

Biographical Encyclopedia of Astronomers

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Bar Hiyya: Abraham Bar Hiyya Savasorda

Born Barcelona, (Spain), 1070

Died 1136

Bar Hiyya is credited with writing the first works in Hebrew on astronomy and mathematics. He held several official positions in Barcelona, although that city was under Christian control. Bar Hiyya was fluent in Arabic, the leading language of science at the time. In response to requests from his Jewish fellow religious scholars in Provence, Bar Hiyya produced a series of Hebrew texts on astronomy and mathematics, the first of their kind to be written in that language. He also created an entirely new Hebrew technical terminology. His *Şurat ha-Aretz* (Form of the Earth) is a representative of a non-technical exposition of astronomy that was immensely popular in the medieval period, especially among the Hebrew reading public. Bar Hiyya also compiled a set of tables, known as *Luhot ha-Nasi* (Nasi being one of the titles borne by Bar Hiyya) or the Jerusalem Tables. These tables are for the most part based upon the tables of Battānī. However, some manuscripts (for example, Chicago, Newberry College, MS. Or 101) have appended to them a set of short essays and accompanying tables. These addenda have never been properly studied; one of them, which investigates the differences between the tables of Ptolemy and Battānī, may be of particular interest. Bar Hiyya's tables were later used by Abraham ibn Ezra; some manuscripts, such as the one just mentioned, bear tables of Ibn Ezra as well as some glosses by his students.

Y. Tzvi Langermann

Selected References

Goldstein, Bernard R. (1980). "Star Lists in Hebrew." *Centaurus* 28: 185-208. (Publishes lists of astrolabe stars from Bar Hiyya's tables.)

Langermann, Y. Tzvi (1999). "Science in the Jewish Communities of the Iberian Peninsula." In *The Jews and the Sciences in the Middle Ages*. Aldershot: Ashgate. (General assessment of Bar Hiyya's work and impact, with full references to publications of his texts in Spanish or Catalan by J. M. Mil-lás-Vallícrosa.)

(2000). "Hebrew Astronomy: Deep Soundings from a Rich Tradition." In *Astronomy Across Cultures*, edited by Helaine Selin, pp. 555-584. Dordrecht: Kluwer Academic Publishers. (Discussion of the utilization of Bar Hiyya's tables by Ibn Ezra and his students.)