+shammai1101+

A message to creationists: It’s time to see the light!

Shammai Engelmayer

Last Shabbat, as 5780 got underway, we began anew the annual Torah reading cycle with the biblical account of Creation. Last January, 2019 got underway with renewed efforts in five state legislatures to pass so-called creationist bills. Often disguised by such euphemisms as “creation science,” “intelligent design theory,” or “emergence theory,” these would-be laws advocate teaching a fundamentalist Christian belief of Creation in the nation’s public schools to the detriment of actual science. The efforts failed, but they surely will re-emerge in 2020.

What these “cretionists” do not understand (or want to understand) is that the more science discovers about the origins of the universe and all it contains, the more support science gives to the biblical text.

Some examples must suffice (mainly because of limited space).

First, though, please understand that Judaism has never been wedded to the literalness of every word in the Torah. We accept the literal truth of what it says, but not necessarily the literalness of how it expresses that truth. There are concepts that go beyond human understanding and the Torah, which is meant for us humans, often expresses those concepts, those truths, in a way we can understand. For example, while we believe God created the world in “six days,” we do not understand what it means by “day” or even what is meant by “God created.” As our Sages of Blessed Memory put it (see the Babylonian Talmud tractate B’rachot 31b), “The Torah speaks in the language of humankind.”

Let us, then, compare what Genesis 1 actually says to what science says, beginning with several seemingly incredible statements in its opening verses.

1) The universe was created in a moment in time, seemingly out of nothing. That is what Genesis 1:1-2 appears to say and what science also says. Genesis 1:1-2, however, also suggest that some things existed before Creation, and so do more recent scientific discoveries. Based on theories of quantum physics, for example, some scientists maintain that invisible particles exist in vacuums, making creation out of “nothing” possible. A Swedish research team successfully demonstrated this in 2011.

2. Creation begins with a burst of light; so says Genesis 1 and so says science. Science calls this light the primeval fireball (popularly known as the “Big Bang”). Science says this “light” brought all matter and energy into being. Many of our Sages of Blessed Memory said the same thing. Bringing this light into existence was all God did, they said; the rest of Creation flowed from it and all that follows in Genesis 1 is merely metaphor for a natural evolutionary pattern. The midrash, for example, tells us God created the world “only by a word—‘Let there be light.’” (See Midrash Genesis Rabbah 3:2) The kabbalistic text the Zohar said that from this light everything else was created. (See The Zohar, Part B, 220b)

3. God separated the light from the darkness. We know darkness to be the absence of light, so this seems absurd. It is not absurd, says science. Immediately after the Big Bang, its light was “trapped,” probably inside the dark plasma it itself produced. Atoms and electrons suddenly appeared, as well. As the nuclear physicist Dr. Gerald L. Schroeder once explained it, “the ‘breaking free’ of light [occurred] as electrons bind to atomic nuclei….This is described in Genesis 1:1-5 as the creation followed by light separating from the darkness.”

As we move on to Day Two, we are told the universe began in a liquid state, more or less. So does science, as reported by Associated Press science writer Matt Crenson on April 18, 2005:

“New results from a particle collider suggest that the universe behaved like a liquid in its earliest moments….Between 2000 and 2003 [scientists at the Brookhaven National Laboratory on Long Island used the collider to reproduce]…the conditions of the early universe…. ‘The matter that we’ve formed behaves like a very nearly perfect liquid,’ [one scientist] said….”

For Day Three, we find two seemingly incredible statements:

1. Verse 9 tells us the planet’s waters “gathered into one place” so the dry land could appear. In other words, waters actually gathered in one place and, when the dry land appeared, the planet had its first land mass, a single continent.

2. Verse 12 tells us plant life also appeared. There is no sun until Day Four, yet we have vegetation in the latter part of Day Three. How is that possible?

The Earth, science tells us, has undergone at least five major ice ages. During an ice age, large parts of the planet’s surface are covered with ice. In other words, the waters “gather together” to form huge chunks of ice. The planet was in such an ice age 300 million years ago at the beginning of the geologic phase known as the Permian Period. The waters “gathered” and a single land mass—Pangea—emerged. An earlier land mass from the first ice age 2.5 billion years ago probably disappeared because the planet was still in a liquid state.

Science tells us that one feature of the Permian Period was the appearance of vegetation that seemed to have emerged from nowhere. According to the Cambridge Encyclopedia of Earth Sciences, this was “the one evolutionary event on Earth that could have been recognized from space…,” so dramatic was it.

And so we come to Day Four, when the sun, moon and stars come into being, according to the Torah (keep in mind that the text is now focused solely on Earth).

First, the Torah seems to tell us that the sun and moon are the same size, whereas the sun is 400 times larger than the moon. The Torah, however, as noted, speaks in terms we can understand. When we see a total solar eclipse—such as one seen this past July 2—we see the moon completely blotting out the sun. The two appear to be the same size because, while the moon is 400 times smaller than the sun, it is also about 400 times closer to Earth. It is simply a matter of perspective.

Second, the Torah text claims that the heavenly lights, among other functions, control the seasons, but supposedly that is the sun’s job, not the moon or the stars. Not so, according to a NASA website (see https://Earthobservatory.nasa.gov/features/Milankovitch), because the sun’s rotation around the Earth is dependent on the gravitational pull of nearby planets, of which the moon is by far the closest. Simply stated, the sun needs the moon and other heavenly bodies in order to regulate the seasons.

That brings up the most difficult question: The sun came into being long before the Earth did (the moon came much later). Yet the Torah puts it in Day Four. So does science, from a practical standpoint. The Earth is almost 5 billion years old. It was only about midway into the planet’s emergence (meaning nearly 2.5 billion years ago) that the sun played any role in Earth’s development when it broke through a thick cloud cover, sparking what is known as the Great Oxidation Event, meaning that was when the oxygen needed for life to take hold appeared for the first time.

That leaves us with Days Five and Six. Science tells us life began in the waters. So does Genesis 1:20, but what life? The “waters bring forth swarms of living creatures,” it says. An amoeba is a living creature. Eventually, that life emerges onto the planet’s surface (Day Six).

One thing that irks the creationists the most is the notion that humans are descended from the apes. Actually, the Torah says we and all other creatures descended from the same source. According to the biblical commentator, grammarian, and philosopher Joseph ben Abba Mari Ibn Caspi (he was born in 1279 and died in 1340, long before Charles Darwin), all creatures—in the sea, in the air, on the ground, from the smallest to the largest—are “*k’ilu avoteinu*,” meaning “they are like our ancestors.”

The Torah says Creation was evolutionary. It came about in stages, each lasting for an indeterminate amount of time. It started with a burst of creative light that came out of absolute nothing or almost nothing. It followed the laws of nature and physics and it took a long time to complete. God never said “poof, let there be a tree.” He said, “Let the earth bring forth” and it was so—in the earth’s natural way.

Fundamentalist Christians want our schools to teach Creation as it actually happened, meaning as Genesis 1 records it. Clearly, teaching evolution does just that. It is the creationists who need to be educated about what the Bible—our Bible, to be exact—actually says.