

The Reasonable Leap into Light: A Barebones Secular Argument for the Gospel

By Daniel C. Peterson

Presented at the 2015 FAIR Mormon Conference

<https://www.fairmormon.org/conference/august-2015/the-reasonable-leap-into-light-a-barebones-secular-argument-for-the-gospel>

Well, we're running a bit late and so I'm going to try to go through this fairly quickly. But I have to say that John Lynch, the chairman of the FairMormon board, explained to me that the reason that they had decided to go late was to give me more time to finish my talk, which I very much appreciate.

All right, I want to talk about a topic that I've been thinking about for a long, long time and I called it — the title that has been in my mind for a long time has been *The Reasonable Leap into Light*. It's an allusion to the concept of a leap of faith. The subtitle — *A Bare-bones Secular Argument for the Gospel* — I don't know, that just came to me. I probably won't use it again, but I wanted to address an issue that has bothered me for a long, long time. I hear people say things like, "I know it's not rational, I know it's not logical, but I choose to believe." And what I want to argue is that belief is not irrational. It is not illogical. You're not crucifying your mind in order to believe. I'm not going to argue that you can prove religious claims true or specifically Latter-day Saint claims true. But I am going to argue that they're reasonable. And I think in some cases, on some specific issues, we can get pretty strong security.

What do I mean by a secular argument? I mean an argument that's not going to call upon things like the Spirit, the witness, the testimony of the Holy Ghost. That is a different thing, but that can't be delivered to you by a lecture or by reading a book by itself. You have to get that yourself from God, that's personal and individual to you. What I want to argue, though, is that there are arguments that can be made for the rationality of the Gospel, of belief in God, in Christianity and in specifically Mormonism. So I'm going to be offering not so much the secular argument that I want to give, but an outline of the kind of argument that I would want to give and I'm going to dip in on occasion to give you some of the texture of that, some specifics. But believe me, I'm talking about a much bigger project than I'm going to be able to outline right now.

I started off — and I may have mentioned this before — but I started off wanting to write a book. I was involved with a young man who wanted to leave the church. He wanted to have his name removed from the records and I

began trying to formulate arguments that might help him out. And eventually I thought, you know, some of these are pretty good. Maybe they should be written up into a short book. So I began tinkering with a short book and then it became a big book, and then I broke it into two books. And now I've broken it into four books. I'm splitting off a fifth book. And now just today, the thought occurred to me, maybe there's a sixth book that really needs to be written as sort of a preface to this. So the fact is I'm probably going to die before I publish any of them. That's the only way they'll *get* published. They'll have to rip them out of my cold fingers. But it's a big project and it frustrates me sometimes because I think there are things that – they're already out there. I'm not claiming much of this to be original with me — but there are things that I'd like to put together in maybe an original way or a way that many Latter-day Saints, at least, haven't seen and that it might be helpful to some people. I'm frustrated by how long it takes. I just don't get to it. Or, rather, I'm getting to it in bits and pieces but it's such a big project it's going to take a long while to get to. But I'd love to get it out there and the sooner I can the better, I suppose.

I'm going to be drawing on a couple of thinkers. Let's see if I've got this going the right way. Yes. One of them is William James. William James was, some have argued, one of the greatest philosophers ever produced in the United States. He was the brother of the novelist Henry James. He was really a psychologist. His *Principles of Psychology*^[1] was a foundational text in the discipline, but he has become famous as a founder of pragmatism and so on. He was one of the great figures in the philosophy program at Harvard until his death in 1910. And there are a lot of things that I want to borrow from William James. I'll just mention one today. One is an analogy that he used about a carriage. He's talking about decision making under conditions of uncertainty where you don't know absolutely, certainly, whether *x* is true or *y* is true but you have to make a decision nonetheless. And he says, imagine yourself in a carriage. The driver has gone in to get a drink. This is like one of those stories about Joseph Smith. Suddenly the carriage begins to roll down the hill and it's going faster and faster. You have to make a decision. How are you going to react to this? You're not sure whether it would be safer to stay in the carriage. You know, that might be safe, but on the other hand, it might smash into something at the base of the hill and you die. Would it be wiser to jump out? On the other hand, if you jump out you might be killed. You just don't know. He says under conditions like that, either decision is rational. That's sort of a basic statement of rationality, that if you can't really decide, you have to just kind of go with one and it's, you know, as long as it's roughly 50-50 or 60-40,

or something like that, you're not making an irrational decision. You might turn out to be wrong, but you were reasonable in making that decision.

That's one of the ways I'm going to be looking at rationality. If I can get you to something like 50-50 then I'm relatively happy. You then have to choose based on your own personality, your predilections, your spiritual intuitions and so on. But as I say, in some cases I think I can take the argument further than 50-50. William James also talks about live options versus dead options. In some cases people simply won't consider a case because it seems so absurd to them that they don't even want to look at the evidence, and we do that all the time, frankly. If somebody comes to me arguing that the Earth is flat, I'm not really interested in the technical arguments that a flat-earther might make. On the whole, I just don't see it as a live option. For me it's a dead option. For some people Mormonism is a dead option, right? I got an e-mail from somebody just today. When I invited him to consider the evidence about the witnesses and he said, "No, it's not worth my time." And I said, "Well, fine. You make your decisions, then you live with the consequences. I've tried to persuade you to look at Richard Anderson's book, for example. If you don't want to, that's your decision. It's up to you."

There is another thinker that I have in mind as I sort of look at this issue, which is Pascal, the great French mathematician and philosopher. You may know Pascal's wager. Pascal said basically, look, in this life, again under conditions of uncertainty, assuming you really don't know, you have to decide what would be most in your interest. You could assume there is no God and live a life of worldliness and so on. If, when you die, you're dead and that's it, well, you haven't lost anything. On the other hand, you haven't gained much because you're dead. But he said, assume that there is a God and you make the right wager, then you will have gained a lot. If you make the wrong wager, you will pay a big price for that. It's a fairly cold, calculating sort of wager. I'll come back to that point in just a minute. But it has one obvious weakness, which is that it doesn't allow you to decide. He lived in a society that was overwhelmingly Catholic. That was *the* religious option that was available to him. But if you live in a pluralistic society, you're still left with a question, "Okay, I want to be religious. I want to be faithful. Should I be a Muslim, a Hindu, a Buddhist, a Christian? If a Christian: Catholic, Protestant, Methodist, Mormon, Jehovah's Witness, Christian Scientist?" It doesn't help you decide there. Nevertheless, it does say something about which way you ought to be inclined under conditions of uncertainty. So I'll be coming back to that. I'm going to also be drawing on this cute little thing. Some of you may recognize it.

$$P(A | B) = \frac{P(B | A)P(A)}{P(B)}$$

This is *Bayes' theorem*. *Bayes' theorem* is a theorem in probability theory and statistics which describes the probability of an event based on conditions that might be related to the event. I won't get into the details, but if you have a case where certain things are true, that makes certain other things more likely than not. If you believe there is a God, for example, the probability that Christ rose from the dead rises a bit. If you believe there absolutely is no God and no supernatural then the probability of Christ rising from the dead is very, very low, given your assumptions. In other words, it could become a live or a dead option, depending on what you believed before that. So my case is a cumulative case where I'm trying to argue certain things. Theism first, then Christian theism, then if I've got you that far, Mormon Christian theism, OK? And I'm happy with anybody who follows me any distance along the way with those arguments. The further I can get them, the happier I am. But I'm happy if I can get them from atheism to theism, from theism to Christian theism and so on. I'll give you a little more detail on that for those of you who want to study *Bayes' theorem*.

