



## 'ABD-AL-RAḤMĀN B. 'OMAR ṢŪFĪ

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'ABD-AL-RAḤMĀN B. 'OMAR ṢŪFĪ, ABU'L-ḤOSAYN, astronomer, especially well versed in knowledge of the fixed stars, b. 291/903 in Ray, d. 376/986. He seems to have spent his life in close relationship to the rulers of the Buyid dynasty in Iran and Mesopotamia, especially 'Azod-al-dawla (d. 372/983). By his own statement, he visited Dīnavar in 335/946-47, and Isfahan in 337/948-49 with the master (*ostād*) and chief (*ra'īs*) Abu'l-Faḡl Moḡammad b. Ḥosayn, who obviously is identical with Ebn al-'Amīd (d. 359/970), the vizier of 'Azod-al-dawla's father, Rokn-al-dawla.

Ṣūfī left a number of works, the most important of which is *Ketāb ṣowar al-kawākeb al-ṭābeta* ("Book on the constellations of the fixed stars"). In this he gives a full description of the classical system of constellations, both according to the "scientific" Greek classification and to Arabic popular tradition. To this he adds his own observations and criticism of the traditions. Drawings of all the constellations, and tables of the individual stars of each constellation with coordinates (for the epoch 1 October 964) are included. This work is significant, not only for the complete description of the stellar sky, but even more for the valuable record of Ṣūfī's own observations. For knowledge of fixed stars, his book became a "classic" for many centuries throughout the Islamic world; and his name even became known to the Latin west, through translations, as "Azophi" (i.e. al-Ṣūfī). One of the lunar craters in modern astronomy is named Azophi in his honor. Other great astronomers drew from



his book, quoting him by name—e.g., Bīrūnī in his *Ketāb al-tafhīm le-awā’el ṣenā’at al-tanjīm* (1029) and *al-Qānūn al-mas’ūdī* (1030), and Uluḡ Beg in his star catalog of 1437. Bahā’-al-dīn Karaqī added to his *Montahā al-edrāk fī taqāsīm al-aflāk* a catalog of eighty-one stars, based on Ṣūfī’s book (for the epoch 1 October 1112, adding 2°15’ to Ṣūfī’s longitudes; cf. Berlin ms., Ahlwardt 5669, fols. 30r-31r). Even the Arab seafarers of the Indian Ocean knew his name and quoted from his book (Aḥmad b. Mājed, in his *Ketāb al-fawā’ed fī oṣūl ‘elm al-baḥr wa’l-qawā’ed*, ca. 1500). The descriptions of the forty-eight constellations in the much quoted *Cosmography* (*‘Ajā’eb al-maklūqāt*) of Zakarīyā’ b. Moḥammad Qazvīnī (d. 682/1283) are taken literally from Ṣūfī’s book without acknowledgment.

In the West, a Latin version of Ptolemy’s star catalog, from his *Almagest*, exists in several manuscripts, using Ṣūfī’s value of precession and containing drawings of the constellations after Ṣūfī’s models (see Kunitzsch, “Sufi Latinus”). Alfonso X of Castile (reigned 1252-84) had an Old Castilian version of Ṣūfī’s book made which was incorporated in his *Libros del saber de astronomia*. In 1665, T. Hyde, in the commentary to his edition of Uluḡ Beg’s star catalog, introduced many quotations from Ṣūfī’s book. From that source the Italian astronomer Giuseppe Piazzi picked up a great number of the Arabic star names which he gave to certain stars in his catalog *Praecipuarum stellarum inerrantium positiones*, Palermo, 1814, thus introducing these names into modern international astronomy. For medieval Arabic criticism of Ṣūfī by Bīrūnī and Ebn al-Ṣalāḥ, see Kunitzsch, *Ibn aṣ-Ṣalāḥ*, pp. 21, 38-74 (according to name index), 109-11. Other works by Ṣūfī are: *Ketāb al-‘amal bi’l-aṣṭorlāb* (“Book on the use of the astrolabe”), *Ketāb al-‘amal bi’l-korat al-falakīya* (“Book on the use of the celestial globe”), and *Ketāb al-madkal fī [‘elm] al-aḥkām* (“Introduction to the science of astrology”), the last two of which are still unpublished. A geometrical treatise by Ṣūfī is listed by A. Sezgin, *GAS* V, pp. 309f. According to Ebn al-Qeftī (d. 1248), a celestial globe made by Ṣūfī for ‘Azod-al-dawla was extant in Egypt in 435/1043-44. It is reported to have been of silver, weighing 3,000 dirhams, and purchased at a price of 3,000 dinars.

Some manuscripts contain a poem on the constellations in the *raǰaz* meter (*Orǰūza fī ṣowar al-kawākeb al-tābeta*) by Abū ‘Alī b. Abu’l-Ḥosayn Ṣūfī. This author has sometimes been regarded as the son of ‘Abd-al-Raḥmān Ṣūfī; this seems improbable, because the poem is dedicated to Šāhanšāh Abu’l-Ma‘ālī Faḡr-al-dīn—apparently the Artuqid ruler of Ḥeṣn Kayfā (538-39/1143-44).



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