



## DIVREI MENACHEM

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# Ma Rabu Ma'asechah!

Parshat B'reishit has a charm of its own, if that's a suitable way of expressing it – for we are bound to turn our thoughts once again to the marvel of Creation. Scientists abound today in their efforts to figure out how the world began: The Bing Bang, black holes and black matter, the expansion of the universe, the fundamental building blocks of matter, energy and matter, and string theory – you name it!

Not surprisingly, out there are scientists who are orthodox, practicing Jews who have devoted time to reconciling scientific approaches to Creation with the Torah's account of this enigmatic and mysterious occurrence. Several books on this subject are out there with interesting titles that include “*The Science of Torah*,” “*In the Beginning*,” and “*The Creation According to Midrash Rabbah*.”

The field is fascinating in and of itself. By way of a teaser, the Midrash (B'reishit 3) asserts that six things *preceded* the creation of the world: “Some of them were actually created, while the creation of others was already contemplated. For example, the

Torah and the Throne of Glory were created. The Torah [was created], for it is written, ‘The Lord created me at the beginning of His course’ (Mishle 8:22)”.

Or we might be searching for an explanation of Creation *ex nihilo* which, on the surface, contradicts the well-known and accepted laws of nature, such as the law of conservation of energy.

We shall here borrow an interesting revelation on the compatibility of Torah and science extracted from a paper delivered by Mordechai Olesky, an agriculturist, in the Fourth Miami International Conference on Torah and Science, December 2001, and reprinted in the journal *B'Or Hatorah*, 2004.

The author compares the Torah's account of the planet earth's building blocks, namely, fire, air, water and earth, alluded to in the first ten verses of our Parsha, with the primary forces of nature that determine the abundance and distribution of life, namely, the sun (and the energy it provides), the wind currents, the hydrological cycle, and soil. Aspects of these latter phenomena interact in the carbon cycle – the dual processes of photosynthesis and respiration.

Notably, the reactants of photosynthesis are carbon dioxide, water, and sunlight, in

the presence of chlorophyll. Of particular note to our discussion is that the total number of protons in a single molecule of water is *ten* – the number of utterances with which the world was, and continues to be created (Rosh Hashana 32a) – and in carbon dioxide, *twenty-two*, corresponding to the number of letters in the Hebrew alphabet, of which the divine utterances are composed. Olesky's mathematical formula for photosynthesis reveals, in addition, that the total number of atoms in the complete formula equals 54, the same as the number of Parshiot in the Torah, whereby the Torah is the "blueprint" of all of creation.

What does all this mean? Rabbi Shneur Zalman of Liadi suggests that in line with the Jewish tradition that the creation of the universe was "something from nothing," so are photosynthesis and the growth it generates equivalent to that notion: When one tree's seed gives rise to an infinite number of other trees, it is likened to creation of something from nothing.

Olesky concludes that the compatibility of the two descriptions of Creation – one

that talks of holy utterances composed of Hebrew letters and the one that reflects chemical processes – "leads us to hypothesize that B'reishit is describing a primordial level of creation which (correspondingly) gives rise to the observable one that science locates."

Perhaps we are just left to exclaim: "*Mah Rabu Maasecha Hashem Kulam Bechachmah Asita Malah Haaretz Kinyanecha*" – 'How great/many are Your deeds Hashem. All of them You have made with wisdom –the earth is full of Your creations' (Tehillim 104:24). ■

Shabbat Shalom!

*Menachem Persoff*

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