

## Parallel Thinking Part 10: The Age of the Universe II

by Rabbi Rabbi Dr. Moshe Freedman, New West End United Synagogue



The last article discussed the scientific calculation of the age of the Universe – 15.8 billion years. We briefly outlined three approaches to reconcile this evidence with the account of Creation in the Torah (which dates back only

5777 years). The first approach is to accept the Torah's account of Creation as literally true and explain its discrepancies with science by attempting to disagree with the scientific evidence.

Proponents of this approach question the assumptions made when scientifically calculating the age of the Universe or age of the Earth. For example, the calculation that the Earth is 4.5 billion years old is based on measuring the proportions of various radioactive elements which change at a constant, measurable rate, due to radioactive decay.

Yet what if those changes were not always constant? If the rate at which radioactive elements decay had been affected by the extremes of temperature and pressure that existed at the formation of the solar system, it would undermine the validity of the calculation. Since we cannot know with certainty that these decay rates are constant, 'Torah literalists' state that they have enough reason to doubt scientific evidence and to keep faith in the literal truth of the Torah.

However, scientists have tested the constancy of decay rates. In 1972, nuclear scientist G. T. Emery published a paper detailing attempts to alter radioactive decay rates using extreme temperatures, pressures and magnetic fields. This included putting a sample of radium inside a steel-encased cordite bomb, which produced temperatures of 2,500°C and a pressure around 1,000 times more than the Earth's atmosphere. Yet there was no change in the radioactive decay of the sample.

One could also ask the question the other way round. If the Universe and Earth are only 5,777 years old, what would the decay rate of these radioactive elements have to be in order to make us falsely believe the Earth is 4.5 billion years old? In an article entitled, 'Were Adam and Eve Toast?' Professor Joe Meert notes that the radioactive decay rates necessary to produce such results would have generated enough heat to melt the Earth long before life could have existed.

To circumvent these difficulties, other 'Torah literalists' have turned to the 'young-earth model', in which God created the Universe 5,777 years ago with a past history that made it appear older than it was. This accepts all of the scientific evidence as technically true, but views it as a smokescreen for an Earth which is actually much younger.

While the 'young earth' argument is logically sound, it implies that God has deliberately deceived us into believing the world is older than it is. Rabbi Dr. Dovid Gottlieb (a contemporary scholar and philosopher in Jerusalem) justifies this by arguing that this obscuring of reality helps to hide God and facilitates Free Will. Yet while Free Will is a fundamental axiom of Jewish belief, many disagree with the notion that God has deliberately misled us. The Midrash states that God created everything in this Universe except for falsehood.

Next week's article will consider the idea that each day of Creation in fact encompassed many billions of years.

