

LOCUSTS AND ELEPHANTS

H. BABICH, PH.D. PROFESSOR OF BIOLOGY, SCW

This essay is a discussion of two creatures, locusts and elephants, from a *Torah U'Madda* perspective. Both had an impact on Jewish history and both are discussed in the Talmud.

1. Locusts: High in Protein, Low in Carbs

Locusts, the eighth plague. “Moshe raised his hand over Egypt and all that day and night, HaShem made an east wind blow over the land. When morning came, the east wind

carried the locusts. The locusts invaded Egypt, settling on all Egyptian territory. It was very severe. Never before had there been such a locust plague and never again would the like be seen. The locusts covered the entire surface of the land, making the ground black. They ate all the plants on the ground and all the fruit on the trees; whatever had been spared by the hail. Nothing green remained on the trees and plants throughout all Egypt” (*Shemot* 10:13-15).

Locusts congregate in swarms, defined as large, coherent groups of flying insects, and travel thousands of kilometers from their areas of origin. Of the migrating insects, the desert locust (*Schistocerca gregaria*) forms the largest swarms, averaging a density of about 50 million insects per km² [1]. As swarms of locusts are common in Africa, how did Pharaoh know that this particular swarm, albeit exceedingly huge, was actually a plague from HaShem? The above-cited verses note that an east wind, blowing over Egypt all the day and night, carried the locust swarm into Egypt and that at the crack of dawn the locust invasion commenced. This is most unusual, as locusts travel and are active only during the daytime, with their migrations beginning in late morning [2]. The east wind carrying the locusts at night and the timing of the locust invasion commencing at dawn are proofs that this swarm was guided by HaShem.

The above-cited verses actually underestimate the terrifying psychological aspects of the huge locust swarm. In November, 2004, a moderate locust swarm invaded Israel; an eyewitness gave this account, “It’s a little overwhelming when the sky becomes darkened, you hear a big buzz, and all of a sudden, there’s a shadow and you feel like an airplane is flying above you” [3]. Similarly, the *Radak* and the *Malbim* (*Yoel* 2:2) describe a locust swarm as appearing like clouds and thick fog, blocking the rays of the sun, and darkening the day. The nerve-wrecking buzzing noise, pro-

duced by locust chirping and wing flapping, is also noted in *Yoel* (see *Yoel* 2:5; *Rashi and Malbim to Yoel* 2:9). However, the thrust in the *Chumash* is on the economic devastation. To better comprehend the extent of damage, the following citation [4] from the book, *The Chronicle of Joshua the Stylite*, is presented. “The year 811 in the month of *Adar* of this year the locusts came upon us out of the ground... and they were descending from the sky upon us. ...They ate up and desolated these districts and utterly consumed everything that was in them... Before the year came to an end, misery from hunger had reduced the people to beggary ... and because the locusts devoured all the crops and left neither pasture nor food for man or beast, many forsook their native places and moved to other districts of the north and west.” The potential dev-

In November, 2004, a moderate locust swarm invaded Israel; an eyewitness gave this account, “It’s a little overwhelming when the sky becomes darkened, you hear a big buzz, and all of a sudden, there’s a shadow and you feel like an airplane is flying above you” [3].

astation of an approaching locust swarm necessitated the sounding of the *shofar*, both as a warning and as prescription for *teshuvah* with the implementation of a communal fast (*Taanit* 3:5).

The *Chumash* (*Shemot* 10:16-17) continues, “Pharaoh hastily summoned Moshe and Aharon. ‘I have committed a crime,’ he said, ‘both to G-d, your L-rd, and to you. Now forgive my offense just this one more time. Pray to G-d, your L-rd. Just take this death away from me!’” What was Pharaoh’s rush, since the locusts already devastated Egypt? Rav Zalman Sorotzkin [5] suggests that Pharaoh was concerned that if the locusts stayed beyond the three days of the plague, the females would lay their eggs in the soil. These eggs would eventually hatch and the resulting offspring would again evoke devastation, albeit at a later time.

