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Textbooks of Philosophy in the Renaissance

Anja-Silvia Goeing
Harvard University, Cambridge, MA, USA
University of Zurich, Zurich, Switzerland

Abstract

The textbook is defined by its use in educational environments: in schools of different levels, in tutorials at home, or in universities. Any change in these environments also had an effect on the educational material employed: the fate of religion, the curriculum of Latin schools, the politics of towns, or the death of one teacher were all important for what was taught and how texts were implemented in class. One of the most significant changes, however, took place outside the confines of the learning environment: the advent of the printing press in the second half of the fifteenth century had a massive influence on the production and use of textbooks in all disciplines. From about 1480, five striking innovations in teaching affected the production and use of philosophical textbooks in academic environments. All of them were supported by the advent of the printing press. First, teachers figured more and more as authors and commentators in their own right. Second, new forms of organization created new formats of textbooks. Third, reference books such as

compendia and encyclopedias were not only written for every discipline, but they were also enhanced with illustrations. Fourth, students started to comment on and distribute their teachers' lectures, and some of these editions then featured as the next generation of textbooks. Finally, with mathematics and physics branching out into experimental fields from the second half of the sixteenth century, mathematical and mechanical tools and chemical devices were discussed in lectures, creating new sets of illustrated manuals as textbooks.

Heritage and Rupture with the Tradition

The textbook is defined by its use in educational environments: in schools of different levels, in tutorials at home, and in universities. Textbooks served as catechisms for mature converts to Christianity, as language courses for immigrants, and as manuals for the introduction of new technologies (Grafton 2008, 15–16). Consequently, any change in the teaching environment also had an effect on the material employed: the fate of religion, the curriculum of Latin schools, the politics of towns, or the death of one teacher were all important for what was taught and how texts were implemented in class. One of the most significant changes, however, took place outside the confines of the learning environment: the establishment of paper manufacturing, the advent of the printing press in the second half of the fifteenth century

and with it the rising book markets, as well as new distribution and organizational techniques, had a massive influence on the production and use of textbooks in all disciplines (Blair 2021, Pettegree 2010).

The philosophy curriculum underwent changes in the Renaissance: on the one hand, Gregor Reisch's widely used *Margarita philosophica* (1503) increased the seven liberal arts by adding ethics and physics; on the other hand, in universities and advanced schools philosophy teaching was reduced to Aristotelian logic, ethics, physics, and metaphysics courses (Cfr. Facca 2020; Omodeo and Wels 2019). According to the Zurich polymath Conrad Gessner (1516–1565), philosophy was included in all disciplines. He divided the arts curriculum into primary and secondary parts: the primary part consisted of ethics, physics, and metaphysics, while the secondary part consisted of philosophy's more practical ends: the physics served by medicine, the oeconomia served by politics, and finally the ethics that was served by both politics and oeconomics. Dialectics, or logic, and mathematics, the medieval domains of philosophical thought, were classified by Gessner not as ends in themselves, but merely as tools that help us to think (mathematics) or to teach (dialectics) (Gessner 1586, 3). This was by far not the only way of classifying the disciplines pertaining to philosophy at the time: the Cambridge curriculum of 1570 included (Aristotelian) ethics in the philosophy course, but not, however, logic (Feingold 1997a, 213). This entry recognizes that all disciplines of the enhanced arts curriculum were interrelated, but uses the term philosophy in the pre-Gessnerian sense adopted by the Wittenberg professor of philosophy Johannes Bernhardi (Velcurius) (Velcurius and Schegkius 1542). He taught Aristotelian natural philosophy as well as rhetoric and published commentaries on Erasmus's *De copia* (1534), as well as on Aristotle's *De anima* (1537) and *Physica* (1538); however, he used the term "philosophy" only for his exegesis of Aristotle's work. This entry also recognizes that the sixteenth and seventeenth centuries witnessed a broadening of authorities, and that the traditional Aristotelian domains were contested in university teaching by other philosophical directions, as, for example, Stoic moral philosophy (Kraye 2008).

