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Chioniades, Gregor [George]

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Born **Constantinople (Istanbul, Turkey), circa 1240**

Died **Trebizond (Trabzon, Turkey), circa 1320**

Born in Constantinople and christened George, Chioniades became a physician. Greatly attracted to mathematics, astronomy, and medical astrology, he chose to travel to Persia to further his studies. Early in 1295, he went to Trebizond (Trapezus) where he found favor with the emperor of Trebizond John II Komnenos (reigned: 1280–1297), who supported his travel and study in Persia. Between November 1295 and November 1296 he was received at the court of the Mongol *Īlkhāns* at Tabrīz where he studied astronomy and astrology with **Shams al-Dīn al-Bukhārī**, an astronomer and teacher from Bukhārā in Central Asia. Shams al-Dīn was the author of a Persian treatise on the astrolabe that Chioniades later translated into Greek.

During his stay in Tabrīz, Chioniades amassed an important collection of astronomical works in Persian and Arabic that he took with him on his return to Trebizond and later to Constantinople. Some of these works he translated into Greek, adding commentaries and incorporating his own notes written in Greek, Persian, and Arabic from his studies with Shams al-Dīn. Chioniades founded schools for the study of astronomy and medical astrology in both Trebizond and Constantinople.

By September 1301 Chioniades had returned to Trebizond, and by April 1302 he was in Constantinople. He translated into Greek a set of recipes for antidotes and wrote a confession of faith to refute suspicions of heresy based on his work in astrology and his sojourn with the Persians. In 1305, appointed Bishop of Tabrīz, Chioniades took the name Gregory. He remained in Tabrīz until about 1310, retiring for his final years as a monk to Trebizond. Chioniades left part of his library to Constantine Loukites. His translations from Persian into Greek assisted in the transmission of this material to the medieval and Renaissance worlds of the west.

Chioniades' work associated with astronomy includes his translations of several astronomical works from Persian or Arabic into Greek, including the *Zīj al-'Alā'ī* (The Alai astronomical handbook with tables), the *Persian Astronomical Composition*, and the *Revised Canons*. Translations of two astronomical tables, **Khāzini's** *Sanjarī Zīj* and **Tūsī's** *Īlkhānī Zīj*, are also considered to be by Chioniades. He translated the work on the astrolabe written by Shams al-Dīn and wrote a short introduction to astronomy, *The Schemata of the Stars*. His translations and body of work provide evidence that Byzantine astronomers preserved scientific ideas from **Ptolemy** and Islamic scientists and further added their own contributions, making observations and refining existing cosmological models. Chioniades' introduction to astronomy includes diagrams of the models based

on the Tūsi couple, which refined current cosmological theory and which was used by **Nicholas Copernicus** in his work on the heliocentric Solar System.

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