Christensen1990; Christensen1995; Christensen2004; Thorne; Nibley, Nibley1986; Nibley1989; Peterson1997}. The most common examples are dismissals of troublesome aspects of modern science as mere “theories.” Other instances are marked by reliance on postmodern writers such as Thomas Kuhn and Karl Popper, and semi-philosophical arguments where the scientific evidence itself is downplayed or dismissed. Some of these articles are reasonable (a few are written by a friend of the present author), but others draw questionable conclusions. For example, one highly regarded author, after mentioning Karl Popper, writes “The Darwinian Sleep has done much more damage than the Newtonian Sleep—a dullness of mind that cripples curiosity with the authority of the Approved School Solution.” Yet this esteemed author, in an otherwise interesting article, does not cite any specific evidence that would cast doubt on Darwinian evolution {Nibley1968}.

Instances of postmodern-style arguments can also be seen in recent articles discussing DNA and the ancestry of Native Americans. As one example, a recent *Sunstone* article critiques the “logical structure” of the arguments employed by dissenting writers, and downplays the scientific evidence {Ostler}. These are difficult questions, and the present author does not pretend to know the answers. But just as with evolution, the age of the

earth, big bang cosmology or other scientific questions that may relate in some way to LDS religious beliefs, it is clear that the scientific evidence has to be addressed directly. Creationist-style and postmodern-style arguments, dismissing well-established scientific results as mere “theories,” will not save the day.

Intelligent Design

The creationist movement arguably began with the publication of George McCready Price’s book *The New Geology* in 1923 {Price}, and gained momentum in the 1960s, 1970s and 1980s with works by John Whitcomb, Henry Morris and Duane Gish {Whitcomb; Morris; Gish1973; Gish1985}. These writers have argued, for example, that the earth is merely a few thousand years old, and that the many layers of fossils were all deposited suddenly during a great flood at the time of Noah, in keeping with a highly literal reading of Genesis.

Recently, a new movement known as “intelligent design” has formed, led by scholars Michael Behe, William Dembski, Phillip Johnson and Jonathan Wells {Behe1996; Dembski1999; Dembski2002; Johnson1991; Johnson2000; Wells}. These scholars, who unlike their predecessors all have solid academic credentials, generally accept the conventional timeline and account of the formation of the earth. However, they hold that evolutionary changes have only resulted in minor variations within established “kinds,” which were separately formed, along with the original primitive species, by some intelligent Designer. More fundamentally, Philip Johnson has attacked “methodological naturalism,” the basic assumption underlying scientific research, namely that the universe is governed by comprehensible natural laws. Johnson asserts that this assumption rules out the notion that a Designer created the universe and the biological kingdom by means that are not subject to human investigation {Johnson2000; Johnson2001}.

Numerous attempts have been made to have creationism or intelligent design taught in public schools, or to require disclaimers for evolution {Forrest2005; EScott}. The school board of Dover, Pennsylvania voted to *require* the teaching of intelligent design, although this was later defeated in a widely publicized trial {Powell}.

Partly because of the creationists’ success in public schools, scientists have devoted a number of recent books and articles responding to these claims {Miller; Pennock1999; Pennock2001a; Perakh; Escott; Gishlick; Young2004}. Faults noted in creationist works by these writers include: (1) failure to submit or publish writings in respected, peer-reviewed scientific journals {Forrest2001, pg 23-24; Gilchrist}; (2) presenting arguments that affirm a desired viewpoint, even though these arguments have been well refuted, even by fellow Christians {Pennock1999, pg 220-222}; (3) misunderstanding and misapplying sophisticated mathematical and scientific concepts {Bailey2001; Gishlick; Pennock1999, pg 47; 78-82; Perakh, pg 113-118; Robson; Shallit2002; Wein; Young2004}; (4) employing gratuitous scientific jargon and mathematical notation {Perakh, pg 19-107; Wein; Young2004}; and (5) deriding scientists and their theories, while at the same time exhibiting only a rudimentary knowledge of these theories {Perakh, pg 141-163; Young2004}.

