

The Attackers: Science's "Laws of Nature": Discovery of Laws Utilized by Christ in His Creation and Maintenance of the Universe, Gen 1:1; Col 1:16–17; Big Bang Theory, General Relativity, & Quantum Mechanics; Leonard Susskind's Rejection of "Reality": Superstring Theory, the Multiverse, and the Theory of Everything

23. In our society today, we are told to accept the discoveries of scientists as truth. A definition of "science" reads this way, "Knowledge ... covering general truths or the operation of general laws especially as obtained and tested through scientific method."¹
24. This definition asserts that "knowledge" includes "truths" and "laws" that are discovered through being "tested" by a "scientific method."
25. This describes those who claim that truth can only be confirmed by empirical evidence. There are quite a number of theories confirmed by the various areas of scientific investigation that have been indeed verified as true and are called laws.
26. Whatever these tests reveal becomes a law of nature which is codified by a carefully structured definition. Those who are so inclined can utilize this new-found law to seek out its inherent applications.
27. As the scientist grows in his knowledge there is an equivalent increase in his capacity for application. Just the same as with a believer who advances in his knowledge of God's plan also increases his capacity for application.
28. How would the believer and the scientist pursue the answer to this question, "How was the universe created?"

¹ *Merriam-Webster's Collegiate Dictionary*, 11th ed., s.v.: "science," 3a.

29. Orthodox theology, which subscribes to the literal-grammatical-historical method of hermeneutics, contends from an analysis of Genesis 1:1 compared with Colossians 1:16–17, that it was created ex nihilo by Jesus Christ.
30. What is the conclusion of the scientific community? Well, it isn't really sure. It considers it absolute truth that the universe originated with a big bang. Scientists assure us they have done the math and the math took them back in time to when the universe was a marble-sized ball of super compressed matter before the big explosion occurred.
31. There is no evidence or proposed theory to answer the question of the cause of this marble-sized ball of matter. The explosion that is described as the Big Bang Theory is defined as follows:

The theory that the universe began in a state of extremely high density and has been expanding since some particular instant that marked the origin of the universe. The big bang is the generally accepted cosmological theory; the incorporation of developments in elementary particle theory has led to the inflationary universe version. The predictions of the inflationary universe and older big bang theories are the same after the first 10^{-35} s.²

32. An expansion on this theory is String Theory or Superstring Theory, conceived by Leonard Susskind in 1970, and is defined by *TechEncyclopedia* as “The belief that all matter is made up of vibrating elements called ‘strings.’ Officially known as ‘superstring theory,’ it differs from traditional physics, in which all matter is made up of ball-like particles (electrons and photons).”³

² “Big bang theory,” *McGraw-Hill Science and Technology Encyclopedia*, <http://www.answers.com/topic/big-bang-theory> (accessed November 19, 2011).

³ “String theory,” *TechEncyclopedia*, <http://www.answers.com/topic/string-theory> (accessed November 19, 2011).

33. With me so far? Me neither! But bear with me. These two theories are attempts to “discover the theory of everything.”
34. Scientists could consult Genesis 1:1 but won’t since they consider the biblical record to be myth, and remain content with theory.
35. My intent is to take the idea of superstring theory and demonstrate what vast assumptions are required to arrive at a theory that proposes to explain the origin of the universe and even the idea that there are numerous other universes, the one in which we exist being one member of the multiverse.
36. In the end we will note that what orthodox Christians classify as divine revelation is accepted by means of faith and what science classifies as theory is also achieved by means of faith. Neither has any proof.
37. We begin by noting excerpts from an article in the July 2011 issue of *Scientific American* in which Peter Byrne interviews Leonard Susskind, a theoretical physicist at Stanford.
38. There is a method in my madness: I want to compare the thinking of one of the most forward thinkers in the scientific community with the record of biblical revelation.
39. Susskind’s theories are developed on assumptions drawn from what are called “complex numbers” that suggest an eleven-dimension universe.
40. Superstring theory taken to its ultimate conclusion suggests multiple universes or what Susskind calls the “multiverse.”

Stanford University physicist Leonard Susskind revels in discovering ideas that transform the status quo in physics. Forty years ago he co-founded string theory, which was initially derided but eventually became the leading candidate for a unified theory of nature. He helped to develop the modern conception of parallel universes, based on what he dubbed the “landscape” of string theory.

Physicists seeking to understand the deepest levels of **reality** now work within a framework largely of Susskind’s making. But a funny thing happened along the way. Susskind now wonders whether physicists can **understand reality**.

Susskind worries that **reality** might be beyond our limited capacity to visualize it. In the 1920s and 1930s the founders of quantum mechanics split into realist and antirealist camps. Albert Einstein and other realists held that the whole point of physics is to come up with some mental picture, however imperfect, of what **objective reality** is. Antirealists such as Niels Bohr said those mental images are fraught with peril; scientists should confine themselves to making and testing empirical predictions. Susskind thinks the contradictions and paradoxes of modern physics vindicate Bohr’s wariness. (p. 81)

Hoping to better understand how the tension between hard evidence and unproved conjecture works at the frontier of physics, we asked Susskind to explain how his ideas have evolved.