Likelihood
Probability of collecting
this data when our
hypothesis is true

Bill Howe, UW

Prior
The probability of the
hypothesis being true
before collecting data

$$P(H|D) = \frac{P(D|H) P(H)}{P(D)}$$

Posterior
The probability of our
hypothesis being true given
the data collected

Marginal
What is the probability of
collecting this data under
all possible hypotheses?

An example would be if you say that John has cancer, it might be helpful to know that John is age 65. You're not sure that he has cancer, but if he's 5 the odds are somewhat higher than if he's 10. because cancer is often related to age. So the information about his age might increase or decrease the probability that the diagnosis of cancer is accurate.

As I say, I'm bracketing the question of personal revelation, but it's not because I don't think it important. It's simply because that's not something that I can deliver to you with a book or a lecture or even a film project, as I'm hoping possibly to do in connection with this.

And I wanted to come back to Pascal. He's been accused of being sort of bloodless and coldly rational and cynical in this wager of his; but you have to understand Pascal's own biography. That wasn't his personal stance. Here's something that was found sewn into the lining of his coat when he died, by his servant. The servant found a paper that he'd sewn into his coat, which obviously meant a great deal to him. He was talking about an event that occurred to him on November 23, 1654. He was in his Paris apartment when he evidently had something like a vision, what he called a "night of fire." This is what he wrote:

"From about half-past ten in the evening
until ... half-past midnight.

Fire.

The God of Abraham, the God of Isaac, the God of Jacob.

Not of the philosophers and intellectuals.

Certitude, certitude, feeling, joy, peace.

The God of Jesus Christ.

...

Oh just Father, the world has not known you,
but I have known you.

Joy, joy, joy, tears of joy.

...

This is eternal life, that they know you the one true God and [Jesus Christ]
whom you have sent."

And then he closes: "Your God [will be] my God,"^[2] quoting Ruth in the Bible. So obviously that goes way beyond what I can offer with a lecture, but that needs to be kept in mind. If that comes to you, you don't need syllogisms, but

it may take syllogisms or arguments to get you to the point where religion becomes a live option.

I've cited before the case of my own father who – I grew up in a part-member family, marginal mother and non-member father. And it wasn't until my father began reading the works of Hugh Nibley, fairly late in his life, that the question suddenly occurred to him, as he explained it to me, "Could this possibly be true?" That hadn't been a live option in his mind until Nibley convinced him that maybe it was worth inquiring about. And he ultimately did join the church.

There are other arguments that could be made. For example, you could argue – and I will make the argument – not that this proves that religion is true, but that religious believers, according to a lot of measurements, a lot of studies, are more contented, healthier and so on. The old argument that Freud made, that religion was some kind of mental illness and that it incapacitated you in some way, this is simply not true. The evidence indicates that religious people are healthier by many, many measures.

There was a book, in fact, done by a professor who teaches a course on C.S. Lewis and Freud at Harvard Medical School, a psychiatrist there, who compares the two of them and which one of them was happier and healthier, mentally and emotionally. Not even close. Not even close, okay? So another person that I will be drawing on is C.S. Lewis. I mean C.S. Lewis is – I read him a lot when I was younger, and then I paused for a while and then I began to read him again and I thought, "Good grief, he's even better than I thought," just on a lot of levels. One of the arguments he makes has to do with moral intuition – he's not the only one who makes it. He, at one point, says, "Try to imagine an utterly new moral value. You can't, any more than you can imagine a new primary color." I mean, they just come to you, they're sort of delivered to you. What does that mean? Is that a rock solid argument for the existence of God? I don't think so, but it might be an indicator of something in the universe that is beyond just matter and motion, which as we heard today from Steven Webb, matter and motion is a problematic concept in and of itself. If you want to read an interesting book, read Richard Panek's *The 4% Universe*.^[3] He's talking about the discovery of dark matter and dark energy. Only 4% of the universe is matter as we know it. The old common sense materialism is dead, because 96% of the universe is something we can't even figure out what it is. But it's there in massive quantities, okay? So moral intuition seems to point towards something in the universe that is behind what we can observe, what we can measure, what we can analyze in the test tube.

I'm going to be drawing on John Calvin, an unlikely suspect for a Latter-day Saint. But John Calvin talked a lot about what he called the *sensus divinitatis*, the sense of the divine, a kind of natural intuition of God. That counts for something too. Or you can look at Alvin Plantinga, the great philosopher of religion at Notre Dame, who has argued for what he calls "proper warrant," that it is legitimate for people to regard religious faith, the conviction that there is a God, as something that is "properly basic" in his technical terminology, that if their rational functions and their senses and so on are working in a normal way, for them to simply have this overwhelming sense of God, that he exists, is a legitimate stance to take philosophically.[4] I'll draw on that. I'll draw on words with a sense of intuition. And this is related back, again, to C.S. Lewis, something that he talked a lot about and it means a lot to me because I understand it. He talks in his autobiography and elsewhere about a sense of longing. He uses the German word *Sehnsucht*, for it – yearning, or something like that, or a sense of what he called "pure northernness," hence the slide. For him, and incidentally for me, it's coincidental, but I understood immediately what he was talking about. There's a sense of something missing in this universe but it hits you at odd moments. There's a certain chord in Bach's *Toccatina and Fugue in D Minor* that hits me every single time. I know when it's coming, and that hits me. But there are certain landscapes and they point beyond themselves to something that indicates – to borrow Eliza Snow's phrase – "you're a stranger and a pilgrim" or "you're a stranger here." [5] You know there's something – it isn't satisfied. It's hinted at in this world, but it points to something beyond. These are all the sorts of things that are sort of preparatory.

I'm an Islamicist, right? So I had to draw on something from Islam. Jalal al-Din Rumi, the great Sufi mystic poet, in the very first part of his *Masnawi*, uses an image of the reed flute. Why is the reed flute so sad sounding? Why is it so plaintive? Because the reed was cut from the riverbed where it belongs and it's in isolation. It's been taken away from its home and it wants to get back to where it belongs. [6] And we all have that sense that we want to go back to where we belong. It's really St. Augustine from the very first page of his *Confessions*, "Our hearts are restless until we rest in thee." [7] And for a lot of us – not everybody, clearly – I doubt that Richard Dawkins has ever felt it – but for a lot of us there's a sort of God-shaped hole in the heart or some sense of spiritual yearning. It may not hit you all the time, and much of our modern life is designed to sort of avoid this feeling. We keep ourselves really busy with all sorts of nonsensical, frenetic activity. But what we're concealing from ourselves is the sense that there's something more, right? And a lot of

people feel that and Augustine, Lewis and others would argue that it cannot be satisfied until you turn to God in some way.

