
Epistles of the Brethren of Purity: On Arithmetic and Geometry. An Arabic Critical Edition and English Translation of Epistles 1 and 2 edited and translated by Nader El-Bizri

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In a fable that appears in epistle 22 of the *Rasā'il Ikhwān al-Ṣafā* (*The Epistles of the Brethren of Purity*), the remarkable philosophical compendium dating from the fourth century AH (10th century AD), humans are compelled to defend themselves against accusations of overbearance by members of the animal kingdom. The final witness (and the one who wins the day for humans) is described as a man who is

Persian in derivation (*al-fārisī al-nisba*), Arabic in faith, Hanafi in *madhhab*, Iraqi in culture, Hebrew in lore, Christian in conduct, Syrian in piety, Greek in scientific knowledge, Indian in contemplation, and Sufi in spirituality.

Though the authorship and precise dating of the *Rasā'il* remain uncertain, the eclectic background of this fictional defender of humanity reflects well the cosmopolitan nature of Islamic society, particularly as represented by the rich cultural setting of Basra (the likely provenance of the work) at the time the book was written. The period was one that witnessed the weakening of central Abbasid power in Baghdad as well as the rise of Shi'a political fortunes—the rule of the Buyids in Iraq and Persia, and of the Fatimids in North Africa and subsequently in Egypt. The cultural productivity of this period was driven in part by an increase in the prestige of regional centers of culture in an era that witnessed, for example, the peregrinations of such extraordinary figures as al-Mutanabbī (d. AD 965) traveling in search of patronage from Aleppo to Fustat and Shiraz. Important also was an increased interest in esoteric knowledge and gnostic doctrines, particularly by followers of the Shi'a branch of Islam, a development that appears to have led, in turn, to a renewed appreciation for philosophy and the pre-Islamic sciences.

The sprawling nature of the *Rasā'il*, which holds as its aim nothing short of a scholarly presentation of every branch of knowledge known to its author or authors, is no doubt part of the challenge of editing this work for publication. More than 1,000 pages long, the work is divided into 52 epistles with 14 on mathematics and the educational sciences, 17 on the natural sciences, 10 on the psychological and rational sciences, and 11 on the theological sciences. Despite its vast scope, however, the *Rasā'il*, has seen several modern editions. Of varying quality and often silent regarding their manuscript sources, these editions—including the pioneering 19th-century work of Friedrich Dieterici (d. 1903) and a reliable multivolume set published by Dār Ṣādir (Beirut, 1957)—stand as testaments to the abiding interest in the *Rasā'il*. Given the significance of this work as a comprehensive classification of the knowledge of its era as well as its importance as a source for the subsequent development of Islamic philosophy, a new series of critical editions published under the general editorship of Nader El-Bizri by the Institute of Ismaili Studies (IIS), London, is a welcome addition to the scholarship of the *Rasā'il* and to the field of premodern Islamic history as a whole.

On Arithmetic and Geometry: An Arabic Critical Edition and English Translation of Epistles 1 & 2, which has been edited by El-Bizri himself, takes its place among previously published works in the IIS series (which include critical editions of epistle 22, *The Case of the Animals versus Man before the King of the Jinn*; epistles 10–14, *On Logic*; epistle 5, *On Music*; and epistle 52, *On Magic*). In this latest addition to the series, epistle 1, on arithmetic (for which an English translation—duly noted by El-Bizri—was published by Bernard Goldstein in 1964), presents the properties of numbers in 25 chapters using a synoptic format aimed at the novice or initiate. Rather than present the most advanced mathematical results of its era, this epistle focuses on providing a dependable basis for the subsequent presentation of other topics. Absent here, for example, are developments in algebra that occurred within the Islamic world in the decades leading to the 10th century. Influenced by the works of the Neopythagorean mathematician Nicomachus of Gerasa (d. ca AD 120), epistle 1 is heavily imbued with Pythagorean and Hermetic doctrines regarding the symbolism of numbers and the correspondence between numbers and the natural and supernatural worlds.

Epistle 1 is imbued, as well, with the soteriological properties of knowledge and its ability to free the soul from earthly bondage, a sentiment that pervades

the work as a whole. We encounter in this first epistle not only the treatment of ‘whole numbers and fractions’, ‘multiplication, roots, and cubes’, and ‘propositions from Euclid’s *Elements*, Book II’, but also a discussion of ‘arithmetic and the soul (*‘ilm al-‘adad wa al-nafs*)’ in which the soul is described as the ‘essence’ in which the various branches of the science of numbers are embedded as accidentals. A final chapter on ‘the purpose of the sciences (*al-gharaḍ min al-‘ulūm*)’ outlines the manner in which mastery of the mathematical sciences is meant to serve as prerequisite to mastery of the natural sciences, which are in turn a stepping-stone to the theological sciences and the science of the soul, all with a goal of ensuring the soul’s salvation.

