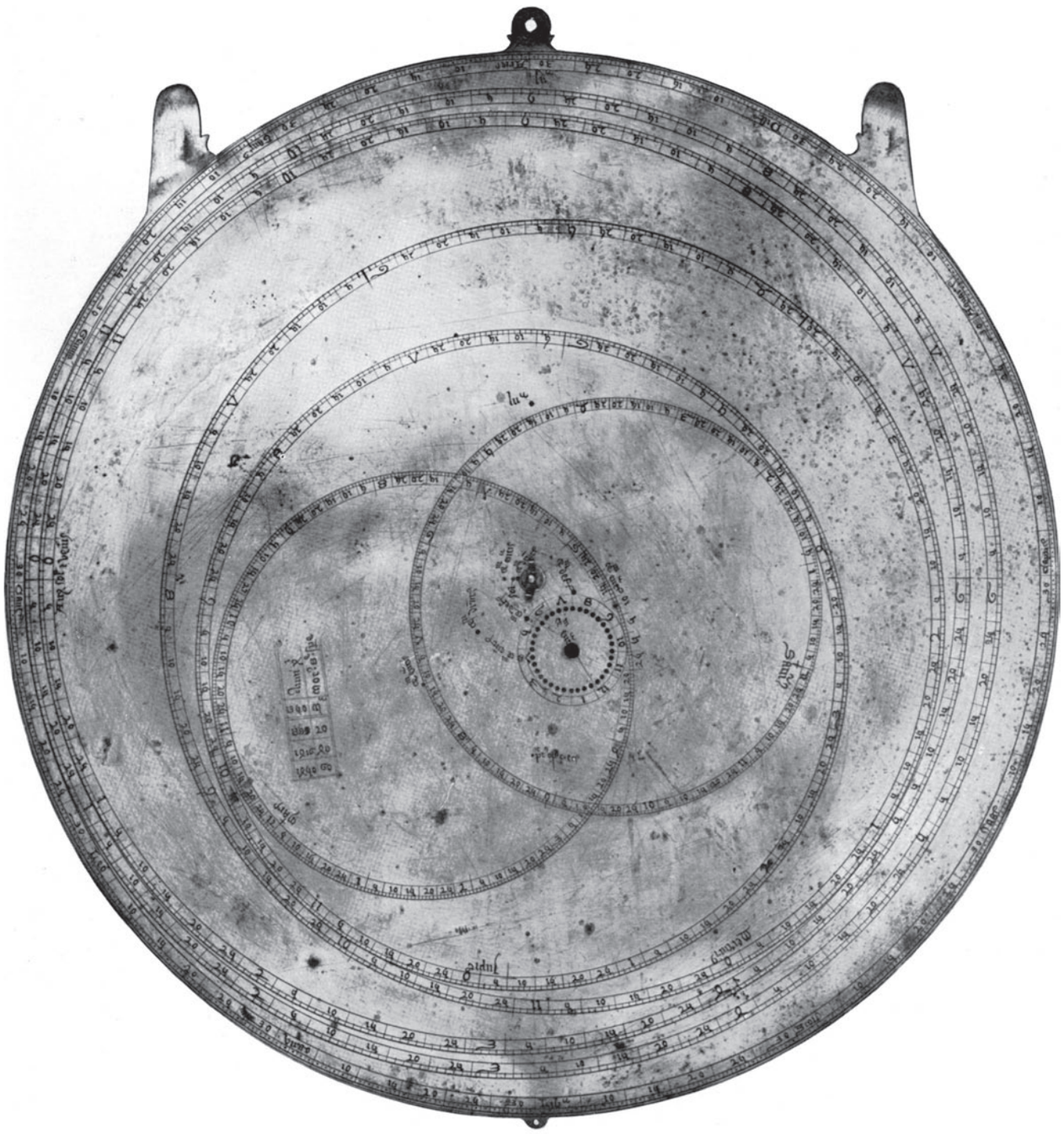
THE EQUATORIE OF THE PLANETIS

His tables Tolletanes forth he brought,
Ful wel corrected, ne ther lakked nought,
Neither his collect ne his expans yeeris,
Ne his rootes, ne his othere geeris,
As been his centris and his argumentz
And his proporcioneles convenientz
For his equacions in every thyng.