Some creationist arguments can only be described as irrational, even granting a generous allowance for religious faith. One example is the assertion by Whitcomb and Morris that God created the world only a few thousand years ago, but set the system into motion with an extensive system of adjustments, from fossils, geologic layers and isotopic composition of rocks to frequencies of photons in transit from distant stars, all giving the world an “appearance of age” as a test of our faith {Whitcomb, pg 233-230}. As Catholic biologist Kenneth Miller has pointed out, such a notion is tantamount to declaring God to be a Great Deceiver: “To embrace that God, we must reject science and worship deception itself.” {Miller, pg 80}.

As mentioned above, the senior leader of the intelligent design movement is Philip Johnson, a recently retired law professor at U.C. Berkeley, whose best-known book is *Darwin on Trial* {Johnson1993}. Johnson’s central thesis, expressed in several of his writings, is that underlying the entire scientific enterprise is the assumption of “methodological naturalism,” namely the notion that the universe is governed by natural and comprehensible laws. Johnson argues that this assumption unfairly rules out the hypothesis that a supernatural Designer was responsible for the creation {Johnson2001}. He also suggests that some scientific questions are mysteries, beyond the realm of human inquiry {Johnson1993, pg 67, 155}.

Ironically, in advancing this argument Johnson is implicitly acknowledging that the intelligent design movement in particular, may not be able to compete in the scientific arena by the established empirical-logical principles of the scientific method—creationism can only “win” by changing the rules of the game. In any event, scientists have no choice about methodological naturalism. As Robert Pennock has noted:

Johnson wants us to accept “God creates for some purpose” as an explanation of the biological world, but there would be no reason to stop there. Once such supernatural explanations are permitted they could be used in chemistry and physics as easily as Creationists have used them in biology and geology. Indeed, all empirical investigation beyond the purely descriptive could cease. ... Methodological Naturalism is not a dogmatic ideology that simply is tacked on to the principles of the scientific method; it is essential for the basic standards of empirical evidence. {Pennock2001b, pg 89-90}.

William Dembski, another leading figure in the intelligent design movement, invokes probability theory and information theory (the mathematical theory of information content in data) in arguments against Darwinism, and claims that a Designer is the sole source of all creative novelty. Creationist colleagues heap praise on his work. Robert Koons writes, in the jacket of Dembski’s book *Intelligent Design* {Dembski1999}, that “William Dembski is the Isaac Newton of information theory, and since this is the Age of Information, that makes Dembski one of the most important thinkers of our time.”

In his book *The Design Inference*, Dembski offers the following argument:

Premise 1: E has occurred.
Premise 2: E is specified.
Premise 3: If E is due to chance, then E has small probability.
Premise 4: Specified events of small probability do not occur by chance.
Premise 5: E is not due to regularity.
Premise 6: E is due either to a regularity, chance, or design.
Conclusion: E is due to design.

This is followed on the next page by the following:

The validity of the preceding argument becomes clear once we recast it in symbolic form (note that E is a fixed event and that in Premise 4, X is a bound variable ranging over events):

Premise 1: $oc(E)$
Premise 2: $sp(E)$
Premise 3: $ch(E) \Rightarrow SP(E)$
Premise 4: For every X [$oc(X) \ \& \ sp(X) \ \& \ SP(X) \Rightarrow \sim ch(X)$]
Premise 5: $\sim reg(E)$
Premise 6: $reg(E) \vee ch(E) \vee des(E)$
Conclusion: $des(E)$. {Dembski1998a, pg 49}.

This symbolic derivation (which requires several additional lines of text, not shown here, to explain the odd notation) exactly reiterates the preceding plain-word rendition of the same argument—it adds nothing, except to provide a superficial mathematical patina to the preceding material {Perakh, pg 27-28}. Similar gratuitous usage of mathematical notation and mathematical concepts, as well as serious errors in using mathematics, have been found elsewhere in Dembski’s writings {Shallit2002}.

More importantly, knowledgeable mathematicians who have examined Dembski’s work are simply not persuaded by his writings. Mark Perakh concludes that Dembski’s probability and information theory arguments are completely invalid {Perakh, pg 103-106}. Jeffrey Shallit and Wesley Elsberry conclude that Dembski’s notion of complex specified information is “incoherent” and “unworkable” {Shallit2005, pg 138}. Richard Wein concludes that Dembski’s book *No Free Lunch* is “a work of pseudoscientific rhetoric aimed at a mathematically unsophisticated audience which may mistake its mathematical mumbo jumbo for genuine erudition.” {Wein}.

