

Drash on Bereishit – October 26, 2024 – Claire Max
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Shabbat Shalom!

And welcome to Creation!

Parashah Bereishit has it all: The seven days of creation culminating in Shabbat; Gan Eden with Adam, Eve, and the serpent; then Cain, Abel, and Adam's whole lineage down to Methuselah; finally Noah, who found favor with Adonai. It covers the early years both of the Universe and of Humankind.

This is a lot to take in! So today I want to concentrate on the very first section of Bereishit, the seven days of creation and in particular the key role of Light.

According to Parasha Bereishit, creation began with light.

וַיֵּאמֶר אֱלֹהִים יְהִי אוֹר וַיְהִי-אוֹר

וַיַּרְא אֱלֹהִים אֶת-הָאוֹר כִּי-טוֹב

I invite you to sing or hum just these two verses with me:

Vayomer elohim y'hi ohr

Vayehi ohr

Vayar elohim et ha ohr

Et ha ohr ki tov.

And God said "Let there be Light"

And there was Light.

And God saw the light, that it was Good.

Rabbi Joshua Stanton points out that the Koran also uses the metaphor of Light (Sura 24:35):

Allah is the Light

Of the heavens and the Earth ...

Light upon Light:

Allah doth guide

Whom He Will

To His Light.

Psalm 104 uses this striking metaphor: “[God] wrapped Himself in light like a garment and spread out the heavens like a curtain.”

But when you try to look more deeply than these very poetic images, the Biblical creation of light wasn't so simple.

As Rabbi Geoffrey Mitelman wrote:

"Why begin with Light? How do we make sense of the fact that light is created even before the Sun and the Moon and the stars, which in our world are the sources of light? It seems that it is the first Light in Bereshit that catalyzes all the rest of creation."

A drash from Temple Beth Miriam said this:

"If the light was created on the first day and the sun and the moon that provided light created on the fourth day, where did the first light come from? The question was asked by the Rabbis and, in the Talmud they teach this: “Rabbi Eliezer said that the light of the first day and the fourth day were different lights. The fourth day’s light was the light used to illuminate the physical world and the first day’s light was to illuminate the spiritual world.

That first light, that spiritual light, is a light of a completely different kind. It has no physical qualities. It can't be quantified or studied in a laboratory. Yet it is real.

This light of our moral and ethical life is available to everyone. God said that creating people was a 'good' thing because God saw that there were people who could grasp this light and bask in it. But those people are too few. The light is still here, though, and God is waiting for us to look at it. If we do, then perhaps each of us can be a pillar that holds the world up and be accounted as one of those in whom God put His trust and continue the 'good' that began at the beginning."

I found this thought quite moving.

One more question about the first words in our Parashah: Was there something before this creation? "Bereishit barah Elohim et ha'shamayim ve et ha'aretz." Traditionally this has been translated "In the Beginning God created the heavens and the Earth." But a good case can be made for an alternate way to understand this. Rashi says (roughly) "At the beginning of the creation of heaven and earth." Uri Alter's translation says "When God began to create heaven and earth." Both of these translations leave open the possibility that God existed before this creation; time did not start in Parashah Bereishit. Likewise, some theories of modern cosmology have pre-Big Bang scenarios: Is our Universe the offspring of another, older Universe? Did our Universe bubble out of a previous one? Was the period before the Big Bang cold and dark? We may never know.

Now, as a scientist, I can't resist moving on to the "second light" in the creation story, the one from the sun, moon, and stars that illuminates our physical world.

Here I want to follow advice from Daniel C. Matt, who said "The purpose of science is to explore nature, while the purpose of religion is to foster spirituality and ethics. But the question "How did the world come to be?" is vital to both disciplines because it is so fundamental." Instead of viewing Biblical Narrative and Science as competing with each other, Matt advocated placing of them side by side, so that insights from each can illuminate the other.

So even though I will not be looking in the Biblical Creation Story to find a scientific description of the Big Bang origin of the Universe, there are fascinating metaphorical parallels in Rabbinic literature of the concept of the universe starting very small and then expanding outwards.

An early rabbinic source, midrash *Tanchumah* (about the year 10 CE) states that when God created the world it was not even as big as the black center of an eye.

More than a thousand years later, one of the most important biblical commentators, Nachmanides the *Ramban*, characterized the size of the universe to be smaller than “a grain of mustard.”

Keep this in mind as I now describe the contemporary theory of the universe's creation: the Big Bang. I'll be building on some of the ideas of Daniel C. Matt's book, "God and the Big Bang"¹.

13.6 billion years ago, there was the Big Bang. An extremely hot dense seed contained all the mass and energy of our universe. (Remember what midrash *Tanchumah* and the *Ramban* said?). Starting out at the amazingly hot temperature of 100 million trillion trillion degrees, the tiny seed immediately expanded wildly and started to cool. It expanded not INTO the universe; it BECAME the universe, with all of its matter and energy. In less than a trillionth of a second, the Universe had inflated into the size of a grapefruit. As it cooled and the expansion slowed down, individual protons and neutrons started to precipitate out of the hot dense undifferentiated cosmic fireball.

After a few seconds to minutes, things cooled down enough for some of the protons and neutrons to merge to form into simple nuclei, still bathed in a sea of radiation, or photons: atoms heavier than hydrogen, such as helium and lithium. Every atom heavier than lithium was made much later inside stars, once the universe was cool enough for stars to form. Remember Carl Sagan's poetic phrase: “we are made of star-stuff”.

But what happened to the primordial Light? For the first 400,000 years, the environment was still so dense that the light couldn't get out - an earthly analog is a very dark dense smoky fog. Only after enough expansion of the Universe could the photons of light break free from the ball of matter and energy, and fly away through space in all directions. We say that matter and radiation then "decoupled" and the universe became transparent.

Here is the scientific moment of Yehi Or, let there be light - light that we humans, living today, can see.

Today we see that first escaping light as the Cosmic Microwave Background, since the expansion of the universe has degraded the initial super-hot gamma-ray light

into lowly cold microwave light. So we know for sure what the universe was like 400,000 years after the Big Bang.

But not all aspects of this picture are understood yet.

Why does the expansion rate of the Universe seem to be slightly different at the earliest times than in the immediate past? How do full-fledged galaxies form so quickly after the Big Bang? What are Dark Matter and Dark Energy really made of?

The media like to say "Oh No, Cosmology is Broken" (!!!) It makes good headlines. But I don't see it that way. Science progresses when previous theories no longer agree with new observations. Some would say the older theories are "broken". But that's how science is supposed to work. We keep learning.

In conclusion, I'd like to return to an idea I spoke of earlier, from Temple Beth Miriam:

God said that creating people was a 'good' thing because God saw that there were people who could grasp the early spiritual light, and bask in it. But those people are too few. However the light is still here, and God is waiting for us to look at it. If we do, perhaps we can be counted as one of those continuing the "good" that began at the creation.

Ken yehi ratzon. May it be so.

Shabbat Shalom.

Some Sources and Inspirations for this Drash:

Rabbi Joshua Stanton, in "Seven Days Seven Voices", Rabbi Benjamin David, ed. (CCAR Press, 1977)

"Bereishit: What Light?" October 23, 2012, Temple Beth Miriam (www.templebethmiriam.org)

"God and the Big Bang, Second edition", Daniel C. Matt, Jewish Lights Publishing, 2016

Writings of Gerald Schroeder, including "Genesis and the Big Bang" and "The Ramban, Elisha and a Pot of Oil: How the Universe Makes Itself"

Writings of Rabbi Geoffrey Mitelman