

The Mongols and the Byzantine Empire: Astronomy and Astrology

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Anne Tihon's chapter in the recent *Cambridge History of Science* has identified the Ilkhanids as an important source for the scientific culture of the Byzantine Empire. The depth of the Byzantines' debt to the astronomy that the Ilkhanids patronized began to become clear in the middle of the 20th century when Otto Neugebauer found a Byzantine MS with a figure of the Tūsī Couple, an important advance in theoretical astronomy that, in fact, reappeared in Copernicus' work. Even more of Mongol theoretical astronomy appears in the c. 1300 *Schemata of the Stars* written an unknown Byzantine scholar. This presentation will review briefly these important findings and then move to assess the role of Jews in the Byzantine Empire as conduits of this information.

One text that is the subject of my current research is Mordekhai Khomtiano's (a.k.a. Comtino; d. ~1487) Hebrew *Commentary on the Persian Tables*. The *Persian Tables* were tables drawing on tables produced at the Marāgha Observatory, an institution patronized by the Mongols. Khomtiano's comments addressed a Christian critic (Argyros) and, as part of the defense of the tables, Khomtiano explored the relationship between the physical models and the observations that the tables predicted and retrodicted. At one point Khomtiano suggested that the planet might be affixed to the orb's curved surface, with half of it below the curvature and half of it above. Khomtiano seems to have defined the curvature of the orb as the mid-point of the orb's thickness or that the curvature of the deferent orb is the circle which represents the orb in two dimensions. No astronomer patronized by the Mongols had made such a suggestion. At the end of his text, Khomtiano introduced some elements of theory in order to show that the Persian commentators were correct.

My presentation's tentative conclusion is that information from astronomy and astrology texts produced under the Mongols played a role in the scientific culture of Romaniot Jews. Moreover, the presentation will show that the *Persian Tables* played a greater role in the scientific culture of the Byzantine Empire in general than did the material found in the *Schemata*.