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BAHĀʾ-AL-DĪN ḴARAQĪ

BAHĀʾ-AL-**DĪN** ABŪ BAKR MOḤAMMAD B. AḤMAD B. ABĪ BEŠR **ḴARAQĪ** (MARVAZĪ) was born in a village named Ḵaraq near the city of Marv, where he apparently spent his professional life and where he died in 533/1138-39. His name is sometimes given as Abū Moḥammad ʿAbd-al-Jabbār b. ʿAbd-al-Jabbār b. Moḥammad; and he is sometimes identified with Bahāʾ-al-Dīn Abū Moḥammad Ḵaraqī, a philosopher and expert on the mathematical sciences of whom a biography is given by Bayhaqī (Wiedemann, pp. 72-73 [*Aufsätze* I, pp. 654-55]).

Bahāʾ-al-Dīn's most important work was on astronomy, geography, and chronology, the *Montaha ʾl-edrāk fī taqāsīm al-aflāk* (The limit of the reachable concerning the division of the spheres), (*Kašf al-ẓonūn* (Leipzig), VI, no. 13124). This consists of three *maqālāt*, of which the first, on the arrangement of the celestial spheres, supports the theory of Abū Jaʿfar al-Ḵāzen and of Ebn al-Hayṯam that the planets are carried by physically solid spheres; in it Ḵaraqī gives the coordinates of 83 fixed stars and the longitudes of the apogees of the planets for the year 1444 of "Alexander," which began on 1 October 1132 (Nallino, I, pp. lxvi-lxvii), and gives the common Islamic values for the obliquity of the ecliptic (23;35°; Nallino, I, p. 159) and the precession of the equinoxes (1° in 66 years; Nallino, I, p. 292). The second *maqāla* describes the earth, including the computation of the local oblique ascensions and ascendants. Its second *bāb*, on the oceans and seas, which is based on the lost work of Jayhānī, has been edited, translated into Latin, and compared to Battānī and Ebn Rosta (Nallino, I, pp. 167-75; II, p. xxiii). And a passage from

this *maqāla* concerning the terrestrial path of the equator and the "cupola" of the earth has been edited and translated into French (Ferrand, pp. 4-6, 17-20). The third and last *maqāla* discusses chronology (Nallino, I, p. 245), including the astrological concepts of Jupiter-Saturn conjunctions and of cycles. The introduction of the *Montaha ʾl-edrāk* has been translated into German (Wiedemann and Kohl, pp. 205-09 [*Aufsätze* II, pp. 630-34]).

Ḵaraqī himself composed a summary of the *Montaha ʾl-edrāk* in two books. He entitled this the *Tabṣera fiʾl-hayʾa* (Instruction concerning astronomy) (*Kašf al-ẓonūn*, III, no. 2379) and dedicated it to Sanjar's vizier Abu'l-Ḥosayn ʿAlī b. Naṣīr-al-Dīn. The introduction to this work has also been translated into German (Wiedemann and Kohl, pp. 209-11 [*Aufsätze* II, pp. 634-36]). The *Tabṣera* was extremely popular as can be judged from the large number of extant manuscripts and from the fact that commentaries on it were composed by Moḥammad b. Mobārakšāh Boḵārī in 733/1332-33 (Brockelmann, p. 863) and by Aḥmad b. ʿOṯmān Jūzjānī, who died in 744/1343-44 (Suter, p. 164).

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