I'm going to be looking at evidence for the paranormal. I never thought I would be doing this, but I actually am convinced now that there is some fairly solid evidence. Gary Schwartz at the University of Arizona has done some remarkable work on ESP. I mean, psychic stuff. I thought that was crazy. But reading some of the current research and listening to people like John Hick, for example, the late John Hick, the philosopher at Claremont and Birmingham, he said, "no, if you really read the Society of Psychical Research stuff, some of it is actually very difficult to account for," on the assumption that this universe is just a material commonsense sort of place. There are some funny things going on in the universe that don't fit the materialist worldview. These all, to me, are indicators of something, something real, something beyond.

Then, this is all preparatory stuff, I'm not into the real argument yet. You can see why this is going to go on and on and on and on.

I want to address the issue of cosmic fine-tuning. The initial question is why is there something rather than nothing. But why is it orderly? Albert Einstein said that "the eternal mystery of the world is its comprehensibility."^[8] Why in the world does it make sense? Or there's a Hungarian-born American theoretical physicist and also a Nobel laureate by the name of Eugene Wigner who wrote a very famous paper entitled *The Unreasonable Effectiveness of Mathematics*.^[9] And what struck him was how weird it was that mathematicians could sit in their studies inventing mathematical theorems and so on, imaginary numbers and so on, and then they would apply to the universe. Why? Why, in a creature who just evolved sort of randomly in the savannas of Africa or something like that? Why do we even have to have minds, brains that can do this sort of thing? And why does the mathematics that we think of fit the universe? It's odd. It's very strange that it applies to the real outside world.

But I want to run a few figures by you, and I'm made a little nervous by the fact there *is* a theoretical physicist sitting on the front row here. But here we go anyway. Fools rush in where angels fear to tread, right? By the way, I've got a title in my head that I want to use for something, I just can't think of any relevant purpose for it. I wanted to write something called *Fools Rush in*

Where Engels Feared to Tread, about Friedrich Engels and Karl Marx, but I just don't know what to do with it. Anyway....

Cosmic fine-tuning – I'm going to read this part, because I actually wrote up a few paragraphs on it for something else. Scientific study of the universe in recent decades has revealed an intricate and finely tuned ensemble of factors that make our existence possible. The seminal text is probably Brandon Carter's 1974 paper *Large Number Coincidences and the Anthropic Principle in Cosmology*.^[10] These factors, sometimes (as in the title of Brandon Carter's paper) question-beggingly called *anthropic coincidences*, are necessary conditions for life as we know it and as we can conceive it. (For that reason, some have argued that the proper term ought to be *biocentric* rather than *anthropic*.^[11]) That they exist is not in question. It's their significance that's debated. There are various lists of these, some fairly long. For the sake of brevity, though, I'll concentrate on just six of them as they're listed in the appropriately titled book *Just Six Numbers* written by Sir Martin Rees, the Astronomer Royal of England, former Master of Trinity College, Cambridge, and past President of the Royal Society. "Two of them," he says, "relate to the basic forces; two fix the size and overall 'texture' of our universe and determine whether it will continue for ever; and two more fix the properties of space itself".^[12]

1. The ratio of the electromagnetic force to the force of gravity (N).

This can also be expressed as the electrical force between two protons – you're not going to have to remember this, but I want you to get the sense of it. This can be expressed as the electrical force between two protons divided by the gravitational force between them. N equals – I'm going to read the number to you, if I can – 1,000,000,000,000,000,000,000,000,000,000,000 – OK, I don't think I left any zeros out. If it were slightly smaller than the value we actually see, Professor Rees says, "only a short-lived miniature universe could exist: no creatures could grow larger than insects, and there would be no time for biological evolution."^[13]

2. The strong nuclear force.

The strong nuclear force accounts for the firmness with which atomic nuclei bind together. It determines how long stars live.^[14] It has a value of 0.007 and it "controls the power from the Sun and, more sensitively, how stars transmute hydrogen into all the atoms of the periodic

table.”[15] Without the heavier elements – especially carbon – life as we know it would be impossible. But if the value of this constant were .006 or .008, neither they nor we would exist.

3. The amount of matter in the universe – (Ω) (omega).

The cosmic number Ω is a measure of the total amount of material in the known universe, regardless of the form in which it occurs, whether in galaxies and diffuse gas or in so-called “dark matter” and “dark energy.” Ω answers the question of “the relative importance of gravity and expansion energy in the universe”[16] after the big bang. “If this ratio were too high relative to a particular ‘critical’ value,” Professor Rees explains, “the universe would have collapsed long ago; had it been too [low], no galaxies or stars would have formed. The initial expansion speed seems to have been finely tuned.”[17] It’s rather, he says, “like sitting at the bottom of a well and throwing a stone up” with such precision that its rise comes to a stop at precisely the top of the well.[18] “[A]t one second after the Big Bang,” he continues, “ Ω cannot have differed from unity by more than one part in a million billion.”[19]

4. Cosmic repulsion (λ) (lambda).

In 1998, cosmologists recognized the importance of cosmic antigravity in controlling the expansion of the universe. In particular they noticed that it becomes increasingly important as the expanding universe becomes more diffuse, darker, and emptier. “Fortunately for us (and very surprisingly to theorists),” says Martin Rees, “ λ is very small. Otherwise its effect would have stopped galaxies and stars from forming, and cosmic evolution would have been stifled before it could even begin.”[20]

5. The ratio of the gravitational binding force to rest mass energy (Q).

“The seeds for all cosmic structures – stars, galaxies and clusters of galaxies – were all imprinted in the Big Bang.”[21] Q determines what might be called the “texture” or “fabric” of the universe, and is, thus, fundamentally important. Its value is about 1/100,000. “If Q were even smaller,” writes Professor Rees, “the universe would be inert and structureless; if Q were much larger, it would be a violent place, in which no stars or solar systems could survive, dominated by vast black holes.”[22] “ Q ,” he continues, was “imprinted in the very early universe,” and “the ‘embryos’ of clusters and superclusters – structures stretching millions of light-years across the sky – can be traced back to a time when the entire universe was of microscopic size.”[23]

6. The sixth of the six numbers – the number of spatial dimensions (D).

This may seem a strange one to most of us, but it's crucial that there are three spatial dimensions. String theory – controversial, I know – holds that there were originally ten or eleven dimensions at the birth of the universe, but they were “compacted” into a lower number. “Life couldn't exist,” says Professor Rees, “if D were two or four.”^[24]

Together, these figures constitute what Martin Rees labels “a ‘recipe’ for a universe.”^[25] If any one of them were lacking, we would be lacking as well. Yet each of these six numbers seems to be independent of the other. The value of one cannot be predicted – not thus far, at least – from the value of any other, nor from the assembled values of the others altogether.