Postmodern Science Studies

The “postmodern science studies” movement arguably began with Thomas Kuhn and his work *The Structure of Scientific Revolutions*. This book analyzes a number of historical cases of scientific advancements, and then concludes that in many cases, the key paradigm shift did not come easily {Kuhn}. His insights have provided numerous interesting perspectives on science and scientific history. The difficulty with Kuhn’s writings is that there are really two Kuhns: a moderate Kuhn and an immoderate Kuhn {Sokal1988a, pg

75}. Unfortunately, many scholars like to quote only the immoderate Kuhn, such as when he denies that paradigm shifts carry scientists closer to fundamental truth {Kuhn, pg 170}, or when he argues that paradigm shifts often occur due to non-experimental factors {Kuhn, pg 135}.

In a similar vein, Karl Popper's writings have been very useful in emphasizing the importance of the falsifiability in scientific research. But there is only so far that this notion can be taken. Scientists are much like detectives, in that they must follow leads and hunches, examine evidence, and proceed, at least tentatively, with what appears to be the most likely scenario. It is very seldom that a single experimental result conclusively falsifies a theory. There are always statistical uncertainties in experimental data, as well as questions regarding the underlying experimental design and procedures.

For that matter, if we were to strictly apply Popper's principle, Copernicus' heliocentric theory was falsified from the start and should not have been further considered, because he could not predict planetary motions as accurately as the traditional system. It only gained acceptance when Kepler modified the theory to include elliptical orbits with time-varying speeds, and when Newton showed that this behavior could be mathematically derived from his laws of motion. In a similar way, Newton's theory was arguably falsified in the mid-19th century, when certain anomalies were noted in the orbit of Mercury. But it would have been irresponsible to have discarded Newtonian mechanics at that time, because of its overwhelming success in accurately explaining a vast array of phenomena, and because there was no better alternative until Einstein's relativity.

More importantly, it must be kept in mind that in most cases, "falsified" theories are extremely accurate models of reality within appropriate domains. For example, even today Newton's mechanics and Maxwell's electromagnetic equations are the basis of almost all practical engineering and scientific computations, giving results virtually indistinguishable from those of more advanced theories. Relativity and quantum mechanics are employed only in fairly exotic settings, such as studying the behavior of electrons in semiconductor devices.

In recent years, postmodern science scholars have gone even farther than Kuhn and Popper, with some declaring modern science to be hopelessly eurocentric and androcentric {Koertge1998, pg 258}. Collins and Pinch, for instance, after examining a handful of case studies of historical science, assert that "scientists at the research front cannot settle their disagreements through better experimentation, more knowledge, more advanced theories, or clearer thinking" {Collins, pg 143-145; Koertge1998, pg 258}. Some scholars are even stronger in their criticisms: Sandra Harding once described Newton's *Principia* as a "rape manual" {Harding, pg 113}. Only a few of the postmodern scholars use such tart language. But many still hold that science, like literary and historical analysis, is "socially constructed," dependent on the social and political environment of the researchers, with no claim to fundamental truth {Madsen, pg 471; Sokal1998, pg 234}.

Scientists responding to such claims counter that these scholars, like their creationist counterparts, have distorted a few historical controversies, and then have parlayed these

isolated claims to a global conclusion on nature of the scientific enterprise {PGross1998; PGross1996; Koertge1998}. In other words, both groups are thought to be guilty of the “forest” fallacy: pointing out flaws in the bark of a few trees, then trying to claim that the forest doesn’t exist.

Scientists examining postmodern science literature have also found a disturbing level of confusion on scientific concepts, and a greater emphasis on politically correct conclusions than on sound scholarship. Some specific characteristics include {Sokal1998, pg 4-5}: (1) engaging in lengthy discussions of mathematical or scientific principles about which the author has only a hazy familiarity; (2) applying highly sophisticated concepts from mathematics or physics into the humanities or social sciences, without justification; (3) displaying superficial erudition by peppering the text with sophisticated technical terms or mathematical formulas; and (4) employing lengthy technical passages that are essentially meaningless.

