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“Endless Forms Most Beautiful”: The uses and abuses of evolutionary biology in six works

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“ENDLESS FORMS MOST BEAUTIFUL”: THE USES AND ABUSES OF EVOLUTIONARY BIOLOGY IN SIX WORKS

Gregory L. Smith

Review of:

- Michael Dowd. *Thank God for Evolution*. New York: W. W. Norton, 2004. 336 pp., with index. \$13.95.
- Karl W. Giberson. *Saving Darwin: How to be a Christian and Believe in Evolution*. New York: HarperCollins, 2008. 239 pp., with index. \$9.98.
- Daniel J. Fairbanks. *Relics of Eden: The Powerful Evidence of Evolution in Human DNA*. Amherst, NY: Prometheus Books, 2007. 281 pp., with index. \$15.86.
- Howard C. Stutz. “Let the Earth Bring Forth”, *Evolution and Scripture*. Draper, UT: Greg Kofford Books, 2010. 130 pp., with index. \$15.95
- David C. Stove. *Darwinian Fairytales: Selfish Genes, Errors of Heredity, and Other Fables of Evolution*. New York: Encounter Books, 1995. 345 pp., with index. \$18.95
- William A. Dembski. *The End of Christianity: Finding a Good God in an Evil World*. Nashville, TN: B&H Publishing Group, 2009. 229 pp., with index. \$22.99

The position of the Church on the origin of man was published by the First Presidency in 1909 and stated again by a different First Presidency in 1925:

The Church of Jesus Christ of Latter-day Saints, basing its belief on divine revelation, ancient and modern, declares man to be the direct and lineal offspring of Deity.... Man is the child of God, formed in the divine image and endowed with divine attributes...

The scriptures tell why man was created, but they do not tell how, though the Lord has promised that he will tell that when he comes again (D&C 101:32–33). In 1931, when there was intense discussion on the issue of organic evolution, the First Presidency of the Church, then consisting of Presidents Heber J. Grant, Anthony W. Ivins, and Charles W. Nibley, addressed all of the General Authorities of the Church on the matter and concluded,

Upon the fundamental doctrines of the Church we are all agreed. Our mission is to bear the message of the restored gospel to the world. Leave geology, biology, archaeology, and anthropology, no one of which has to do with the salvation of the souls of mankind, to scientific research, while we magnify our calling in the realm of the Church.... Upon one thing we should all be able to agree, namely, that Presidents Joseph F. Smith, John R. Winder, and Anthon H. Lund were right when they said: “Adam is the primal parent of our race.”

—First Presidency Minutes, April 7, 1931¹

Introduction

For many, evolutionary biology ranks with politics and religion as a subject best not debated in polite company. This sentiment is not without some justification, since in all except the absolute basics and fundamentals of the faith (about which there can be no compromise), it is vitally important that

1 Cited in William E. Evenson, “Evolution,” *Encyclopedia of Mormonism*, Vol. 1, (Macmillan Publishing Company, 1992), 478.

our convictions or intellectual life not alienate us from others—or alienate others from us. Our reticence to discuss a matter on which opinions have differed widely has had some occasional side effects. For example, Mormon scholarship can be affected as some Latter-day Saints invoke biological concepts in a muddled way, bringing confusion, not clarity.² And of greater concern is the worldly and secular philosophy, polemic, and propaganda that invoke evo-bio while going far beyond what science can tell us. Prominent examples include the militant atheism and philosophical materialism of people like Richard Dawkins and Sam Harris. Such philosophical claims often intersect with vital gospel truths and invoke evo-bio, such as whether free will/moral agency is an illusion. I think these conceptual extensions of and parasitism upon evo-bio are of far more significance and a far greater intellectual and spiritual threat to me and mine than biological Darwinism.

The reader is entitled to know with what presuppositions I approach these reviews. First, I do not believe that anyone has this all figured out—theories and models will change, and where once we thought we saw the whole picture, I suspect we will eventually find that there is much more going on. Second, I think evolutionary biology is very poorly understood among most Church members (at least in North America). This is not surprising, since evo-bio is poorly understood among North Americans generally,³ and LDS members are no exception

2 For example, see my lengthy review of a misguided and misinformed use of DNA and evo-bio concepts in Book of Mormon studies: “Often in Error, Seldom in Doubt: Rod Meldrum and Book of Mormon DNA (A review of *Rediscovering the Book of Mormon Remnant through DNA* by Rod L. Meldrum),” *FARMS Review* 22/1 (2010): 17–161. See also Michael F. Whiting, “Lamarck, Giraffes, and the Sermon on the Mount (A review of *Using the Book of Mormon to Combat Falsehoods in Organic Evolution* by Clark A. Peterson),” *FARMS Review of Books* 5/1 (1993): 209–222.

3 For example, a 2004 Gallup poll found that one third of those surveyed felt that evolution was one of many possible scientific theories and that it was not supported by evidence, while another third felt they did not know enough to

to that general rule. We have in addition some LDS leaders who have expressed decidedly anti-evolution ideas that might discourage some members from learning more. As a result of all these factors, nearly all critiques of evo-bio or appeals to creation science that one hears from LDS members are deeply flawed because the writers of these critiques either misunderstand or misrepresent the evo-bio position.⁴ Rarely, I think, is this inaccuracy intentional. However, its pervasive presence undercuts the many good things which such critiques hope to accomplish. Even if evo-bio were to be a complete fiction from beginning to end, those who oppose it based on limited understanding will lack credibility with those they hope to convince. Latter-day Saint youth who are indoctrinated into a poorly-reasoned critique of evo-bio (even if the field merits critique and denunciation in the strongest terms) will not be well-served when they learn in college that such critiques are built upon sand. Critics of evo-bio must first understand what evidence is invoked in its support and what concepts make it convincing to the vast majority of thinkers in the field. Evidence must be confronted and reanalyzed thoroughly and with rigorous honesty.

In short, I think there is truth and value to be found in evo-bio work, but I do not think that all the questions are adequately answered. If the theory itself is no threat to Mormonism, I do see at least spiritual dangers and sophistry in some of its

have an informed opinion. (Frank Newport, "Gallup Poll: Third of Americans say evidence has supported Darwin's evolution theory," (Princeton, NJ): Gallup Organization, 19 November 2004), <http://www.gallup.com/poll/14107/Third-Americans-Say-Evidence-Has-Supported-Darwins-Evolution-Theory.aspx>.

4 Critiques of evo-bio made on theological or scriptural grounds, I leave to one side as a separate issue. Even these can be somewhat derailed, however, if their arguments get the science wrong. I provide an example below of such a failure in my review of Stove's attempt to rebut Darwinism on philosophical grounds, *Darwinian Fairytales*. Those who seek to do the same thing on religious grounds can profit from studying how the secular Stove goes wrong, and thereby weakens what is, at base, a legitimate argument.

applications. I've written this essay because I'm interested in how Latter-day Saints, and Christians generally, integrate biology with theology.

Thank God For Evolution [Michael Dowd]

Reverend Michael Dowd is former pastor of three United Church of Christ congregations. He has worked for many years in environmental causes. His book is praised by many, including "Eugene" C. Scott of the National Center for Science Education, the vice-director of the Vatican Observatory, liberal theologian and humanist Bishop John Shelby Spong, and five Nobel Prize winners.⁵

It is with some trepidation that I align myself against these and other worthies. I do not exaggerate, however, when I say that this is the worst book I have ever read on religion and science—possibly only equalled in its flaws by Whitcomb and Morris's influential but maddening *The Genesis Flood*.⁶

After a long history of pastoring and marriage to his wife, Connie, Dowd encountered a course on "The New Catholic Mysticism" taught by Albert LaChance, who "began by telling the scientific story of the Universe in a way that I had never heard it told before—as a sacred epic. Less than an hour into the evening, I began to weep. I knew I would spend the rest of my life sharing this perspective as great news." (2) It is telling that his wife—who does not believe in God—is able to embrace his current mission with equal vigor.

Dowd is certainly not modest in his goals. He tells Christians that "whether you consider yourself conservative, moderate,

5 Scott's first name is, in fact, "Eugenie," and she has been head of the NSCE (a prominent lobby group for biology teachers that resists efforts to introduce creation science in public school classrooms) since 1987. While many endorsements are on the dust-jacket and first few pages, a complete collection is online at <http://www.thankgodforevolution.com/book>.

6 John C. Whitcomb and Henry M. Morris, *The Genesis Flood: The Biblical Record and Its Scientific Implications* (Philadelphia: Presbyterian & Reformed Publishing, 1961).

or liberal, my promise to you is that the sacred evolutionary perspective offered here will enrich your faith and inspire you in ways the believers in the past could only dream of.” Other religions are assured that “it will be easy to apply most of what you find here to your own life and faith.” Agnostics, humanists, atheists, and freethinkers “will find nothing here that you cannot wholeheartedly embrace as being grounded in a rationally sound, mainstream scientific understanding of the Universe. I also promise that the vision of ‘evolutionary spirituality’ presented here will benefit you and your loved ones without you needing to believe in everything otherworldly.” (xxii) This desire to pitch a broad tent is admirable, but to do so Rev. Dowd has essentially tossed everything that matters about Christianity except some benign bromides about wholeness and living authentically. (The science in Dowd’s book is accurate, if very broadly sketched—readers will learn little or nothing new about how science works, or why evolutionary biology or a host of other disciplines make the claims they do.)

I confess that as I read, I kept imaging Dowd as a sort of Tony Robbins: half populist preacher on tour and half motivational speaker. I picture Dowd dashing about the stage, capped teeth gleaming, wireless microphone strapped to his head, pumping up the crowd about the glories of evolution—or “The Great Story,” as he calls it (24). The book has that type of feel to it.

Dowd’s whole project smacks less of Christianity than it does of New Age spirituality and self-help seminars. “We are in the early stages of one of the most far-reaching transformations into which human consciousness has ever ascended. Today’s conflict between science and religion is the catalyst by which both will mature in healthy ways.” (12) You can almost hear the opening bars of “The Age of Aquarius.”

I apologize for being slightly silly about the book but, though evidently composed with earnest seriousness, it is an

awfully silly book. There's no doubt Reverend Dowd believes what he says. But his declarations (and they are declared, not argued) are either trite or patently false, depending upon how they are understood.

For example, Dowd rhapsodizes about the interconnectedness of all things and our unity with the cosmos. Fair enough, evolution would certainly argue for that. He then writes:

The good news here is that while it is possible to *feel* alienated from the Universe.... the fact is that it is impossible ever to be alienated—no matter what. You *are* part of the Universe. Achieving enlightenment, freedom, salvation, and empowerment is as easy (and as challenging) as developing a habit of trusting what's real and growing in humility, authenticity, responsibility, and service to the Whole—that is, growing in evolutionary integrity (60-61).

If we define “the Universe” as everything that is, then it is trivially true that we (being part of all that is) are part of the Universe. On the other hand, we are also “part of humanity” or “part of a family,” and we might well feel alienated from these groups. And isn't alienation really more about how we perceive things? If we feel hated or ignored and thus feel alienated or act alienated, *that* is the problem—that's what alienation *is* and reassuring us that we're in fact part of the whole by a type of logical deduction from set theory rings rather hollow.