To continue with this: “[W]hy,” asks the famous British cosmologist Stephen Hawking, “is the universe so close to the dividing line between collapsing again and expanding indefinitely? In order to be as close as we are now, the rate of expansion early on had to be chosen fantastically accurately. If the rate of expansion one second after the big bang had been less by one part in 10^{10} , [that's one part in ten billion] the universe would have collapsed after a few million years. If it had been greater by one part in 10^{10} , the universe would have been essentially empty after a few millions years. In neither case would it have lasted long enough for life to develop.”^[26]

“[I]f the electric charge of the electron had been only slightly different, stars ... would have been unable to burn hydrogen and helium, or else they would not have exploded.... [I]t seems clear that there are relatively few ranges of values for the numbers [for the constants] that would allow for the development of any form of intelligent life. Most sets of values would give rise to universes that, although they might be very beautiful, would contain no one able to wonder at that beauty.”^[27]

I'm now going to mention an incredibly large number. Please recall that 10^{10} is equivalent to the number 1 followed by ten zeros, which is ten billion. 10^{123} , by contrast, is [1] followed by 123 zeros. Imagine the number 10^{10} multiplied by 10^{123} . It's a pretty big number. Sir Roger Penrose, who served for many years as the Rouse Ball Professor of Mathematics at the Mathematical Institute at the University of Oxford, is my source for that number. “How big,” he asks, “was the original phase-[space] volume ... that the Creator had to aim for in order to provide a universe compatible with the second law of

thermodynamics and with what we now observe?... The Creator's aim must have been [precise] ... to an accuracy of one part in [10^{10} multiplied by 10^{123}]. This is an extraordinary figure. One could not possibly *write the number down* in full, in the ordinary denary notation: it would be '1' followed by 10^{123} successive '0's! Even if we were to write a '0' on each separate proton and on each separate neutron in the entire universe – and we could throw in all the other particles as well for good measure – we [would] fall ... short of writing down the [number] needed. [This is] the precision needed to set the universe on its course.”[28] “I cannot even recall,” Penrose has written elsewhere, “seeing anything else in physics whose accuracy is known to approach, even remotely, a figure like one part in $10^{10(123)}$.”[29]

But numbers in the same general ballpark abound. If, for example, the strength of gravity had been different “by one part in ten thousand billion, billion, billion,”[30] writes Robin Collins, we would not exist.

If the ratio of electron-to-proton mass were larger than it is, chemical bonding would be insufficient for life chemistry.[31] The allowable variation, some have calculated, is about one in [10^{37}]. This [is] an incredibly small number. Says Hugh Ross, a Ph.D. astrophysicist turned evangelist, “One part in 10^{37} is such an incredibly sensitive balance that it is hard to visualize. The following analogy might help: Cover the entire North American continent in dimes all the way up to the moon, a height of about 239,000 miles. (In comparison, the money to pay for the U.S. federal government debt would cover one square mile less than two feet deep with dimes. [That's still pretty big.] Next, pile dimes from here to the moon on a billion other continents the same size as North America. Paint one dime red and mix it into the [billions of] piles of dimes. Blindfold a friend and ask him to pick out one dime. The odds that he will pick the red dime are one in 10^{37} .”[32] Thus, even Steven Weinberg, a vocally atheist Nobel laureate cosmologist at Princeton, acknowledges that it “does seem remarkably well adjusted in our favor.”[33]

In fact, “[i]f the cosmological constant were not fine-tuned to within an extremely narrow range – one part in 10^{53} or even 10^{120} of its ‘theoretically possible’ range of values – the universe would expand so rapidly that all matter would quickly disperse, and thus galaxies, stars, and even small [aggregations] of matter [would] never form.”[34] According to philosopher Robin Collins, the odds of this occurring by random chance are roughly equivalent to those of hitting a bull's eye on Earth less than the size of a single

atom with a dart casually thrown from space.^[35] As physicist Stephen Barr comments, “This is one of the most precise fine-tunings in all of physics.”^[36]

As Sir Fred Hoyle, another atheist, rather dejectedly wrote, it’s as if “a superintellect has monkeyed with [the] physics, as well as with [the] chemistry and [the] biology, and ... there are no blind forces worth speaking about in nature.”^[37]

Now, you know, someone might respond to this and say, and people do say all the time, “Well, OK, so the universe is fine-tuned, big deal.” You know, “OK, we live in a universe that makes it possible for us to live. If it didn’t make it possible for us to live, we wouldn’t be here. End of question. You know, that’s it.”

John Leslie wrote a wonderful little book called *Universes*. He’s a philosopher who looked at this question. He comes up with a nice analogy. He says, OK, that lack of curiosity seems rather unscientific. Imagine you were in front of a firing squad. You’ve been sentenced to die. There are 12 or 15 sharpshooters standing about 25 feet away. They’re aiming at a target on your chest. The person counts down, pronounces the order to fire, they all fire, and ... you’re still there. What do you say? “Well, you know, I’m not curious because, obviously, if they’d killed me, I wouldn’t be here to ask the questions. So, you know, so I’m not going to inquire any more to find out why I’m here.” That’s a certain lack of curiosity there, it seems to me.

What I would argue is that it seems to me, that you can at least make the argument. I’m not going to say it’s a slamdunk, but you can at least make the argument, based on these and many other similar things, that intelligence may have been involved in the universe from the start, that there’s something about this that seems as if a superintellect has monkeyed with the physics.

There are other things. I don’t want to spend too much time on that, because I’ve got other things I want to cover. In fact, I need to see how much more time I have here. Oh my, not much. Got to pick up the pace.

All right, this is the famous “blue marble” image, one of the great pictures of the Earth taken from space. It puts it in a different perspective for us. There are some books that have come out within recent years, one of them bearing the title *Rare Earth* (I quite like that) in which they make the point that the Earth is really quite remarkable. When I grew up, the Earth was an

undistinguished planet, in an undistinguished solar system, in an undistinguished part of the Milky Way galaxy. Big deal, you know. The Copernican revolution supposedly dethroned the Earth and all that. We now learn there are a lot of things about the Earth, including plate tectonics and so on, that are really quite remarkable, and if you don't have them, you can't have life.

Now, again, does this prove design? I'm not arguing that. I'm arguing that this is not quite so easy to brush off as it might seem. I'm interested with these in only getting into the 50/50 point where you're willing to consider the possibility that maybe the universe is a "put-up job," as Fred Hoyle also called it.

OK, so I don't want to go further on that, but there's a lot more detail on that particular element of the argument.

Looking at primitive life, for example, the origin of life, when I grew up, the Miller-Urey experiment was the big deal. We all knew that, you know, under certain conditions life would come to be in a natural way, because Miller-Urey had been able to form amino acids, simple amino acids in a test tube. It now turns out that's probably wrong, because the conditions of the early Earth were not like those in the Miller-Urey experiment, and anyway, amino acids are still not life. We still don't *really* know how life arose.

