

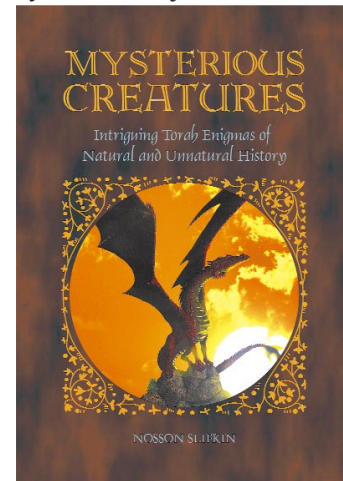
Orthodoxy.

As with all books of this sort, there are some omissions. I would have been interested in learning more about Dr. Belkin's halachic outlook and about his relationship with the European *roshei yeshivah* at the other American *yeshivot*. His roles as *rosh yeshivah* and *lamdan* (Talmudic scholar) need explication too.

Contrary to the doomsayers, Modern Orthodoxy is growing; it is proud of its past and confident of its future. Hopefully, this fine volume will bring Dr. Belkin's work to the attention of the wider American Jewish community, and his personality and record will be recognized by a wider range of people. It is my wish that Geller's work will inspire others to record and document their experiences in creating a vibrant and dedicated Orthodox Jewish life in America. **IA**

## Mysterious Creatures

By Nosson Slifkin



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232 pages

Reviewed by Edward Reichman

Few topics are as fascinating, intriguing and theologically challenging as the interface between Torah and science throughout the ages. As science evolves, scientific beliefs are dispelled, theories are discarded, and paradigm shifts occur. Some of these discarded theories or beliefs can be found in rabbinic literature throughout the cen-

turies. How do we address the fact that rabbis have incorporated into their discussions notions that we now believe are obsolete? If these beliefs are mentioned in the context of homiletic or *aggadic* statements, then few theological problems arise, as many of these passages are metaphorical and have no practical ramifications for religious observance. However, if they appear to serve as the foundation of a halachic decision, how are we to view this decision today? Does our observance of the law change?

The larger issue is the place of scientific knowledge in rabbinic literature. Is the scientific information discussed by *Chazal* considered an integral part of the halachic corpus? Is it infused with the same theological import, and given the same weight and credence as, for example, *halachah leMoshe miSina*? Or is the body of scientific information found in *Chazal* merely a supplement to the halachic discussions, having no independent theological status?

The answer to this question may depend on a number of different factors: 1. The author and date of the original rabbinic statement, 2. The particular area of science under discussion (astronomy, anatomy, physics, et cetera), 3. Whether the rabbinic statement is halachic or *aggadic* in nature, 4. The philosophical approach of the authority addressing the conflict.

In a number of areas of conflict, the phrase *nishtaneh hateva*, nature has changed, has been invoked. The exact definition or interpretation of this phrase is unclear, but it alludes to a different reality between the past and

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present.

Much of the study of the conflict between Torah and science has been subsumed under the heading of *nishtaneh hateva*. Research in this field has included many scientific disciplines, including cosmology, evolution,<sup>1</sup> astronomy<sup>2</sup> and medicine.<sup>3</sup>

Zoology has also received some disparate treatment, and it is in this area that Rabbi Nosson Slifkin brings his considerable zoological knowledge to bear in his work *Mysterious Creatures*. This welcome addition to the *nishtaneh hateva* literature deals with such fantastic creatures as the unicorn, mermaid, phoenix, dragon and tree goose.

Rabbi Slifkin is cognizant of, and sensitive to, the theological complexity of this topic and begins his work with an overview of the basic approaches to resolving areas of seeming conflict between Torah and science. The author enumerates five basic approaches, which I excerpt from the book:<sup>4</sup>

1. *Divine Knowledge Approach*—*The Sages possessed superior (or perfect) knowledge of the natural world, which they derived from the Torah or from Divine inspiration; scientists, on the other hand, are fallible.*

2. *Changes of Nature Approach*—*Both the Sages and the scientists are correct; the physical nature of the world has changed since the time of the Sages.*

3. *Different Meaning Approach*—*Both the Sages and the scientists are correct; we have simply misunderstood [the Sages'] intent.*

4. *Metaphor Approach*—*The Sages used metaphors when speaking; we have simply misunderstood their intent.*

5. *Empirical Knowledge Approach*—*Although great in Torah knowledge, the Sages did not possess better knowledge of the natural world than did other people of their era. [Scientific knowledge in those times was limited.]*

For the specific advocates and sources for these approaches, the reader will be well served by consulting Rabbi Slifkin's book. I would, however, like to suggest some additional sources for the various approaches.

