

Ann Giletti and Dag Nikolaus Hasse, eds, *Mastering Nature in the Medieval Arabic and Latin Worlds: Studies in Heritage and Transfer of Arabic Science in Honour of Charles Burnett* (Turnhout: Brepols, 2023). Print, 292 pp., €100.00, ISBN: 979-2-503-60448-0.



Review

The edited collection, *Mastering Nature in the Medieval Arabic and Latin Worlds*, provides a rich and varied assortment of contributions that began as papers presented at the Institute of Philosophy, Würzburg University, which former PhD students of Charles Burnett organised in his honour. The diverse scientific topics of these articles emphasise the sheer contribution to and mastery of Arabic and Latin traditions in sciences achieved by Burnett on a level not unlike the scientific experts discussed throughout the volume. However, as noted by the editors in their introduction, these medieval scientific experts held mastery in a different way to modern senses - 'gaining mastery did not mean that they could control nature, but equipped with this knowledge they could situate human beings in relation to the surrounding world, navigate through it, and predict, prepare for and mitigate the harsher impacts of nature and of fates held in the stars' (p. 11). This volume explores and stresses the different factors studied by medieval scientists through eight carefully researched articles.

In chapter one, Dorian Gieseler Greenbaum examines the work of Persian astrologer Abū Ma'shar and his skills in predictive astrological techniques, notably

Planetary Lots. Greenbaum tracks the development and use of Planetary Lots from Hellenistic astrology, to Abū Ma'shar's use and synthesis of these traditions and their incorporation, meaning, and transmission into medieval astrology. This chapter includes an exceptionally clear introduction to Lots as a concept — their links to love, health, fortune, family, and marriage — and how they are calculated (p. 20), alongside various tables and figures which illustrate the prose explanations. Chapter two sees Godefroid De Callataÿ introduce the geography and philosophy of the Ikhwān al-Ṣafā, who, contrary to the bulk of Muslim geographers, suggested that the different parts of the earth's surface move as a result of the cyclical motions of heavenly bodies. He suggests that several passages from the *Rasā'il Ikhwān as-Ṣafā* only make sense when viewed with the acceptance that space cannot be separated from time. In this sense, de Callataÿ argues that 'we are invited to imagine the surface of the Earth as an entity in constant reformation under the action of various astronomical cycles operating simultaneously' (p. 75). In chapter three, Pedro Mantas-España examines the understandings of climate and its determining factor in medieval perspectives. Through exploration of climates, human nature, and the methodological shifts from ancient to medieval Arabic geography, he compares Adelard of Bath and Petrus Alfonsi. Despite plenty of similarities in their overall connection between human prosperity and mild, healthy climates, Mantas-España suggests that Adelard held a more flexible view in which adaption and intelligence can provide equilibrium and well-being in more challenging climates (p. 103). Chapter four comprises Dag Nikolaus Hasse's study of natural disasters and

meteorological catastrophes in Avicenna's work. The final chapter of Avicenna's *Meteorology* was translated independently from the rest of the work and travelled in various Latin manuscripts under a different name and without reference to Avicenna. Hasse presents a concise study of the work, an English translation of the Arabic, and a critical edition of the medieval Latin translations based on all twelve manuscripts it is found in. The side-by-side layout of the Latin text and English translation of the original Arabic is useful for the reader and clearly emphasises the abbreviated style of the Latin edition.

In chapter five, Ann M. Giletti explores two key theories on the philosophical question of whether the world was eternal: Aristotle's theory of the 'Eternity of the World' and the Neoplatonic theory of 'Eternal Creation'. Giletti highlights three links in the Latin discussions of both theories: 1) While the theories are separate, they are linked together by scholars, 2) the theories shared sets of arguments used to prove or disprove them, and 3) by knowing a scholar's stance on one theory, their view on the other could be deduced. She argues that this conflation, though the theories were separate and distinguishable from one another, has implications beyond the reach of philosophy through the contradiction between Aristotle's theory, the bible, and Christian doctrine (p. 172). In chapter six of the volume, David Porreca studies the arguments in favour of magic. He explores how explicitly magical texts justify the effectiveness and religious or moral acceptability of rituals to their readers and completes a case study on the *Picatrix*. He discusses twelve key

themes that are used to directly justify the content of the text: the effectiveness of magic; exhortations to secrecy; reference to the ancient or revered; links to other scientific disciplines; the internal rationality of magic; the goodness of pursuing knowledge; references to God; the complexity of magic and need for precision; focused will and absence of doubt; rejection of the corporeal; first-person testimonies; and an author's good intentions. Porreca concludes that while the *Picatrix* presents an internally cohesive system of magical practices, it simultaneously defends itself and magic as a whole from criticism (p. 204). In chapter seven, Sophie Page examines the various strategies of scribal censorship in the surviving manuscripts of the *Liber vaccae*, a twelfth-century Latin translation of the ninth-century Arabic magic work, *Kitāb al-nawāmīs* 'Book of Laws'. She observes several areas across the manuscripts with scribal censorship including experiments a) with morally unsuitable ingredients, b) linked to necromancy or witchcraft, c) using provocative instruments or actions, d) involving harm to practitioner or others, and e) use psychoactive or toxic ingredients. Interestingly, Page notes that the traditionally less transgressive Book II receives more forceful censorship. She suggests that part of this censorship stems from the growing connection between the *Liber vaccae*, *maleficia* (harmful magic) — the manipulation of natural substances to create 'abominable mixtures and improper applications' (p. 221) — and association with female practitioners during the rise of fifteenth-century witchcraft mythologies. Finally, in chapter eight, Koenraad van Cleempoel completes an object study on a medieval European *saphea*, held at the History of Science Museum in Oxford (inv.

14645) — a unique medieval astrolabe with the universal *saphea* projection combined with the ecliptic projected on one arc. After providing an in-depth description of the *saphea* with several exceptional images, van Cleempeol traces its history from early medieval Spain to late Renaissance Belgium. He concludes that the instrument depicts several layers of transmission and accumulated astronomical knowledge across nearly five centuries: the projections were conceived in Toledo c.1080, the instrument was made in France c.1450, and it was eventually completed by a Louvain-trained mathematician in Liege around 1600 (p. 250).

This fantastic volume illustrates the collective endeavour of medieval Arabic scientific experts to discover and compile information about the natural world and their desire to master nature. It seems fitting, then, that the volume concludes with a bibliography of Charles Burnett's books and articles, which, in the words of the editors, 'exemplify cross-cultural and multi-disciplinary research that views the Arabic and Latin worlds as part of a vast cultural area' (p. 13) and emphasise the value and array of knowledge in Arabic and Latin scientific tradition.

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