There is a lot that rings hollow in Dowd's project. It is easy for the worried well who feel vaguely unfulfilled in the affluent West's suburbia to talk about how we can be enlightened or saved by being more authentic or responsible—but I wonder what this fairly vacuous declaration would say to someone in Dachau or the Killing Fields of Cambodia, suffering a civil war and famine in Africa, or with a debilitating terminal illness.

Dowd ventures straight into issues of death with his bubbly good cheer:

Perhaps there is no more alluring portal for discovering the benefits of evolutionary spirituality than death understood in an inspiring new way. Thanks to the sciences... we can now not only accept but celebrate that:

- Death is natural and generative at every level of reality
- Death is no less sacred than life (94).

Dowd goes on to argue that all life requires some death (from the “death” of stars to create heavy elements to the “death” of continents separated by continental drift, to animals that require the death of something for food or the death of some cells for embryo development). This strikes me as too clever by half, and it trades on the equivocation introduced by the metaphor of “death.” Stars may be said to “die,” and a supercontinent that breaks up may be “dead,” but these are analogies—they are not the same thing as the death of a living organism, much less of a thinking, feeling human with connections to others who grieve the loss. (Unless, of course, one sees humans as no more consequential than balls of fusing hydrogen or hunks of planetary crust—but that view has its own problems.) “An evolutionary understanding of death in no way diminishes the grief we suffer when a loved one dies, ...if we acknowledge that *there is something profoundly right with death* with the fact that we grow old and that we must die, it will be easier to clean up unfinished business before it is too late” (97, italics in original). One problem, however, is that not everyone grows old and dies. Some people suffer horribly and die young. Even evolution itself requires an enormous amount of suffering and death to achieve its purposes. Virtually everyone leaves some unfinished business, and often the unfinished business

remains so because the person who died was not willing to be reconciled with the survivors, no matter how much the latter might have wished it. Is our business with those we love ever “finished”? Can we say, “It is enough?” The celebration of death as something “profoundly right” strikes me as making a virtue of necessity, almost a type of Stoicism. It certainly isn’t Christian in any meaningful sense.

Dowd tries to make it Christian by saying that this “mirrors the core message of the early Christian scriptures: on the other side of Good Friday is Easter Sunday.” “Death,” claims Dowd, “never has the final word, that it virtually always contains the seeds of new life.” (100) I think of this as “The Circle of Life” theology. It is not calculated to bring much comfort; it strikes me as little more than the standard atheist’s whistling past the graveyard. If I told bereaved parents that their newborn daughter had just been killed, could we expect them to derive any comfort whatever from the idea that their baby was dead but that she would be eaten by bacteria and worms—and therefore new life has come from death, and there is something profoundly right about this? The idea is repugnant.

Of course, Christian scriptures do tell us that death is not the end, but that is because of personal continuity after death and eventual resurrection and renewal. Evolution (or any science) certainly cannot promise this, and the universe revealed by science alone may eventually run out of any life (even the metaphoric “life” of stars and tectonic plates) as everything sinks into a heat death of maximum entropy, Bertrand Russell’s “extinction in the vast death of the solar system.”⁷ All Dowd can urge on us is “a profound faith, a radical trust, that whatever awaits us and our loved ones in the beyond, *if anything*, is just perfect.” (100, emphasis added) The “if anything” does not exactly fill me with hope. If there is nothing, how can this be

7 Bertrand Russell, “A Free Man’s Religion,” in his *Mysticism and Logic, and other essays* (New York, Longmans, Green and Co., 1918.), 46–57.

said to be “perfect”? If the vast majority of humanity suffers in hell for eternity, that is also not good news. And so on.

This highlights a fundamental problem with the book—Dowd’s message is not Christian in any conventional way, save perhaps for some of the ethics. But there is certainly no hint that Jesus is Lord or that He is risen indeed. “The core teachings of Christianity will remain foundational” (76), he tells us (save, it would seem, for that aspect which featured so prominently in early Christian confessions of faith, “how that Christ died for our sins... was buried... and... rose again the third day” [1 Cor. 15:3–4]). “Of necessity,” Dowd admits, “this evolutionary effort will also mean that some of the teachings will be translated almost beyond recognition” (76). Indeed! Small wonder that atheists, skeptics, and humanists can embrace this project: it is “Christian” only in the sense that Christian imagery can be seen as a type of dim shadow or allegory of the evolutionary worldview. I had difficulty finishing the book—perhaps it gets really good in the last few pages, but I doubt it.

Saving Darwin: How to be a Christian and Believe in Evolution [Karl W. Giberson]

Giberson’s book is everything that Dowd’s is not—learned, measured, and a joy to read. Latter-day Saint readers will probably find it more useful for its history than its theological suggestions. That is, Giberson is a worthy guide to the sorts of questions we should be asking, though some of his answers are not as applicable to Latter-day Saints as to other Christians.

Giberson began life as a young-earth, fundamentalist creationist who entered college with a firm determination to learn everything he could about this worldview so he could better defend it. He gives a moving and nuanced description of how wrenching he found it to be compelled by the evidence to alter his perspective (1–16). Of all the books I’ve read on this subject, I think Giberson best treats young-earth fundamentalists,

dyed-in-the-wool evolutionists, and everyone in between with real sympathy and insight. He does not disparage his younger self or treat these ideas as something childish that he had to grow out of. Those of a more traditionalist, creationist bent will likely identify with his experience. Those inclined to an evolutionary viewpoint would also do well to study Giberson's account, especially when he points out how difficult it was to find anyone to help support his shattered fundamentalism in a way that would let him retain anything of value from the Bible:

Further complicating my struggles, the religion scholars I consulted were quite accepting of evolution. An Old Testament scholar with a Ph.D. from Boston University assured me that "Genesis was never intended to be read literally." He and his colleagues had made their peace with evolution, apparently as toddlers, and had been at peace about this ever since. They were surprisingly disinterested in the struggles of those who, like me, were trying to hold on to some version of their childhood faith, while portions of its foundations were slowly removed, like the pieces of a Jenga tower that may or may not come crashing down as once extracts the tiny logs.

Acid is an appropriate metaphor for the erosion of my fundamentalism, as I slowly lost my confidence in the Genesis story of creation and the scientific creationism that placed this ancient story within the framework of modern science... [It] dissolved Adam and Eve; it ate through the Garden of Eden; it destroyed the historicity of the events of creation week. It etched holes in those parts of Christianity connected to these stories—the fall, "Christ as second Adam," the origins of sin, and nearly everything else that I counted sacred (9–10).

Giberson spends several chapters discussing the history of creationism within Christianity. Despite its huge role in many American denominations, creationism is of relatively recent date. Most interesting for Latter-day Saint readers, I think, is the story of how the introduction of young-earth “creation science” to mainstream creedal Christianity has parallels in its rise to prominence in our own history. Despite the later popular histories that portray Darwin and religion as immediately and irrevocably locked in combat, most Christians adapted quite quickly to the new perspective if they were aware of it at all. The trend to secularization among Christians had far more to do with intellectual currents within religion than it did with an assault from science (44–58).

However, one religious leader in America threw down the gauntlet—Ellen White. White had been a member of the Millerite sect. Miller had prophesied Christ’s second coming in either 1843 or 1844. Following Christ’s non-appearance—“The Great Disappointment”—some followers went on to form the Adventist movement. White began having visions, and in 1863 the Seventh-day Adventists were formed with her as a key leader:

In 1864, five years after the publication of *On the Origin of Species*, White wrote that God had given her a vision of the actual creation: “I was then carried back to the creation and was shown that the first week, in which God performed the work of creation in six days and rested on the seventh day, was just like every other week.” These and other prophetic writings by White rooted the Adventist movement firmly in the soil of young-earth creationism (58).

Thus, for much of the nineteenth century, young-earth creationism was mainly the province of Adventist groups, who were marginal to mainstream Christianity. (LDS readers can

likely readily appreciate how well a self-proclaimed prophet—and a female one at that—was received in nineteenth-century America.)

Meanwhile, mainstream Christian denominations were preoccupied with internal conflict over the modernizing, liberalizing trends fostered by some leaders and scholars. This eventually led to the publication of *The Fundamentals*, a four-volume set of essays that sought to “identify the essential core ideas of Christianity—the fundamentals—and rally Christians to protect those beliefs and keep them from being swept away by the rising tide of modernism” (60). While evolution was mentioned in about a quarter of the essays, young-earth creationism was conspicuously absent. (This absence is clear to Latter-day Saints, who have the benefit of hindsight; the absence would not have been remarkable at that time precisely because young-earth views were neither widespread nor terribly vocal.) Moreover, the authors of *The Fundamentals* were not at all united on what “good Christians” ought to think about evolution—a sharp contrast to most labeled evangelicals or Fundamentalists today. Meanwhile, the Adventist views of Ellen White continued in relative obscurity, though the Adventist university at Loma Linda began to propagate them (123). The obscurity would come to an end with George McCready Price:

White’s interpretation of the flood became widely known outside Adventist circles through the writings of George McCready Price (1870–1963)... A self-taught geologist with little education beyond high school, Price was a gifted writer, amateur scientist, and tireless crusader in the cause of anti-evolution. His *The New Geology*, published in 1923, was catapulted into relevance by William Jennings Bryan, who wielded its anti-evolutionary arguments in his crusade against

Darwinism.... Lay readers, unfamiliar with geology, often find Price's argument[s] convincing. William Jennings Bryan certainly did. But informed readers are appalled (124, 126).

Price, then, was the vehicle for Ellen White's revelatory views. Regrettably, Price's scientific arguments were not plausible when he wrote, much less today:

Despite Price's emergence as "the principal scientific authority of the Fundamentalists," he had little formal scientific training, virtually no publications in peer-reviewed journals, and no credentials of any sort beyond an introductory education to which he kept adding.... In the final analysis Price's ideas served little purpose beyond providing an "authority" for fundamentalists to invoke against evolution. Bryan and other leading anti-evolutionists certainly looked to Price as an authority. And for decades he was the scientific authority (128–29).

One reader who found Price's arguments compelling was LDS apostle (and later Church president) Joseph Fielding Smith. During discussions among the apostles about the evolution issue in the 1930s, Elder Smith referred frequently to Price's work.⁸ Elder James E. Talmage wrote of how he used the science of the day to "show up James [sic] McCready Price in all his unenviable colors."⁹ Arguments against Price did not, however, persuade Elder Smith, and he would appeal to the Adventist's book when he wrote his own: *Man, His Origin and Destiny* (1954).¹⁰

8 Jeffrey E. Keller, "Discussion Continued: The Sequel to the Roberts/Smith/Talmage Affair," *Dialogue: A Journal of Mormon Thought* 15/1 (Spring 1982): 83.