CHAUCER, *The Franklin's Tale*.
[Ed. F. N. Robinson, V (F) 1273]



THE MERTON COLLEGE EQUATORIUM

see p. 129

THE EQUATORIE OF THE PLANETIS

EDITED FROM

PETERHOUSE MS. 75. I

BY

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TO ELLEN

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PREFACE

THE text which is here edited is one of considerable interest to all students of medieval literature and of medieval astronomy. In addition, as pointed out later, it may also be of importance to Chaucerian scholars.

This wide range of interest has necessarily led to the transgression of many academic boundaries which the modern tendency towards specialization has tended to keep almost inviolate. Consequently it early became evident that there were many instances where it was desirable to obtain expert opinion on various specialized points, such as palaeography, medieval astronomy, the history of cipher writings, etc. It is therefore a great pleasure to record that my many requests for assistance from experts in Cambridge and elsewhere were always met with great kindness and consideration.

It was also fortunate that Mr R. M. Wilson, M.A., consented to act as adviser on the linguistic side. In addition to writing Chapter X and compiling the Glossary, he has also provided the section on Punctuation in Chapter IX, and we have collaborated in the translation of the text. Throughout the preparation of this edition we have had frequent consultations, always on the understanding that although advice was freely given on either side, its acceptance or rejection was a matter for the person responsible for that chapter. It need hardly be added that similar considerations apply to advice which we have received from others. Their help has been acknowledged whenever possible, but this must not be taken as committing them to any errors of statement or judgement for which we alone must accept responsibility.

Since this is the first detailed account of a complicated manuscript, it appeared necessary to provide a full description of its varied contents, together with the customary critical apparatus and the special technical explanations which are made necessary by the subject-matter. I have thus attempted to provide the raw materials for the discussions and the assessment of evidence demanded by the manuscript.

It would be out of place to insert these discussions and assessments in the present volume before scholars have had an opportunity of examining the material for themselves, and for this reason the summing-up has been restricted

to a tentative account which is designed to assist the reader rather than urge the acceptance of this or that opinion. Particularly in the chapter dealing with the problem of ascription, especial care has been taken to separate the different issues involved and to distinguish those things which appear reasonably certain from those which bear only a greater or a lesser probability of being true.

It is difficult if not impossible to perform this task without betraying the influence of preconceived notions, and it would be dishonest to pretend that a neutral course has been steered throughout the investigation. On the contrary, it would have been impossible, perhaps even undesirable, to embark on this edition without having arrived at some conclusion one way or another.

To explain this it is necessary to outline the early stages of this research. The Peterhouse manuscript was first seen by me at the beginning of December 1951 while collecting data for a general history of scientific instruments. Since the text was in English, and the date 1392 frequently occurred, it seemed at first possible that this might be a missing part of Chaucer's apparently incomplete *Treatise on the Astrolabe* written in 1391—the only instrument tract written in Middle English known to me at that time.

It was soon clear, however, that the instrument described was certainly no type of astrolabe, but a planetary calculator of unfamiliar design, and my interest was further aroused by finding that some of the leaves of the manuscript contained short notes written in cipher; a more detailed study of the manuscript was obviously necessary. In the meantime I was able to decode the notes and found that they were technical rubrics written in Middle English. A full reading of the instrument text revealed that the scientific content was of considerable interest in its own right, though it provided at first sight no evidence for or against my suspicion that it was connected in some way with the *Treatise on the Astrolabe*.

Leaving the text, I turned my attention to the astronomical tables which occupy the greater part of this manuscript volume, and in the course of this study I found, near the inner margin of one of the folios, a note which seemed to contain the word 'chaucer' or possibly 'chancer'. But since nearly half the crucial part of this note was hidden by the very tight binding of the volume it was impossible to read the whole of the short sentence. Application was therefore made to the authorities of Peterhouse, pointing out the importance of the manuscript and its possible connection with Chaucer, and they very kindly consented to have it unbound so as to reveal the hidden part of this note, as well as certain fragments of the text which were similarly obscured.