The incident with the plague of locusts continues as follows (*Shemot* 10:18-20): “Moshe left Pharaoh’s presence and prayed to *HaShem*. *HaShem* turned the wind around, transforming it into a very strong west wind. It carried away the locusts and plunged them into the Red Sea. Not a single locust remained within all Egypt’s borders.” Rav Sorotzkin [5] questions why a “very strong” west wind was needed to carry off the locust swarm, whereas an east wind (without the phrase, “very strong”) was needed to initiate the plague. He suggests that when the locusts arrived in Egypt they were small and scrawny; however, when they left Egypt they were fattened and, thus, their departure required a “very strong” west wind. Each 2 gram locust eats its weight in crops every day [6]. As a million locusts daily consume as much food as 5,000 people, a “very strong” west wind was needed to transport these overweight locusts from Egypt.

An interesting Midrash describes the perverse attitude of the Egyptians towards the plague of locusts. “Once the locusts came, the Egyptians rejoiced and said, ‘Let us gather them all and fill our barrels with them.’ *HaShem* said, ‘Wicked people, with the plague that I have brought against you, are you going to rejoice?’ Immediately *HaShem* brought upon them a western wind... and none were left. What does it mean that none were left? Even those that were pickled with salt and sitting in their pots were blown away.” (*Midrash Rabba*, *Shemot* 13:7). Rav Sorotzkin [5] suggests that the “very strong” west wind smashed these canning jars and carried away the pickled locusts.

Egyptians are not the only Middle Eastern people who eat locusts. Although the vast majority of species of grasshoppers are nonkosher (*Chullin* 63b), some species are kosher (*Chullin* 65a). The *Chumash* (*Yayikra* 11:21-22) describes the kosher species of locusts and grasshoppers. “Only this may you eat from among all flying teeming creatures that walk on four legs: one that has jumping legs above its legs, with which to spring upon the earth. These from among them you may eat: the *arbeh* according to its kind, the *sal'am* according to its kind; the *chargol* according to its kind; and the *chagav* according to its kind.” The physical criteria of the species of kosher grasshoppers include those with four walking legs, four wings, two jumping legs, and wings covering the greater part of its body. *Rashi* adds that the two long jumping legs should be attached to the body near the neck region, above the walking legs (*Chullin* 59a).

The necessity of reciting a *bracha* upon consuming locusts is discussed in *Berachot* (6:3). Rav Yehuda states that no *bracha* is needed, as a blessing is not recited over a food which has a curse connected with it and locusts are a curse because of their destruction of vegetation. However, the *Tanna Kamma*, which is the accepted opinion, notes that a *she'hakol* is recited. As a food item, locusts are *pareve* and can be consumed with dairy products (*Chullin* 8:1). As with fish, locusts do not require *shechitah*. Thus, technically, if one was walking in a field and noted some locusts hopping about, the person could catch them for immediate con-

sumption. However, because of the stipulation of “do not be repulsive” (*bal tishaktzu*), a person should refrain from eating locusts while they are alive (*Shulchan Aruch*, *Yoreh Deah* 13:1). Trapping grasshoppers for consumption is prohibited on *Shabbos* (*Shabbat* 106b). Rabbi Shlomo Korach (*Arichat HaShulchan* 3:136-141) notes that in the Jewish tradition, locusts were never really considered a delicacy, but rather were consumed by the impoverished [cited in 7].

To identify a kosher species of locust there must exist a continuous tradition (*mesorah*) to confirm the correct species. For most Ashkenazim, this *mesorah* has been lost. Thus, Rabbi J.H. Hertz, the late chief rabbi of the British Empire, in his commentary on the *Chumash*, stated that locusts can not now be considered kosher because of the uncertainty about their identification [8]. However, the *mesorah* for locust was maintained by Jewish communities originating from North Africa and Yemen. Anxious to preserve the Sephardic tradition of identifying species of kosher locust, Dr. Zohar Amar, head of the Department of Land of Israel Studies and Archeology at Bar Ilan University, consulted Rabbi Yosef Tzubari and Rabbi Yosef Kapach, originally from Yemen, and the Jerusalem chief rabbi, Shalom Mashash, originally from Morocco, for guidance. These rabbis, who were in their 80s when consulted, have subsequently passed away. However, Dr. Zohar recorded their statements to elucidate and identify the kosher species of locust [9, 10]. Zohar’s studies are also found in a Torah/scientific journal published through Bar Ilan University [11].