9 James Talmage to Sterling Talmage, 21 May 1931; cited in Keller, "Discussion Continued," 83.

10 Elder Smith would acknowledge permission to reprint extracts from Price's *The New Geology*. He also recommended *The Phantom of Organic Evolution* and *The Geological Hoax*, also by Price, as being "of great benefit to any who are

(Elder Talmage's son, Sterling, was a Harvard-trained geologist whose riposte about Price's *The New Geology* is worth quoting: "All of Price's arguments, in principle at least, were advanced and refuted from fifty to a hundred years ago. They are not 'New.' His ideas certainly are not 'Geology.' *With these two corrections*, the title remains the best part of the book.")¹¹

How, then, would Price influence the wider scope of American Christianity, especially given his "disreputable" links to Adventism? Price's book and his "public image was that of a geological clown, a strange one-man scientific community combing the planet for evidences to support the bizarre visions of a nineteenth-century prophetic." John Whitcomb and Henry Morris—an Old Testament scholar and a PhD hydrological engineer, respectively—set out to reclaim Christianity from the errors into which they believed it had fallen:

In Whitcomb's early draft of *The Genesis Flood*, Morris had noted with caution that the geology was "merely a survey of George McCready Price's arguments." Mindful that Price's book had flopped, Morris worried that a recycling might not fare much better. Whitcomb agreed, and they set out to recast Price's work in a way that retained its strengths but hid its origins. When *The Genesis Flood* was finally published, there were but four references to Price in the index and nothing of substance in the text itself. Morris, forever gracious, was concerned about this move and apologized to Price when he asked him to review some of the chapters that drew heavily on his work. Price was not upset, but some of his supporters felt Whitcomb and Morris

confused by the hypothesis of organic evolution" (*Man, His Origin and Destiny* [Salt Lake City, Utah: Deseret Book Co., 1954], xv).

11 Sterling Talmage to James E. Talmage, 9 February 1931, italics in original; cited in Keller, "Discussion Continued," 83.

were disingenuous and unprofessional in concealing their debts to Price (133).

Thus did Ellen White's views come to have an enormous influence on American Christianity and church-state jurisprudence in the twentieth century. For example, Price and those who drew on his work succeeded in convincing half of Americans that the earth was only a few thousand years old (121, 142).

Giberson goes on to review such events as the Scopes trial, the battle over creation science in the public schools, and the Intelligent Design movement. He treats legislative battles, and the concept of culture war. He also points out the real dangers of scientists imposing a scientific sheen upon pronouncements that are really philosophical or religious, and thus beyond both their expertise and hence science. He then reviews the basic categories of evidence upon which evolution rests.

Giberson seems to hope, through his review of history, to demonstrate that young-earth creationism is neither necessary to Christianity nor of ancient date. Latter-day Saints will find this interesting, but the underlying argument may be less compelling because of LDS views regarding the primacy of modern prophets and the many doctrinal errors that they believe have been propagated in other Christian churches.

Giberson concludes with an account of his experience as a teacher. Here, I think his humility and his sense that these questions are both weighty and difficult are apparent:

Today as I was leaving class a thoughtful student approached me and wanted to know if I was going to "come clean" about evolution and let the students know what I believed. I had been lecturing on Darwin, trying to get the students inside the great scientist's head as he wrestled with the observations that eventually led him to the theory of evolution. This student, like me, was

raised to believe that Darwin was evil and evolution was a lie. But, also like me at his age, he was having second thoughts as he was becoming better informed (or brainwashed by his professor, depending on your perspective).

When I teach Darwin, I avoid taking a position, partly so students can feel free to reject evolution if that is their choice. More important, though, I want the students to wrestle, as Darwin did and I did when I was their age, with the implications of cruelty in nature and bad design. They need to confront, on their terms, the mass of data that can't be reconciled with the Genesis creation accounts. If I lay my position out too clearly, some students will make their decision based on what they think of me, rather than the issues at stake.

Many college students, and most Americans for that matter, have little interest in evolution as science. Their concern is that science not crowd out their religious beliefs. At some level they fear Daniel Dennett's "universal acid" may actually have the power to dissolve their beliefs. And they don't want to find out if that is true.

Their fear is understandable. Almost everyone who talks about evolution insists that we must make a choice between evolution or creation, materialism or God, naturalism or supernaturalism (215).

I share Giberson's conviction that these types of stark choices are almost always unnecessary, but that the way in which some teach these matters may predispose young people to believe they must make such a choice. If we rely on the badly

dated and flawed “science” of Price, Morris, and Whitcomb, the decision will almost inevitably be for modern science, which the student will then mistakenly decide means that the gospel must be false. Whatever the ultimate truth or falsity of various elements of evo-bio theories, our students deserve better. Price et al. granted the scientists more power and made them more of a threat than they were or are. (As is often remarked, there is irony in their decision to apply Enlightenment views of science and knowledge to the Bible in an effort to combat the excesses of the Enlightenment.)

While Giberson’s book may not point the way to an easy resolution, it helps us understand the debates more clearly. And it models an approach to teaching and discussing evo-bio that people on either side of the issue would do well to emulate.

Relics of Eden [Daniel J. Fairbanks]

I was worried about this book simply because of the publisher—Prometheus Books.¹² I had seen enough other offerings from Prometheus—founded by atheist philosopher and strident secular humanist Paul Kurtz—to expect that a diatribe against religion or “superstition” might be ahead of me.¹³ I was pleasantly surprised, and then thrilled to find nothing of the sort. The author, Daniel J. Fairbanks, is a Latter-day Saint and obviously a gifted teacher.

12 For more background on Prometheus Books and examples of its publications, see Louis C. Midgley, “Atheist Piety: A Religion of Dogmatic Dubiety,” *Interpreter: A Journal of Mormon Scripture* 1, (2012): 111-143.

13 On LDS matters, for example, see Ernest H. Taves, *Trouble Enough: Joseph Smith and the Book of Mormon* (Buffalo, N.Y.: Prometheus Books, 1984). Kenneth H. Godfrey would write of this work that “at least once a decade, it seems, someone publishes a book about the Latter-day Saints without taking the necessary ‘trouble’ to adequately research the subject... Ernest H. Taves, a Massachusetts-based psychiatrist with both Mormon and Mennonite roots, would be a strong candidate for the [Mormon History Association’s “Worst Book”] award this year.” (“Not Enough Trouble,” *Dialogue: A Journal of Mormon Thought* 19/3 (Fall 1986): 139.)

His book sets out to detail and explore the evidence for evolution as it applies to human beings, especially the genetic evidence. As a science, the analysis of the genetic code has been possible for only about half a century, and the oceans of data in which we are now drowning have been available in only the last few decades. Even those undisposed to accept any form of evolution should read this book carefully—it gives an excellent introduction to the type and scope of evidence with which students will be confronted.

The book requires no previous genetics experience or background, and it is by far the most accessible treatment of genetics for the non-expert that I have ever read. Fairbanks is to be congratulated on both his clarity and creativity. This book will equip the reader to navigate the less-clear presentations found in other works.

After a tour through the genetic evidence, Fairbanks ranges more broadly. In the last two chapters, he addresses issues of faith and belief. The penultimate chapter describes his difficulties with and objections to Intelligent Design theory, which dovetail nicely with the genetic data he explores in the first eight chapters. In the final chapter, Fairbanks bemoans the tendency of some scientists and religionists to create a science-religion conflict where there is none. But he does not stoop to the caricature of the believer that I had feared from Prometheus Books. He lays out the risks frankly, however, and I suspect that he has seen such difficulties in Latter-day Saint youth. I share his concerns, for the same reasons:

I am dismayed over how often the authors of antievolution books misrepresent science. I can understand how a minister or a parent with little scientific training could oppose evolution on religious grounds. But many authors of antievolution literature are well educated in the sciences, and the claims they

make in their books are, for the most part, unsupported by scientific evidence.... I suspect that most of them truly believe they are engaged in a noble cause. Once they accept the evolution-creation dichotomy as real, they seem willing to paint an extremely selective picture of science, even misrepresent it...

The irony here is that such an effort may do more to harm faith than to promote it. Especially vulnerable are college and university students. Several surveys show that a significant proportion of students enter their college years accepting the dichotomy. Although not well informed about evolution, they already reject it. A general biology course is a standard requirement at colleges and universities, and professors who teach such courses typically present abundant evidence of evolution along with the analytical skills students need to understand the evidence. Any preconceived notions that the scientific approach is weak or wrongheaded get shattered. Students quickly acquire information and discard the unsupported claims of creationists and intelligent design advocates. Recalling the propaganda about a dichotomy, they may end up questioning their faith (167–68).

I would add that the typically poor or superficial exposure to evolution in US high schools means that most students will confront this difficulty suddenly and with full force in college or university. They and their parents will not have had the opportunity to work out the implications in a “friendly” environment and at a more leisurely pace.

If only because of the above concerns, Fairbanks’s book should be read so that opponents of evolution appreciate the data they are up against. But there are far better reasons to read

it. He does not offer a reconciliation of Genesis with modern science but shows us some of the depth and range of data that any reconciliation must address.

“Let the Earth Bring Forth”: Evolution and Scripture
[Howard C. Stutz]

This is a delightful book by a Latter-day Saint, Howard Stutz. The late Dr. Stutz was a plant biologist and emeritus professor of genetics at BYU. My chief complaint with this work is simply that it is too brief (Stutz himself refers to it as an “essay”). He brings a lifetime of learning to his work, and he has the obvious love for his subject that characterizes all great teachers. He reviews major lines of evidence for evo-bio, including embryology, mutation, speciation, the fossil record, biogeography, comparative anatomy, biochemistry, and genetics.

The leitmotif for this volume is found in the title: “Let the Earth Bring forth”—Stutz here invokes the recurrent phrase from Genesis that describes the earth’s obedience to God’s commands. In his view, Abraham 4:11, which speaks of the earth being “prepared” to “bring forth,” provides an excellent theological framework to accommodate natural processes such as those described by evolutionary biology:

Being properly prepared, there could be no alternative to these processes. Operating within the framework of these conditions, with these laws, the Earth *would* bring forth. The numerous intricacies involved in the creation process were not the product of chance. God established them as the most probable and the most predictable of all alternatives (79, italics in original).

What I most enjoyed about Stutz’s treatment is his focus on the neglected half of biology—the plants. Evolutionary texts and polemics are quick to focus on the more flashy organisms: vertebrates get pride of place, and oceans of ink sufficient to

drown a lungfish have been spilled over the vertebrate eye, the giraffe's neck, and tropical isles' finches. Practical bench research and lab work in genetics focuses on bacteria, yeast, fruit flies, or on the delicate tracery of *C. elegans*, a worm whose every cell is known and numbered, and whose name always seems to me to deserve the italics that adorn every species' Latin name.

In all this, the plants are often forgotten or, worse, taken for granted. And yet, plant biology is fascinating in its own right. Plants are almost like alien life-forms, accustomed as we sometimes are to the biochemistry and lifestyles of animals (especially mammals, for obvious if parochial reasons). Plants are also far more tolerant of mutation, and their adaptation and speciation is easy to observe directly within human life spans, both in the lab and in the wild. They are also often easier to breed and study than large vertebrates. It is, after all, from Mendel's pea plants that we scented the first bloom of the genetics revolution.

Stutz's work is a good introduction to evo-bio, but those who have read quite a bit in the field will, if they are like me, find great satisfaction in hearing some of the same melodies in a different key. Evo-bio texts and popular science books often present a common set of examples, a sort of "Greatest Hits" that any self-respecting author feels almost obliged to cover—for good reason, because they are arresting, well-studied, and useful for illustrating broader principles and themes. (Less flattering reasons also suggest themselves, such as the human tendency to copy what has gone before rather than expend more effort to find novel examples. On occasion, errors have been perpetuated by generations of textbook authors.) Stutz's work is something of a revelation in that it finds many examples in the plant world that throw a new light on common evo-bio themes usually described in animals or single-celled organisms. Only a specialist would have encountered them.

