

The Stars
in the Classical and Medieval
Traditions



The Stars in the Classical and Medieval Traditions

edited by
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Foreword

In 2008, Anna Santoni established the *Certissima signa* project at the Scuola Normale Superiore (SNS) in Pisa (see <http://certissimasigna.sns.it>). The aim of the project is to bring together a group of scholars in order to carry out a systematic exploration of the Ancient Greek and Latin texts on constellations and to track their survival into the Latin Middle Ages and early Renaissance. In particular, the project focusses on the literary and descriptive traditions of this corpus – most notably, Aratus's *Phaenomena*, pseudo-Eratosthenes's *Katasterismoi* (*Catasterisms*) and Hyginus's *De astronomia* – but, it also encompasses texts from the mathematical astronomical tradition, such as Hipparchus's *Commentarii in Eudoxum et Aratum* and Ptolemy's *Star Catalogue*. The research itself stems from a desire to re-examine the large body of Greek and Latin astronomical manuscripts containing these texts, as well as the numerous ancillary *scholia* and commentaries that became attached to them over the centuries. The interdisciplinary skills required to tackle the task of coming to a better understanding of the philological, literary, philosophical, cultural, scientific and art historical contexts of these works are duly reflected in the heterogenous composition of the working group itself.

In June 2018, members of the group convened at the Villa Lanna in Prague to attend a conference titled: *Iuvat ire per alta astra* (Ovidius, *Met.* XV,147–8). *Greek and Latin Astronomical Texts from Classical Antiquity to the Middle Ages*. The present volume brings together a selection of the contributions presented at the Villa Lanna, as well as a number of additional, thematically-related papers by other scholars. Given the wide-ranging nature of the topics covered by this work, we feel that it should be of interest not only to researchers in this particular field, but also to students across a broad spectrum of disciplines, as well as to a wider public interested in the persistent vitality of man's fascination with the stars.

The text of the printed volume is divided into two parts. The first addresses concerns related to the mathematical tradition of astronomy and is comprised of five essays.

The contribution of **Victor Gysembergh** ('A synoptic study of the number of stars in the constellations of Hipparchus's catalogue') deals with the oldest-known catalogue of fixed stars with numerical coordinates, which was compiled by Hipparchus of Bithynia, in the 2nd century BC. The catalogue itself exists only in an abridged version of the original, several manuscripts of which have been rediscovered only relatively recently. Gysembergh's aim is to present a comparative study of the numbers of stars that Hipparchus lists in each constellation and compare them with the numbers that appear in the star catalogues of Ptolemy and Eratosthenes.

Irina Tupikova and **Klaus Geus** ('Ptolemy's data for the latitudes of Alexandria, Syene and Meroë: Some observations') discuss the notation used by Ptolemy to describe geographical latitude for three important locations in ancient Egypt. The authors have focussed on the question of whether it is possible to determine if Ptolemy arrived at his findings on his own observations or on purely mathematical extrapolations based on information derived from earlier sources.

Fabio Guidetti ('Not in accordance with Ptolemy in some details': A late antique revision of the *Handy Tables*') concentrates on the 6th-century Alexandrian scholar, Leontius Mechanicus. Comments made by Leontius in his work, *On the construction of an Aratean sphere*, provide the catalyst for a discussion of how several late-Antique astronomers came to terms with a number of apparent errors in Ptolemy's writings and show the extent to which there was an unbroken continuity in the process of active scientific enquiry from the Greco-Roman period into the Middle Ages.

Laura Fernández Fernández ('Arab stars in the Castilian sky: Al-Sūfī's *Book of fixed stars* amongst the manuscripts of Alfonso X') provides a useful overview of the *Libro de las figuras de las estrellas fixas* and the related text and illustrations of the so-called *Lapidario*, both of which were compiled in the court of the King Alfonso X the Wise during the latter half of the 13th century. In particular, she explores the influence of al-Sūfī's *Book of the Fixed Stars*, and identifies the particular iconographic tradition from which the illustrations of the Alfonsine manuscripts were derived.

Petr Hadrava ('Medieval catalogues of stars') provides a transcription of the catalogue of stars in the manuscript in Prague (National Library, Ms XIV E 37), in which the sequence of stars in each constellation is listed according to their longitudes. This type of medieval catalogue of coordinates was based on the Ptolemy's *Star catalogue*, with Ptolemy's ecliptical longitudes updated to take account of the phenomenon of precession. The medieval astronomers claimed, however, that the calculation of precession was also influenced by the hypothesis of trepidation. The model of trepidation is also examined in the contribution.

The second part of the published text contains eight contributions that are devoted to the textual and iconographic traditions of the writings on the constellations.