One thing that we do know is that life is incredibly complex, that when you look at something like DNA, you're looking at the equivalent of thousands of sets of the Encyclopedia Britannica, in terms of data. Now the Encyclopedia Britannica may not mean much to many of you who have never actually seen an encyclopedia, but for the older generation who know what they look like on a shelf, that's a lot of information, right? So there's a lot going on in DNA.

And some other things we've discovered, that life originated on the Earth about as early as it was physically possible for it to originate. This is really interesting. It used to be thought that, well, given enough time, enough chance, life will come to be. As soon as the Earth was cool enough for [life] to appear, it now seems life appeared. What does that mean? I don't know, but it does mean that it's not just a matter of throwing Like politicians solve problems by throwing money at them, right? Speculators about the early Earth and life on Earth used to just throw enough time at it – enough time, well anything can happen. It reminds me of the cartoon, maybe some of you have seen, of the two physicists, they're standing in front of a white board,

and there are all these equations on the white board, but right in the middle of it it says, “then a miracle occurs” and then it goes on. And the one physicist is saying to the other, “You know, maybe you should be more explicit about that stage.” You know?

It’s sort of a “science of the gaps,” if you will. You hear the “God of the gaps” argument dismissed all the time, and rightly so, but there’s a “science of the gaps,” you know, we’re sometimes given a promissory note that well, we’re going to explain this. Maybe they will and maybe they won’t, but the fact is that there are some remarkable things here. And that DNA arises in ways we don’t really know. We could get into the whole specified complexity issue and so on. But I don’t want to spend much more time on that, because I don’t have much more time on that.

One other issue that I want to talk about is the whole issue of consciousness. We don’t know what consciousness is. Now that’s odd, because consciousness is the thing we are most closely acquainted with. We know about our own consciousness. That’s precisely the point. I can cut into somebody else’s head. I can see how the brain functions. We can measure what parts of the brain fire up at certain points. But we cannot have the sense of what’s going on in that head. My personal subjective experiences are mine; they’re not yours. And I can never have yours; you can never have mine. And we don’t know what that means. Where did consciousness come from? Even if you create a really elaborate computer, is it conscious? And how would we know?

What’s his name, the mathematician who’s big, the movie was just done about him?

[Other: Turing.]

Yeah, the Turing machine, you know, the Turing machine problem. You could have something that behaves as if it’s conscious, but how would you know, unless you can gain access to it? We don’t know how to gain access to it.

The whole question of intentionality: I had a dialogue with someone just yesterday – I have these dialogues all the time on the internet, but they’re useful to me. I learn what’s going on out there, what’s agitating the hive, if you will – and this fellow was saying, “Look, thought is nothing more than” ... he’s quoting someone; he probably doesn’t know he is, but ... “thought is

something secreted by the brain in the same way the liver secretes bile,” right? And “it’s just a chemical thing.”

I said, “Well, then, why should I listen to you, any more than I should listen to your toaster?”

He says, “What does that mean? My toaster doesn’t have thoughts.”

And I said, “Well, by your standards, neither do you.” If thought is just a neurochemical event, then what is it? And how can a neurochemical or an electrochemical event be about anything else? I mean, he may be thinking that he’s thinking about the nature of the brain, but toasters aren’t doing anything. I mean, physical events and physical objects aren’t about anything else. If your brain ... your liver, when it’s secreting bile, that secretion is not about the planet Mars. The astronomer may be thinking he’s thinking about the planet Mars, but if his brain is no different than his liver or his kidney, it’s hard to know what that would even mean.

But the fact is we know that we do think, OK? I mean, it’s funny to me to see some philosophers of consciousness now saying consciousness is an illusion. Well then, who’s having the illusion? What in the world are you talking about?

It reminds me of the great Bishop Berkeley. He said that everything was just imaginary. And was it ... I’m getting this confused now ... it’s Samuel Johnson who walks out and kicks a rock, which he said was real and is not a mental event, you know, not hallucination, and he said, “There, I’ve refuted Berkeley.” And in a way, he had. I mean, the very thought that I can think this is wrong proves that the whole idea that I can’t think is wrong. Does that make sense to you? And every one of you here right now, if you’re thinking, “that speaker is an idiot,” you’re proving that I’m right. So you can’t get around this, all right?

So OK, now I want to take the argument a little further and look at something that a lot of you have heard about – near-death experiences. I’m not going to get into the great details of near-death experiences. I’m not interested, for purposes of this argument, in the details of heaven or something like that. But here you may recognize this famous painting, the *Ascent into the Empyrean* by Hieronymus Bosch. Clearly, it seems to me, he had heard stories of a tunnel of light. Look at that. The souls of the deceased are being taken into this tunnel toward the light at the end of the tunnel. This is not new stuff.

You know, what's his name, Raymond Moody, just started this a few years ago, basically, and now we know all about the tunnel of light. But it's been around for a long time. You can find older accounts of it.

What really interests me, though, is the part of those near-death experiences that is connected with out-of-body experiences. Going back to William James – William James once said that all you needed to do to refute the idea that all crows are black is to find one white crow, OK? If you can find one case of a verifiable out-of-body experience, naturalism, materialism, collapses. Right?

Now I think there are a lot of cases like that that look very promising. I'll mention one – the case of Pam Reynolds. So you may have heard of this, a very famous case in which a woman underwent a very delicate brain operation under the most tightly controlled conditions, in Arizona. Her body was frozen; her brain activity or heart activity, everything, reduced to zero. There was a staff around her watching everything. They were using an experimental knife to cut into her skull and work on her brain. Her eyes were taped shut; her face was muffled with gauze, and so on. She couldn't see anything; she couldn't hear anything. They had little clickers in her ears to make sure that if there was any kind of brain activity from those clicking sounds, they would detect it. There was nothing, totally flat-lined for several minutes. When she came out of it, she was able to describe what had gone on in the operating room. She was able to describe and draw this weird knife that they were using, which was an experimental thing she had never seen.

Now that's just one case of many, but if that case is true, then the naturalistic equation of brain and mind or brain and spirit is false. Right there, it's overturned. Well, I'm going to be looking at, in some detail, there are a lot of cases like this. And, as I say, one white crow, that's all you need. If you can get a lot of white crows, even better, but one white crow is enough.

Remember, we're thinking in Bayesian terms here. The idea is, if you once establish that it's even possible this universe isn't the closed, naturalistic system a lot of people think, then certain other things become more plausible.

So I move on to the next stage, which is an argument which I'm not going to do here today. I'm just going to summarize a couple of things. I'm not making any of the arguments in detail that I'm going to make. Believe me, there's a lot more stuff that I'm talking about – six fairly big volumes that I'm working on.

But now if we've established it's at least possible, you know, that the universe is some sort of more mysterious place than we'd thought, then the whole idea of the resurrection of Christ becomes at least something you can be open to. So what is the evidence for that? Did Christ really rise from the dead?