Stutz's book is a wonderful reminder of the nearly inexhaustible richness of the natural world, much of which goes unnoticed every day. He need not venture to Africa or New Guinea for his examples. They are all around us, including in the plants of Western North America upon which Stutz focused much of his professional attention. It would have been fascinating to walk around the desert with him, and I regret that I will never have the chance.

Darwinian Fairytales: Selfish Genes, Errors of Heredity, and Other Fables of Evolution [David Stove]

This is a book that I dearly wanted to like but couldn't. Its approach is something I appreciate—an examination of scientific or cognitive overreach. Where better to find such things than in evolutionary biology? Sadly, the book is marred by misstatements and misunderstandings about scientific matters, and this undercuts its plausibility. It demonstrates, I suspect, the perils of increasing academic specialization. Stove is a philosopher, and it is no small thing to master a completely separate discipline, especially one as complicated and rapidly changing as evo-bio. But that is what is required here, and he has too many lapses.

Stove's goal is blunt—to rebut both Darwin and modern Darwinism: "My object is to show that Darwinism is not true: not true, at any rate, of our species. If it is true, or near enough true, of sponges, snakes, flies, or whatever, I do not mind that. What I do mind is, its being supposed to be true of man" (xiv). Stove goes on to say that he is not a Christian and is, in fact, not religious at all. His objections are based on how he sees the evidence (or lack thereof).

It is important here to realize (which I did not, until I had read the entire book and then returned to it) that when Stove says "Darwinism" or "neo-Darwinism," he is not so much talking about evo-bio *per se*. Rather, he is more concerned with

the philosophical extrapolation or claims made with Darwin as a buttress. He is not clear about this, however, and I'm not certain that it is always clear in his own mind that this is the core of his project. As a result, he veers from talking about the philosophical problems and unwarranted leaps made by people such as Richard Dawkins—about whose less scientific ideas he is generally on point—to questioning the biological evidence itself, which he often gets wrong, frequently embarrassingly so. But the clue to his real preoccupations does appear early, though the water is muddied by his unnecessary attacks upon the biology:

In 1859, [Darwinism] was the best explanation of evolution available, and hence, indirectly, the best available explanation of the many facts which evolution in turn explains: the adaptation of organisms, their distribution, their affiliations with other species existing or extinct, and so on. *It is still the best explanation available of all those things.* That is under-praising it, however, because the best available explanation of something need not be a good one. But the Darwinian explanation of evolution is a very good one as far as it goes, and it has turned out to go an extremely long way. Its explanatory power, even in 1859, was visibly very great, but it has turned out to be far greater than anyone then could have realized....

Even the best available explanation need not be equally good at all points. For some of the matters it is meant to explain, a certain theory might be a good approximation or even be the complete and exact truth and at the same time glaringly incomplete or even obviously false with respect to some of the other things it is meant to explain. That is, I believe, the

way matters actually stand with neo-Darwinism. In particular, I believe that neo-Darwinism, though a very good approximation of truth and completeness for many of the simplest organisms, is an extremely poor approximation in the case of our own species. Or rather, to tell the truth, I think that it is, at least in the hands of some of its most confident and influential advocates, a ridiculous slander on human beings (33, *italics in original*).

This might all seem like a sane and reasonable approach to the question: to grant the good and even embrace it, but throw out the nonsense and overreach. Yet it is hard to credit Stove's argument completely when he surrounds it with such blunders as claiming that the whole idea of natural selection makes no sense when applied to humans:

In a "continual free fight," any man who had on his mind, not only his own survival, but that of a wife and child, would be no match for a man not so encumbered. [Such a] man, if he wanted to maximize his own chances of survival, and had even half a brain, would simply eat his wife and child before some other man did. It is first class protein after all (7).

Clever as the phrasing is, this is just nonsense. Darwinism does not argue simply that "those who survive will prosper." The key claim is that "those who survive *and succeed in leaving more of their DNA behind than others* will have descendants who prosper" in the long run. A male who did nothing but eat his mate and offspring would be a speedy loser in the evolution sweepstakes—it does not matter if he lives for centuries; if his strategy is to consume mate and offspring as soon as possible, then he leaves no progeny behind, and his DNA will perish with him. This seems such an obvious point that one wonders if Stove realizes the argument's unfairness, but he uses it anyway.

Stove also makes what I think is a mistake in tactics, and that is a preoccupation with Darwin himself. While Darwin is certainly foundational to evolution by natural selection, the field has moved forward enormously. (Darwin knew nothing of genes or heredity, for example.) Stove seems to treat Darwin more as one would treat an important founder of a philosophical school. So if you want to rebut the Young Hegelians, you spend some of your fire on Hegel. (And this is perhaps not surprising if he does perceive his target, “evolution,” as more of a worldview or philosophy than an empirical science.) But if Stove is attacking evo-bio as science, the focus on Darwin is somewhat misdirected. It doesn’t really matter if Darwin got something right or wrong—what matters is the current state of the art. Yet Stove spends a lot of time fencing with Darwin.

However, he is often outmatched. For example, Darwin’s insight that organisms would tend to reproduce until they had exceeded the available resources (e.g., food, oxygen, living space) was likely influenced by Malthus’s essay on the supposed inevitability of human famine, given that humans (like other organisms) reproduce geometrically, while food supplies can only increase linearly. At some point, argued Malthus, population will outstrip food supplies, and then only famine or war or disease can prune it back. Stove regards this claim (which most would regard as self-evident, once pointed out) as absurd:

If a population is to be always as numerous as its food supply allows, or nearly so, reproduction would always have to begin as early as possible. In nearly all species of animals, all the earliest opportunities for mating are opportunities for the young to mate with a sibling or with one of their parents. You would expect, therefore, if the Malthus-Darwin principle were true, to find throughout the animal world a distinct bias towards

incestuous reproduction, at least during early adulthood (38).

Once again, this is just silly, and it's hard to think that Stove cannot see why. If organisms adopted an incestuous mating strategy, everyone knows what would quickly happen—the fitness of the offspring drop as genetic errors accumulate. (All—or nearly all—human cultures have strong incest taboos, for example.¹⁴) While it might be a very good thing for a generation or two of organisms to mate incestuously (and some animals do so at least some of the time), on average this is not as effective a strategy in the long term. (The whole advantage of sexual reproduction—which is costly for the individual organism—is the overwhelming benefits which genetic variety and reshuffling bring to the species as a whole.) Again, what matters in Darwinism is not the individual, but how successfully the individual passes on DNA to offspring that can likewise compete effectively. (The best DNA in the world is useless if your offspring is sterile, for example. Ask mules without fertility clinic access how well that works out.) Stove takes a very blunted “short term” view, whereas anyone who has studied, say, the Hapsburg monarchy¹⁵ or any royal family in Europe can see that in-breeding is not typically the best approach for long-term (or even medium-term) biologic success. (It is, on the other hand, a wonderful strategy for conserving *economic* success within a lineage—hence its appeal to the imperial courts of Europe.)

14 William D. Gairdner, *The Book of Absolutes: A Critique of Relativism and a Defence of Universals* (Montreal & Kingston: McGill-Queen's University Press, 2008), 310, 318–319, 326.

15 Gonzalo Alvarez, Francisco C. Ceballos, and Celsa Quinteiro, “The Role of Inbreeding in the Extinction of a European Royal Dynasty,” *PLoS ONE* 4/4 (2009): 1–4, <http://www.plosone.org/article/info:doi/10.1371/journal.pone.0005174>.

Confused about these basic matters, Stove then concludes as follows: “Hence I am unable to suggest what a struggle or competition for life among [animals of the same species] could possibly be a struggle or competition for, except food” (56). He may be unable but should not be. Animals compete among themselves for many things: food, water, hunting or living territory (e.g., space on a coral reef, nesting sites for birds), and mates. They also compete in matters of strength, speed, or other means of evading predators—like a movie teenager pursued by zombies, a doe chased by a lion need only be faster than her neighbor. Plants likewise compete for nutrients, water, access to sunlight, and adequate growing space. Some alter soil chemistry to prevent other plants from growing near them; others produce toxins to render themselves less appealing to those who would eat them—plants with better toxins will be less likely to be eaten than their less-obnoxious fellows. Bacteria that produce enzymes to degrade penicillin outlast those sister bugs that do not, and so on.

At any rate, this confusion about competition leads Stove to deprecate “the Malthus-Darwin principle of population: that population always presses on the supply on food, and tends to increase beyond it. And this principle *does* require child mortality to be terrifically high, in our species and in every other” (92, *italics in original*). He gives too little credit to the idea that child mortality has historically been high (the introduction of practices such as birth spacing, hormonal birth control, or abortion are *cultural* factors with a long history—they too would be expected to alter purely Darwinian mechanisms, just as the invention of eyeglasses means that near-sightedness will no longer be a trait subject to much selection). While acknowledging high rates of child mortality, he insists that it would have had to be on the order of 80% according to Darwin, though he provides no citation for this claim (92). But Stove also ignores that Darwinian mechanisms play out of

vastly longer periods of time—in a hypothetical example, he claims that “the Malthus-Darwin principle tells us that this ecological niche will be filled this year” (92), but the principle says nothing of the sort. Animals with small litter sizes and long generation times (such as humans) will not expand that rapidly even under ideal conditions, much less after a setback.

Nor, as Stove claims, does Darwin’s hypothesis claim that there can be no “declining or stationary numbers: all populations must always increase in numbers” (105). A population of animals could achieve a type of dynamic balance between births and death due to predation and other competition—no organisms exist in isolation, after all, save under lab conditions. Or a disease might strike that decimates a population, even though there are ample resources (a human example would be the New World’s population implosion due to Old World diseases—as many as 95% may have perished, but not because food supplies were exhausted).¹⁶ I suspect the Darwinist rejoinder would be that all organisms *eventually* outstrip the resources available to them if nothing else checks their reproduction. Such checks could be predation, or other environmental constraints besides food (this is where Stove’s inability to imagine anything besides food being a locus of competition leads him astray), or social behavior (such as human birth control).

But even this is not the whole of Stove’s error, since there are examples of humans doing exactly what he claims humans cannot and do not do: reproducing beyond what food supplies can support. Any time there is a famine, the demand for food exceeds supply. As human populations have grown, the only option has been to find a new source of food and other resources (e.g., emigration, switching emphasis to fishing over farming), or to find ways to increase the productivity of current sources

16 Jared M. Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (New York: W.W. Norton & Co., 1997), 211.

(e.g., England's innovation in crop rotation prior to industrialization, the twentieth century's "green revolution"). William Bernstein describes a fairly Malthusian scenario played out over half a millennium:

If, as historians have suggested, crop yields quadrupled in the years between AD 1000 and 1500, that represented a growth rate of just 0.28% per year over the period. Between these two dates, population increases forced poor-quality marginal land into cultivation, canceling out most, if not all, of the increase in agricultural productivity that occurred in that half-millennium. *Thus, the standard of living of purely agricultural societies remained relatively static.*¹⁷

Thus, for humans, these limits are not reached quickly, but they can be reached. This is most easily seen on smaller scales, such as on Pacific islands, where resources and populations are both smaller and are isolated from resource import or population export.¹⁸

17 William J. Bernstein, *The Birth of Plenty: How the Prosperity of the Modern World Was Created* (New York: McGraw-Hill, 2004), 47, italics in original. Bernstein also points out that the shift from hunter-gatherer to agriculture causes a human population boom—how are we to understand this, save as a case where the resources available (through farming, which produces more calories per square mile than hunter-gathering) have increased, allowing more children to be born and survive to reproductive age?

