

reduce the level of conjecture about portable sundials that Talbert was obliged to take.

This is a fascinating and eminently scholarly book that is the first to focus attention on this important aspect of Roman timekeeping, and Oxford University Press is to be commended for publishing the many photographs with the clarity required to see the fine details commented upon by the author.

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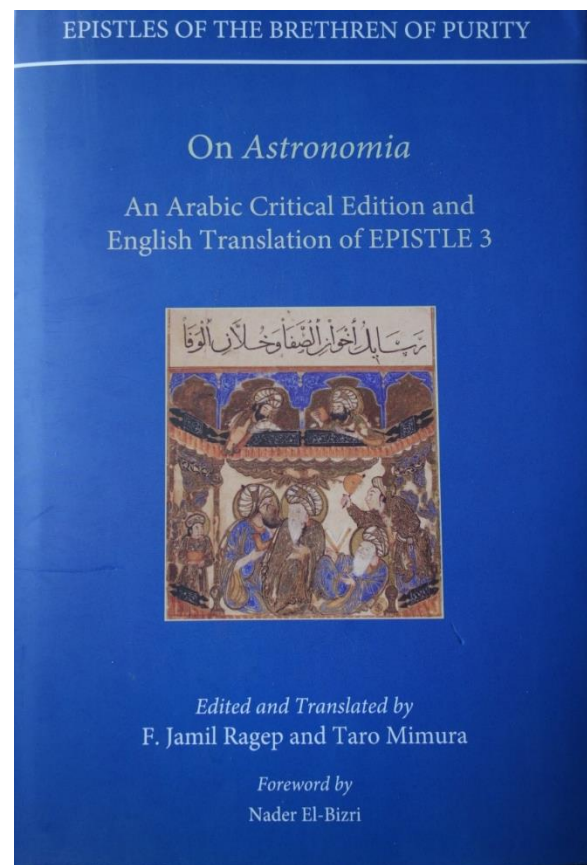
***On Astronomia: An Arabic Critical Edition and English Translation of EPISTLE 3*, edited and translated by F. Jamil Ragep and Taro Mimura, foreword by Nader El-Bizri, Epistles of the Brethren of Purity (Oxford, Oxford University Press in association with The Institute of Ismaili Studies, 2015), pp. 352. ISBN 9780198747376, 156 × 234 mm, £50.**

The Brethren of Purity were a secretive society in tenth-century Iraq. They gained prominence in the history of Islamic science and philosophy through fifty-two Epistles that were widely read and copied. Written by anonymous members of the fraternity, the Epistles covered various branches of the natural sciences, philosophy, and theology. The brethren were perhaps not among the greatest scientific authorities of their age. However, they were still influential in bringing together, and popularizing, diverse areas of knowledge. Due to their prominence, modern scholars started editing the Epistles and translating them into European languages as early as the nineteenth century. However, these editions and translations were incomplete and often uncritical. The Institute of Ismaili Studies in London built on these efforts to produce a more definitive edition of the Arabic text as well as an English translation. After an introductory book published in 2008, Epistle 3, *On Astronomia*, is the eighth volume in the Institute's series.

The word *Astronomia* in the epistle's Arabic title (*al-aṣṭrunūmiyā*) is the transliteration of a Greek word that encompasses both astrology and astronomy in the modern sense. The Epistle covers both areas of knowledge, but with a focus on astrology. It is primarily didactic and scientifically neither 'creative' nor 'insightful', as the editors write in their introduction (page 4). The astronomical and astrological contents can be found in earlier works by Ptolemy, Abū Ma'shar, and Farghānī. The most interesting aspect of the work is perhaps its adaptation and combination of Arabic and Greek, Islamic, Christian, and pagan thought. The Epistle quotes the Qur'an as well as the gospels of Matthew, Mark and Luke. Muhammad is part of the Epistle, as

are various Biblical figures, including Abraham, Jesus, John the Baptist, Moses, Noah, and Zachariah. Among Greek philosophers and scientists, Aristotle, Diogenes, Ptolemy, Pythagoras, and the Pythagoreans appear. The Brethren of Purity engaged in such syncretism in order to demonstrate the harmony of the Universe and to offer the reader moral and spiritual guidance. The Epistle's subtitle describes it as a text "... for improving the soul and rectifying character." (page 21). Understanding God's perfect design of the cosmos would help people adopt proper conduct and reach happiness and salvation, the fraternity argued.

The Epistle contains around thirty-two main chapters plus thirteen additional ones at the end of two of the manuscripts. The astronomical content includes the yearly motion of the Sun, the seasons, and solar and lunar eclipses. The



Brethren of Purity also described the motions of Saturn, Jupiter, Mars, Venus and Mercury through the orbs, which are, "... spherical, transparent, and hollowed-out bodies." (page 26). Astrological chapters characterize and divide the zodiacal signs. Furthermore, the Epistle relates these signs to the Sun, Moon and planets through accounts of houses and detriments, decans and their lords. Other chapters are devoted to divine providence and salvation as well as numerology.

The editors have produced the most comprehensive and useful edition and translation of the

brethren's Epistle 3 to date. F. Jamil Ragep and Taro Mimura used seven manuscripts from Istanbul and Tehran that had been completed between the twelfth and the fifteenth centuries. Footnotes and appendices with additional chapters preserve the variations between the different manuscripts. Another appendix consists of a concordance of manuscripts and a previous edition published in Beirut. The English translation is accurate and mostly literal, giving a good feel of the Arabic. However, as a result, perhaps only specialists in ancient and medieval history will find the text easy to read and particularly enjoyable. Even the editors' introduction is itself very technical. Nevertheless, Ragep and Mimura have tried to help modern readers as much as possible. Arabic and English indices list subjects, terms and quotations from scripture. Moreover, a glossary includes Arabic concepts and their English equivalents. Finally, a four-page bibliography includes valuable suggestions for further reading.

Although the epistles of the Brethren of Purity were popular in pre-modern times, the appeal

of a critical edition and largely literal translation, like Ragep and Mimura's, might be limited to scholars. Nevertheless, among academics, *On Astronomia* is of interest not just to historians of Arabic and Islamic science. Because of the Brethren's inclusion of Hellenistic philosophy and Biblical material, the epistle is a valuable document for the wider study of late antique and medieval intellectual history and for understanding the relationship between science, religion and philosophy. In his foreword, Nader El-Bizri, the General Editor of the series, placed the Epistles of the Brethren of Purity "... amongst the distinguished Arabic classics and the high literature of Islamic civilization." (page xx). However, *On Astronomia* can be seen as part of Hellenistic and wider Abrahamic traditions as well as an Islamic one.

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