

Research workshop
The Mathematical Book Trade in the Early Modern World

Thursday 19 and Friday 20 December 2019
All Souls College, Oxford

ABSTRACTS

Matthew Landrus (Wolfson College, Oxford): *Giorgio Valla's mathematical books, his contemporaries, and 'De expetendis et fugiendis rebus'*

Writers of encyclopaedic projects around 1500 sought, collected, copied and translated mathematical books and documents of Aristotle, Archimedes, Euclid, Galen, Boethius, John Philoponus, Peckham, and others. Leonardo da Vinci developed with these resources an encyclopaedic project, but did not publish it. An example of this kind of collecting was in his library: the encyclopaedia of Giorgio Valla (1447–1499), 'De expetendis et fugiendis rebus' (Venice: Manuzio, 1501). The two folio volumes, with numerous illustrations, contain forty-nine books, composed of many sources, some of which are translated from Greek for the first time into Latin. Divided into sections of the seven liberal arts, it starts with the quadrivium, and thus mathematics, music, geometry and astronomy, with digressions in the mechanics of fluids, and then treats natural philosophy, medicine, and the trivium (grammar, logic and rhetoric). In 1490–91, Valla located a Greek manuscript that claimed to have the complete works of Archimedes, and he translated portions of this for his encyclopaedia. From Valla, Leonardo obtained a page or more of the encyclopaedia, which was Valla's initial translation in Italian. The page that survives is Valla's translation of Archimedes's solution to the Delian problem of doubling of the cube according to the 'method of exhaustion', portions of which are copied in Leonardo's notes for an encyclopaedia. Thanks to the discovery of an initial Italian translation in Leonardo's notes, one can see that another Greek source for Valla was potentially an Archimedes copied by John Philoponus (c. 490–570). Leonardo's Italian version of 'De expetendis' XIII: 2, is evidence of exchanges between him, Valla and others in the 1490s regarding mathematical problems.

Elizabeth Biggs (University of the West of England): *Printing and Correcting Cuthbert Tunstall's De Arte Supputandi*

In 1522, the first specialist work on mathematics published in England was printed in London by the king's printer, Richard Pynson: *De Arte Supputandi* by the then-master of the rolls and bishop-elect of London, Cuthbert Tunstall. This work was not wholly original as it was based on the 1494 *Somma* of Luca Pacioli, printed in Venice. Nevertheless, *De Arte Supputandi* proved popular, with further editions in Paris and Strasbourg in 1529, 1535, 1538, 1543, 1544, 1548, and 1551. The book was praised by Grynaeus in his edition of Euclid and continued to be an influential mathematical text across Europe. This paper looks at the corrections to the text between the first printing in London and the second in Paris in 1529 to assess the ways in which mathematics books were particularly challenging to print, especially as in the case of Pynson, it was the first time the printing house had undertaken such work. I will focus on where textual alterations were made and why between the early editions as well as the types of errata that persisted. Unusually, it is also possible to see the role of the author in the correction process between editions. It will thus be possible to gain a better understanding of the dynamics between authors and printers in this particular area of the book trade.

Stefano Gulizia (Polish Institute of Advanced Studies): *The mathematical network of Nicolaus Granius (1569–1631): Mathesis, Copernicanism and Scribal Technology in Helmstedt*

This paper takes a fresh look at the mathematical book trade in Northern Germany, between 1570 and the 1630s, by taking as a reference point the printed collection of a Swedish itinerant professor, Nicolaus Andreae Granius (d. 1631), who taught physics in Helmstedt and annotated more than four hundred scientific editions. It shows that these transactions were fueled by transfer and communication as much as by warfare and confessional struggle, and it suggests that our available mathematical notebooks and marginalia should be evaluated as a ‘special genre’ in the history of science, both as teaching tools and objects of courtly display, which may be characterized as a point of crystallization for a truly interdisciplinary historical epistemology. A particular aspect of interest here is the mathematical education that Scandinavian clerici vagantes received in diverse academic locales such as Prague, Rostock, and Helmstedt. First, I offer a sketch of the main textbooks acquired by Granius and printed either in the Netherlands or in the Venetian region, including Giambattista Benedetti’s systematically anti-Aristotelian *Diversarum speculationum ... liber* (1585). Second, thanks to a new attribution to Granius of Copernican annotations preserved at the HAB, I debate whether our historiography of a rift between realism and conventionalism is sustainable. Finally, I reassess the influence of Ramist mathematics in Helmstedt by using Granius’s theoretical notes as well as his distinctive tables and diagrams.

Ian Maclean (All Souls College, Oxford and the University of St. Andrews): *Sacrobosco at the book fairs, 1601–1624: speculative publications*

A preliminary trawl through the catalogues of the Frankfurt Book Fairs between 1564 and 1650 yielded only ten editions or commentaries on the *De Sphaera*. The paucity in numbers can in part be explained by some of the forms of publication of the *De Sphaera* (notably those intended for consumption by educational establishments in a given area), and in part by the advertising strategies and targeted markets of given publishers, most notably those in Paris. What remains is a somewhat heterogeneous group, for whom the act of publication came about in very different ways. In all cases, however, the fact that the edition in question was declared in the Fair Catalogue indicates the ambition to achieve wide sales. This paper will examine the coming into being of these editions in the first quarter of the seventeenth century, and the place they occupy in the portfolio of publications of a given book merchant.