18 See, for example, Jared Diamond's discussion of Easter Island, where 66 square miles held perhaps as many as 15,000–30,000 people (*Collapse: How Societies Choose to Fail or Succeed* [New York: Viking, 2005]). At potentially over 450 people per square mile, Easter Island demanded intensive agriculture, leading one archaeologist to exclaim, "I have never been to a Polynesian island where people were so desperate, as they were on Easter, that they piled small stones together in a circle to plant a few lousy small taro and protect them against the wind! On the Cook Islands, where they have irrigated taro, people will never stoop to that effort!" (92). The population eventually decimated every single tree on the island; a total of twenty-one plant species vanished (104); the six native sea-birds are also no more. These losses decreased the islanders' ability to deep sea fish (they lacked the trees to build sea-worthy canoes), causing severe

Stove has much more of value to say when he turns to the hyper-Darwinism of people such as Richard Dawkins or E. O. Wilson. “As for those sociobiologists who by implication deny the very existence of human altruism,” he writes, “my reason for disagreeing with them is simply that I am not a lunatic” (96). (Sociobiology does not, however, deny altruism—it argues instead that natural selection can produce altruistic behavior in self-interested organisms, especially social ones.¹⁹) Stove is on somewhat firmer philosophical ground when he critiques Dawkins’ claims about altruism:

I do not believe that humans are the helpless puppets of their genes, and cannot even take that proposition seriously. Why? Because I have heard far too many stories like that one before, and because it is obvious what is wrong with all of them.

“Our stars rule us,” says the astrologer. “Man is what he eats,” said Feuerbach. “We are what our infantile sexual experiences made us,” says the Freudian. “The individual counts for nothing, his class situation for everything,” says the Marxist. “We are what our socio-economic circumstances make us,” says the social worker. “We are what Almighty God created us,” says the Christian theologian. There is simply no end of this kind of stuff.

What is wrong with all such theories is this: That they deny, at least by implication, that human intentions,

resource strains. By the 1700s, there were 70% fewer homes constructed (strongly suggesting a population crash), and the islanders were reduced to cannibalism to survive (140). If this is not Malthusian, nothing is.

19 See, for example, Steven Pinker, *The Blank Slate: The Modern Denial of Human Nature* (New York: Viking Penguin, 2003), 241-269.

decisions, and efforts are among the causal agencies which are at work in the world. This denial is so obviously false that no rational person, who paused to consider it coolly and in itself, would ever entertain it for one minute...

The falsity of all these theories of human helplessness is so very obvious, in fact, that the puppetry theorists themselves cannot help admitting it, and thus are never able to adhere consistently to their puppetry theories. Feuerbach, though he said that man is what he eats, was also obliged to admit that meals do not eat meals. The Calvinistic theologian, after saying that the omnipotent Creator is everything and his creatures nothing, will often then go on to reproach himself and other creatures with disobeying this Creator. The Freudian therapist believes in the overpowering influence of infantile sexual experiences, but he makes an excellent living by encouraging his patients to believe that, with his help, this overpowering influence can be itself overpowered. And so on.

In this inevitable and tiresomely familiar way, Dawkins contradicts his puppetry theory. Thus, for example, writing in the full flood of conviction of human helplessness, he says that “we are... robot-vehicles blindly programmed to preserve the selfish molecules known as genes,” etc., etc. But at the same time, of course, he knows as well as the rest of us do, that there are often other causes at work, in us or around us, which are perfectly capable of counteracting genetic influences. In fact, he sometimes says so himself, and he even says that “we have the power to *defy* the selfish genes of our birth.” As you see, he is just like those writers

of serial stories in boys' magazines, who used to say, in order to extricate their hero from some impossible situation, "With one bound, Jack was free!" Well, it just goes to show that even the most rigid theologian of the Calvinist-Augustinian school has got to have a Pelagian blow-out *occasionally* and deviate toward common sense for a while.

Here is another specimen of Dawkins contradicting his own theory. He says, "let us try to teach generosity and altruism" but also says that "altruism [is] something that has no place in nature, something that never existed before in the whole history of the world." Well, I wonder where we are, if not "in nature"? And... who are Dawkins's "us," the ones who are to teach altruism? Principally parents, no doubt. Well, parents are not what Dawkins implies they are, just some shoddy temporary dwellings rigged up by genes. But neither are they creatures from beyond, "sidereal messengers," or sons and daughters of God sent down on a mission of redemption and reformation. Parents are just some more people, and hence, if you believe Dawkins, are selfish. Where are they, on his theory, to get any of the altruism which he wants then to impart to their children? And as for altruism having "never existed before": one longs to learn, before *when*? Before *Homo sapiens*? Before the eighteenth-century Enlightenment? Before the British Labour Government of 1945? Dawkins should not have omitted to tell us at least the approximate date of an event so interesting, and (apparently) so recent, as the nativity of altruism (183–185, italics in original).

Now this is the stuff of philosophy, and Stove's analysis (of which I've included only a small sample here) is more nuanced and cogent (though still not without flaws and missteps) than his critique of the biology. His style is infectious, and his wit sharp. He is concerned about matters of far more significance than mechanisms of speciation—he's defending the idea of human free will and (we would say) moral agency. It is evolution's apparent threat to values and doctrines of this sort that rightly troubles many believers. The worldview urged by many neo- or ultra-Darwinians (you will note I do not say, "by many evolutionary biologists," since such metaphysical or philosophical claims go beyond biology, though they may invoke biology for support) is false and inadequate and ought to be withstood.

Yet Stove's tendency to sneak in jabs—which are dead wrong—at the biology undercuts his effectiveness. His is, in this sense, a cautionary tale; even those convinced that evo-bio is fatally flawed must be careful, exceedingly careful, to get their science right. (We recall that this was George McCready Price's chief failing.) Stove could, I am persuaded, have written a convincing, even important book. His unfamiliarity with material beyond his discipline means that he did not. And so his valid critiques are too easy to miss or dismiss because he undermines his own credibility.

The End of Christianity: Finding a Good God in an Evil World [William A. Dembski]

Dembski is no stranger to the creation-evolution wars. A "research professor of philosophy at Southwestern Baptist Theological Seminary in Fort Worth, Texas," he is also "a senior fellow with [the] Discovery Institute" (dust-jacket). The Discovery Institute has been the primary force behind the "Intelligent Design" movement. But the work here reviewed is not concerned with that. Rather, Dembski sets out to create

a justification for human and natural evil—a theodicy—and reconcile three claims of creedal Christianity:

1. God by wisdom created the world out of nothing
2. God exercises particular providence in the world.
3. All evil in the world ultimately traces back to human sin (8).

Given that LDS thought rejects points #1 and #3, it is not surprising that I find Dembski's offering unsatisfying. His work is worth examining to see why he takes these stances, and what implications follow.

Part I - Evil

Creatio Ex Nihilo—Creation Out of Nothing

Dembski does not like “open theism,” which he says consists of “a pared-down view of divine wisdom, knowledge, and power. We thus get a god who means well but can't quite overcome the evil in the world, a god who is good but in other ways deficient.... Evolving gods constrained by natural laws are much the rage these days” (8). Open theism, says Dembski, means that “strict uncertainty about the future means that God cannot guarantee his promises because the autonomy of the world can always overrule God. Of course, we could try to get around this by saying that God can step in when things get out of hand, but that defeats the point of openness theology, which is to limit God and thereby absolve him of evil” (20). I am no expert on open theism, but it seems to me that Dembski here ignores its great driving force: the necessity of human free will, or what the Saints know as moral agency.²⁰ I think most open theists would also reject the contention that any uncertainty about the future means God cannot guarantee his

20 LDS philosopher Blake T. Ostler has explored some of the ideas inherent in open theism in a specifically LDS context. See, for example, *The Problems of Theism and the Love of God*, Exploring Mormon Thought series, Vol. 2, (Salt Lake City, Utah: Greg Kofford Books, 2006), 409–429.

promises—God would, in an open theism, be fully capable of responding to any eventuality in a manner that would bring to pass his purposes. The point is not to simply absolve God of evil, or “limit” him, but rather to argue that the creedal view of God’s omnipotence vitiates true human free will. Open theists strive (however imperfectly) to balance God’s power and foreknowledge with genuine human moral freedom. In a *creatio ex nihilo* framework, this is difficult, and I do not think Dembski succeeds in doing so. He lays the problem out starkly:

Since everything is created by God [*ex nihilo*, from nothing], a will that turns against God is one of his creations. But a good God presumably created a good will. How, then, could a good will turn against God? I’m not sure that any final answer can be given to this question. Invoking freedom of the will is little help here. Certainly, freedom of the will contains within it the logical possibility of a will turning against God. But why should a good will created by a good God exercise its freedom in that way...? (27)

This question haunts Dembski’s theodicy, as it must. He does not here mention an even graver problem—if a created entity (call her Lilith) does choose to use the will given her by God to rebel against him or choose evil, God could have created Lilith without such a tendency or inclination to ultimately make such a choice. Or he could have created her with a character that might rebel but also respond to offers of reconciliation and salvation. This makes God directly responsible for every evil act, since he is the final cause of the beings that commit such acts and those beings’ proclivities. Dembski is right that no final answer can be given—he cannot even produce a good provisional one. All he offers is the possibility that Lilith’s sin may arise because she might reflect upon her “creaturehood” and “realize that [she] is not God... This may seem unfair [to

her].... The question then naturally arises, Has God the Creator denied to the creature some freedom that might benefit it?" (27)

But this solves nothing—God could have created a will uninterested in such questions, or one inclined toward sufficient trust to decide that such worries were of no moment. "Turning back to God cannot be coerced" (28), according to Dembski. But what does it mean to have a contingent, created will that is not coerced? Lilith will still respond to God's entreaties or hints based upon her character and nature, which are ultimately entirely dependent upon God's previous creative act. To turn back is no credit to her, any more than turning away was ultimately her moral responsibility but instead is due to God's *ex nihilo* creative decision. At any rate, these issues are mentioned and dispensed in only two pages (27–28). Dembski's failure—and, I am convinced, conventional theism's incapacity—to answer this problem is fatal.

All Evil Derives from Human Sin

Dembski moves quickly to a second kind of evil—what philosophers call "natural" evil. These are not the evil acts of moral agents, like humans or devils, but the "bad things" that happen in nature. Animals are hunted and die in pain; terrible diseases ravage us; children are born deformed or handicapped; natural disasters kill thousands or millions.

Here, Dembski has an even more serious problem. A God who creates *ex nihilo* bears complete and ultimate responsibility for the natural world. Dembski has specifically denounced those who might make a "god" (the lack of capital is his) that is in any way constrained by natural law. He also wants nothing to do with a natural world that works "on its own" outside of God's absolute foreknowledge. And one cannot even directly blame the contingent "free" wills of humans for these evils—it is not immediately obvious that we cause earthquakes, plagues, or the pain a deer feels when a lion attacks it in the same way we murder or create concentration camps.

