

DINOSAURS AND THE FLOOD

How Do We Relate to Prehistoric Monsters?

In discussing whether it was necessary to inspect the site of the preparation of the *parah adumah* to see whether any human bones were present, the Gemara considers whether dead bodies from the *Mabul*, the Great Flood, were embedded in the ground. Rabbi Yochanan maintains that the Flood waters did not cover Eretz Yisrael and therefore, there should be no concern for such randomly buried corpses there. Resh Lakish argues that inspection for bones is required because the Flood waters covered even Eretz Yisrael.

THE MAMMOTH GAZELLE

In the course of this discussion, the Gemara wonders how one of the largest animals, the mammoth *re'eim*, managed to survive the Flood. Mentioned later in the Torah (*Devarim* 33:17), it clearly survived. Still, it was too large to fit into Noah's Ark. It is suggested that baby *re'eim* cubs were brought into the Ark. Still, the Gemara rejects that contention based on Rabbah bar bar Chanah's description of this animal in *Bava Basra* 73b. In one of a series of visions, he saw a one-day-old *re'eim*, the size of Mount Tabor (around 1,900 feet tall), with its neck stretching three *parsaas*. However one calculates these measurements, it must have been a beast of immense proportions, too large to fit into the Ark. Resh Lakish resolves the problem of its survival by saying that its horns were tied to the outside of the Ark, with the tip of its nostrils inserted into the Ark. The beast was dragged along with the giant Og and the boiling waters around the Ark were cooled to enable their survival.

PARALLEL MIDRASH

Bereishis Rabbah (31:13) also describes the preservation of the *re'eim* mammoth during the Flood. One opinion states that the *re'eim* survived because their cubs were taken into the Ark. The other opinion denies that even cubs were allowed in, but the species was saved because Noah tied it to the outside of the Ark. The Midrash adds that due to its immense weight and strength, the *re'eim* cause mile-deep ruts in its wake, as it bobbed and swayed behind the Ark. The Midrash cites *Iyov* (39:10): "Do you have the power to tie a *re'eim* with a rope so that it would dig furrows in the earth, as Noah tied it to the Ark at My command? Would he hoe valleys behind you as he did behind Noah's Ark? We see the same idea of a reluctance to allow mammoth animals into the Ark, yet it survived by being tied to the outside. What is the significance of the deep furrows created by its feet?"

FACT OR IMAGINATION?

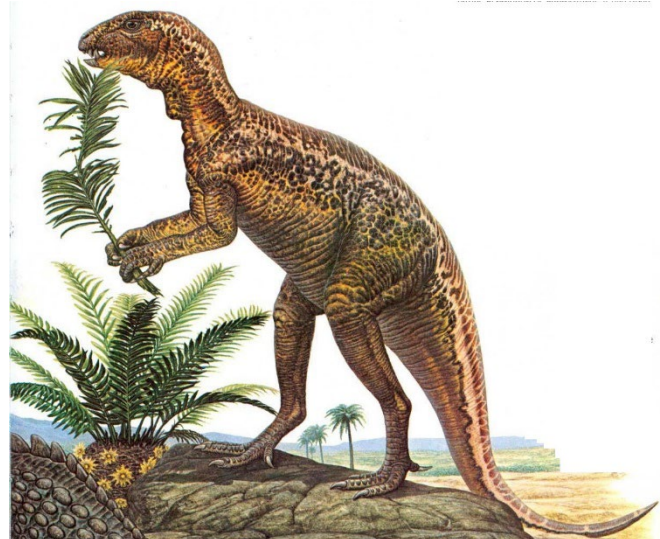
The series of visions of Rabbah bar bar Chanah in *Bava Basra* is undoubtedly classic Aggadata, intended to be understood homiletically rather than literally. It is therefore astonishing that the debate in *Zevachim* regarding the halachic requirements for preparing the *parah adumah*, should draw on such a passage to prove a halachic point. The implication is that, despite being a vision, the description of the Flood's circumstances is a reality. Rav Yaakov Ettlinger, the author of *Aruch L'ner*, asks how one can prove *halachah* from *aggadata* and suggests that the Gemara's debate draws on aspects of the story needed for its purpose (*Minchas Ani, Bechukosai*, p. 283). The Ben Ish Chai also raises this problem and suggests that the Gemara debates the story's literal implications in the manner of Talmudic give-and-take, as an educational exercise to sharpen the student's minds (*Ben Yehoyada*). However, Tosafos takes the reality of this passage one step further by attempting to deduce the kashrus status of the *cheilev* of their own smaller local buffalo species. Tosafos clearly understands the *re'eim* species to have been huge, taking the Gemara as factual.

DISCOVERY OF DINOSAUR FOSSILS

Thus, notwithstanding possible hyperbole in this description of the *Mabul*, it demonstrates that *Chazal* recognized the existence of giant animals. Indeed, the Torah refers to the *taninim hagedolim*, monstrous mammals. Since the discovery of dinosaur fossils in the 1840s, our Rabbanim have sought to reconcile new scientific discoveries with Jewish tradition. The seemingly insurmountable problem was dating the fossils back over 100 million years in contrast to our traditional chronology. Another discovery is frozen specimens of enormous woolly elephant-like mammoths, dated to 50 million years ago.