All disciplines of the liberal arts in Renaissance and early modern European schools of higher learning, including logic, physics, ethics, and metaphysics, drew on and transmitted the classical and medieval heritage. Although curricula changed gradually throughout Europe, from Martianus Capella's *Marriage of Philology and Mercury* (fifth century) up to the broad academic reception of mathematical, observational, mechanical, and chemical novelties in the mid-seventeenth century, the contents and modes of access were dependent on what happened locally. What was taught in schools was influenced by European networks of taste, as well as by fashions and regulations that differed locally, from school to school. Other factors determining the curriculum were the religious and economic interests of the towns or rulers. Courses could be streamlined on a local level by the use of commentaries and epitomes of classical literature, written and distributed (orally, in manuscript, or in print) by university or school teachers and their students, who would hand out their transcripts to interested parties, often, in the early period of printing, in unauthorized editions. Nancy Siraisi (2008) opened up this field of inquiry by examining some unauthorized, printed lectures on practical medicine which, having originally been delivered orally by Girolamo Mercuriale to students at the University of Padua in the sixteenth century, were distributed to the medical community at Lyon in 1627.

The book supply at Oxford University, which has been extensively studied, reveals some examples of how textbooks were used in late medieval and early modern times. Usually, even in the very early years of the university, arts professors wrote textbooks for themselves and their colleagues, as a preparation for teaching or as a contribution to learned debates. Arts students and those studying for the philosophy baccalaureate did not need textbooks for their classes, since lectures were dictated to them, and they were supposed to prepare arguments orally in class, which were called *reportationes*. Outside class, collections of

reportationes were in high demand. Students exchanged and enhanced copies very rapidly, thus defining a new type of textbook in the fourteenth century (Parkes 1992, 407, 427).

Students in the higher faculties of medicine, law, and theology did use textbooks in their courses. Professors wrote summaries of ancient and medieval texts and gave these out for scribes or students to copy in whole or in parts (the *pecia* system). In class, alongside *reportationes*, students were supposed to gloss their copies of set-texts with commentaries dictated by professors or to collect useful sayings in their notebooks (*florilegia*, *topoi*, *loci*), a practice also adopted by arts students (Parkes 1992, 408). All these methods continued with the advent of the printing press. Roughly from the end of the fifteenth century, textbooks were also introduced in the arts curriculum, and students soon began to write down notes from printed or manuscript set-texts in all their courses (Moss 1996, 147–9). Furthermore, *reportationes* adapted rhetorical methods and were transformed into *disputationes*, a genre that Philipp Melanchthon pioneered with great success, though only for a short time, at Wittenberg University (Haussleiter 1897).

Innovative and Original Aspects

Beginning around 1480, five striking innovations in teaching affected the production and use of philosophical textbooks in academic environments. All of them were supported by the advent of the printing press. First, teachers figured more and more as authors and commentators in their own right. Second, new ways of organizing knowledge produced new textbook formats, replacing inherited genres such as the commentary or the lemmata edition. Third, reference books such as compendia and encyclopedias were written for every discipline, often enhanced with illustrations, aimed at enticing readers. Fourth, students started to comment on and distribute their teachers' lectures, and some of these editions then featured as the next generation of textbooks. Finally, with mathematics and physics branching out into experimental fields from the

end of the sixteenth century, mathematical and mechanical tools and chemical devices were employed in lectures and illustrated in manuals and textbooks.

Teachers used textbook formats that not only included the set text and a set of classical commentaries, as was customary from the thirteenth to the fifteenth century, but also their own contribution. Starting in Italy with the first humanist schools in the first half of the fifteenth century, teachers such as Guarino Veronese and his son Battista Guarino wrote, produced, and distributed their own textbooks first in manuscript (Guarino 1459; See Bolgar 1954, 270) and later in print, often sharing the costs and profits with the printer. One of the first well-documented cases of shared-cost printed textbooks involved the London teacher William Horman, who had the printer Richard Pynson print 800 copies of his textbook *Vulgaria*. The contract, dated 28 June 1519 (Furnivall 1868, 3), stipulated that Pynson would use three different typefaces and sufficient paper for the enterprise. He also promised on oath not to print more than the prescribed number of copies within the next 5 years. The contract states, furthermore, that Horman would pay for the production of the book. The payment for each ream of paper was five English shillings, to be paid in two tranches: the first by delivery of the 800 copies for the payment of 500 copies, and the second a year after delivery. By participating in the production of the textbook and bearing some of the marketing risk, the teacher became a kind of entrepreneur helping to sell copies of his own work. Teaching thus became relevant not only to advancing the knowledge of the student but also to selling the teacher's books. This economic by-product might have shaped the professional habits of teachers, who would be keen to recoup their investment. Printer did not take over the role of book producers; they remained craftsmen and stationers, who provided their services in order to finish a product, for which the commissioner bore the main responsibility.