For Dembski, there is a stark choice: “If you’re going to blame evil on something besides God, you’ve got two choices: conscious rebellion of creatures (as in humans or the devil disobeying God) or autonomy of the world (as in the world doing its thing and God, though wringing his hands, unable to make a difference)” (9). He opts for the first—to absolve God, all natural evil *is* due to human sin. The alternative, in traditional creedal Christianity, is unacceptable.

Now this might seem a huge burden to lay upon us. But Dembski assures us that “humanity, in becoming captive to evil, gave its consent. Humans are complicit in the evil from which God is striving to deliver us” (44). Really? We all gave our consent to every evil? How about my newborn son? Did he? Did I? Did I approve the Indian tsunami, guinea worms, and chimpanzees that kill infant chimps? And if I *did* somehow accede to all the evil in the world, if God created me, isn’t he responsible for making me inclined to do so? This seems rather like a forced contract because God is the ultimate determiner of whether I will be disposed to sign on the dotted line. And for Dembski, Adam and Eve (or some representative group of earlier humans) were the ones that spoiled it all in the first place. Am I to be made responsible for their choices? And if so, could I not in justice complain that if God had only made Adam and Eve of a more responsible disposition, none of this would have happened?

Dembski also rejects the idea that God might *permit* natural evils, or even create them, because his purposes for humanity require them:

According to Whorton’s Perfect Purpose Paradigm, God creates a world of suffering not in response to human sin but to accomplish some future end... But this, again, makes human suffering a means to an end. And even if this end is lofty, we are still being used.

Used is used, and there is no way to make this palatable, much less compatible with human dignity (79).

Given Dembski's presuppositions, he is right. After all, a God who is omnipotent and omniscient can create both beings and circumstances in any way he likes. Why need he waste time with a world full of suffering and evil to accomplish any purpose when he could have had that purpose realized from the moment of his *ex nihilo* creation? Remember, Dembski will not tolerate a God bound by any natural laws, so the sky really is the limit.

These sorts of problems go on and on. But Dembski addresses none of them.

Part II – Young Earth and Old Earth

Having defined the problem, Dembski then lays out his solution. He reviews the reasons which creedal Christians might have for accepting either an old earth or a young one (52–91). Dembski agrees that traditional Christian readings assumed a young earth, and that this produces fewer problems for scriptural literalism, adding that he “would adopt it in a heartbeat except that nature seems to present such strong evidence against it” (55). He faults the young earth position for ad hoc reasoning and special pleading: “Is there any solid evidence for nuclear decay’s acceleration that does not depend on the need to establish a young earth?” (57) “When young-earth creationists question the constancy of nature,...typically it is not because they have independent evidence to question it but because their belief in a young earth requires that nature behave inconstantly” (60). “The inference that [catastrophic plate tectonics] is a real phenomenon comes less from the evidence of science than from the presupposition of a young earth” (61).

To those (such as young-earth creationist Kurt Wise) who insist that the Bible must trump all these issues, Dembski replies, “Why should Wise’s particular interpretation of Scripture occupy such a privileged place? Although the truth of Scripture is inviolable, our interpretations of it are not” (75). That our interpretation of scripture is not entitled to the same respect as scripture itself is certainly true, and it also applies with at least equal force to Dembski’s view about the source of evil and *ex nihilo* creation, since these depend on the hellenized post-biblical creeds.²¹ But he does not seem to realize that his own interpretation is as contingent as Wise’s—but given how axiomatic most of Christian theology regards the creeds, this oversight is not surprising.

At any rate, though Dembski briefly reviews possible problems with an old-earth model (78–81), his sympathies obviously lie there and not with the young earth. But he will attempt to reconcile both approaches. The heart of his solution requires the effects of the Fall to travel backwards in time:

If humans, through their sin, are responsible for all corruption in the world, the world’s corruption must postdate human sin. Causes after all, precede their effects. Or do they?

21 Blake T. Ostler, “Out of Nothing: A History of Creation *ex Nihilo* in Early Christian Thought (review of Review of Paul Copan and William Lane Craig, “Craftsman or Creator? An Examination of the Mormon Doctrine of Creation and a Defense of *Creatio ex nihilo*,” in *The New Mormon Challenge: Responding to the Latest Defenses of a Fast-Growing Movement*, edited by Beckwith, Mosser, and Owen),” *FARMS Review* 17/2 (2005): 253–320, <http://maxwellinstitute.byu.edu/publications/review/?vol=17&num=2&id=590>; Stephen D. Ricks, “Ancient Views of Creation and the Doctrine of Creation *ex Nihilo*,” in *Revelation, Reason, and Faith: Essays in Honor of Truman G. Madsen*, edited by Donald W. Parry, Daniel C. Peterson, and Stephen D. Ricks, (Provo, UT: FARMS, 2002), <http://maxwellinstitute.byu.edu/publications/books/?bookid=100&chapid=1113>.

I will argue that we should understand the corrupting effects of the Fall also retroactively (In other words, the consequences of the Fall can also act backward into the past). Accordingly, the Fall could take place after the natural evils for which it is responsible...

Such “backward causation” may seem counterintuitive, though science-fiction readers will recognize in it familiar paradoxes connected with time travel. The point to note is that what is impossible for science and paradoxical for science fiction can be standard operating procedure for the Christian God (50–51).

Dembski points out that Christ’s atonement is an example of an event whose effects apply both before and after it happened. This is the best that can be said for the idea, but I do not think the analogy holds, at least as Dembski describes it. I will indicate why below.

Part III – Divine Creation and Action

Dembski then shifts to a discussion of creation. He veers first into information theory and error correction, and applies this allegorically to the Nicene Trinity. “None of the preceding analogies between information theory and the God-world relation is, I submit, strained. Quite the contrary, they match up precisely and capture the essence of Christian metaphysics” (88). I would not have said “strained” so much as “pointless.” Surely analogies to the Trinity can be (and have been) found everywhere. What the existence of an analogy proves, however, is not clear. He goes on to argue that:

Information, like God, is nonmaterial and eternal. To be sure, information can be realized in objects that are in material and temporal. Moreover, when those objects disintegrate, the information in them will be

lost—from those objects, that is. But the same information can always be recovered (certainly by God) and then realized in other objects (93).

LDS readers will disagree, obviously, with the claim that God is immaterial. But I think most scientists would also dispute the claim that information is necessarily nonmaterial. Paul J. Steinhardt, the Albert Einstein Professor of Science at Princeton, wrote:

One of the sacred principles of physics is that information is never lost. It can be scrambled, encrypted, dissipated, and shredded, but never lost. This tenet underlies the second law of thermodynamics and a concept called unitarity, an essential component of unified theories of particles and forces. Discovering a counterexample or new ways to preserve information could be a real game changer.²²

Physics is the study of the material, not the immaterial—and Steinhardt argues that this information cannot be destroyed, even in a physical sense.²³ But Dembski is claiming that information is nonmaterial. Even if we provisionally grant that his claim is congruent with current science, what does it

22 Paul J. Steinhardt, “Black Holes: The Ultimate Game Changer?” in *This Will Change Everything: Ideas That Will Shape the Future*, edited by John Brockman (New York: Harper Perennial, 2009), 308.

23 An enormous debate among theoretical physicists about whether information that fell into a black hole was lost constituted what one participant called “the black hole war.” See Leonard Susskind, *The Black Hole War: My Battle with Stephen Hawking To Make the World Safe for Quantum Mechanics* (New York: Back Bay Books/Little, Brown, and Co., 2008). Curiously, Susskind gets in a tangential dig at Joseph Smith (“God ordered Joseph to marry and impregnate as many young girls as possible”) and Mormonism, which he uses as a type of symbol for Stephen Hawking’s “powerful charismatic influence over many physicists” (279–81). Susskind’s grasp of LDS history (or even Joseph Smith’s practice of polygamy) is tenuous. See Brian C. Hales, *Joseph Smith’s Polygamy: History* (Salt Lake City, Greg Kofford Books, 2013), 1:277–302.

mean for information to be immaterial and eternal? (And if God is the only self-existent being, and creates everything *ex nihilo*, how can information be eternal? Can eternal things have a beginning? Did God “contain” all information from all eternity? Are, then, the world and all information in it merely an emanation or instantiation of God? Is some type of pantheism right after all? I doubt Dembski would agree—such ideas are heterodox if not heretical to creedal and LDS Christianity—but his claim seems to leave the door open for them, at least to my inexperienced eye.) If information is not somehow stored (e.g., in a computer, in a brain, in a text, in nature), how can it be said to “exist” immaterially? In what does this existence consist? This sounds like some type of Platonism, where an ideal form of (say) Fermat’s Last Theorem exists somewhere perfect and immaterial, from all eternity to all eternity.

In Dembski’s theology, God knows everything in fine detail. (This is possible, in his opinion, perhaps because God created everything *ex nihilo*.) So no information can be said to be destroyed even when one destroys the objects in which information is realized. That much is clear, and it follows from his dogmatic premises. This claim seems, however, to be circular or merely a matter of definitions—God knows everything, God is immaterial, therefore all knowledge (which God must, by definition, possess) is immaterial and eternal. There may be great truths here, but Dembski did not make them clear enough for me to grasp, or even be sure whether I agree with them or not. And the claim that information is immaterial and thus not dependent upon any material realization strikes me as a fairly unscientific one—it is not an assertion (and Dembski only asserts it, he does not argue for it) at which many or most scientists would simply nod, I suspect.

Reviewers of Dembski’s work in Intelligent Design have not been kind to his efforts to invoke the same types of ideas. “Dembski’s idiosyncratic concepts of *complexity*

and *information* are misleading, and his so-called Law of Conservation of Information is fatally flawed,” writes one, warning that his “standard of scholarship is abysmally low, and... is best regarded as pseudoscientific rhetoric aimed at an unwary public which may mistake Dembski’s mathematical mumbo jumbo for academic erudition.”²⁴

This was, I must say, how I felt as I encountered these sections of his book—I felt as if I was being bamboozled but did not know exactly how. It is not clear to me how the appeals to information theory or Trinitarian signal processing add to Dembski’s argument. My reaction was a bemused “What? Where did that come from?” I cannot but wonder if Dembski isn’t just “dressing things up” to appear more scientific; he has been charged in the past with needlessly including pointless and arcane mathematical notation.²⁵ Perhaps this is a philosophical or theological version of the same tactic. Or perhaps he has found a favorite hammer, and now everything (even a rivet or screw) looks like a nail. At any rate, after reading the reviews of his other works that mention the same concepts, my gut reaction to these sections made more sense. Readers better informed than I am will have to judge Dembski’s use of information theory—all I know of it, I learned from him,²⁶ and I obviously do not know enough.

24 Richard Wein, “Not a Free Lunch But a Box of Chocolates: A critique of William Dembski’s book *No Free Lunch*,” 23 April 2002, <http://www.talkorigins.org/design/faqs/nfl/>.

25 “All these piles of mathematical notations are irrelevant to his thesis. They serve no useful role except for impressing readers with the alleged sophistication of Dembski’s discourse.” (Mark Perakh, “A Free Lunch in a Mousetrap,” 27 February 2002, updated 5 January 2003, http://www.talkreason.org/articles/dem_nfl.cfm.)