Epistle 2 is inspired by Euclid’s *Elements* (books 1–8), and presents in 27 chapters various topics related to geometry, defined as the branch of knowledge that ‘inquires about magnitudes, distances, and the quantity of their kinds, along with the properties of their types (*ma‘rifat al-maqādīr wa al-ab‘ād wa kamiyat anwā‘iha wa khawāṣ tilka al-anwā‘*)’. Included in this epistle are such unexpected features as the division of lines into

- rectilinear,
- *muqawwas* (i.e., semicircular arches outlined with a *birkār*, i.e., a *parḡār* or compass, from the Persian), and
- *al-khaṭṭ al-munḡani* (rendered by El-Bizri as ‘bumpy’ line), a composite shape consisting of an arc with two straight end pieces.

Novel, as well, is the inclusion in the section on planar angles of angles formed by the intersection of rectilinear and *muqawwas* lines or those formed by two *muqawwas* lines. The heavy Neoplatonism that permeates the work as a whole figures in chapter 11 of this second epistle in a somewhat strained discussion of how a ‘triangle is the origin of all figures.’ Chapter 18, ‘On intellective geometry’, describes the aims of the consecutive presentation of arithmetic and geometry as raising the reader from the realm of the sensible (*al-maḡsūsāt*) to that of the intelligible (*al-ma‘qūlāt*), thus fulfilling a Platonic program of re-orienting the sensibilities of the initiate from corporeal matters to spiritual ones.

For his study, El-Bizri relied on nearly two dozen manuscripts from collections in Europe, Turkey, and Iran. Digital reproductions of these manuscripts, which have been assembled by the IIS in London, represent a remarkable research tool for scholarship on the *Rasā‘il*, though use of these digital copies is limited to scholars working on future publications in the same IIS *Rasā‘il*

series. The core group of five manuscripts used for editing epistles 1 and 2 included MS Atif Efendi 1681, the oldest known surviving manuscript of the *Rasā'il*. Dated to AD 1182, this important manuscript nonetheless likely post-dates the work itself by more than two centuries, hinting at the difficulties in arriving at an authoritative *ur*-text for this important work.

In describing the core group of manuscripts, El-Bizri stresses some of the intractable issues facing scholarship on the *Rasā'il*. These include the idiosyncrasies and divergences of the language in the various extant manuscripts and the resulting difficulties in arriving at even a provisional description of the influences and commonalities between the various members of the manuscript tradition. In the absence of such evidence, El-Bizri has set the aforementioned MS Atif Efendi as his base-text, while subjecting it to a comparison with other members of the core-group as well as the 1957 Beirut edition. (Sadly, the sources for this manuscript were left unrecorded.) Given these editorial challenges, El-Bizri emphasizes as well the need for future studies to 'uncover the mysteries that surround the lineage of the manuscripts' in the hope of arriving someday at something approaching a *stemma codicum*. Here he offers instead some general observations regarding the common features of members of his core-group with respect to lacunae, appended material, and other details. It should be noted that this information, while intriguing, could perhaps have benefitted from visual evidence from the manuscripts themselves. A more substantial criticism regarding this work concerns the decision to set paragraph breaks at different points in the Arabic and English texts, a decision which appears to have been made for no discernible reason. Besides these two quibbles, there is little else in El-Bizri's admirable work to fault.

Imbued with a rare spirit of tolerance for various philosophical schools that preceded it, the *Rasā'il* often surprises the reader with its readiness to consider and give credence to these inherited knowledge-systems—as can be seen, for example, in the fable of the animals and the exemplar of humanity and his unorthodox intellectual and philosophical pedigree mentioned in the opening paragraph. In epistle 2, we see the purpose of the educational program of the Brethren of Purity and their *Rasā'il* laid out cogently as

salvation from this world, which is the realm of generation and corruption, and from the sufferings of hell and the company of demons and *Iblis*' soldiers and by way of ascending to the domain of the celestial spheres and the vastness of the

heavens [with the help of those] who are brothers to you, who are counsellors to you and virtuous friends...who are knowledgeable about the articles of faith and are knowers of the truth of things.

Epistles 1 and 2 of the *Rasā'il*, now available in a new edition and translated into English by El-Bizri, represent the critical first steps of this vast project of salvation in a remarkable premodern Islamic text that is marked by an admirable inclusivity and a laudable cosmopolitanism.

BIBLIOGRAPHY

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