The full sight of the note indicated that 'chaucer' was the correct reading, and further work with the manuscript led me to think that the text might well

be an author's holograph. The obvious thing was to compare the hand with those appearing in certain Chaucer documents in the Public Record Office, and it was clear that there was no agreement at all. My attention was then drawn to another document which had been suggested as a Chaucer holograph by Professor Manly. The relevant file of documents was brought to me, and a casual leafing through showed that only one of them was in a hand similar to that of the Peterhouse manuscript—but this one document displayed a striking similarity. The document was in fact Professor Manly's suggested holograph, and although the manner of finding it does not objectively increase the weight of the evidence, the subjective effect was considerable.

By the end of January 1952 it was possible to bring together photographs of the manuscript and the Public Record Office document, and the detailed comparison proved sufficiently satisfactory for the publishing of a tentative account of my findings.

The research had thus been carried out from the beginning in the hope of the result which had in fact emerged—a most dangerous procedure and one liable to lead to an unconscious weighting of the evidence. I can only hope that I have not fallen into serious error on this account, and there has been an attempt at each stage to lay the evidence before sceptical critics. For their sake as well as for mine I must issue a final caveat: there is, in my opinion, nothing in this book which can by itself be accepted as definite proof of authorship; there is, however, a mass of lesser evidence which has the cumulative effect of suggesting that this is a Chaucer holograph and making it difficult to advance any other reasonable hypothesis to explain all the features of the manuscript. Any single piece of evidence is vulnerable by itself, and the final verdict must therefore depend on the coming to light of fresh evidence, or on the expert assessment of the fabric as a whole.

I must acknowledge first the invaluable advice of Mr R. M. Wilson and Dr A. R. Hall, who have been continuously consulted throughout the progress of this research. On special topics I have had great benefit from the frequent expert advice of Professor Bruce Dickins, Professor R. A. B. Mynors, Mr H. L. Pink, and the staffs of the Cambridge University Library, the University Press, and the Cavendish Laboratory. For other requests which have met with a never-failing courteous response I must acknowledge my thanks to the Keeper of Western Manuscripts of the Bodleian Library, the Public Record Office, the Librarian and the Society of Merton College, the Keeper of Western Manuscripts at the British Museum, and also to Dr B. F. C. Atkinson, Mr B. Colgrave, Dr A. C. Crombie, Dr D. Dewhirst, Dr D. R. Dicks, Dr D. M. Dunlop, Mr I. J. Good, Her Majesty's Nautical Almanac Office, Professor E. S. Kennedy,

Dr H. Lowery, Mr H. A. Mason, Monsieur H. Michel, Professor V. Minorsky, Dr J. Needham, Professor O. Neugebauer, Dr C. T. Onions, Professor Johnstone Parr, Mr B. Penrose, Dr E. Rosenthal, The Royal Museum of Brussels, Dr D. S. Sadler, Mrs D. Waley Singer, Dr W. D. Stahlmann, Professor E. G. R. Taylor, Professor J. R. R. Tolkien, Mr J. E. Tolson, The University of Nebraska, Mr W. Urry, Miss H. Wallis, Professor R. Weiss, Mr D. W. Whitfield, Miss E. Williamson, Dr H. J. J. Winter, Professor E. Zinner, and Mr F. Zloof.

No work on the history of medieval science would be complete without an appreciation of the magnificent tools for research which are provided by the encyclopaedic publications of Professors George Sarton and Lynn Thorndike; in the study of the history of scientific instruments a similar tribute must be paid to the pioneer work of R. T. Gunther.

This research would not have been possible without the co-operation of Rev. J. N. Sanders, then Perne Librarian of Peterhouse, or without the privileges and facilities which have been extended to me by the Master and Fellows of that College. The detailed study of the manuscript has been made much easier for me by the kindness of the Syndics of the Cambridge University Press, who provided a set of photographs taken while the quires of the volume lay detached from their former tight binding. Finally, I should like to thank Professor Sir Lawrence Bragg for his magnificent and much appreciated personal support, and the Managers of the Imperial Chemical Industries Fellowships for permitting me the tenure of a Fellowship for three years for research on the history of scientific instruments.

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July 1953