From: Thomas Hockey et al. (eds.). *The Biographical Encyclopedia of Astronomers*, *Springer Reference*. New York: Springer, 2007, pp. 948-949

http://dx.doi.org/10.1007/978-0-387-30400-7_1138

Qusṭā ibn Lūqā al-Baʿlabakkī

Elaheh Kheirandish

Alternate name

Costa ben Luca

Born **Baʿlabakk, (Lebanon), probably *circa* 820**

Died **(Armenia), probably *circa* 912–913**

Qusṭā ibn Lūqā (Constantine, son of Loukas), a scholar of Greek Christian origin working in Islamic lands in the 9th century, did work in astronomy that included translations of Greek astronomical works and original compositions. In addition, he composed and translated mathematical, medical, and philosophical works. Qusṭā's scholarly reputation extended far and wide, and he was noted for his scientific achievements (especially in medicine, where his authority surpassed **Ḥunayn ibn Isḥāq** according to the bibliographer Ibn al-Nadīm [died: *circa* 990]). He reportedly collected Greek scientific manuscripts from Byzantine lands; his translations and revisions of these formed an important part of his scholarly activities. Qusṭā was fluent in Greek (as well as Syriac), as demanded by his scientific translations, and he also mastered Arabic, a language in which he produced many original scientific compositions. Qusṭā's scholarly career, which was centered in Baghdad, is notable for his association with numerous patrons, who are particularly important for establishing his biography as well as the chronology of his work. These include various members of the ʿAbbāsid caliphal family, government officials, and a Christian patriarch; the most likely interpretation of the evidence places the bulk of his work in the second half of the 9th century.

The scientific works of Qusṭā include several astronomical compositions, which cover both the theoretical and the practical aspects of astronomy. The best known are:

(1) *Kitāb fī al-ʿamal bi-ʾl-kura al-nujūmiyya* (On the use of the celestial globe; with some variations as to title), which contains 65 chapters and was widely disseminated through at least two Arabic recensions as well as Latin, Hebrew, Spanish, and Italian translations;

(2) the extant astronomical work, *Hayʾat al-aflāk* (On the configuration of celestial bodies;

Bodleian Library MS Arabic 879, Uri, p. 190), which is one of the earliest compositions in theoretical (*hay'a*) astronomy;

(3) *Kitāb al-Madkhal ilā 'ilm al-nujūm* (Introduction to the science of astronomy – astrology);

(4) *Kitāb al-Madkhal ilā al-hay'a wa-ḥarakāt al-aflāk wa-'l-kawākib* (Introduction to the configuration and movements of celestial bodies and stars);

(5) *Kitāb fī al-'amal bi-'l-asṭurlāb al-kurī* (On the use of the spherical astrolabe; Leiden University Library MS Or. 51.2: *Handlist*, p. 12); and

(6) *Kitāb fī al-'amal bi-'l-kura dhāt al-kursī* (On the use of the mounted celestial sphere).

The two introductory astronomical titles (3 and 4), reported in the lists of Ibn al-Nadīm's *Fihrist* and Ibn Qifṭī (died: 1248), respectively, are not extant, unless the latter is the same as the theoretical work mentioned in (2). F. Sezgin suggests that these two works are the same; however, they are listed as two distinct titles by Ibn Abī Uṣaybi'a (died: 1269). Work (5) is sometimes questioned as a work by Qusṭā but seems to represent a variation in title of (1). Although E. Wiedemann (1913) treats (6) as an independent work, it also seems to be a variation in title of (1). This leaves Qusṭā with at least four distinct astronomical compositions, two of which (1 and 2) are extant.

Qusta's works also include translations of the so called Little Astronomy or "Intermediate Books" (*Kutub al-mutawassiṭāt*), texts studied after Euclidean geometry in preparation for Ptolemaic astronomy. Extant among these are the Arabic versions of **Theodosius**'s *Spherics* (*Kitāb al-Ukar*) and **Autolycus**'s *Rising and Setting* [*of Fixed Stars*] (*Kitāb al-Ṭulū' wa-'l-ghurūb*). In addition to other extant translations, such as Hero of Alexandria's "On the Raising of Heavy Objects" (*Fī raf' al-ashyā' al-thaqīla*), Qusṭā is associated with Arabic versions of **Aristotle**'s *Physics* as well as the later commentaries of Alexander of Aphrodisias and **Philoponus** on certain of their books. This dual translation program fits well with his statements about the "cooperation" of natural philosophy and geometry in optics as a mixed mathematical science, a genre to which astronomy and mechanics also belong.

Selected References

Brockelmann, Carl (1943). *Geschichte der arabischen Litteratur*. 2nd ed. Vol. 1, pp. 222–223. Leiden: E. J. Brill. (Contains lists of manuscripts for Qustā's works including five astronomical titles. Entries i, k, g, and f in Section I correspond to nos. 1, 2, 5, and 6 above.)

Browne, E. G. (1902). *A Literary History of Persia*. 2 Vols, Vol. 1, p. 278. London: T. F. Unwin. (Contains an 11th-century Persian poem referring to Qusṭā ibn Lūqā.)

Gabrieli, G. (1912). "Nota bibliographica su Qusṭā ibn Lūqā." *Atti della R. Accademia dei Lincei: Rendiconti, classe di scienze morali, storiche e filologiche* 21: fasc. 5–6 : 341–382. (Contains a list of 69 of Qusṭā's compositions and 17 translations, including six astronomical titles [nos. 1–6 above, numbered respectively as nos. 40, 37, 54, 37, 67, 40], with references to historical and modern sources and manuscript copies and titles [pp. 348–350; p. 348: no. 40: Q. N. is problematic].)

