

Ultimately, this book is aimed at the general reader, more curious about the science of dark matter than its history and sociology. To even begin to understand this complex field, one must take time with this slim volume in order to appreciate how the tiniest subatomic particles are connected to the largest structures of the cosmos. Freese mixes a stiff drink, but it goes down smoothly.

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## The Aratean corpus in Vat. Grec. 1087

*Antiche stele a Bisanzio. Il codice Vaticano Greco 1087.* Edited by Fabio Guidetti and Anna Santoni (Edizioni della Normale, Pisa, 2013. Pp. 208 + 31 illustrations. € 20. ISBN 978-88-7642-485-4.

For nearly 150 years, scholars have devoted considerable effort trying understand the various means by which the astrothesic knowledge of the Graeco-Roman world passed to the modern age. Thanks to the magisterial work of Paul Kunitzsch and others, our grasp of the tortuous journey of Ptolemy's *Syntaxis mathematike* from the original Greek to its Latin translations in the twelfth century has become much firmer. But despite the attention of a far wider range of scholars, the intricacies of the transmission of the *Phaenomena* of Aratus to the Latin West remain more elusive. This is primarily due to the fact that, soon after its composition, the poem attracted a huge entourage of ancillary material: the so-called 'Aratean corpus', composed of a rudimentary star catalogue, sets of celestial maps, a series of illustrated mythological explanations of the forms of the individual constellations and a potted biography of the author.

Realising that the sorts of questions generated by the 'Aratean corpus' have yet to be solved by the practitioners of a single discipline working in isolation, the Scuola Normale Superiore in Pisa organised the first of what one hopes will be a continuing series of interdisciplinary workshops devoted to examining a specific set of tightly-defined topics from a variety of scholarly viewpoints.

Their first subject of study was the Vatican manuscript, BAV Vat. grec. 1087, which is a collection of astronomical material compiled sometime between the late 1320s and early 1330s by the Byzantine astronomer, historian, theologian and antiquarian, Nicephoros Gregoras. Its contents include one of the oldest manuscripts of the introduction to Ptolemaic astronomy by Theodoros Metochites (the *Stoicheiosis astronomike*, completed in 1316); Metochites's *Commentary on the Syntaxis mathematike*; a fragment of Theon of Alexandria's *Commentary on the Syntaxis mathematike*; a set of unique excerpts and annotated illustrations connected to the catasteristic fables reputedly collected by Eratosthenes, now known as the '*Fragmenta vaticana catasterismorum*'; and a mélange of two versions of a *Treatise on the astrolabe* by Gregoras himself. The codex was probably produced in the scriptorium at the monastery complex of Chora, just outside the city walls of Constantinople. Even though several scribal hands have been identified, the whole manuscript bears traces of corrections and annotations in Gregoras's own hand.

The essays within this volume provide a fascinating series of short studies of several key issues. Filippomaria Ponanti presents an introduction to the astronomical texts and sets them within the larger ambit of Byzantine astronomy during the Paleologian renaissance of the latter half of the thirteenth and early years of the fourteenth centuries. Mariella Manchelli provides an exemplary codicological study of the manuscript. Allegra Iaffrate and Leyla Ozbek discuss the peculiar order of the illustrations of the catasteristic *Fragmenta* in the manuscript, and offer suggestions as to how this came to pass. Jordi Pàmias offers important insights into a series of previously unnoticed textual differences between the *Fragmenta vaticana* and the more-widely diffused *Epitome* of the *Catasterismi* produced in the second or third century AD, showing that the *Fragmenta* are not excerpts from the *Epitome* itself but represent an autonomous text, which somehow managed to escape the scalpel of later editors, who wished to expunge all references to Alexandrine storico-religious content in the catasterismic myths of the constellations.

Anna Santoni draws attention to the different impetus behind the sort of illustrations that would have accompanied Aratus's original poem and those that are clearly tied to the descriptive tradition preserved in the *Epitome*. Fabio Guidetti presents a comparative study of the texts and illustrations in the three distinct nuclei of the Aratean iconographic tradition: 1) the *Fragmenta vaticana*; 2) the eleven illustrated examples of the *Aratus latinus recensio interpolata*; and 3) what he rightly calls 'the most interesting of the Western Aratean manuscripts': namely, the eleventh-century Franco-English Germanic manuscript in Aberystwyth. In doing so, he extends Jean Martin's reconstruction of the text of the earliest version of the anonymous Greek commentary on the *Phaenomena* (his  $\varphi$ ) to a proposal concerning the form and content of the set of illustrations that must have accompanied it, and explains the ways in which the images were received and disseminated in both Byzantium and the Latin West.

As a whole, this rich volume represents the highest level of truly innovative scholarly thinking. The proposals are well-argued and refreshingly common-sensical. And even though there are one or two indications of the speed at which the book was prepared (Pingree's first name was David, and Brown University is in Rhode Island), one hopes that many successive volumes with similar ambition and verve will appear.

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## Hawking: The man and the corporation

*Hawking Incorporated: Stephen Hawking and the Anthropology of the Knowing Subject.* H el ene Mialet (University of Chicago Press, Chicago, IL, 2012). Pp. 266. \$31.00 (paperback). ISBN 9780226522289.

Sitting in a wheelchair and speaking through a computer, Stephen Hawking's embodiment seems to epitomize the Enlightenment ideal of the theoretical scientist as a "pure"