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Jaghmīnī: Sharaf al-Dīn Maḥmūd ibn Muḥammad ibn ‘Umar al-Jaghmīnī al-Khwārizmī

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Flourished **Khwārizm (Uzbekistan), first half of the 13th century**

Jaghmīnī is the author of the ubiquitous elementary astronomical text *al-Mulakhkhaṣ fī al-hay’a al-basīṭa* (Epitome of plain theoretical astronomy). This popular, simplified (*i.e.*, without proofs) introduction to astronomy, written in Arabic, was the subject of an enormous number of extant commentaries and supercommentaries. These commentaries (many written in Persian as well as Arabic) were meant to be studied along with the *Mulakhkhaṣ* and used as supplements for more advanced teaching texts.

The *Mulakhkhaṣ* is an elementary summary of the configuration of the celestial and terrestrial worlds, and the orbs and sublunar levels contained therein. It is composed of an introduction and two sections. The introduction is an explanation of the divisions of the bodies in general; Section 1 is divided into five parts and is an explanation of the celestial orbs and what pertains to them; and Section 2 is divided into three parts, and is an explanation of the Earth and what pertains to it.

It is noteworthy that *al-Mulakhkhaṣ* lacks any treatment of sizes and distances of the celestial bodies, which one typically finds in other astronomical textbooks of a similar genre. (See, for example, works by **Ṭūsī**, **Kharaqī**, and **‘Urdī**.) Presumably, the difficulty of the subject matter in so elementary a textbook made its placement there inappropriate. Indeed, Jaghmīnī is purported to have written a separate treatise on the subject in a unique manuscript (Cairo, Dār al-kutub MS Ṭal’at majāmī’ 429/2, f. 4a-4b).

There has been some confusion regarding Jaghmīnī's dates; he has several times been misdated as living *circa* 1344/1345 (Suter 1900, p. 164; Suter/Vernet *EI2*, p. 378; Sezgin 5: 115), in part because of confusion between him and another Jaghmīnī, a physician, who lived at that time. The date of composition of the *Mulakhkhaṣ* is given as *circa* 618 H./1221–1222 by several sources (C. Storey, D. King, and E. İhsanoğlu). In any event, we can safely place him as living in the early 13th century due to an Istanbul manuscript (Lâleli 2141) that contains a copy dated 644 H./1246–1247.

Furthermore, there has been speculation that Jaghmīnī may have lived after Naṣīr al-Dīn al-Ṭūsī since maximum daylight times in some copies of Jaghmīnī's text clearly derive from Ṭūsī's *Tadhkira* (see Ragep, 2: 470–471). However, this simply represents an excellent example of how the *Mulakhkhaṣ*, as a textbook “in progress,” was continuously updated and changed by commentators and copyists, especially when they felt more reliable information was available. (In this case Ṭūsī's data were considered more correct than **Ptolemy**'s and were thus substituted for Jaghmīnī's original data.)

The educational tradition represented by the transmission, transformation, commentaries, and study of Jaghmīnī's text was thriving in the Ottoman period well into the 18th century (İhsanoğlu, *History*, pp. 586–587). Indeed, the *Mulakhkhaṣ* tradition exists in thousands of extant copies of the original as well as commentaries, supercommentaries, and glosses. There were at least 15 commentators, including **Faḍlallāh al-‘Ubaydī**, **Kamāl**

al-Dīn al-Turkmānī, the theologian **al-Sayyid al-Sharīf al-Jurjānī**, and **Qāḏizāde al-Rūmī**, who dedicated his commentary, written in 1412, to **Ulugh Beg**. Qāḏizāde's commentary then became the subject of numerous supercommentaries by such authors as Sinān Pāshā (died: 1486) and **'Abd al-'Alī al-Birjandī**.

This continuous chain of astronomical learning represented by the *Mulakhkhaṣ* and its commentaries and supercommentaries – one that extended for a period of 500 years – is a significant indication of an active, ongoing educational tradition within Islam.

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