The tension between the scientific and postmodernist communities came to a head in 1996, when Alan Sokal, a physicist at New York University, wrote a parody of a postmodern science article, entitled “Transgressing the Boundaries: Toward a Transformative Hermeneutics of Quantum Gravity,” and submitted it to *Social Text*, a prominent journal in the postmodern studies field {Sokal1996a}. The article was filled with page after page of erudite-sounding nonsense, irrelevant references to arcane scientific concepts and approving quotations from leading postmodern science scholars. Here are three excerpts:

Rather, [scientists] cling to the dogma imposed by the long post-Enlightenment hegemony over the Western intellectual outlook, which can be summarized briefly as follows: that there exists an external world, whose properties are independent of any individual human being and indeed of humanity as a whole; that these properties are encoded in “eternal” physical laws; and that human beings can obtain reliable, albeit imperfect and tentative, knowledge of these laws by hewing to the “objective” procedures and epistemological strictures prescribed by the (so-called) scientific method. {Sokal1996a, pg 217; Lingua, pg 11}.

In this way the infinite-dimensional invariance group erodes the distinction between the observer and observed; the π of Euclid and the G of Newton, formerly thought to be constant and universal, are now perceived in their ineluctable historicity; and the putative observer becomes fatally de-centered, disconnected from any epistemic link to a space-time point that can no longer be defined by geometry alone. {Sokal1996a, pg 222; Lingua, pg 16}.

For, as Bohr noted, “a complete elucidation of one and the same object may require diverse points of view which defy a unique description”—this is quite simply a fact about the world, much as the self-proclaimed empiricists of modernist science might prefer to deny it. In such a situation, how can a self-perpetuating secular priesthood of credentialed “scientists” purport to maintain a monopoly on the production of scientific knowledge? {Sokal1996a, pg 229; Lingua, pg 23}.

With regards to the first passage, note that it derides the most basic notions of scientific reality and common sense. With regards to the second passage, the constants π and G certainly do not have variable values. With regards to the third passage, quantum mechanics, whose effects are significant only at the atomic level, has absolutely nothing to say about the relative validity of cultural points of view.

In spite of its severe flaws, the article was not only accepted for the journal, but it appeared in a special issue devoted to defending the legitimacy of the postmodern science studies field against its detractors. As Sokal later noted, "I intentionally wrote the article so that any competent physicist or mathematician (or undergraduate physics or math major) would realize that it is a spoof." {Sokal1996b, pg 50}. He resorted to the hoax out of a deeply felt concern that the postmodern science world has taken a complete about-face from its roots in the Enlightenment, which identified with science and rationalism and rejected obscurantism. "Theorizing about 'the social construction of reality' won't help us find an effective treatment for AIDS or devise strategies for preventing global warming. Nor can we combat false ideas in history, sociology, economics, and politics if we reject the notions of truth and falsity." {Lingua, pg 52}.

In the same issue as Sokal's piece, a prominent postmodern writer (in a serious article) asserts:

Most theoretical physicists, for example, sincerely believe that however partial our collective knowledge may be, ... one day scientists shall find the necessary correlation between wave and particle; the unified field theory of matter and energy will transcend Heisenberg's uncertainly principle. {Aronowitz, pg 181}.

Einstein's relativity theory was subjected to official skepticism twenty years after the publication of his Special Theory article in 1905; and equally passionate partisans of wave and matrix mechanics explanations for the behavior of electrons were unable to reach agreement for decades. {Aronowitz, pg 195}.

In the first passage, the author is seriously mistaken about wave-particle duality: this is inherent in quantum physics and cannot be removed by a "unified field theory." In the second passage, even his history is badly in error: the matrix and wave mechanics formulations of quantum mechanics were resolved within weeks {Gottfried}.

The chief editor of *Social Text* during the Sokal episode, introduced one of his books with the acknowledgement, "This book is dedicated to all of the science teachers I never had. It could only have been written without them." {Ross1991}. In this same issue with Sokal's article, he writes:

Once it is acknowledged that the West does not have a monopoly on all the good scientific ideas in the world, or that reason, divorced from value, is not everywhere and always a productive human principle, then we should expect to see some self-modification of the universalist claims maintained on behalf of empirical rationality. Only then can we begin to talk about different ways of doing sci-

ence, ways that downgrade methodology, experiment, and manufacturing in favor of local environments, cultural values, and principles of social justice. {Ross1996, pg 3-4}.

