

Preface

By about 1614, Thomas Harriot (1560–1621) had developed finite difference interpolation methods to aid the construction of navigational tables. In 1618 (or slightly later) he composed a treatise entitled ‘De numeris triangularibus et inde de progressionibus arithmetiis, Magisteria magna’, in which he derived symbolic interpolation formulae and showed how to use them. Sir Charles Cavendish (1595–1654) still expected in 1651 that the ‘Magisteria’ would eventually be published: ‘till this be printed’, he wrote, ‘I shall esteem of my owne coppie’. Almost four centuries later, Cavendish’s hopes have finally been realized. The pages are presented in this volume in facsimile, and we have added a commentary to help the reader to follow Harriot’s beautiful but almost completely nonverbal presentation.

An introductory essay preceding the treatise gives an overview of the contents of the ‘Magisteria’ and describes its influence on Harriot’s contemporaries and successors over the next 60 years. Harriot’s method was not superseded until Newton, apparently independently, made a similar discovery in the 1660s. The ideas in the ‘Magisteria’ were spread primarily through personal communication and unpublished manuscripts, and so, quite apart from their intrinsic mathematical interest, their survival in England during the seventeenth century provides an important case study in the dissemination of mathematics through informal networks of friends and acquaintances.