In the first essay, **Massimiliano Carloni** ('Towards a digital edition of the Aratean tradition') outlines plans for the construction of a searchable electronic resource that will help scholars engaged in comparative studies of the texts of the *Aratea*. A number of issues are discussed, including the requirements of the end-users, navigation methods and editorial protocols.

Jordi Pàmias ('Ἀστήρ γενόμενῃν – The popular roots of catasterisms in Greece') turns towards the largely unstudied area of popular beliefs in order to explore issues concerning the origin and development of the concept of the 'catasterism', or the transportation to the starry heavens after death. The notion that body and soul are separated after death with each going back to

its original location – earth and aether – is relatively common both in epigraphic epigrams and in the writings of the Greek playwrights. As Pàmias suggests, these popular beliefs paved the way for Hellenistic scholars and poets to speculate about the mythical interpretations of the origins of the constellations.

In his essay, **Adalberto Magnavacca** (*‘Opus arcanis Musis creditum: Approaching astrology in Germanicus’s fragments’*) proposes that several of the more problematic lines in Germanicus’s Latin ‘translation’ of the *Phaenomena* of Aratus can be demystified if one reconsiders them within the context of similar writings on astrological topics that, conceivably, would have been available and known to Germanicus. By comparing Germanicus’s observations on the supposed effects of the planets on terrestrial weather with those in Ptolemy’s *Tetrabiblos* and other anonymous Greek fragments, he proposes new readings for selection of previously awkwardly-resolved passages.

Ivana Dobcheva (*‘Contextualising the manuscripts of the Aratea’*) publishes some of the findings of her examination of individual manuscripts of the *Aratea*, in an attempt to determine how medieval scholars wrote about these texts and how they classified them intellectually. Exploring marginalia, evidence of readership, isolated citations and contemporary library catalogues, she provides a series of informative examples about how the medieval reader understood and utilised these texts.

Anna Santoni (*‘De astronomia more christiano: Pagan zodiac signs and Christian symbolism’*) explores the text of *De astronomia more christiano* – a Christianised interpretation of the zodiac constellations created sometime during the latter years of the 8th century AD. Since the text is preserved in manuscripts that also contain texts drawn from the *Aratus Latinus*, the so-called *‘Herodius dicit’* (also known as the *‘Anonymus Sangallensis’*) and the *Excerptum de astrologia*, Santoni addresses these texts as a complementary whole, considering them as exemplars of two different aspects of Carolingian monastic culture: a passion for classical learning and a devotion to the Christian God.

Alena Hadravová (*‘Manilius’s symbolism in the park sculptures of the Lnáře Castle’*) addresses the collection of twelve sculptures of the Greek gods made by the workshop of the Platzer family for the garden of the Lnáře Castle. Until recently, some of the sculptures have been incorrectly identified. Given that the bases of sculptures are decorated with depictions of the twelve signs of the zodiac, it is possible to trace the iconographic source for the cycle to the astronomical poetry of Marcus Manilius and, thereby, provide correct identifications and a revised programme for the sculptures.

Kristen Lippincott (*‘The Latin Aratea and their ‘fellow travellers’*’) surveys the large body of astro-mythological material that first circulated with the *Phaenomena* of Aratus and, then, with subsequent Latin translations of the poem. Questions surrounding the scientific value of the differing versions of the so-called ‘descriptive star catalogues’ are raised; and there is a re-examination of the variants within the Greek and Latin versions of the catasterismic

myths of each constellation, focussing on the *scholia Basileensia* as a unique and arguably under-appreciated repository of Greek literary sources.

Alena Hadravová ('The star catalogue of the *Revised Aratus Latinus*: The manuscript evidence set in context') describes the two differing versions of the star catalogues contained within the existing manuscripts of the *Revised Aratus Latinus*. Appendix I provides excerpts from both the star catalogue of twelve preserved manuscripts of the RAL alongside those taken from other sources. Appendix II (provided in the accompanying e-book), contains transcriptions of the complete text of the RAL from these twelve manuscripts.

The editing of this volume reflects a concerted group effort. The editors are extremely grateful to all the anonymous referees for their useful comments, as well as to the members of the group, who devoted their time and expertise towards improving the contents of the selected essays. We would also like to extend our heartfelt thanks to Tomáš Rataj of the Scriptorium Publishing House for the diligence, patience and generosity he has shown during the preparation of this volume, which has benefitted greatly from his exceptional care.

E-book: This volume is simultaneously published in a digital form. It contains the whole printed book (in PDF) as well as the additional Appendix II, compiled by Alena Hadravová as described above. These transcriptions are intended as a useful starting point for any researcher in his or her studies of the RAL, and/or for the preparation of modern edition in an XML-TEI format.

2nd December 2018

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