

Speculation in Theology

*“The mystery of divine creativity is, of course, ultimately unknowable. The Genesis narrative does not seek to make intelligible what is beyond human ken. To draw upon human language to explain that which is outside any model of human experience is inevitably to confront the inescapable limitations of any attempt to give verbal expression to this subject. For this reason alone, the narrative in its external form must reflect the time and place of its composition. Thus it directs us to take account of the characteristic modes of literary expression current in ancient Israel. It forces us to realize that a literalistic approach to the text must inevitably confuse idiom with idea, symbol with reality. The result would be to obscure the enduring meaning of the text.”—Nahum Sarna, *The JPS Torah Commentary: Genesis**

And now, at last, it is time to ignore the sound, sensible advice of every commentator and do some theology. All of the explanations of physics, all of the intricacies of this creation, and all of the descriptions of computation so far have been to support the ideas in this section. Here, we are going to try to match the physics and the computational speculation about how our world works to what Scripture says about the creation of our world in Genesis 1.

Remember, the interpretation presented here is just a story, just a guess. The reality of creation may or may not be at all like the possible reality suggested here. Nevertheless, we are going to take the previous speculation about the physical nature of our world and see how it fits with the series of events described in Genesis. We are going to attempt to craft a story that is compatible with both Scripture and modern physics. As was mentioned earlier, some parts of it (I think) fit really well. Other parts don't. This speculation is probably not the real answer, but it might illuminate some parts of the process of creation that are otherwise in shadow, or, as Paul said, seen through a glass darkly.

I will use a few pretty simple assumptions to construct the following interpretation of Genesis, the following story.

First assumption: Scripture is literally true. Every event mentioned in Genesis 1 happened exactly the way it is described.

There really isn't much choice about this one. It is hard for me to see the profit in any other way of approaching the task of comparing physics to Scripture. The whole point of this exercise is to resolve the apparent differences between them. It would be hard to be effective at that by first supposing that one of them is wrong or by picking and choosing bits that fit and leaving out ones that don't.

Even with such a demanding assumption, there is still quite a bit of flexibility available for interpretation. The description of creation given in Genesis 1 is sketchy. There is not a lot of detail to constrain speculation. The description also, as far as we know, uses terms that are illustrative rather than precisely defined the way physics jargon is defined. It paints a picture of creation rather than providing a detailed description. As with physics, there is still a lot of wiggle room for us to make up stories.

When approaching Scripture from a literal interpretive standpoint, one runs into a major problem having to do with translation. Genesis was originally written in (ancient) Hebrew. The many translations into English (or any other language) all suffer from the same problem: the correlations between the words and ideas of one language can be very different from those of another language. It's not just that the words have different meanings. The ideas that the words represent are often very different.

To avoid the translation issue as much as possible, the version of Scripture I am going to use here is the original Hebrew. As an example, here is Genesis 1:1:

Hebrew: **Strong's Biblical Usage or Gesenius' Lexicon:**

re'shiyth	beginning, first, chief, choice part
elohiym	rulers, judges, divine ones, angels, gods
bara	to cut, to make by cutting, shape, fashion, create, make fat
eth	indicates next word is object
shamayim	sky, heaven
eth	indicates next word is object

erets	whole Earth, Earth with inhabitants, inhabited land, territory, ground
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The Hebrew and the meanings of the Hebrew words are taken from the Blue Letter Bible, found at blueletterbible.org. For anyone interested in the details of translation, I highly recommend the Blue Letter Bible site. They have an enormous amount of information and just about the best organization of it (considering the task) that I have seen anywhere on any subject. I personally have found the details of translation very interesting; there is a depth and strength in the original Hebrew that, for me, doesn't really come across in most of the English translations.

The Hebrew on the left is Anglicized: the spelling is more like English than it technically should be. The meanings on the right are short synopses of the definitions given by Strong and Gesenius. One bit of warning: the short definitions were picked out from descriptions that sometimes go on for pages; there is, without doubt, a "slant" in the meanings given here that will tend to support my speculation. I've tried not to stray from the meanings presented, but there are many cases where the physical perspective of our speculation has an impact on the translation of the word.

Even for experts like Strong and Gesenius, there is often some guessing about the original meaning of ancient Hebrew words. Some words have changed their meanings over hundreds and thousands of years, and the original meanings must sometimes be deduced from the context they are used in and the meanings of similar words in other languages. There are a few cases (especially for "bara," more on this later) where a meaning that is derived from context changes because our perspective on what is being described will change as part of our speculation.

Second assumption: The science and natural philosophy that have been derived from what we see in the world around us are basically correct. The logic here is the same as it was for the first assumption: it would not be profitable to start a comparison of science and Scripture by assuming that one of them is wrong. Again, the whole point here is to try to resolve the differences, not to cover them up.

Third assumption: The Feynman-Stueckelberg interpretation of antimatter, and by implication, the block universe or eternalist theory of time, is correct.

