

Book Review: Genesis and the Big Bang: The Discovery of Harmony Between Modern Science and the Bible

Genesis and the Big Bang: The Discovery of Harmony Between Modern Science and the Bible

Author: Gerald L. Schroeder

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Genesis and the Big Bang is the attempt by Dr. Schroeder to present a harmonious interconnectedness between modern scientific knowledge and creation as presented in the Book of Genesis. Dr. Schroeder uses paleontology, archaeology, geology, physics, mathematics, chemistry, and biology as well as the Torah, Talmud, and Biblical commentaries – mostly from Nachmanides and Maimonides – to show that there is harmony between science and the Bible. Dr. Schroeder makes the case that what we read today in the creation story from Genesis is in fact based upon scientific truths that were discovered thousands of years after the Book of Genesis was written. Dr. Schroeder shows that there is a harmony between science and Torah and neither one must be replaced by the other.

Dr. Schroeder summarizes his beliefs and goals of the book as follows:

The biblical narrative and the scientific account of our genesis are two mutually compatible descriptions of the same, single, and identical reality. My goal in this book is to explain that compatibility to expert and layperson alike. (pp. 12-13)

In *Genesis and the Big Bang* Dr. Schroeder argues that there is no argument and no incompatibility between the time span of the biblical calendar and archaeology. There are in fact no conflicts between the biblical chronology and the scientific chronology for the entirety of the 57-centuries of the post-Adam period. Dr. Schroeder points out that the match of the biblical and archaeological dates for the beginning of the Bronze Age is very important because it happened between the time of Adam and the Flood of Noah. This helps to counteract the argument the flood of Noah altered the fossil record. The crux of Dr. Schroeder's argument lies in the thought experiments of Albert Einstein. The idea presented by Einstein that when an event is viewed from two different perspectives there is the inevitability that one perspective may view a billion years of time while the other perspective may view only a day.

Nachmanides and Maimonides both taught that prior to the creation of the universe space did not exist and time also did not exist. This is in complete agreement with what cosmologists and physicists have learned about "time" prior to the Big Bang. In addition, Kabbalists have taught about the retraction of God and the expansion of the universe. Einstein – through his theory of relativity – also proved that the universe is continually expanding. In addition, the discovery of the Doppler shift and background radiation also support the notion of the Big Bang leading to the creation and expansion of the universe. The Kabbalists taught that there are ten "sephirot" – only

four of which can be experienced by humanity. Physicists now teach about string theory in which there exist ten dimensions – only four of which we can experience in our everyday life.

We are taught in Genesis 1:2-4 that “light” was created before the existence of the heavenly bodies. According to modern science there was in fact a “light” that was in existence before the formation of the heavenly bodies. This light was in the form of gamma rays which are not visible to the human eye. The idea of the first light being invisible to the human eye is supported by both the Talmud and science. The separation of the light from the dark (Genesis 1:4) is in complete compatibility with science. According to scientific studies, light was held within the initial mass after the Big Bang until it was freed by the “binding of electrons into atomic orbits” (p 89).

Throughout the story of creation we see the words “and there was evening and there was morning.” While at first this doesn’t appear to be related to any scientific notion, Dr. Schroeder states that the Hebrew terms are important. Evening (erev) implies that objects become blurred and obscure while morning (boker) implies that objects become distinct and clear. This is in complete compatibility with the idea of order coming from chaos within the scientific understanding of the beginning of our genesis. Along with the idea of order coming from chaos, Dr. Schroeder explains that due to the geological and biological fossils of early organisms there is no chance that life on earth could have been an act of randomness. The idea that life began on earth very quickly after the earth was habitable – as well as the perfect positioning of the Earth itself – supports the idea of a creator rather than a random series of events.

According to the Book of Genesis on the third day we see plant life being created. Dr. Schroeder argues that scientifically this would have been a necessary step for the habitability of the planet. These green organisms would have helped to clean the air of the toxins from the formation of the Earth and would have also helped to produce the needed oxygen in the atmosphere. In addition, the ozone layer was also created by this oxygenated atmosphere which helps to shield the earth from the more harmful radiation of the Sun.

Geologists and paleontologists have found that the fossil record shows the folly of the “missing link” theory. The fossil record however also “does not show a journey ruled by chance, or prove an unhindered march in the survival of the fit” (p. 146). There are indications within the fossil records that show that there were human-like creatures that existed for the past million years (and maybe even longer). This is not incompatible with the idea of the biblical creation of mankind. Maimonides taught that in the time of Adam there existed animals that had the appearance of humans and intelligence like the other animals but they were not made in the “image” of God – that is what makes man unique.

Dr. Schroeder sums up *Genesis and the Big Bang* by expressing the idea that while there is a lot to learn from specialists within the scientific community we must be aware that the specialists do not hold all the answers. This fact forces people to look elsewhere for information as to the causes that underlie our current existence. However, it must be emphasized that two systems of

thought – biblical and cosmological – that developed independent of the other “provide similar answers to several complex questions” (p. 151). Dr. Schroeder emphasizes that it is up to each individual to decide if he or she wishes to follow the biblical tradition or the secular/scientific tradition.

Genesis and the Big Bang is an excellent read for anyone interested in learning how the Torah’s story of creation and recent scientific discoveries are compatible with one another. The idea of the fusion of the Bible and science is compelling and is well-written and well formulated by Dr. Schroeder.

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