Following the "Divine knowledge" approach, Dr. Chaim Zimmerman maintains that the words of *Chazal* are ultimately proven correct by science:

*For the Torah man, the seeming contradictions remained a temporary dilemma until a new scientific truth was discovered and the truth of the halakha was clarified by scientific predictions empirically demonstrated. Every time that a new scientific proof is established, Torah assertions are verified, and questions of discrepancy that perplex generations are cleared up.*<sup>5</sup>

To the list of advocates of the "metaphor" approach, I would add a prominent place for the Maharal. One of the major themes running through the Maharal's work is that the natural and spiritual worlds represent two completely distinct, though coexistent, spheres of reality. Many of the passages in *Chazal* that appear to conflict with science would be interpreted by the Maharal as being part of the spiritual dimension, and possibly as metaphors. As these passages address a different sphere of understanding, it is simply impossible for them to conflict with scientific beliefs.<sup>6</sup>

The remainder of the book addresses the specific histories of a variety of "mysterious" creatures. With each chapter Rabbi Slifkin attempts, with varying degrees, to return to these aforementioned approaches and integrate them into his research. For some creatures he posits a tentative identification, while for others he explains the rabbinic passages as metaphors. The author, by his own admission, clearly aligns himself with the "empirical knowledge" approach. This is evident throughout the book, which marshals a wealth of evidence that many of the mythical creatures found in rabbinic sources were based on beliefs that were commonly held at the time of the writing. In describing this approach, Rabbi Slifkin states that "*Chazal* did not possess superior knowledge of the natural world over anyone else in their era. They were experts in Torah, not in the natural sciences." While the author works hard to identify many of the

"mysterious" creatures, and does so successfully, there are places where he states unequivocally that the statements of *Chazal* are based on erroneous, contemporaneous knowledge, and that these creatures may never have existed. (See, for example, the chapter on sweat lice and spontaneous generation.) He acknowledges that "such a solution may not be ideal, but, in many cases, it may be the only valid one."

***"Chazal did not possess superior knowledge of the natural world.... They were experts in Torah, not in the natural sciences."***

The chapters are highly informative, with wonderful pictures and illustrations. One such chapter deals with a creature in rabbinical literature called the tree goose. The author alludes to two traditions explaining the origins of the spontaneously generated goose—one was that the birds emerged from trees at the water's edge, while the other was that they arose from floating timber. Rabbi Slifkin mentions the existence of the gooseneck barnacle, which was thought to be partially responsible for the latter legend. While the picture of the barnacle in Rabbi Slifkin's book does not give the impression of a tree goose, the picture of one type of gooseneck barnacle,



which appears below, does seem to resemble geese "growing from timber."

The rabbinic literature of the barnacle goose could be supplemented with the work of Rabbi Tzvi Yaakov Zimmels, who collected all the rabbinic sources discussing this creature.<sup>7</sup>

Rabbi Slifkin, in his discussion of the "wild men" (*adnei hasadeh*), discusses the tradition, based on the *Yerushalmi*,<sup>8</sup> that this species was a form of a human being tethered to the ground by a cord from which it received nourishment. Upon severance of the cord, the creature was believed to die instantly. Daniel Sperber, professor of Talmud at Bar-Ilan University, provides another theory as to how this notion of the tethered humanoid evolved.<sup>9</sup>

Rabbi Slifkin identifies the Biblical *tachash* as the giraffe and briefly mentions the theory that the giraffe may have been the *zemer* mentioned in the Biblical list of kosher animals. In January 2002, a group of scientists, rabbis, veterinarians and *shochetim* (ritual slaughterers) performed a halachically oriented dissection of a giraffe. In a recently published account of this unique event, the authors provide additional evidence to support the identification of the giraffe as the *zemer*.<sup>10</sup>

The text of the book is followed by a brief bibliography. Given the seriousness of this topic, I would suggest expanding the bibliography to include articles as well as books, especially since the list of books is so limited.<sup>11</sup> (See sidebar for additional relevant works.)