An aside for readers who cannot resist the temptation to jump straight to the end of a book to see how it all turns out: if you do not already know exactly what the preceding sentence means, I strongly recommend that you go back and read the section on physics before going any further. What comes next is not going to make any sense at all to a normal person with a strong grip on reality. A good dose of modern physics is vital for a proper doubt regarding the reality of this world.

Feynman-Stueckelberg and the eternalist universe imply that spacetime exists all at once and that it was created all at the same instant (the same “day”), from top to bottom, from back to front, from side to side, and from beginning to end. I mentioned way back in the introduction that Feynman-Stueckelberg is the key theory that unlocks the consolidation of Scripture and science (and natural philosophy). Right here is why that’s true:

The largest stumbling block to resolving Scripture and science has always been the different timescales: the six days of creation set against the millions and billions of years of geology and cosmology. Feynman-Stueckelberg can be used to turn that stumbling block into smooth pavement.

According to the third assumption, Genesis 1 does not describe a sequence of events that happened chronologically in the way that we think of events as happening one after another in our time. Genesis 1 describes a sequence of changes to a spacetime that are each applied over all of spacetime, from beginning to end, to build this creation from the foundation up, layer by layer, with each later layer depending on the ones before it.

This “all at once, layer by layer” sort of viewpoint is necessary to resolve both the timescales and some differences in sequence between the scriptural description and what we see in the natural philosophy. For example, in Genesis 1 plants appear early in the creation, on day three. Animals appear later, on days five and six. In the fossil record studied by natural philosophers, however, animals appear first (542 MA in the sea, 425 MA on land), with plants showing up a bit later (423 MA for small land plants, 385 MA for seed-bearing plants, and 140 MA for flowering plants “yielding

fruit”). All of the dates are radiometric, based on radioactive decay rates; it is possible that the actual dates may be off in one direction or another, but the sequence should be correct. (As a reminder, “MA” stands for “mega anna”: one million years ago.)

With the Feynman-Stueckelberg view of time (all of time is simultaneously existing), plants could have been sprinkled into spacetime at whatever dates suited God’s purpose. It was only necessary to put them into the creation before the animals so that the animals would have something to eat when they got here. Plants show up in the fossil record at roughly the same time as land animals, who would have needed something to eat. Early marine animals mostly ate prokaryotes and Protista that were already present in the oceans.

Fourth assumption: This creation is a computational model. This is actually more of a guideline; the first three assumptions are required for our speculation, but this one is really optional. There are some reasons to include it, but they are reasons of convenience, not reasons of necessity.

First of all, the assumption that this creation is a computational model eliminates (for the sake of the speculation) the notion that any of creation is in any way “supernatural.” What we are attempting here is a comparison of true physics to true Scripture. In order to do that, we have to start by assuming that the Scripture is compatible with the physics and that the physics is compatible with the Scripture; the only reason to apply the term supernatural to any part of Scripture is that we don’t understand the physics, not that Scripture is not compatible with the physics.

The notion that this “reality” is a computational model is a really handy tool for this attempt. It frees our minds. It allows us to measure the events of Scripture by what is possible in a computational model, not by what we think is possible in a physical world that is itself only a part of the model.

Next, the idea that this creation is a computational model is an application of Ockham’s Razor. When we prepare for large, expensive projects, we often use computational modeling to help work out the details. We do this because it is the fastest, cheapest, and easiest way to explore the repercussions of what are often hundreds or thousands of choices in how the details may be done. It may be possible that a process similar in some ways to what we do in computers could be used by God—for similar reasons or for different reasons that are completely unknown to us. (Apologies for the vague statement, but I think it is important to remember that, with our current state of

knowledge, we cannot legitimately step any closer to certainty.)

Finally, a computational model forms a pretty reasonable allegory for creation. It allows us to interpret the events described in Genesis 1 in ways that are (relatively) easy for us to understand, to use words and concepts from our world that can make creation more familiar. Remember, though, that a computational model is only an allegory; it is useful to help organize the interpretation, but it is (probably) not the whole truth.

Remember always that the parts of the interpretation coming up that look like allegory, like the story in the Scripture, should be assumed to be literally true. The parts that look like they are literally true, the descriptions of physics and computational activities, should be thought of as allegory — as just a story.

Genesis 1:1

“In the beginning, God created the heavens and the earth.”

Hebrew: **Strong’s Biblical Usage or Gesenius’ Lexicon:**

re’shiyth	beginning, first, chief, choice part
elohiym	rulers, judges, divine ones, angels, gods
bara	to cut, to make by cutting, shape, fashion, create, make fat
eth	indicates next word is object
shamayim	sky, heaven
eth	indicates next word is object
erets	whole earth, earth with inhabitants, inhabited land, territory, ground

In most English translations, Genesis 1:1 is rendered as a first, broad introduction, with additional details filled in later. It is tempting to think of this sentence that way, as a sentence that we skip over to get to the interesting part, but it is not. In this interpretation of Genesis 1, Genesis 1:1 is a key verse: a place where the physics interpretation fits the best. This is because the meaning of the Hebrew word *bara* may