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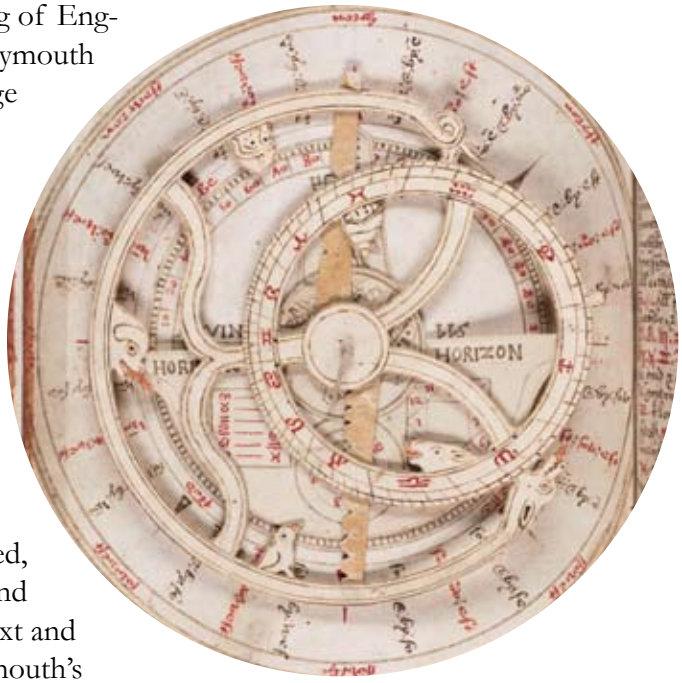
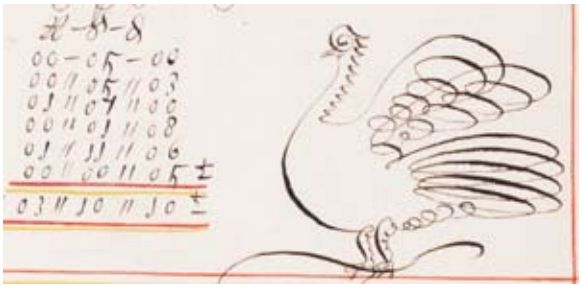
News Release

The Reckoner's Art:
Reading and Writing Mathematics in Early Modern England
An exhibition at the Beinecke Library | 16 January – 16 April 2008



In 1604, George Waymouth gave the new King of England a present. An explorer and navigator, Waymouth undoubtedly hoped to win the King's patronage and support for his plans for a new voyage to the American coast. The present was the manuscript of a book, the "Jewell of Artes," in which Waymouth had drawn sumptuous illustrations of the mathematical instruments in use on the battlefields of Europe, in navigation at sea, and in the houses of interested practitioners of the new science in England and abroad. Waymouth's "Jewell" showcased the novelty, beauty, and tremendous utility of the mathematical arts in the early modern period. Although the work was never published, the manuscript was bound in the royal arms, and in 1605 Waymouth received funding for his next and last voyage to the east coast of America. Waymouth's "Jewell" is among the many books and manuscripts in the exhibition "The Reckoner's Art," on view at the Beinecke Library from 16 January – 16 April 2008.

Mathematics became an essential part of literate culture in England in the early modern period. In 1542, the first mathematical textbook written in English was published by Robert Record. By the end of the seventeenth century, young boys and girls of the gentry practiced arithmetical word problems in the same notebooks in which they practiced their handwriting. Amateurs like Samuel Pepys or Robert Burton took up the study of mathematics as a hobby, reading books and using instruments like compasses and quadrants, maps and charts. The shelves of a London bookseller might be stuffed with works on arithmetic and geometry, mathematical puzzles, the making of mathematical instruments, and the uses of mathematics in astronomy, cartography, gunnery, navigation, or accounting.



Beyond the schoolroom and the library, mathematics was used on the battlefield by gunners, engineers, and surveyors; at sea, by navigators and pilots; in property management, by estate owners and

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cartographers; in trade, by merchants and clerks deciphering the complexities of currencies, weights, and volumes. By the early eighteenth century, a mathematician and scientist had become an English national hero, prompting Alexander Pope to write his couplet that "God said 'Let Newton be!' and all was light."

"The Reckoner's Art" documents how mathematics was read, written, learned, practiced, and used in sixteenth- and seventeenth-century England. Written in the margins of texts, practiced in word problems, jotted on spare slips of paper, recorded and crossed out and re-written on the flyleaves of notebooks and ledgers, mathematics was an important part of daily practice in early modern England. The 1604 *Book of Common Prayer*, as one example, included a calendar for the reading of the psalms, a table outlining the "golden number" with which the reader could "finde Easter for ever," and a 39-year "almanacke" for the dating of the Church holidays which also recorded the number of lunar days, the hour of sunrise and sunset. Popular almanacs and calendars recorded the dates of court and university sessions, of yearly events, and of the rising and setting of the moon, providing an important printed—and mathematically-based—structure to daily life so that travel and business transactions could be predicted and conducted.

The books on display also document the hours, sums, debts, and numbers by which the readers and owners of almanacs and other works jotted, counted, noted, and organized their daily lives. Account books and ledgers documented the business of estates and trades. Templates for the instruction of clerks taught the correct format of receipts and bills. Notebooks or commonplace books made room for mathematics, as readers scribbled important transactions on margins or on pages between copied excerpts from classical authors or English poets. Student notes on flyleaves of the sums spent on food and wine; lists of "My brother's washing" interspersed between calligraphy exercises; lists of novels bought and borrowed scratched in the margins of arithmetic exercises: these and other examples highlight the ordinary, necessary, spontaneous integration of mathematics into the daily literate culture of early modern England.

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