Renaë Satterley (Middle Temple): *Where did Robert Ashley (1565–1641) acquire his mathematical books?*

Robert Ashley is probably best known as the founder of Middle Temple Library. But in 1585 he was briefly a public lecturer in Geometry in Oxford, despite, by his own admission, not ‘knowing anything about the subject’. Ashley must have been troubled to some extent by this lack of knowledge, as by the end of his life he had accumulated at least forty-eight books on geometry, in addition to over one hundred mathematical works; ninety percent of these books were Continental imprints. Examination of Ashley’s marginalia and his Frankfurt bookfair catalogues may provide clues as to where he acquired these books, and for what purpose.

Nick Wilding (Georgia State University): *Standardization and its Discontents*

New bibliographical tools are rapidly changing the way we research the early modern book trade. The Incunabula and Universal Short Title Catalogues allow us to reimagine book production as Big Data; Material Evidence in Incunabula recreates post-production networks; various digitization projects permit virtual copy comparison. Such tools claim to offer a mathematical solution to the problems of history, realigning earlier publishing ventures and historiographic movements towards an imminent cliometric climax. This talk seeks to test the utility of these resources by reading them alongside other ventures and approaches to book history, including edition specific censuses, local catalogues, and archival documents. Early modern mathematicians attempted to dislocate data, rendering it abstract and universal, but they did this materially and locally. Book historians are in a similar situation. How, then, might we negotiate the tensions between universalizing and site-specific tools to reconfigure the early modern mathematical book?

Boris Jardine (Cambridge): *St Paul's Churchyard and beyond: Instrument books and their publishers, 1556–1652*

The sixteenth century saw the development, on the continent and then in England, of a viable trade in mathematical instruments, for use by navigators, surveyors, astronomers, architects, and in the study of mathematics itself. As many historians have noted, the nascent publishing industry was intimately connected to this development. Too often, however, books associated with instruments are talked about as the straightforward product of authorial intention, and are unproblematically related to the needs and achievements of scholars, practitioners and instrument-makers. This relates to a deeper question, about the location of agency in the rapidly changing arts and sciences. In this talk I give a preliminary account of the role of stationers in the production and marketing of instrument books. The latter made up a large part of mathematical publishing, demanded special skills and collaborations, and played an important role in the development of the instrument trade. It was stationers – rather than instrument makers, authors or mathematical practitioners – who controlled the appearance of such texts. Issues of craft lineage, possession of stock, and specialization within the book trade come to the fore in this analysis.

Yelda Nasifoglu (History Faculty, Oxford): *Circulation of mathematical books in early modern Britain: Evidence from personal collection, bookseller and auction catalogues*

In recent years, the study of book collecting and material reading practices have been most profitable in understanding how ideas and material culture intersected during the early modern period. What insights may be gained through a similar approach towards mathematical books? In order to generate some preliminary answers to this question, in my paper I shall concentrate on the circulation of mathematical texts in Britain in the latter half of the seventeenth century. Utilising the database project 'Catalogue of Book Catalogues' currently under development, I will conduct a systematic study of printed bookseller and auction catalogues, as well as a selection of personal book lists in manuscript, to analyse the availability of mathematical books, the popularity of specific editions, any fluctuations in prices, and the profiles of the collectors. Among the figures under consideration will be Edward Bernard, Richard Busby, Ralph Cudworth, Robert Hooke, and Jonas Moore.

Agnes Gehbald (University of Cologne): *Prince Euclid, Practical Arithmetic, and Print Promotion: Mathematical Books in the Spanish-Peruvian Trade of the Eighteenth Century*

The bestselling Spanish mathematical books on arithmetic spread via the transoceanic trade to Spanish America, as the listings of ship registers as well as the inventories of bookselling merchants prove. This talk will shed light on the offer of arithmetical books available in eighteenth-century Lima, the Peruvian capital, by analysing archival material with focus on number and prices. Due to the fact that there was no specialised market for books and less so for mathematical books in the viceroyalty, arithmetic manuals could be bought in the daily sales offer mingled with novels and prayer books as well as foodstuffs. However fragmentary the evidence, it helps to determine the most popular titles of arithmetic used at the time. In order to further investigate the mercantile strategies, the paratexts – subtitles, prologues, the announcement of tables, *etc.* – will provide glimpses on how Spanish printers promoted the books, most often reprints. For instance, Andrés Puig, probably the most prominent mathematical author in the eighteenth-century Spanish world, instructed on basics and gave practical advices for mercantile skills, alluding in the title to the ‘Prince of Mathematics’, Euclid. To advertise the posthumous reprint of 1745, the printer Jolis promised to include some additions of the deceased author. Further examples will comprise the study of the paratexts of arithmetic manuals such as the mathematical treatise by Juan Pérez de Moya, the book for merchants by Miguel Gerónimo Santa Cruz, and the schoolbook by Lucas María Romero y Serrano which were all readily available on the Peruvian market.

Tabitha Tuckett (University College London): *The Library of John Thomas Graves*

John Thomas Graves bequeathed his library of over 14,000 rare books and manuscripts to University College London in 1870. A UCL professor of Jurisprudence in the early 19th-Century, Graves had collected mediaeval and early modern works on early and applied mathematics, many of them annotated, as well as on other scientific fields. Items range from a fourteenth-century Sacrobosco manuscript, through 100-odd incunabula and first editions of Euclid, Boyle, Kepler and Galileo, to less glamorous eighteenth-century works on the challenges of calculating insurance and customs measures. A sub-section of this library – the Euclid Collection – was fully catalogued and digitised five years ago, but a catalogue-enhancement project since then has recently made much of the rest of the collection accessible. This talk will highlight some of the newly available material, focusing in particular on English imprints and provenance.