There will perhaps be readers for whom Rabbi Slifkin's book may present difficulty. Indeed, many great rabbinic scholars would simply never entertain the idea that *Chazal* could ever have erred in their statements about scientific matters, regardless of the halachic or historical context. They maintain that all the statements of *Chazal* are products of *ruach hakodesh* (Divine spirit). While the book was dedicated to an inquisitive Bar Mitzvah boy, I do not believe the aver-

age thirteen-year-old boy is capable of dealing with such a complex topic without rabbinic or parental guidance. However, this book is an excellent addition to the library of the informed reader.

Professor Sperber's comments regarding Talmudic study could be equally applied to Rabbi Slifkin's work:

*A fuller understanding of all aspects of the text is not only legitimate, but essential. Hence, we should approach any given Talmudic passage with all new-found disciplines available to us. At the same time, we must be humble enough to realize that ultimately our conclusions will never move out of the realm of conjecture. Nonetheless, we may have understood the sugya a little more, a little deeper, and a little better. We may have solved some additional problems that irked the earlier authorities. And we will have advanced in our limud Torah.*<sup>12</sup>

Rabbi Slifkin's *Mysterious Creatures* demystifies many rabbinic passages dealing with zoology and helps us understand rabbinic literature a little more, a little deeper and a little better. It will generate further discussion and debate about the identity of many animals, but, after reading this book, you will surely have advanced in your *limud Torah*.

*For updates and corrections on Rabbi's Slifkin's book, please see <http://zootorah.com/books/creatures/frame.htm>.*

#### Notes

1. See Nathan Aviezer, *In the Beginning: Biblical Creation & Science* (New Jersey, 1990); idem., *Fossils and Faith: Understanding Torah and Science* (New Jersey, 2002); Herman Branover and Ilana Coven Attia, eds., *Science in the Light of Torah* (New Jersey, 1994); Aryeh Carmell and Cyril Domb, *Challenge: Torah Views on Science and its Problems* (Jerusalem, 1978); Abraham Korman, *Evolution and Judaism* (Tel Aviv, 5762) (Hebrew); Chaim Schimmel and Aryeh Carmell, eds., *Encounter: Essays on Torah and*

*Modern Life* (Jerusalem, 1989); Gerald L. Schroeder, *Genesis and the Big Bang* (New York, 1990); idem., *The Hidden Face of God: Science Reveals the Ultimate Truth* (New York, 2002); idem., *The Science of God: The Convergence of Scientific and Biblical Wisdom* (New York, 1997); Lee Spetner, *Not By Chance: Shattering the Modern Theory of Evolution* (New York, 1998). Rabbi Slifkin has also written about creation and evolution within the Torah perspective in *The Science of Torah* (Jerusalem, 2001).

2. The new heliocentric theory of Copernicus and Galileo presented a potential conflict with rabbinic teachings. On the Jewish reactions to the Copernican Revolution, see David Berger, "Judaism and General Culture in Medieval and Early Modern Times," *Judaism's Encounter with Other Cultures: Rejection or Integration*, ed. J. J. Schacter (New Jersey, 1997), 133-35; Hillel Levine, "Paradise Not Surrendered: Jewish Reactions to Copernicus and the Growth of Modern Science," *Epistemology, Methodology, and the Social Sciences*, eds. R. S. Cohen and M. Wartofsky (Dordrecht, Germany 1983), 203-25; Andre Neher, *Jewish Thought and the Scientific Revolution of the Sixteenth Century: David Gans (1541-1613) and His Times* (New York, 1986) and David Ruderman, *Jewish Thought and Scientific Discovery in Early Modern Europe* (Connecticut, 1995), 266-68.

Rav Kook maintained that Rambam's view was consistent with the heliocentric theory. See his *Ma'amar Meyuchad* on Rambam, published in *Ma'amarei HaRa'yah*, 105-112, as well as in vol. 12 of *Ya'avits' Toldot Yisrael*, 211-219. (I thank Rabbi Matis Greenblatt for this reference.)

Galileo himself faced a theological dilemma as his heliocentric theory went against the teachings of the Church. In response, he wrote:

*Though Scripture cannot err, its expounders and interpreters are liable to err in many ways ... when they would base themselves always on the literal meaning of the words.*

Galileo could not believe that "the same God who gave us our senses, our speech, our intellect would have us put aside the use of these, to teach us instead such things as with their help we could find out for ourselves."

In this way Galileo reconciled the independence of the human mind with a loyalty to God and Scripture, and he privately held this view, despite public recanting, for the rest of his life.