In November, 2004, a huge swarm of locusts swept across the Sinai desert into the southern Israeli city of Eilat and then up the Arava plains along the Jordan River. As this species of locust, identified as *S. gregaria*, is kosher, Dr. Zohar took his students to a farm in the Arava; they captured, fried, and then dined on some locusts. To enjoy locusts, before frying, the walking legs, wings, and head should be removed. Although the students observed that the locusts tasted like French fries, Zohar explained that their taste is dependent upon their last meal. Thus, a locust swarm that devoured a sesame field would taste like sesame oil. Locusts are most nutritious, being 60% protein and rich in vitamins [9]. Before dining on these locusts, the students should have considered that, to control the locust invasion, the Israeli Agriculture Ministry sprayed the swarm with insecticide [12].

Elephants: Pleasant Dreams

There is a connection between Chanukah and elephants, although the association is not particularly pleasant. Elephants were initially introduced into *Eretz Yisrael* during the wars between the Hasmoneans and the Syrian-Greek army. In 166 B.C.E., a revolt against Hellenism was ignited in *Modi'in* by *Mattisyahu* and his five sons. In 165 B.C.E., the fledgling Jewish army retook *Yerushalayim*, destroyed the pagan idols, purified the vessels within the *Bais HaMikdash*, and lit the menorah, which burned for eight

days. However, the war was not over. In 164 B.C.E., at *Bet Zecharyah*, a ferocious battle ensued between the Jewish army and the Syrian-Greek army, led by Lysias and included 100,000 infantry soldiers, 20,000 horsemen, and numerous units of war elephants. Elazar, the youngest of the five brothers, noted a huge, highly decorated elephant, adorned with the royal emblem. Thinking that the king was in its turret, he fought through the enemy troops, reached this elephant, and plunged his spear into its intestines. The elephant collapsed, falling dead but crushing Elazar [13].

There are two distinct categories of elephants, the Asian elephant, living in parts of India and Southeast Asia, and the African elephant, inhabiting Africa south of the Sahara. Male Asian elephants, more easily tamed than their African counterparts, were often used as war elephants in ancient military battles. "There were plenty of military purposes for which elephants could be used. As enormous animals, they could carry heavy cargo and provided a useful means of transport. In battle, war elephants were usually deployed in the center of the line, where they could be useful by preventing a charge or starting one of their own. An elephant

The Me'eri has an interesting twist to the recitation of this blessing. He notes that seeing an elephant mandates the recitation of this blessing because an elephant and a human being have much in common, yet are physically very different.

charge could reach about 20 miles/hour, and unlike horse cavalry, could not be easily stopped by an infantry line setting spears. Its power was based on pure force: it would crash into an enemy line, trampling and swinging its tusks. Those men who were not crushed were at least knocked aside or forced back. Moreover, the terror elephants could inspire against an enemy not used to fighting them could cause them to break and run just on the charge's momentum alone. Horse cavalry were not safe either, because horses, unaccustomed to the smell of elephants, panicked easily. The elephants' thick hide made them extremely difficult to kill or neutralize in any way, and their sheer height and mass offered considerable protection for their riders" [14].

The two groups of elephants are genetically different: the Asian elephant is actually more closely related to the extinct mammoth than to the African elephant [15]. Rabbi Dr. M.D. Tendler [4], in an article discussing evolution and Torah, cited the *Tifereth Yisroel* (see: *Drush Ohr HaChayim*, in the back of the first section of *Seder*

Nezikim of the "big" *mishnayot*, *Yahkin Boaz*), who discusses the discovery of fossils and, in particular, of a prehistoric elephant or mastodon. "In the year 1807 they found under the terrible ice of Siberia a monstrous elephant, three or four times as large as those we have today ... whose skeleton can be seen in Petersburg museum. Since Siberia does not have a climate suited to elephants, it proves that the earth was pushed, disrupted, so that the elephant was thrown there [i.e., cataclysmic events occurred] or that Siberia once had a warm climate."

Before television, the Internet, zoos, and professional circuses, viewing an elephant was a rare occurrence (*Shabbat* 128a). Hence, one who saw an elephant recited the blessing, "Blessed is He who diversifies the creations" (*Berachot* 58b). What makes elephants so unusual? Elephants are the largest of the terrestrial animals, are the only animals to have a nose in the form of a large trunk which also functions as a hand. They also have the largest ears, and their tusks are the largest teeth amongst animals [5]. Ivory, derived from elephant tusks, was imported by *Shlomo HaMelech* and used to construct his throne (I *Melachim* 10:22).

