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Isfizārī: Abū Ḥātīm al-Muzāffar ibn Ismā‘īl al-Isfizārī

Mohammed Abattouy

Flourished **Khurāsān, (Iran), late 11th/early 12th century**

Isfizārī, a contemporary of ‘**Umar Khayyām** and ‘**Abd al-Rahmān al-Khāzinī**, constructed an accurate balance, composed books on mathematics and meteorology, and was inclined to the sciences of astronomy (*hay’a*) and mechanics. Few details of his biography are known. The historian Ibn al-Athīr and the astronomer **Qutb al-Dīn al-Shīrāzī** link him to the observatory in Iṣfahān sponsored by the Saljūq king Malik-Shāh (reigned: 1072-1092). Nizāmī-i ‘Arūdī reports that he met with Isfizārī in Balkh (in present-day Afghanistan) in 1112 or 1113 in the company of Khayyām. Finally, Khāzinī writes, in 1121-1122, that he was already deceased. The most significant extant writing of Isfizārī is his treatise *Irshād dhawī al-‘irfān ilā ṣinā‘at al-qaffān* (Guiding the learned men in the art of the steelyard), a two-part text on the theory and the practice of the steelyard balance. Three other texts constitute the rest of his scientific *oeuvre*: a summary of the so-called 14th book of Euclid’s *Elements*, a text on geometrical measurements, and a treatise on meteorology in Persian.

No work of astronomy by Isfizārī has reached us. However, he was one of the astronomers of Malik-Shāh Observatory in Iṣfahān, although we do not know the exact date he joined the observatory or how long he stayed there. This observatory was one of the most important institutions of its kind in the 11th-century Islamic world. Its program of astronomical research was active for about 20 years, from 1074-1075 until 1092, terminating with the death of both Malik-Shāh and his influential minister Nizām al-Mulk. According to Qutb al-Dīn al-Shīrāzī, there were eight men on the staff of the observatory, which included Isfizārī, ‘Umar Khayyām, Maymūn ibn Najīb al-Wāsiṭī, Muḥammad ibn Aḥmad al-Ma‘mūrī, and Abū al-‘Abbās al-Lawkarī.

The collective work done at the Malik-Shāh Observatory was directed principally toward the reform of the solar calendar then in use in Iran. The result was the Jalālī calendar, which was one of the most accurate calendars ever devised. (For more information on this calendar, see the entry on Khayyām.)

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