Well, there are a lot of detailed historical arguments that can be made for this. It was universally agreed in antiquity that the tomb was empty. Jewish critics of Christianity agreed with that. Nobody denied it. From the start, you find that in the New Testament but also in later Jewish materials. They say, yeah, the body was stolen, just what was said in the Gospel of Matthew, right? If Jesus' body had still been in the tomb, it would have been the easiest thing in the world to put an end to this thing – “Well, there he is, right? Decomposing in the tomb.” But the body wasn't there.

There are several things that I'll bring up here. Early witnesses, for example, the oldest things in the New Testament go back very, very early. 1 Corinthians 15, you have a whole list of witnesses. This is early material. That's within 20 years or so of the death of Christ. And there are creeds quoted in the letters of Paul that seem to be much older. Some people have argued they go back to within five years of the event. It's not the hundreds of years that the Tübingen School said years ago – “Ah, yeah, these legends grow up; given enough time folklore grows up.”

No, the story of Christ being raised from the dead, physically raised from the dead, is very, very early. Walter Cardinal Kasper in Rome, one of the great New Testament theologians of the 20th and 21st Centuries, has argued actually that some of the material in the New Testament goes back to within one year – one year! – of the event. There's not a lot of time there for folklore to grow up. Those creedal statements are extremely important. They haven't been noticed very much.

You have to explain the behavior of the early apostles. One of the explanations was they were just frauds; they made up this story. That's absurd. I mean, brilliant idea – let's make up a false religion and go out and get ourselves killed. You know? What's the motivation for this?

You look at the early chapters of Acts. Something transforms the apostles from that Saturday when they're hiding out in the upper room and Sunday morning. And then when the Savior appears to them, they are transformed, and they go out after that and they're speaking on the streets of Jerusalem.

They're arrested, they're beaten, and so on. The people tell them, "Stop doing this. We'll beat you. We'll throw you into prison." Their response is, "You do what you've got to do; we'll do what we've got to do." They have been transformed by this. How do you explain that?

How do you explain that Peter, who grows up in a tiny little town on the shores of the Sea of Galilee, which is by all accounts very orthodox Jewish – we now can sort of demonstrate that Capernaum was, and Bethsaida probably, from archaeological ruins and remains. But Peter ends up in Rome! What in the world is Peter doing in Rome? How many Galilean fishermen ended up in Rome, a place where they couldn't even speak the language? Peter might have had a little bit of Greek, but they didn't speak Greek in Rome; they spoke Latin. He was in the largest city of the ancient world, a place totally foreign to him. What took him there? What transformed him and sent the other apostles around the world? Something really, really big happened, and I'm going to argue that the historical case for the resurrection of Jesus – and this is not original with me; I'll be drawing on people like N.T. Wright and William Lane Craig and people like that – is much stronger than I used to realize that it was.

OK, so again, remember, we're thinking in Bayesian terms, and ... let's see how much time I have here now. Oh my, it's getting tight. I'll go through this very quickly to outline the logic of the last part. I have 51 seconds by my watch.

OK, well, suppose that I've gotten you this far. You've said, "OK, I'm willing to entertain the possibility that theism is true. There might be a God. This universe may not be the naturalistic, closed system that I thought it was. Maybe even Jesus rose from the dead. I mean, it's at least a ... it's a possibility to consider." That's N.T. Wright's conclusion, that, as a historian, he says, the only explanation I can come up with to account for the data is that certainly the apostles thought Jesus rose from the dead.^[38] They were really convinced of it. And they claimed to have seen him, to have had encounters with him.

Can I get you all the way to Mormon theism? This is where I go with a whole bunch of stuff, but I just want to show you the general outline of the argument. These ... I'm going to concentrate on the Book of Mormon here ... these are the two possibilities, it seems to me, that Joseph had the plates or he didn't have plates.

[crickets chirping] There's my alarm.

OK, Joseph had plates or he didn't have plates, right? Then there are several possible subsections of these: he knew he had no plates, he thought he had plates, so on and so forth. Basically, he's a deliberate deceiver or he's nuts, right? Or he had the plates but he faked them, or something like that. I want to look at those in somewhat detail. I'm not going to do it today, but just kind of outline some of the basic argument there.

So, first, let's look at the idea that Joseph had no plates. OK, possibility, he knew he had no plates. First is, he's a cynical fraud. The evidence against that, it seems to me, is overwhelming. If you look at the personal writings of Joseph Smith that have been coming out over the past few years – journal entries and so on, from the very early period – if he's not sincere, if he's not a real believer, then I have no capacity to judge human nature. Because even in his journal, his letters to his wife, his letters to his children, it is absolutely clear, he's a believer. He really believes he's had these experiences. He really believes that he had the plates and that he had encounters with Moroni and so on. There's no evidence of cynical fraud and certainly not ... you could argue about polygamy; some people bring that up ... but I'm talking here about the Book of Mormon, the early years, just not possible to find. You cannot find it, in my view.

So ... was he a 19th Century con man? Well, look what he went through – Liberty Jail, really a pleasant experience for him, and that was just a part of it. There was the tarring and feathering and so on, but that time in Liberty Jail he came as near despair – and I think he really did – as a human possibly could, but he didn't give in because he knew it was true. The Haun's Mill massacre – can you imagine? If you have any decency in you at all, that people are dying for this vision that you've had. Isn't it time to say, "look, I just made it up", or at least disappear, go gracefully away? No, he doesn't. He stays with it, because he believed it. And then, of course, ultimately he goes to his own death, knowing, I think, pretty well that he was going to. It's a very odd thing for a conscious deceiver to do. But he's killed for his testimony. Remember, the word *martyr* in Greek – *mártyros* – means both "witness" and "martyr" in our modern sense, and he was that.

Also, think of this, many of his visions, here's one, are shared with other people. So if he's a conscious fraud he's also inducing this in other people or he's got conscious frauds associating with him. And there are lots of them –

his mother, his sister, the three witnesses, the eight witnesses, Sidney Rigdon, it just goes on and on and on. He's found all these people who are willing to collude with him and who never, ever give any sign that they were deliberate frauds or that they believed it was all a fake. That's just very hard for me to imagine.

Imagine that there were no plates, but he was a pious fraud. This one's harder to deal with because, you know, he could give all the appearances of sincerity and so on, but there's no evidence of this either – that he's doing this and he made up the story and he convinced other people to go along with him in order to convince people to some noble purpose, like “believe in God, even though I've made it all up.” Just no evidence for that but, you know, there are plenty of crazy prophets out there.

OK, Joseph had no plates; he thought he had plates. Is he nuts? Well, again, if he's just subjectively hallucinating, what do you do with the witnesses? Are they all hallucinating in sync with him? They talk in very specific terms about turning over the plates and hefting them, they were about 60 pounds, and this sort of thing. It's a very specific kind of mass hallucination, which involves the tactile senses and everything else. Very hard for me to imagine that that's possible.