The Me'eri has an interesting twist to the recitation of this blessing. He notes that seeing an elephant mandates the recitation of this blessing because an elephant and a human being have much in common, yet are physically very different. Some similarities between human beings and elephants include: elephants have a large brain, rank high in intelligence among animals, have excellent memories, display a wide range of emotions (including laughing, crying, grieving at a loss of a stillborn baby and of a family member), and are sensitive to the needs of fellow elephants (e.g., when a baby elephant complains, the entire family approaches it to caress and touch it; greeting ceremonies are displayed when a fellow elephant, not seen for a while, returns to the group). Furthermore, elephants communicate verbally by making at least 25 different calls, including coarse loud rumbles, low humming rumbles, screams, squeaks, groans, and bellows. Each sound has its own meaning [15, 17]. Interestingly, in *Perek Shirah* the elephant's statement emphasizes intelligence. "How great are Your works, G-d; Your thoughts are tremendously deep" (*Tehillim* 92:6); only an intelligent animal would be cognizant of *HaShem's* intelligence.

Another commonality between human beings and elephants is their susceptibility to psychological disorders, as both species exhibit posttraumatic stress disorder (PTSD). Joyce Poole, who has spent more than 30 years researching elephants, heard stories of elephants intentionally killing human beings. She noted, "I have always believed that these are elephants who have suffered some severe trauma at the hands of man. An elephant whose family members are killed by people is unlikely to forget it very quickly – just as you or I wouldn't forget if an elephant killed a member of our family." She further commented, "African elephant society has been decimated by mass deaths and social breakdown from poaching, culls, and habitat loss. Wild elephants are displaying symptoms associated with human PTSD" [18, 19].

If you attended a circus or a visited a zoo, the “smell” emanating from of the elephants probably preceded your actual viewing them. In short, elephants stink! If so, how is it possible that in *Succah* (23a) it states that a chained elephant may be used as a wall for a succah? When I asked this question to Rabbi N. Slifkin (the “Zoo Rabbi” of the Biblical Zoo in *Yerushalyim*), he noted that in those times the people lived in an agricultural society and were always in close proximity to their animals. Thus, odors unacceptable in today’s society, were common to, and were tolerated by, earlier generations. In addition, the close proximity between people and animals in “ancient” civilizations may explain the strange incident reported in *Shoftim* (11:31). Prior to setting out to battle the Ammonites, *Yiftach HaGilaedi* made the following vow to *HaShem*: “And it shall be that whatever emerges from the doors of my house to meet me when I return safely from the Ammonites, shall be to *HaShem* and I will offer it as a burnt offering.” *Yiftach HaGilaedi* thought that perhaps a cow, sheep, or goat would exit from his house. Unfortunately, however, the first to leave his house was his daughter, who ran out to greet him. Apparently, in those civilizations, the concept of separate dwellings for human beings and for domesticated animals, i.e., in a barn, were not, as yet, in practice. It would appear from the story of *Yiftach HaGilaedi* that both human beings and domesticated animals lived in a common dwelling. Thus, having an elephant serving as the wall of a succah does not seem so strange.

The *Gemara* (*Shabbat* 16a) cites the *Mishnah in Mikva’ot* (4:1), that certain types of vessels invalidate water from use in a mikvah; one such type of vessel are the *klei gelalim*, made from dry animal

dung (*Shabbat* 58a; *Tosfot in Menachot* 69a). In *Menachot*, *Tosfot* notes that the *Gemara* teaches that if an elephant swallows a basket and subsequently eliminates it in its fecal waste, the basket has the status of *klei gelalim* [20]. It seems strange that an animal can consume a basket and eliminate it intact. However, it is possible with an elephant. Elephants are herbivores, with a diet consisting of grasses, leaves, twigs and branches, tree bark, roots, and small amounts of flowers, fruits, coconuts, and seeds. A large adult wild elephant can consume about 300 pounds of vegetation a day. Yet, an elephant’s digestive system is relatively inefficient, as only about 40% of the intake is utilized, with 60% eliminated as indigestible waste [21]. Apparently, with an elephant, what goes into its body at one end can be eliminated intact at the other end.

The fear of elephants for mosquitoes is cited in *Shabbat* (77b). *Rashi* comments that if an insect enters the trunk of an elephant, it has the ability to rid itself of the pest. Although elephants are thick-skinned, their skin is surprisingly tender and some insects, including flies and mosquitoes, can bite into their skin [20].