Gutas, Dimitri (1998). *Greek Thought, Arabic Culture: The Graeco–Arabic Translation Movement in Baghdad and Early ʿAbbāsid Society (2nd–4th/8th–10th centuries)*. London: Routledge. (Contains a section on the problematic question of Qusṭāʾs early patrons.)

Harvey, E. Ruth (1975). "Qusṭā ibn Lūqā al-Baʿlabakkī." In *Dictionary of Scientific Biography*, edited by Charles Coulston Gillispie, Vol. 11, pp. 244–246. New York: Charles Scribnerʾs Sons. (Contains a list of Qusṭāʾs works including four of the astronomical titles listed above [nos. 1, 2, 3, and 5] with reference to relevant manuscripts, reference works, and secondary sources up to 1975, with the exception of the important article of Wiedemann in the first edition of the *Encyclopaedia of Islam*.)

Hill, D. (1986). "Ḳusṭā b. Lūkā al-Baʿlabakkī." In *Encyclopaedia of Islam*. 2nd ed. Vol. 5, pp. 529–530. Leiden: E. J. Brill. (Contains references to some of Qusṭāʾs works, including two on astronomy [with English titles, apparently nos. 1 and 3 above], and a short bibliography.)

Ibn Abī Uṣaybiʿa (1882–1884). *ʿUyūn al-anbāʾ fī ṭabaqāt al-atibbāʾ*, edited by August Müller. 2 Vols, Vol. 1, pp. 144–245. Cairo-Königsberg. (Contains a list of over 60 of Qusṭāʾs works including three astronomical titles [nos. 1, 3, and 4 above].)

Ibn al-Nadīm (1970). *The Fihrist of al-Nadīm: A Tenth-Century Survey of Muslim Culture*, edited and translated by Bayard Dodge. 2 vols, Vol. 1, p. 295; Vol. 2, pp. 694–695. New York: Columbia University Press. (Contains a list of over 30 of Qusṭāʾs compositions including 2 astronomical titles [nos. 1 and 3 above].)

Kheirandish, Elaheh (1999). *The Arabic Version of Euclidʾs* Optics (Kitāb Uqlīdis fī Ikhtilāf al-manāẓir). 2 Vols. New York: Springer-Verlag. (Contains discussions of Qusṭāʾs optical work, with reference to relevant sources and discussions ["Intermediate Books", mixed mathematical sciences, *etc.*].)

al-Qiftī, Jamāl al-Dīn (1903). *Taʾrīkh al-ḥukamāʾ*, edited by J. Lippert, Vol. 1, pp. 262–263. Leipzig: Theodor Weicher. (Contains a list of over 20 of Qusṭāʾs works including two astronomical titles [nos. 1 and 4 above].)

Ragep, F. J. (1993). *Naṣīr al-Dīn al-Ṭūsīʾs* Memoir on Astronomy *(al-Tadhkira fī ʿilm al-hayʾa)*. 2 Vols. New York: Springer-Verlag. (Contains as part of its exhaustive treatment of Ṭūsī and his important astronomical work, *al-Tadhkira*, discussions on several aspects of *ʿilm al-hayʾa* ["cosmography, configuration"].)

Rashed, Roshdi (1997). *Oeuvres philosophiques et scientifique dʾAl-Kindī*. Vol. 1, *Lʾoptique et la catoptrique*. Leiden: E. J. Brill. (Contains the Arabic text and French translation of Qusṭāʾs *Kitāb fī ʿilal mā yaʿridu fī al-marāyā min ikhtilāf al-manāẓir*.)

Saliba, George (August 2001). "The Social Context of Islamic Astronomy." In *Proceedings of the Conference: Islam and Science*. Amman: Royal Institute for Inter-Faith Studies, forthcoming. (Contains a discussion of Qusṭāʾs *Hayʾat al-aflāk* [composition date given as 860].)

Sezgin, Fuat *Geschichte des arabischen Schrifttums*. Vol. 3, *Medizin* (1970): 270–274; Vol. 5, *Mathematik* (1974): 285–286; Vol. 6, *Astronomie* (1978): 180–182. Leiden: E. J. Brill. (Contains a list of the manuscripts of Qusṭāʾs works including four astronomical titles [nos. 1, 2, 3, and 4 above], the last three suggested as possibly referring to the same work.)

Wiedemann, E. (1913). "Ḳosṭā b. Lūḳā, al-Baʿalbakkī." In *Encyclopaedia of Islam*. 1st ed., Vol. 4, pp. 1081–1083. Leiden: E. J. Brill. (Contains, in addition to a biography, references to his works including four astronomical titles [nos. 1, 3, 5, and 6 above, listed as separate works], with reference to the problems involved, including the attribution of no. 6 to Qusṭā [pp. 1082–1083], with a short bibliography.)

Wilcox, Judith (1985). "The Transmission and Influence of Qusta ibn Luqaʾs ʿOn the Difference between Spirit and the Soul.ʾ" Ph.D. diss., City University of New York.

——— (1987). "Our Continuing Discovery of the Greek Science of the Arabs: The Example of Qusṭā ibn Lūqā."

Annals of Scholarship 4, no. 3: 57–74. (Contains a more recent account of Qusṭā'ṣ scientific and philosophical works and relevant sources.)

Worrell, W. H. (1944). “Qusta ibn Luqa on the Use of the Celestial Globe.” *Isis* 35: 285–293. (Contains, in addition to relevant references, a useful list of six variant Arabic titles often assumed as representing different works [including nos. 1 and 6 above], an English summary and discussion based on the manuscript copy in Michigan.)