26 In this, I exaggerate slightly. By pure serendipity, after reading Dembski I stumbled onto a description of the classic paper on signal processing which Dembski cites, Shannon’s work of 1948: see John MacCormick, “Error-Correcting Codes: Mistakes That Fix Themselves,” in *Nine Algorithms That Changed the Future: The Ingenious Ideas That Drive Today’s Computers* (Princeton, NJ, and Oxford, England: Princeton University Press, 2012), 60–79.

Dembski seems to want his immaterial information to allow God to affect reality in a manner that is undetected:

Thermodynamic limitations [to the flow of information] do apply if we are dealing with embodied information sources that need to output energy to transmit information. But nothing prevents God, who is immaterial from enlisting (seemingly) random process and imparting to them information. If divine action takes this form, the problem of “moving the particles” simply does not arise. Indeterminism means that God can substantively affect the structure and dynamics of the physical world by imparting information and yet without imparting energy (117).

Here again, the same problems haunt me. Even if God is immaterial, how does he affect material things without energy? Since he ultimately intends for his immaterial actions to affect the material world (by the information he imparts to “random” physical things or processes), mustn’t it ultimately somehow come down to some thermodynamic change? If his information makes the physical world *do* something that it wouldn’t have done otherwise, does labeling the information and process an “immaterial” cause mean we can hand-wave away the fact that a physical, material effect has occurred? Can such effects truly have no thermodynamic consequences? I do not know the answers to these questions—but they are the questions that I took just enough thermodynamics to know need to be answered.

And if we assume that thermodynamics must apply (as Dembski seems to—else why go to all the trouble?), I do

This account is much more accessible than Dembski’s, but it only deepened my confusion regarding these ideas’ appearance in Dembski’s theodicy. If I am the prototype for the kind of reader Dembski’s wanted to reach with his argument, he failed in this case.

not think he has solved his problem. Why not rather simply conclude that God can violate the laws of thermodynamics? Since we are dealing in miracles, why not simply assert that God (who can do anything in Dembski's world, not being limited even by time, space, or natural law) can create energy out of nothing? After all, he created everything that exists *ex nihilo*, so what's a small bit of fluctuating quantum vacuum or picovolts of potential difference between friends? If nothing is too hard for God, can he not dispense with entropy as he likes? Dembski posits a God that is maximally omnipotent—that is, utterly unconstrained—and then falls back on a rather strange tale of immaterial things affecting material things so as not to violate the laws of thermodynamics. Joseph Smith's contrary assertion that “there is no such thing as immaterial matter; [a]ll spirit is matter, but it is more fine or pure, and can only be discerned by purer eyes” seems even more sane than usual when compared with this alternative (D&C 131:7).

Enter the Mormons

Hearing an LDS perspective was the last thing I expected at this juncture. Yet, to my delight, Dembski quoted Stephen R. Covey with approval:

In *The Seven Habits of Highly Effective People*, leadership expert Stephen Covey offers an insight into creation that is at once obvious and profound: “*All things are created twice*. There's a mental or first creation and a physical or second creation to all things.” (107, italics in original)

Dembski then employs this idea to argue that the first (“mental,” presumably immaterial) creation is perfect, since it comes from God. The second creation is then fouled up by “the creation's” rebellion—the Fall (108). (Even this is not entirely self-consistent—the creation of man as set out in Genesis predated the Fall; therefore, at least part of the physical creation

must have been imperfect, since man can hardly sabotage his own creation before it happens, unless he is allowed the time paradox powers that Dembski grants God. Once again, we are back at the first difficulty which Dembski has never really answered—how do we absolve God from the fact that his *ex nihilo* created beings spoiled God's perfect plan? And can God's creation of man be said to be perfect, given the outcome that followed inexorably from it?)

Dembski evinces no awareness that Covey was a Latter-day Saint or that his perspective on the creation draws from LDS scripture—Moses 3:5–7 as well as similar ideas in Abraham 4–5, which are cited by the Saints to flesh out their understanding of Genesis. The scenario outlined in the Pearl of Great Price is not as clear-cut as the brief gloss attributed to Covey implies—though I expect Covey did not intend it to be a full exegesis of an LDS text. In the first place, the first creation is said to be “spiritual”—but “spirit” in LDS doctrine is clearly not “immaterial” nor is it necessarily simply “planning.” (In addition, from an LDS perspective, even Dembski's category of “mind” is not immaterial.) There is planning in Abraham 4 compared to the subsequent chapter, but this planning phase need not necessarily be equated with the spiritual creation, though that is certainly a plausible and popular reading.

Some Uniquely Mormon Questions

This raises another point worth pondering in an LDS context, though I do not presume to answer it—how does the spiritual creation relate to the second presumably physical creation? Does creating “spiritually” speak only of the mental, theoretical preparation? (This is how Dembski and Covey seem to see it.) Or does it rather refer to the actual creation of spirits that will only later receive physical bodies during the second creation? Assuming (perhaps very dubiously and unwisely) that causality and temporality function in God's world the same way they function in ours, is there a direct cause-and-effect

relationship between the spiritual creation and the present physical world, or does the first merely lay out a set of plans and principles that will be set in motion or allowed to unroll during the second? (See Stutz's work, discussed above, for an approach that seems to partake of this perspective.)

If there is a causal relationship between the first and second creations in LDS thought, in which direction does the effect run? Does God foreknow the outcome of the physical, temporal creation and pattern the first after it? (More, perhaps, of Dembski's time-travel?) The more straightforward option is for cause and effect to run from first to second. If so, this creates obvious difficulties for a neat reconciliation with evo-bio, since contingency and chance play a role in evolution as currently understood, which is hard to square with a spiritual creation that is a done deal. For this to work, we might have to do as Dembski suggests with immaterial information—perhaps the material spirit creation of Mormonism somehow affects, controls, or parallels the material “natural” world, despite what appears to be a nondeterministic, even chaotic temporal process of evolution. Or does the scriptural account of the spiritual creation truly mean (as many have concluded) that evo-bio is completely (or mainly) false, a case of barking up the wrong tree of life? And if this is so, why does the evidence appear to match the evolutionary model with all its waste, inefficiency, death, and dependence upon contingency? But on the other hand, are we so confident we could distinguish God's intervention from contingency or “chance”? If I toss a hundred coins, I expect fifty to come up heads, within statistical margins of error. But could I then determine that God had influenced the thirty-seventh coin toss to *make* it come up heads, while leaving the other results to random natural law? I don't see how.

Finally, for completeness, can we rule out the possibility that the processes may, in some way we do not fathom, have a mutual influence, with feedback loops running from the spiritual to

the physical, and back again? Are causality and temporality fundamentally different in God's world? Is spiritual creation an ongoing process linked with the continued development and ramification of life on earth? I have not Dembski's boldness and do not essay an answer. But at least I can cling to the questions and keep looking.

Part IV –Retroactive Effects of the Fall

Dembski is now prepared for his reading of Genesis. He sees Genesis 1 as God's original plan for creation. "God's immediate response to the Fall is," according to Dembski, "not to create anew but to control the damage" (145). We are again left to wonder why God did not "control" the damage by creating humans who did not foul up the first plan. How could an all-power and all-wise God get it wrong in the beginning of his creative endeavors?

"The challenge God faces," Dembski says, "is to make humans realize the full extent of their sin so that, in the fullness of time, we can fully embrace the redemption of Christ" (145). To describe an omnipotent God as "challenged" seems odd. Doing so raises some questions: Why did God not simply create humans who would choose to avoid evil? Why make a world in which there is even the possibility of evil and hence a Fall? Why did God apparently need human beings at all, or need human beings who could and would sin? He is bound by no laws or constraints, save those he wills. Why did God not simply create humans able to experience the crushing, drowning sense of the depth of their estrangement from him upon their Fall? Why was a Fall necessary? Even if we grant that he could somehow create a moral agent *ex nihilo* who was genuinely free, why could he not at least slip in an adequate warning system in the event the worst happens? Or why can God simply not plant the perspective of the full extent of their sin into the fallen humans as needed?

Instead, Dembski decides that God must use the created world to bring this needed understanding home to us. Thus,

God does not merely allow personal evils (i.e., the disordering of our souls and sins we commit as a result) to run their course *subsequent to* the Fall. In addition, God allows natural evils (e.g., death, predation, parasitism, disease, drought, floods, famines, earthquakes, and hurricanes) to run their course *prior to* the Fall. Thus, God himself wills the disordering of creation, *making it defective on purpose*. God wills the disorder of creation not merely as a matter of justice (to bring judgment against human sin as required by God's holiness) but, even more significantly, as a matter of redemption (to bring humanity to its sense by making us realize the gravity of sin) (145).

There is much to digest in this extraordinary passage—it is incredible, in the formal sense of the word. In the first place, it is difficult to see how disordering all creation (because the God who created everything out of nothing and fixed it so that the first human prototype fell and became totally depraved) is a manifestation of divine love and justice—at least as that justice applies to the rest of creation. Dembski says that God, from his perspective, quite rightly inflicts the consequences of mankind's sin upon all creation because mankind is the “covenant head... in creation” (147). As covenant head, then, humanity's actions in effect speak for all and thereby condemn all of creation to corruption. Omitted from this argument is a consideration of why humanity is the covenant head: because God said so. “God, having placed humanity in this position, holds creation accountable for what its covenant head does” (147). Did the rest of creation “vote” for humanity to take this role? Was there informed consent? Dembski says that God

placed us there, but God then holds creation (not himself) accountable for the covenant head's actions.

We here encounter all the problems with the notion of *ex nihilo* humans, writ large. *Ex nihilo* bunny rabbits, bugs, birds, birches, and the rest are created from nothing and then become totally corrupt because a group of two-legged eventual reprobates will not only be at the head, and hence in charge, but will represent them all before the Creator. (Recall that God knows with absolute foreknowledge that the Fall is assured, since he caused everything out of nothing and also has absolute knowledge of everything that will ever happen in that which he has created out of nothing.) Did the plants, rabbits, and company have any choice about the matter? If they did have any choice, can this choice be said to be truly free, when their wills (if they have any), nature, and predispositions will be every bit as much a product of divine fiat as ours? All of creation obeys God, save mankind—and so, because of the Fall, all of creation must retroactively suffer?

This is no trivial problem. On the subject of animal experimentation, one wit dryly observed that he would rather that a rabbit get polio twice than he get it once. I can sympathize—I am no animal rights sentimentalist who thinks that there is no difference between the suffering of a human child and that of a monkey, a rabbit, a rat, or a frog. There is a difference—morally, if nothing else. And yet I do not and cannot regard the suffering of the rabbit with polio as of no consequence at all. There can be no question that the natural world at present (and if evo-bio is believed, the deep past as well) is full of enormous suffering on an enormous scale. Darwin himself gave a poignant and perceptive articulation of the problem:

I cannot see, as plainly as others do evidence of design and beneficence on all sides of us. There seems to be too

much misery in the world. I cannot persuade myself that a beneficent and omnipotent God would have designedly created the *Ichneumonidae* with the express intention of their feeding within the living bodies of caterpillars, or that a cat should play with mice (from Giberson, 35; partially in Dembski, 149).

