

From: Thomas Hockey et al. (eds.). *The Biographical Encyclopedia of Astronomers*, Springer Reference. New York: Springer, 2007, p. 733

Courtesy of  Springer
science+business media

http://dx.doi.org/10.1007/978-0-387-30400-7_896

Ma'mūn: Abū al-'Abbās 'Abdallāh ibn Hārūn al-Rashīd

Len Berggren

Born Baghdad, (Iraq), 14 September 786

Died near Tarsus, (Turkey), August 833

Ma'mūn was the son of Caliph **Hārūn al-Rashīd**, a patron of the arts whose fame has come down to us in the tales of the *Thousand and One Nights*. Hārūn also supported a fine library in Baghdad, called "The Treasure House of Wisdom," as well as the translation of foreign works in various fields. So Ma'mūn, brought up in an educated environment, was not only learned in the traditional Muslim studies but also was aware of a wider world of foreign learning. When he came to the throne as the seventh caliph of the 'Abbāsīd Empire in 813, he was among the well-educated men of his time.

Ma'mūn spent his early years as caliph consolidating his reign and building internal unity in a diverse empire. It has been argued that part of that endeavor involved commissioning Arabic translations of important Persian documents, as part of a project of Arabicizing Persian learning. Since, in addition, many Persian intellectuals believed that Greek learning was in fact based upon older Persian learning, Ma'mūn commissioned translations of Greek material as well. Apart from these political considerations, however, there was undoubtedly a genuine interest on Ma'mūn's part in the learning of the Greeks. There is also a story of a dream in which Ma'mūn saw the Greek sage, **Aristotle**, reassuring him that religion and learning were not enemies and that Ma'mūn's support of foreign learning was not a threat to Islam.

Ma'mūn was zealous in his search for new material and sent the scholar Salm to Byzantine lands to buy manuscripts. (Salm also helped to improve an Arabic translation of **Ptolemy**'s astronomical classic, *The Almagest*.) According to some reports Ma'mūn founded, in the early 830s before his death, the Bayt al-Ḥikma, the House of Wisdom. However, some historians have argued that this was less a new foundation than an extension of the Treasury of Wisdom that was already in existence at the time of Hārūn. In any case we do know that Mā'mūn supported scholars of many nations and professing many faiths, who studied, translated, and disseminated wisdom and learning, particularly that of the Greeks.

In addition to his general interest in the learning of the ancients, part of Ma'mūn's support for astronomy was based on its utility for astrology, a subject with which it was to be closely associated for many centuries. Whatever the motives for his support, the result of these translation efforts was the translation into Arabic of a number of Greek astronomical works. These included the introductory treatises of **Theodosius**, Euclid, **Menelaus**, and **Aristarchus**, as well as all of

Ptolemy's works.

In addition to supporting the intellectual climate in which this work could be done, Ma'mūn also sponsored two sets of observations. The first was done in Baghdad, in 828, in the Shammāsiyya area, by astronomers including **Yahya ibn Abi Mansūr** and the noted mathematician **Khwarizmi**. (Two others were **Sanad ibn 'Ali** and **'Abbās al-Jawhari**.) The Shammāsiyya observations were conducted around the times of the solstices and equinoxes, and it appears that Ma'mūn took an active interest in them. **Bīrūnī** informs us in his *Tahdīd* that Ma'mūn rejected the first set of observations of 828 because of the big difference between the values for the maximum and minimum altitudes of the Sun (at the summer and winter solstices, respectively) at those observations and at the latter ones.

Yahya died before Ma'mūn left on one of his campaigns against the Byzantines in the early 830s. After his death, Ma'mūn decided to do new observations at Dayr Murrān on a hill near Damascus. Accordingly, he charged **Khālid ibn 'Abd al-Malik al-Marwarrūdhī** with the task of doing observations over the period of a year with a new set of instruments. The observations, done in two periods between 831 and 833, lasted more than a year. They pleased Ma'mūn sufficiently for him to order that astronomical tables be prepared on the basis of their results. Since the observations both in Damascus and Baghdad seem to focus entirely on the Sun and Moon, these tables must have reflected earlier material for planetary motions.

Quite apart from these undoubted contributions to astronomy, Ma'mūn furnished an example of the type of a ruler that found many echoes in medieval Islam. The result was the development of the observatory as a new scientific institution, a development directly inspired by Ma'mūn, and, more generally, a tradition of royal patronage of astronomy.

Selected References

Ali, Jamil (trans.) (1967). *The Determination of the Coordinates of Cities: Al-Bīrūnī's Tahdīd al-Amākin*. Beirut: American University of Beirut.

Gutas, Dimitri (1998). *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early 'Abbāsīd Society (2nd-4th/8th-10th centuries)*. London: Routledge.

Rekaya, M. (1991). "al-Ma'mūn, Abu 'l-'Abbās." In *Encyclopaedia of Islam*. 2nd edn. Vol. 6, pp. 331-339. Leiden: E. J. Brill.

Sayılı, Aydın (1960). *The Observatory in Islam*. Ankara: Turkish Historical Society.