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Abharī: Athīr al-Dīn al-Mufaḍḍal ibn ‘Umar ibn al-Mufaḍḍal al-Samarqandī al-Abharī

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Born probably Mosul, (Iraq)

Died Shabustar, (Iran), possibly 1265

Abharī, sometimes referred to as “Athīr al-Dīn al-Munajjim” (the astrologer), was a well-known philosopher who wrote influential texts in logic, mathematics, and astronomy. There has been diverse speculation about where and when Abharī was born, with the predominant opinion being that he was born in Mosul. “Samarqandī” in his name indicates that either he or his ancestors originally stemmed from there, most likely belonging to the Abhar tribe.

Little information is known about Abharī's education. It is thought that he attended primary school in Mosul and later traveled to the scientific and cultural centers in Khurāsān, Baghdad, and Arbil to continue his studies. The biographer Ibn Khallikān reports that Abharī took part in the assemblies of the famous scholar Kamāl al-Dīn ibn Yūnus (died: 1242) and even worked as his assistant at the Badriyya School in Mosul. Other reports claim that Abharī was a student of the renowned theologian Fakhr al-Dīn al-Rāzī (died: 1210), that he taught at the Sharafiyya School in 1248 in Baghdad, that he traveled to Iran from Mosul, that he lived for a time in Sivas in Anatolia, and that he eventually died of paralysis in Azerbaijan.

Abharī was an important figure in Islamic intellectual history not only because of his writings but also because of his teaching and interactions with scholars of the period. Among his students were the famous historian Ibn Khallikān (already mentioned), the philosopher Najm al-Dīn al-Kātibī, and Shams al-Dīn Muḥammad al-Iṣfahānī. He also had fruitful exchanges with the cosmologist ‘Imād al-Dīn Zakariyyā ibn Maḥmūd al-Qazwīnī and the famous astronomer and polymath **Naṣīr al-Dīn al-Tūsī**.

Abharī studied astronomy under Kamāl al-Dīn ibn Yūnus, and his keen interest in the subject, as well as a desire to produce textbooks, led Abharī to deal with astronomy in several of his works. For example, he devoted the second part of the third chapter of his work, *Kashf al-ḥaḳā’iq fī taḥrīr al-daḳā’iq*, to astronomy. There he accepts the widely held view that the celestial bodies do not undergo the changes found in the sublunar realm, such as division or rejoining, diminution or growth, expansion or contraction, and so forth. He also maintains that stars are alive and have volition, which was the ultimate source of their motion.

Abharī's independent astronomical works include treatises on the astrolabe, commentaries on earlier *zīj*es (astronomical handbooks with tables), and compendia on astronomy. In the latter category, we find a *Risāla fī al-hay'a* (Treatise on astronomy; extant in Istanbul, Süleymaniye, H. Hüsnü MS 1135) and a *Mukhtaşar fī al-hay'a* (Epitome of astronomy, extant in Istanbul, Süleymaniye, Carullah MS 1499). Both contain standard expositions of the cosmography of the orbs (*aflāk*), spherical astronomy, planetary motion, and the characteristics of the terrestrial climes. This *Mukhtaşar* includes 22 sections and 119 figures, and is said to be an epitome of astronomical works by **Küşyār ibn Labbān** and **Jābir ibn Aflah**.

Abharī wrote several mathematical works, including a "Correction" (*Işlāḥ*) of Euclid. Among the "corrections" is an attempt to prove the parallels postulate. This was quoted in later works, in particular by **Samarqandī**, who was critical of Abharī's proof. In both mathematics and astronomy, Abharī seems to have had a significant influence on science during the Ottoman Period.

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