Giberson (reviewed above) explains Darwin's distaste for the *Ichneumonidae* (a species of parasitic wasp that feeds on caterpillars):

The mother wasp inserts a paralyzing chemical into the nervous system of the caterpillar and then places her eggs inside the still-living host, where they hatch and then gradually devour the paralyzed caterpillar from the inside. The hatched baby wasps emerge with pre-programmed instincts to consume the internal organs of the caterpillar in a sequence that keeps their caterpillar host alive as long as possible (Giberson, 34).

As the product of a natural process, the above exerts a kind of morbid fascination, even admiration, at its complexity and elegance. But as a manifestation of God's power or loving kindness, it fails. *Ichneumonidae*—and a thousand other equally terrible examples—are part of the “problem of evil” that Dembski has set out to solve, and his solution here seems to me to do nothing for it. Even if we grant that humans deserve everything that the Fall brought to them, we cannot say that rabbits and even the poor *Ichneumonidae*'s caterpillar deserved the suffering they got because of the legal fiction that a covenant head dropped the ball, especially if that covenant head could not have done otherwise and was also not chosen freely by its ultimate victims. So in this matter, Dembski has made matters much worse—God appears guilty of copious divine overkill, a petty legalism, and a distinct lack of foresight in choosing the

earth's covenant head. Even on a bad day, the dolphins might well have done better. They could hardly have done worse. And God would have known it, infallibly. At the very least, why did he not advise the rest of creation a little better in whatever smoke-filled room covenant leaders were chosen?

But there is a second problem with Dembski's account: God inflicts this punishment forward and backward in time. It is hard to think of anything better calculated to hide what God is attempting to force through our thick skulls. It would be one thing for humans to be in an idyllic world and then be forced out of it by sin. (Even such an account is difficult for most to credit when there is no evidence of it outside of scripture. Fallen corrupted beings might be expected to respond better to, say, the sudden appearance of predation in the fossil record around 4000 BC. Not being given such "proofs," only revelation will do.) It would be even better had we all started childhood in a paradise that lacked daily drive-by feedings by *Ichneumonidae* toughs. Our sin and subsequent expulsion might then make the point more clearly.

But instead of this, Dembski claims that God foresees human sin and so inflicts natural evils (upon caterpillars, rabbits, and all the rest of non-sinning creation) *before the sin is committed*. This sort of thing may seem plausible and natural to Dembski's atemporal, time-hopping God: but it makes absolutely no intuitive sense to those not indoctrinated in some form of sectarian creedal Christianity. We live in a temporal world, a world where time rules, a world where cause-and-effect seems to hold near absolute sway. Furthermore, Dembski claims that we are not easily able to understand what we have done—and yet he has God choose an approach that is hardly likely to teach us what we desperately need to know. How would we regard a parent who takes a sledgehammer to his son's bicycle (and his sibling's bikes, and all the bikes in the neighborhood, and decades later to his son's *children's*

bikes) because he knows that his son tomorrow will throw a rock through the kitchen window? When confronted with the sledgehammer, punctured inner tubes and bent handlebars, the parent calmly assures us that it was fully just and hence all for the best, since (a) he arranged his son's election as head of the children's tree-house club, and so all must suffer for his son's crime; and (b) after the son will throw the rock tomorrow, the bicycles that he finds smashed today will have made him understand how horribly he was going to have behaved. (The scheme is so convoluted that I despair of proper verb tense to describe it.) What could be more counterproductive? Even if Dembski is correct, we clearly hadn't got the message until he finally puzzled it out.

In all this, however, I think Dembski does have a few ideas that are potentially useful—he suggests that since the fallen world must exist before humans, the Garden of Eden represents a type of “segregated area,” where the effects of the Fall are not felt, and Adam and Eve are driven out *into* the fallen world (whose existence pre-dates their own) after they sin (151, 154). This has obvious affinities to some LDS teachings about the Fall. Unusually for one opposed, in general, to *evolution*, Dembski even suggests that human bodies could have been the result of evolutionary processes prior to their introduction into the Garden; they become “humans”—rather than simply animals—only when God “breathes into them the breath of life” when they are placed in the Garden [152–155]. He seems, however, to prefer a “special creation” model for humans, which will resonate with many LDS readers like me.²⁷

27 This is not to say I doubt the evidence—and substantial evidence it is—upon which secular theories about the human body's origins are based (a small chunk of that evidence is reviewed in Fairbanks, above, for instance). I understand why that stance is accepted in the scientific world (including by most academically trained and believing LDS scientists), and I do not see another viable theory, given the current state of the scientific evidence. I find some of my own ambivalence expressed well by Elder Boyd K. Packer, “The Law and

With some modification, Dembski's basic model of creation could absolve God of some natural evils. In this reading, God allows natural processes to unfold with a minimum of interference. Thus the devious but ingenious devices of the *Ichneumonidae*, the Black Death, and HIV are not crafted by a divine designer. They are, instead, the unfortunate outcomes of natural processes which are permitted to unfold. God might intervene to prevent any "game-ending" developments—for example, a plague too virulent, or a predator with which no other organism could cope. Dembski thinks, however, that attempts to see natural evil wholly as subversions (by Satan or evolution in a fallen world) of good things originally created by God is a non-starter, since "invoking God's permissive will can never fully eliminate divine responsibility for natural evil (at least not if one's conception of God is classical and thus includes omnipotence as one of his attributes)" (150). And so we have come back to the dilemma of classical theism, which Dembski has still not solved, or even really articulated fully—God is ultimately to blame for all this, because he is the only source for *everything*.

Advantages of LDS Understandings

The Latter-day Saint understanding of divine and human things has a number of advantages over conventional theism in confronting such questions, of which I will briefly mention five.

The first is overwhelming: God does not create everything, including mankind, *ex nihilo*. Our nature and our moral agency (or free will) are not the product of his or any other being's absolute creative power. We simply are what we are, both good and evil, and reap the effects wrought by use of our moral agency.

the Light," in *Jacob through Words of Mormon: To Learn with Joy: Papers from the Fourth Annual Book of Mormon Symposium*, edited by Monte S. Nyman and Charles D. Tate, (Religious Studies Center, Brigham Young University, distributed by Bookcraft, 1990), 21. In deference to his request on p. 1, I have not reproduced his actual text here.

God could not create or alter our ability or tendency or moral temptation to sin. This is a philosophical advantage that cannot be overstated—I do not think that any other theism can offer so compelling an argument for both God’s beneficence and power and our own genuine moral autonomy. Joseph Smith almost casually hit this issue out of the park without even seeming to understand how many leagues lay between him and the fence. This doctrine is, to me, one of the great miracles—though often underappreciated—of the Restoration.

The second advantage is nearly as great: as pre-existent beings, God had our consent and support for our choice to experience mortal earth life. He did not place us in these circumstances for his own inscrutable purposes. We cannot claim that we are being used, even with the best of intent. Rather, we agreed and covenanted to come, with joy. Although we know little of how God interacts with the rest of his spirit and physical creation, their preexistence suggests to me that their involvement and consent (to the degree of which they were capable) was sought—which casts quite a different light on the suffering that we and they endure.

A third advantage involves the LDS understanding of the requirements of mortal life—we understand that the purposes for which we came to earth cannot be accomplished in any other setting. Mortal life requires a telestial world in which cause-and-effect is typically brutally indifferent to our hopes or needs. Tragedy must be frequent and unavoidable. Moral and experiential opposites must be available. Sickness and death must come to all. Thus God did not corrupt the world as punishment for a covenant head that let him down (though he presumably knew that this would happen, and set circumstances that would permit it). Instead, he created an environment that was the only way to meet his children’s (and other creations’) needs. God is maximally powerful, but even he cannot create a morally perfect being by simple decree—mortal life in a

telestial state is essential, perhaps even logically necessary. Even he cannot do logically impossible things, like make round triangles, or *ex nihilo* saints.

The fourth advantage ties into the third: LDS doctrine ought not, it seems to me, lead us to expect that we can prove God's existence from the material world. For moral agency to be effective in a telestial mortal experience, we must be genuinely free to believe in or disbelieve in God's existence, his commandments, and host of other ideas. A physical world that one cannot plausibly explain save by divine action would create an intellectually compulsive case for God's existence. It is just such a case that young-earth creationists hope to establish. But I think that LDS doctrine does not anticipate that this ought to happen, which is partly why I do not find it unexpected that humans exhibit evidence of common descent. (This factor also suggests that such evidence may not be completely probative, since it must appear that we have a plausible origin that does not *require* God if we are to be free to choose faith or doubt. On the other hand, I do not think God deliberately deceives us either, and so that evidence must mean something.) I have said more about this advantage elsewhere, and will not belabor it here.²⁸

A final advantage of the LDS framework is compelling to me, though others may not find it so. I like the idea of evo-bio mechanisms at least playing some role in the development of creatures that impact us so terribly. I prefer to think that HIV was not concocted in God's laboratory. I do not like the idea of him crafting the *Yersinia pestis* that would wipe out at least a third of Europe. The malaria parasite and its mosquito vector were not his *magnum opus*. I do not think he had it in for the

28 "Often in Error, Seldom in Doubt," 150–161. For an additional view that contradicts the idea that God deliberately planted evidence in the material world in order to obfuscate evidence for how creation took place, see, e.g., the article by LDS scientist David H. Bailey, "Is God a Great Deceiver?" 1 June 2013, <http://www.sciencemeetsreligion.org/theology/deceiver.php>.

Ichneumonidae's dinner. I prefer, rather, to see these as "biologic tsunamis"—natural disasters which telestial natural processes make inevitable in some form. God regrets the suffering they cause, but will (by agreement with us and creation) not prevent them because of the necessities of the telestial state. (God did, however, enter into mortality to suffer all their effects with us and for us [Mosiah 13:28; Alma 7:11–13].)

I am confident that God rejoiced with us when we wiped smallpox from the planet—I do not think he sighed and reached into his bioweapon toolbox for a new horror because we had thwarted a heretofore useful goad. I think the telestial world is trouble enough without his help or encouragement to it. Perhaps it is only the physician in me. But to borrow from Joseph Smith, this personal belief "tastes good" to me. Once again, if I am right then the doctrines of pre-mortal consent and the fact that such an environment is indispensable further remove any moral taint from God's policy of non-interference.

Concluding Thoughts on Dembski

But lacking the perspectives of the restored gospel, and trapped in the straightjacket of classical creedal theism and creedal Christianity, for all Dembski's brilliance and creativity he seems to me to advance not a step in his goal to create a workable theodicy for natural evil. It is said that Pierre Teilhard de Chardin, the Catholic priest and biologist, was asked what he thought of people who did not believe in God. He reportedly replied that they must not have heard of God in the correct way.²⁹ In the same spirit, I cannot blame anyone for whom theism is unconvincing morally, emotionally, or intellectually. Dembski is but the latest example of how little there is in most creeds that would appeal to my own hypothetical agnostic self. And I sympathize with those who do not feel to share my own theistic brand. Like Joseph the Prophet, "If I had not experienced what

29 Ronald Rolheiser, *The Holy Longing: The Search for a Christian Spirituality* (New York: Doubleday, 1999), ix.

I have I should not have [believed] it myself.”³⁰ But we often forget the riches that are strewn with such great profusion about our feet from the Restoration. We do not claim to have all the answers—but we are vouchsafed far more satisfying responses to the questions that truly matter.

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30 “Conference Minutes,” *Times and Seasons* 5/15 (15 August 1844): 617.