All right, let's assume that Joseph had plates. One possibility is he made them. Let's assume, again, that he was a cynical fraud. Who made them? Joseph? Where'd he get the gold? Do you realize how much gold that would have taken, to produce even gold alloy that weighed 60 pounds? A lot of gold. Some people have suggested – Joseph showed no metallurgical skills – that Oliver Cowdery was the metallurgist who did this – a blacksmith. Look at the picture of Oliver Cowdery. This is an authentic picture of Oliver Cowdery, the massive man who died of tuberculosis just after 50. He was a very small, and not overly healthy, man. He was not Longfellow's blacksmith with, you know, the sinewy arms and all that sort of thing, nothing like that. There's no reason to believe that anybody in the early Latter-day Saint community had access to 40 pounds of gold or 20 pounds of gold, whatever it would have taken to have made this alloy. There's nobody recording smoke belching out of the secret furnace just to the south of Palmyra or anything like that as they're producing not only the plates, but the Liahona, the Urim and Thummim, a whole array of specialty metal objects, right? These guys are good. They're really good and nobody knows that they can do it. Nobody sees the wagonloads of gold going into the Smith home. Remember, they're subsistence farmers. Where'd they

get all this stuff from, and where does it go afterwards? Poof, it's just gone. They could've been incredibly wealthy. We're talking about millions of dollars' worth of metal here. There's no sign of it. There's no sign that Joseph made the plates, OK?

Possibility 2 –he received them from somebody else. Well, you have a lot of problems with the idea he received them from a contemporary. Who was it, and with what motives, and where did they go? What happens to this enormously impressive metallurgical object with lots of gold in it? Again, just not plausible; there's no historical evidence for anything like this.

So, some people have posited an invisible group. One guy actually told me how they were so good, they vanished. There's not a trace of them in history. They're like the Illuminati, right? They're so good that they just ... they don't show up anywhere. And their motives? I asked him. He said, "unknown." Well, you know, you can do that sort of thing all day, like the invisible rabbit in Harvey. Only he had more evidence behind him, actually.

So I want to suggest, yes, he did get the plates from somebody else. He received them from a non-contemporary. I have a suggestion. And to me, that argument right there makes logical sense.

Well, I just want to close with this. I've gone on way too long. What I want to lay out is a logical case that will lead somebody, I hope, to think, "you know, maybe there's something to this." I can't get them to belief. And I think a belief that was based on a set of arguments like this would not be stable, would not be adequate. But you want to get them to the point, as my father was brought to the point, where eventually he had to find out, Is this true? Does this make any sense? He concluded that it did because of things that came to him. I can't deliver those things. Those are the personal subjective things. But the Book of Mormon contains that wonderful promise that that kind of assurance *can* come to you. And if this kind of argumentation can save someone who's on the way out or help somebody who's teetering on the brink of the way in, then the argument will have achieved its purpose. But the most important thing, of course, is the witness of the Spirit. I don't negate that; I don't deny that or minimize it.

I want to bear you my testimony that the Gospel is true. It does make logical sense. We don't have to say, "I know it's irrational but I choose to believe." It is not an irrational choice. It's maybe not one that you can prove to the

satisfaction of an indifferent public, but it's not irrational. It's a rational choice, under conditions of limited and indecisive public evidence. It's a rational way to go. In the name of Jesus Christ, amen.

Q&A

Question: With numerous factors of nature that make life possible, there is not one factor to make life impossible. Why do scientists ignore the obvious?

Answer: Well, you know, obviously there is no factor that has made life impossible or we wouldn't be here. But yeah, there are people who are very impressed by these cosmic fine-tuning arguments. There are others who say no, no, no, we just happen to live in a universe among a multiverse and the other multiverses presumably are sterile and the laws of nature are different. It's hard to prove that or disprove it. There are some theoretical reasons to believe it. But it doesn't strike me as a very persuasive way. And it seems to me if you want to go with Occam's razor – the principle you invoke the simplest explanation – then maybe God is just as easy as the multiverse in some ways. Don't multiply entities unnecessarily. Some people say, well, I just can't believe in God, but I do believe in an infinitude of bubble universes, you know, and so on. But again, I'm not trying to get you to certainty. I'm just trying to get you to the point where you are willing to entertain the possibility.

Question: Do you discuss consciousness or the mind-body problem – oh, yes – in other words, the question of how dead matter can form the thing called thought?

Answer: I would argue that we don't know how dead matter can form the thing called thought. We can produce machines that can imitate thought. We'll get to be very good at this. But will they be conscious? It'll be impossible to know. I don't actually know – Alvin Plantinga has argued this – I don't actually know that anybody here is conscious. I mean, you might all be automatons. I may be the only conscious person in the world, for all I know. Some of you – many of you, actually – act conscious. But I can't know it. You might be a really good imitation. You might be a really fine robot.

Question: So there is a job opening currently at the Maxwell Institute. Have you considered applying for it? [LAUGHTER, APPLAUSE]

Answer: The thought has crossed my mind. I have this mischievous streak.

Question: What do you think of intelligent design?

Answer: I don't write it off. I think that they raise some good arguments. You know, I've seen the arguments that it's not really science, and maybe that's not true. That's not what I want it to be. It does raise some interesting issues, just things that, to me, make you go, wow – you know, that DNA is so complex, that the universe is so complex and so fine-tuned. Do I say this proves there was an intelligent designer and that intelligent designer is God? I don't think it proves that, but I think it might give rise to a belief that it was so. And I think in a sense, any Latter-day Saint who believes that God had something to do with the creation has to believe in some form of intelligent design. I mean that's kind of basic to the gospel – that the universe didn't occur by chance. I'm not a big one on the details of Genesis or anything like that. I don't argue about, you know, periods of creation, exactly what it means. But I think – I've argued when talking about Genesis, and Revelation, too, I'll say – the importance of these two bookends of the Bible is to show you that God is in charge at the beginning and at the end. You may not get all the details of the end of the world – I'm not so worried about that – but the point is to reassure you as things get really bad, God is still in charge, it'll turn out okay. At the beginning, analogously, we may not know all the details and Genesis doesn't actually give you a lot of details about how things come to be, but it does tell you that God is involved with it, and that's the basic thing you have to know. That, to me, is a kind of basic, rudimentary intelligent design. I'd go that far.

Question: Are you still working on a TV series about these things – scientific evidence showing design of the Earth, universe, life, etc. I hope so.

Answer: I hope so too. The trouble is it involves a lot of money and time, and the amount of money it would take is daunting. So if any of you out there haven't given enough to FairMormon, there's another cause. [Scott Gordon: We could do a joint project.] Okay, he's willing to cooperate with me.

Question: Any thoughts on Randi's million dollar prize for any supernatural evidence?