It is easy to imagine the potentially serious consequences if this extreme cultural relativism were adopted in science. As a single example, recently the Mexican government encouraged potters, for their own safety, to use lead-free glazes, but the local potters were convinced that the lead issue was only a foreign conspiracy. Unfortunately, as Michael Sullivan has noted, “lead does not care who believes what.” {Sullivan}.

In other postmodern science writing, researchers have attempted to apply arcane scientific and mathematical concepts into the social sciences and the humanities, often with disastrous results. For example a leading French postmodern scholar writes:

This diagram [the Mobius strip] can be considered the basis of a sort of essential inscription at the origin, in the knot which constitutes the [human] subject. ... You can perhaps see that the sphere, that old symbol for totality, is unsuitable. A torus, a Klein bottle, a cross-cut surface, are able to receive such a cut. And this diversity is very important as it explains many things about the structure of mental disease. If one can symbolize the subject by this fundamental cut, in the same way one can show that a cut on a torus corresponds to the neurotic subject, and on a cross-cut surface to another sort of mental disease. {Lacan1970, pg 192-196; Sokal1998, pg 19-20}.

With regards to this passage, “Mobius strips,” “toruses,” “Klein bottles” and “cross-cut surfaces” are terms from mathematical topology, the theory of continuous functions and continuously deformed surfaces. There is absolutely no connection between this arcane mathematical theory and psychology. Yet this author presses this absurd connection between psychology and topology further in several other writings, sadly misusing sophisticated mathematical concepts such as compactness, open sets, limit points, subcoverings and countable sets {Lacan1998, pg 9-10; Sokal1998, pg 21-22}.

Numerous examples of gratuitous and often meaningless scientific jargon can also be cited in the postmodern science literature. Here is one example. The reader need not feel bad that he/she does not understand this text. It is complete nonsense, yet it survived peer review in the postmodern science field:

We can clearly see that there is no bi-univocal correspondence between linear signifying links archi-writing, depending on the author, and this multireferential, multidimensional machinic catalysis. The symmetry of scale, the transversality, the pathic non-discursive character of their expansion: all these dimensions remove us from the logic of the excluded middle and reinforce us in our dismissal of the ontological binarism we criticised previously. A machinic assemblage, through its diverse components, extracts its consistency by crossing ontological thresholds, non-linear thresholds of irreversibility, ontological and phylogenetic thresholds, creative thresholds of heterogenesis and autopoiesis. The notion of

scale needs to be expanded to consider fractal symmetries in ontological terms. {Guattari1995, pg 50; Sokal1998, pg 166}.

Conclusion

We have seen that even though the creationist/intelligent design community and the post-modern science studies communities are at opposite ends of the spectrum on almost every intellectual and social issue, their literature exhibits some striking similarities, including a preference for ideologically correct conclusions over sound evidence and reasoning, significant misunderstandings of mathematical and scientific principles, a reluctance to subject scholarship to rigorous outside review, and usage of gratuitous technical jargon and mathematics formulas. Both groups attempt to dismiss modern science using philosophical arguments or other dodges, rather than directly addressing the evidence.

For their part, creationists hold that the laws and processes utilized by their Designer are “mysterious” and not open to human investigation {Johnson1993, pg 67, 155}. It is as if they wish to take the fig leaf of Genesis and move it to cover the eyes instead. For their part, postmodernists have drifted in strange corners of self-serving nonsense and have lost substantial credibility in the wake of the Sokal hoax. Neither is recommended as an ally for LDS scholars!

What is largely forgotten by LDS authors who employ creationist or postmodern arguments in addressing scientific questions is that fundamentally speaking, there is no need for Latter-day Saints to wage war with modern science. This is because Mormonism has traditionally viewed God as working within the realm of natural law, not utterly beyond natural law {Taylor; Young1869; Young1871; Pratt1891, pg 102}. Mystery and obscurantism have never been promoted in the Church. In particular, LDS leaders have never promoted “God the Great Deceiver” theology, the blasphemous notion that God has constructed the world to mislead diligent seekers of truth as a test of faith. To the contrary, we believe in a rational, reasonable Deity {Pratt1908, pg 156}. To the great majority of great majority of LDS scientists, the laws and processes we see in nature are there to be studied and understood. The advantages of this progressive worldview cannot be over-emphasized.

But this means that the challenges of science must be addressed head-on. There is no other way.

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