

Preface

This book contains a survey of the *Almagest*. It is the outcome of a course of lectures given on several occasions, and its only aim is to help students of the history of astronomy to understand and appreciate Ptolemy's great and classical work. Therefore the emphasis is on the various astronomical theories and their structural relationships, while a critical analysis of Ptolemy's observational efforts falls outside the scope of the present study. Appendix A gives a list of all the dated observations quoted in the *Almagest*; it is compiled only for purposes of reference and is not based on any re-examination of Ptolemy's empirical data.

The problem of notation has been rather difficult and it has been necessary to go beyond the means that Ptolemy had at his disposal. On the one hand, many essential features of the methods and models employed by Ptolemy become both clearer and more accessible to modern readers if common mathematical expressions are introduced as condensed, formalized versions of procedures explained by Ptolemy in the form of verbal or numerical statements. On the other hand, Ptolemy's surprisingly non-technical and sometimes ambiguous terminology can be made more specific by means of concepts and terms borrowed from the vocabulary of Mediaeval Latin astronomers. I hope that these departures from the form and style of the *Almagest* will help to make the exposition useful to students whose principal interests are in the astronomy of the Middle Ages, or even in Copernicus and his immediate successors.

In establishing the mathematical formalism I must confess to a certain number of repetitions of equations and procedures. They are introduced in order to make it easier to study the theory of the motion of a particular kind of heavenly body, the various chapters on the motion of the Sun, the Moon, the superior, and the inferior planets being presented as more or less self-contained parts of the text.

No complete and detailed analysis of the *Almagest* has appeared since 1817 when Delambre published the second volume of his *Histoire de l'Astronomie Ancienne*. Since then a great number of papers and dissertations have dealt with particular problems in Ptolemaic astronomy. Most of these publications are listed in the bibliography and references to them are scattered throughout the text. Because of its limited purpose this survey does not pretend to have utilized all this material to its full extent. A few particular questions have been referred to the notes to each chapter.

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O. P.



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