3. See Edward Reichman, "The Halachic Definition of Death in Light of Medical History," *The Torah u-Madda Journal* 4 (spring 1993): 148-174; idem., "The Incorporation of Early Scientific Theories into Rabbinic Literature: The Case of Innate Heat," *The Torah u-Madda Journal* 8 (1998-1999): 181-99; idem., "The Rabbinic Conception of Conception: An Exercise in Fertility," *Tradition* 31:1 (fall 1996): 33-63.

4. For a different enumeration of approaches, see Shlomo Sternberg, "Review of Guide to *Masechet Hullin* and *Masechet Bechorot* by I. M. Levinger," *B.D.D.* 4 (winter 1997): 81-102 (English section). Dr. Sternberg's article evoked strong responses in subsequent issues of the journal. Also see Gil Student, "Halachic Responses to Scientific Developments," at <http://www.aish-das.org/toratemet/science.html>.

5. "The Truth of Torah Data and its Precedence for Scientific Discovery," *Torah and Reason* (Jerusalem, 1979), 29-49.

6. See Alan Kimche, "The Maharal of Prague on Combining Torah Learning with Secular Study," *Le'ela* (December 1999): 15-20.

7. Tzvi Yaakov Zimmels, "Ofot Hagedailim Billan," *Minchat Bikurim* (Vienna, 1926). See also *The Jewish Encyclopedia*, ed. I. Singer (New York, 1964), s.v., "barnacle-goose."

8. *Kilayim* 8:4 and *Pnei Moshe*, ad loc.


9. "Vegetable-Men," *Magic and Folklore in Rabbinic Literature* (Ramat Gan, 1994).

10. Doni Zivotofsky, Ari Z. Zivotofsky and Zohar Amar, "Giraffe: A Halakhically Oriented Dissection,"

*The Torah u-Madda Journal* 11 (2002-2003): 203-221, esp. 204-205.

11. Neriah Gutal's major work on this topic, cited by Rabbi Slifkin, has also been updated. See his *Sefer Hishtanut Hatevaim Behalachah*, 2d ed. (Jerusalem, 1998). This edition contains an index as well as an essay and comments appended by Rav Zalman Nechemia Goldberg. See also the books listed in notes 1-3. Rabbi Slifkin lists only English-language works. In my sidebar, I include works in Hebrew and in English.

12. Daniel Sperber, "On the Legitimacy, or Indeed Necessity, of Scientific Disciplines for the True

'Learning' of the Talmud," *Modern Scholarship in The Study of Torah: Contributions and Limitations* (Orthodox Forum), ed. Shalom Carmy (New Jersey, 1995). 

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## SUGGESTED READING:

Carmell, A. and M. Goldberger. "Comments on Shlomo Sternberg's Review of Guide to *Masechet Hullin* and *Masechet Bechorot* by I.M. Levinger in *B.D.D.* 4." *B.D.D.* 6 (winter 1998): 57-84 (English section).

Cohen, D. "Shinuy Hateva: An Analysis of the Halachic Process." *Journal of Halacha and Contemporary Society* 31 (spring 1996).

Frimer, D. "Kevi'at Avhut al Yedei Bedukat Dam Bemishpat HaYisraeli Ubemishpat HaIvri." ed. M. Halperin. *Sefer Assia* 5. Jerusalem, 1986. 185-209.

Gutal, N. "Hishtanut Tevaim." *B.D.D.* 7 (summer 1998): 33-47.

Halevi, C. D. "Ha'avchanot Harefuyot shel Chazal." *Techumin* 17: 319-326.

Lev, Z. "Neriah Moshe Gutal, Sefer Hishtanut Hatevaim

Behalachah." *B.D.D.* 4 (winter 1997): 81-96 (Hebrew section).

Malach, D. "Hishtanut Hatevaim Kipitronot Lestirot Bein Dat Lemadda." *Techumin* 18 (5758): 371-383.

Rabinowitz, N.E. "Ha'arakha Madait Kiyasod Lipesikat Halachah: Iyunim Bemishnat HaRambam." *Techumin* 8: 435-453.

Sprecher, S. "Divrei Chazal Veyediotei Madaiyot." *B.D.D.* 2 (winter 1996): 2-39.

Steinberg, A. *Encyclopedia of Jewish Medical Ethics*. Trans. F. Rosner. Jerusalem, 2003, s.v. "change in nature."

Sternberg, S. "Guide to *Masechet Hullin* and *Masechet Bechorot* by I. M. Levinger." *B.D.D.* 4 (winter 1997): 81-102 (English section).