RECONCILIATION

Without going into an elaborate discussion about the age of the universe, there are four basic approaches to reconciliation. The earliest approach was by Rav Yisrael Lipschitz, the *Tiferes Yisrael*, based on midrashim stating that before this world, HaShem created many other worlds and destroyed them – *boneh olamos umachrivon*. According to this thought, dinosaurs and woolly mammoths would have lived independently of each other in two of these prior worlds. Rav Aryeh Kaplan makes a fascinating calculation to reconcile the scientific



age of 15 billion years with Jewish sources. (Rav Aryeh Kaplan has special personal significance for me, as I just had a great-grandchild named after him – my grandson is married to his granddaughter). Kabbalistic sources expanded on this, revealing that seven cycles were repeated seven times. On the basis that HaShem's years are counted in multiples of one thousand, Rav Aryeh Kaplan computed that the first six cycles, 6 times 7,000 years, produce the figure of 42,000. Each day of HaShem is equivalent to 1,000 years, so that each year has 365,250 years. When 42,000 is multiplied by 365,250, it yields 15.34 billion years, which scientists identify as the age of the universe. Thus, the large, fossilized creatures discovered may belong to a different era long before the creation of our world (Immortality, Resurrection and the Age of the Universe, a transcribed lecture by Rav Aryeh Kaplan, KTAV 1993).

PRE-FLOOD BEASTS

The Netziv (*Haamek Davar*, *Bereishis* 7:23) argued that the fossils could not relate to dinosaurs that roamed around in prior worlds, as according to the Midrash, these prior worlds were totally destroyed, leaving no remnants. According to the Netziv, the fossilized dinosaur bones must have belonged to creatures that lived in our current world during the pre-*Mabul* period. According to Chazal, these monster beasts sinned by mating outside their species, leading to the birth of the strange hybrid creatures we know today as dinosaurs. These were wiped out in the Flood and were not admitted to the Ark, but HaShem preserved their bones as a warning for future generations of inappropriate relationships. The Malbim (*Bereishis* 7:23) also suggests that dinosaurs lived in the era before the Flood. They were eliminated from the face of the earth by the strong currents that carried them into the chasms which had been formed when the ground was split. They were thus absorbed and deposited much deeper than other bones, which explains why no human remains are found in those strata. Perhaps one can add that this may be the allusion in the above-cited midrash, that mile-deep furrows were left in the wake of the monster dragged by the Ark. The outsized, strange animals were not allowed into the Ark because they had perverted their species, but HaShem created a memorial for future generations, now discovered as fossils.

TWO FURTHER APPROACHES

The past Lubavitch Rebbe wrote a letter in 1962 in which he presented two additional approaches. Aligning with the Malbim's suggestion that dinosaurs lived during the pre-*Mabul* period, he suggests that their skeletal remains underwent rapid fossilization due to the extreme heat and catalyzing forces the world experienced during the *Mabul*. These would completely distort any of the scientific measurements that support the billion-year claim. He further advances the possibility that living dinosaurs never lived in this world, but HaShem created a ready-made world. In the same way that HaShem created a fully grown man and such ready-fossilized products as coal, oil, natural gas, and diamonds without any evolutionary process, so also dinosaur fossils and frozen mammoths were included in the creation for whatever function they would serve in the future. We can suggest that this concept is symbolized by the one-day-old re'eim standing tall like a mountain featured in the above *Zevachim* passage. Mountain goats such as the ibex and the markhor stand upright independently on their feet atop mountains within hours of birth, suggesting this fully developed state from the outset. We live in a world where we need to build ourselves over the course of our lives, so the primeval state of perfection could not be taken into the Ark, but its concept is preserved for us.

DISLOCATION OF STARS INTRODUCES SEASONAL CYCLES

The most widely accepted scientific theory for the sudden end of the age of dinosaurs is the impact of an asteroid on Earth, which caused catastrophic upheaval. Some suggest that this impact was also responsible for the globe's 23.5-degree tilt. Interestingly, the Gemara also records that when HaShem wanted to bring a flood upon the world, He took two stars from Kimah to initiate the Flood (*Berachos* 59a). Rav Ovadia Sforno, in his commentary on the Torah (*Bereishis* 8:22), proposes that before the *Mabul*, the 23.5-degree tilt, which causes temperature and the length of daylight to vary throughout the year and across the seasons, did not exist. Rav S. R. Hirsch comments on that *pasuk*, suggesting that the *Berachos* statement that the position of the constellations was altered indicates that the Creator, through the flood, brought a consequent disturbance of terrestrial stability. The sudden tilting of the Earth at the Flood would also explain why woolly mammoth elephants, more suited to tropical regions, were found frozen whole in ice. With the sudden tilt, tropical forests were transformed and engulfed by ice in what is now an arctic region.



The huge tusks of a woolly mammoth