If this short essay evokes dreams of elephants, consider this a positive event. As noted in *Berachot* 56b, wonders occur to a person who dreams of an elephant; dreaming of several elephants evokes the occurrence of several wonders. As explained in the ArtScroll edition of *Berachot*, the correlation between dreaming of elephants and of positive events happening to the dreamer is based on phonetics. The Hebrew word for elephant, *pil*, is similar in sound to the Hebrew word for wonder, *pele*, and the plural of elephants, *pilim*, is similar sounding to the Hebrew word for numerous wonders, *pilei*. So, pleasant dreams! ■

ACKNOWLEDGEMENTS

Appreciation is expressed to Rabbi Dr. Barry Mittelman, *magid shiur*, Agudas Yisroel of Madison, Brooklyn, NY, and to Rabbi Eli A. Babich, high school rabbi, HAFTR, Long Island, NY, for reviewing this manuscript.

REFERENCES

- [1] Sanchez-Arroyo, H. (1997). University of Florida. Book of Insect Records. Chapter 27, Largest Swam (<http://gnv.ifas.ufl.edu/~tjw/chat27.htm>)
- [2] Cohen, A. (2004). Everything you always wanted to know about locusts. HaAretz, November 22nd
- [3] Berman, D. (2004). Not all migration to Israel is a good thing. HaAretz.com (Dec.5th).
- [4] Nevo, D. (1996). The desert locust, *Schistocerca gregaria*, and its control in the Land of Israel and the Near East in antiquity, with some reflections on its appearance in Israel in modern times. *Phytoparastica* 24:7-32.
- [5] Sorotzkin, Z. (1993). Insights in the Torah, Shemos, Vol. 2. Mesorah Publ., Ltd., Brooklyn, NY.
- [6] Zivotofsky, A.Z. (2004). Locusts are pests but also delicacies for Israelis. Jewish.com (Dec. 8th).
- [7] Ohr Somayach (2004). Ask the Rabbi. Are locusts really kosher? (http://ohr.edu/ask_db/ask-_main.php/19/Q1/).
- [8] Katz, H. (2003). Biblical entomology. AMIT 75:22-23.
- [9] Radoszkowicz, A. (2004). Locusts kosher; are ‘like French fries.’ Jewish Press, Nov. 26th.
- [10] Amar, Z. (2002-2003). The eating of locusts in Jewish tradition after the Talmudic period. *The Torah U-Madda Journal*, 11:186-202.
- [11] Zohar, A. (2000). The identification of “winged swarming creatures” in tradition and science. *Behhol Derakhekha Daehu* 11:5-22 (Hebrew).
- [12] Cohen, A. 2004. Second wave of locusts advance to southern Dead Sea, HaAretz.com (Nov. 21st).
- [13] Goldman, H., Zlotowitz, M., and N. Scherman. (1989). Chanukah, ArtScroll Mesorah Publ., Brooklyn, NY
- [14] http://en.wikipedia.org/wiki/War_elephant (Wikipedia, the Free Encyclopedia)
- [15] http://elephant.elehost.com/About_Elephants/about_elephants.htm (Elephant Information Repository: Elephant Resources)
- [16] Tandler, M.D., (1993). The theory of evolution: Impact on scientific thoughts and Torah beliefs, *Jewish Action*, 54:51, 70-72.

- [17] <http://www.aolsvc.worldbook.aol.com/wb/Article?id=ar177700&sc=-1&#h3> (World Book Online Reference Center)
- [18] http://news.nationalgeographic.com/news/2005/06/0603_050603_elephants_2.html
- [19] Bradshaw, G.A., Schore, A.N., Brown, J.L., and C.J. Moss. (2005). Elephant breakdown. *Nature* 433:807.
- [20] Kollel Iyun HaDaf of Yerushalayim. (2005). Insights into the Daily Daf: Shabbos 16- 20.
- [21] <http://www.nationmaster.com/encyclopedia/Elephant> (NationMaster.Com)

Derech HaTeva

A JOURNAL OF TORAH AND SCIENCE

A PUBLICATION OF STERN COLLEGE FOR WOMEN YESHIVA UNIVERSITY

VOLUME 10 2005—2006