Answer: You know, I haven't really looked into it very much. I'm leery of anything where an avowed skeptic is judge, jury, and executioner. To me there's evidence for – I don't know that I'd call it supernatural; I have a problem with the term – but something, as I say, beyond the closed, naturalistic system, I think the evidence is pretty good for that. I think the very existence of consciousness may be evidence for that. I think the Pam Reynolds case may be evidence for that. But would it pass muster with James Randi? I tend to believe, look, the evidence is never strong enough to force you. It's strong enough to suggest. It's strong enough to justify belief. It's not strong enough to compel belief. And I think that's deliberate. I think that's the universe we're supposed to be in.

Question: One explanation for Joseph Smith and the Book of Mormon could be satanic-derived supernatural to deceive him and others. This is the only anti-Mormon explanation I've heard with any merit. Of course, I believe this is a ridiculous explanation, but you may want to add it onto your list.

Answer: That is, you know, sort of like the pious fraud thing. It's a little hard to defend against, because I'm not sure it makes any real predictions that you can falsify, you know, which is essential for a scientific theory and probably a historical one. But everything you can say – “Well, he looks sincere.” “Yeah, he would, wouldn't he?” “Well, there's no evidence he's a fraud.” “Of course there isn't. There wouldn't be, would there?” I mean, I don't know what to do with that, except to say, look at the fruits of it. I mean Mormons are healthy, they're happy, it's a good way of life. And if you think Satan is that devious that he would actually construct a happy mode of life for millions of people in order to defraud us and send us to hell, well, okay. If that's the kind of universe you want to live in, it's yours.

Notes:

[1] William James, *The Principles of Psychology* (New York: H. Holt and Company, 1890).

[2] Marvin R. O'Connell, *Blaise Pascal: Reasons of the Heart* (Grand Rapids, Michigan: Wm. B. Eerdmans Publishing Co., 1997), 95-97.

[3] Richard Panek, *The 4% Universe: Dark Matter, Dark Energy, and the Race to Discover the Rest of Reality* (Boston, New York: Houghton Mifflin Harcourt, 2011).

[4] See Alvin Plantinga, *Warrant and Proper Function* (Oxford: Oxford University Press, 1993).

[5] Eliza R. Snow, "O My Father," hymn 292, in *Hymns of The Church of Jesus Christ of Latter-day Saints* (Salt Lake City: The Church of Jesus Christ of Latter-day Saints, 1985).

[6] See Jalal al-Din Rumi, "The Lament of the Reed-Flute," in *Tales from the Masnavi*, trans. A.J. Arberry, (New York: Routledge, 1993), 21.

[7] See Augustine, *The Confessions of St. Augustine*, trans. J.G. Pilkington (CreateSpace Independent Publishing Platform, 2015), 25.

[8] Albert Einstein, "Physics and Reality," *Journal of the Franklin Institute* 221 (1936): 351.

[9] Eugene P. Wigner, "The Unreasonable Effectiveness of Mathematics in the Natural Sciences." Richard Courant lecture in mathematical sciences delivered at New York University, May 11, 1959, in *Communications on Pure and Applied Mathematics* 13 (1960): 1–14.

[10] Brandon Carter, "Large Number Coincidences and the Anthropic Principle in Cosmology," in *Confrontation of Cosmological Theories with Observational Data (I.A.U. Symposium 63)* ed. M. Longair (Dordrecht: Reidel, 1974), 291–298.

[11] Alister E. McGrath, *A Fine-Tuned Universe: The Quest for God in Science and Theology (The 2009 Gifford Lectures)* (Louisville, Kentucky: Westminster John Knox Press, 2009), xii note 14.

[12] Martin Rees, *Just Six Numbers: The Deep Forces That Shape the Universe* (New York: Basic Books, 2000), 2.

[13] Rees, *Just Six Numbers*, 2; compare Rees, *Just Six Numbers*, 33-35.

[14] Rees, *Just Six Numbers*, 52-56.

[15] Rees, *Just Six Numbers*, 2; compare Rees, *Just Six Numbers*, 52-56.

[16] Rees, *Just Six Numbers*, 2.

[17] Rees, *Just Six Numbers*, 2; compare C.B. Collins and Stephen Hawking, "Why is the Universe Isotropic?" *Astrophysical Journal* 180 (1973): 317-334.

[18] Rees, *Just Six Numbers*, 88.

[19] Rees, *Just Six Numbers*, 88.

[20] Rees, *Just Six Numbers*, 3; compare Rees, *Just Six Numbers*, 111.

[21] Rees, *Just Six Numbers*, 3.

[22] Rees, *Just Six Numbers*, 3.

[23] Rees, *Just Six Numbers*, 56; compare Rees, *Just Six Numbers*, 128-29.

[24] Rees, *Just Six Numbers*, 3.

[25] Rees, *Just Six Numbers*, 4.

[26] Stephen Hawking and Roger Penrose, *The Nature of Space and Time* (Princeton: Princeton University Press: 1996), 89-90.

[27] Stephen Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (New York: Bantam Books, 1988), 125.

[28] Roger Penrose, *The Emperor's New Mind: Concerning Computers, Minds, and The Laws of Physics* (New York: Oxford University Press, 1989), 344 (emphasis in original).

[29] Roger Penrose, "Time-Asymmetry and Quantum Gravity," in *Quantum Gravity 2: A Second Oxford Symposium*, eds. C.J. Isham, R. Penrose, and D.W. Sciama (Oxford: Clarendon Press, 1981), 249.

[30] Robin Collins, "The Teleological Argument: Fine-Tuning," in *Blackwell Companion to Natural Theology*, eds. William Lane Craig and J.P. Moreland (Malden, Mass.: Wiley-Blackwell, 2009), 214.

[31] Hugh Ross, "Big Bang Model Refined by Fire," in *Mere Creation: Science, Faith & Intelligent Design*, ed. William A. Dembski (Downers Grove, Ill.: InterVarsity Press, 1998), 373.

[32] Hugh Ross, *The Creator and the Cosmos: How the Greatest Scientific Discoveries of the Century Reveal God* (Colorado Springs: NavPress Publishing Group, 1993), 109.

[33] Steven Weinberg, *A Designer Universe?*, *The New York Review of Books* (Oct. 21, 1999), available at <http://www.nybooks.com/articles/archives/1999/oct/21/a-designer-universe/>.

[34] Robin Collins, "The Teleological Argument," in *The Routledge Companion to Philosophy of Religion*, eds. Chad Meister and Paul Copan (New York: Routledge, 2007), 352.

[35] Robin Collins, "The Evidence of Physics: The Cosmos on a Razor's Edge, An Interview with Robin Collins," in Lee Strobel, *The Case for a Creator: A Journalist Investigates Scientific Evidence That Points Toward God* (Grand Rapids, Mich.: Zondervan, 2004), 134.

[36] Stephen M. Barr, *Modern Physics and Ancient Faith* (Notre Dame, Ind.: Univ. of Notre Dame Press, 2003), 130.

[37] Fred Hoyle, "The Universe: Past and Present Reflections," in *Annual Review of Astronomy and Astrophysics* 20 (1982): 16.

[38] See N. T. Wright, "The New, Unimproved Jesus," *Christianity Today*, September 13, 1993, 26.