Najm al-Dīn al-Miṣrī: Najm al-Dīn Abū ʿAbd Allāh Muḥammad ibn Muḥammad ibn Ibrāhīm al-Miṣrī

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Flourished **Cairo, (Egypt)**, *circa* **1300–1350**

Little is known of the life of the Cairene applied astronomer Najm al-Dīn al-Miṣrī, who was a contemporary of **Mizzī**. Several works, though, help document his scientific activities. Following are some of them:

1. A concise treatise on spherical astronomy entitled *Treatise on the Universal Operations [of Timekeeping] by Calculation*.

2. A short treatise on approximate methods of timekeeping.

3. A huge set of tables covering 419 folios, extant in two codices, which form the first and second halves of a single copy that was later split. In the main table, the time since the rising of the Sun or a star is tabulated in terms of three arguments. With nearly 415,000 entries, this is the single largest mathematical table ever compiled before the late 19th century.

4. An anonymous treatise, which can be attributed to Najm al-Dīn al-Miṣrī, gives detailed instructions on how to use these as universal auxiliary tables for solving all problems of spherical trigonometry for any terrestrial latitude. (The tables and the commentary have been analyzed in Charette, 1998.)

5. The previous item forms the prologue of an illustrated treatise – also anonymous – on the construction of over 100 different astronomical instruments (astrolabes, quadrants, sundials, *etc*.). This work has been recently shown to be by Najm al-Dīn al-Miṣrī (Charette, 2003). The text and its accompanying illustrations represent one of the richest and most astounding medieval sources on the topic of astronomical instrumentation.

Although Najm al-Dīn's writings suggest that he was not a first-rate astronomer, especially on the theoretical level, his intuitive and practical, "hands-on" approach to timekeeping (*mīqāt*) and

instrumentation did yield original results.

Selected References

Charette, François (1998). "A Monumental Medieval Table for Solving the Problems of Spherical Astronomy for All Latitudes." *Archives internationales d'histoire des sciences* 48: 11–64.

——— (2003). *Mathematical Instrumentation in Fourteenth-Century Egypt and Syria: The Illustrated Treatise of Najm al-Dīn al-Mißrī*. Leiden: E. J. Brill.