Are there any philosophers of science whom you like?

I’m one of the few physicists I know who likes Thomas Kuhn. He got his basic idea right of what happens when the **scientific paradigm shifts**. A radical change of perspective suddenly occurs. Wholly new ideas, concepts, abstractions and pictures become relevant. Relativity was a big **paradigm shift**. Quantum mechanics was a big **paradigm shift**. So we keep on inventing **new realisms**. They never completely replace the old ideas, but they do largely replace them with concepts that work better, that describe nature better, that are often very unfamiliar, that make people question what is meant by “**reality**.”

Then the next thing comes along and turns that on its head. And we are always surprised that the old ways of thinking, the wiring that we have or the mathematical wiring that we may have created, simply fail us.⁴

In the midst of all this remodeling, is there room for such a thing as an objective reality?

The evidence for objectivity is that experiments are reproducible. Do the same experiment over and over ..., and you'll reproduce the same effect.

That said, physicists almost never talk about reality. The problem is that what people tend to mean by "reality" has more to do with biology and evolution and with our hardwiring and our neural architecture than it has to do with physics itself. We're prisoners of our own neural architecture. We can visualize some things. We can't visualize other things.

NOTE: Some things are indeed inscrutable, but things essential to a person's salvation and subsequent spiritual life are made scrutable by means of the filling, teaching, and recall ministries of the Holy Spirit.

Many things have been discovered over time that enlightened us about subjects that were previously assumed inscrutable. Susskind is elaborating on such examples taking place in the scientific world.

He even states that the previously understood levels of mathematics are not retired but rather have served as building blocks that lead to the new discoveries. So even scientists seem to grow in knowledge toward the objective of the sophisticated scientific life.

⁴ These physicists and mathematicians are trying to discover laws that make the universe, or the "multiverse," work and in doing so, assuming their math is correct, they are possibly discovering the physics that Jesus Christ invented in the creation of the universe. Is it held together by gravity (general relativity), quantum theory, or vibrating strings? Whatever the answer happens to be is the reality they seek. Theologians cannot, nor should they, delve into such matters except to evaluate science's claims in the light of biblical revelation. What the Bible clearly reveals in Colossians 1:16–17 is that the universe was created by Jesus Christ (perfect passive indicative of κτίζω [ktízō] v. 16) including the visible as well as the invisible (the latter of which the scientists labor to discover) all of which is held together (the perfect active indicative of συνίστημι [sunístēmi] v. 17) by the omnipotence of Jesus Christ and whatever the laws of physics He uses to accomplish this is the reality the scientists hope to discern. This passage contains the truth that scientists are seeking regarding the origin of the universe. The truth about how He did it is found in the secrets of higher math which theologians are not qualified to pursue and scientists are as yet unable to formulate. Superstring theory is presently no more than an hypothesis but, if proved valid, then we know it was Jesus Christ who created it in eternity past and used it to structure the universe in which we live. Nevertheless, that "particular instant that marked the origin of the universe" is disclosed by the Hebrew word בָּרָא (bara) in Genesis 1:1 and by the Greek (ktízō): instant creation minus previously existing materials.

So I say, let's get rid of the word "reality." Let's have our whole discussion without the word "reality." It gets in the way. It conjures up things that are rarely helpful. The word "reproducible" is a more useful word than "real." (p. 82)

The original goal of string theory was to provide a unique explanation of reality. Now it gives us multiple universes. What happened?

A large fraction of the physics community has abandoned trying to explain our world as unique, as mathematically the only possible world. Right now the multiverse is the only game in town. Not everybody is working on it, but there is no coherent, sharp argument against it.

The universe is very, very big. Empirically we know it's at least 1,000 times bigger in volume than the portion that we can ever see. The success of the concept of cosmic inflation opens the possibility that the universe is varied on big-enough scales. String theory provides Tinkertoy elements that can be put together in an enormous number of ways.

Nobody knows the underlying rules of multiverses. It's a picture. Nobody knows how to use this predictively. This process of eternal inflation just produces bubble after bubble and produces any number of them of every kind.

So that means that the probability for one versus the other is infinity over infinity. We would like to have a probability distribution that would say one is more probable than the other and then make a prediction. So we've gone from what looks like a very compelling picture on the one hand to absurdly trying to measure an infinity of probabilities. If it's going to go down, it's going to go down because of that.

Is it possible to do theoretical physics and not have philosophical thoughts?

The problems that you choose to think about are conditioned by our philosophical predispositions. But I also have a strong sense that surprises happen and put your philosophical prejudices on their head. People have the idea that there are cut-and-dried rules of science: you do experiments, you get results, you interpret them; in the end, you have something. But the actual process of science is as human and as chaotic and as contentious as anything else.⁵ (p. 83)

⁵ Peter Byrne, "Bad Boy of Physics," *Scientific American*, July 2011, 80, 82–83.