One feature of the new formats was to organize a large amount of newly accessible information, as in Gessner's *De anima* commentary (1563). For his discussion of Aristotle's notion of hearing ("de

auditu"), Gessner included notes based on 51 treatises by classical and contemporary authors (Goeing 2013). Classification tables and systems of keywords, called *loci communes* or *topoi*, helped readers to find their way from one argument to another. A fruit of the new techniques were new formats with more or less pedagogically informed functions: individual commentaries led the reader from the more general to the more detailed and from easier to more complex notions, often accompanied by tables and abbreviated text editions (Lines 2008, 199). They could be read without the Aristotelian text, while published lemmata editions had to be read with the original text, explaining it sentence by sentence. Finally, illustrations and schemata ornamented incunabula textbooks throughout Europe, such as Peter of Ravenna's *Phoenix or the Art of Memory* (Peter of Ravenna 1491) or early mathematical treatises, including new editions of Archimedes and Euclid. Until the end of the sixteenth century, many textbooks of physics were also illustrated: subdisciplines of physics, that had merged with mathematics (Kepler 1609), or medicine, a field for which Andreas Vesalius had collected and published illustrations on the human anatomy as early as 1543 (Carlino 1999; Margócsy et al. 2018).

Reference books such as compendia and encyclopedias were produced and used by scholars to facilitate access to various sources of information, whether other books or objects of nature and art. Authors collected material and experimented with different classification systems to store and organize the gathered information with combinations of alphabetical and topical listings. Petrus Ramus and his followers such as Theodor Zwinger in Basel worked out another distinctive system of classification: Zwinger built up an identification system in his *Theatrum vitae humanae* (Zwinger 1565) and connected descriptive adjectives by association to lead to a place and classification that he had given to the object or abstract thought in his labyrinth of knowledge (Blair 2010, 173–229). These reference books not only adorned the private libraries of wealthy scholars but were also used for teaching, as Ulisse Aldrovandi's practice at the University of Bologna shows: according to a note from 9 November 1566 in his personal copy of a compendium on natural philosophy selected and summarized by the Franciscan Frans Titelmans, he explicated this book to a Flemish student, Prince Charles of Tournai. Titelmans' reference book came out first in 1530 in Louvain, followed by many more editions in the sixteenth and seventeenth centuries published all over Europe. The exemplar that Aldrovandi used was a 1551 edition published in Lyon (Lines 2008, 195).

Illustrations enhanced and highlighted the characteristics of classification and identification systems, especially in works of natural philosophy. Gessner's illustrations in his encyclopedias on the different realms of nature, from animals and fish to stones, were printed with woodprints (Berger 2017; Fischel 2010). He used the pictures as a means to identify classes and species, a categorization scheme that was later perfected by Carolus Linnaeus (Linnaeus 1735). More refined techniques for illustrated reference books included copper engravings. A sixteenth-century encyclopedia of fish with very refined illustrations, made from copper engravings, was Ippolito Salviani's *Aquatilium animalium historiae*, published in 1554 in the artistic center of Rome (Salviani 1554).

Students started to comment freely on their teachers' comments and to distribute their own comments, mostly in letters as part of the Republica letteraria. This helped to shape the second and subsequent generations of commentaries (Goeing 2009). Ruptures caused by wars – the Thirty Years' War, 1618–1648, in mainland Europe and the Civil War in England – led to reformulations of the entire curriculum of higher learning and shed new light on subjects such as law (including politics), with implicit effects on topics discussed in philosophy: new textbooks were composed for economic and political issues in philosophy, such as those written by John Locke and Thomas Hobbes (Hobbes 1650a, b; see Feingold 1997a). Finally, with mathematics and physics branching out into experimental fields from the end of the sixteenth century (Feingold 1997b), mathematical and mechanical tools and chemical devices were integrated into lectures,

creating new sets of illustrated manuals used as textbooks. Gessner's *Thesaurus Evonymi Philiatri* (Gessner 1552) was one of the first manuals on how to build a distillation apparatus to appear in an educational environment. It came out in many editions, and Peter Morwen, a fellow of Magdalen College, Oxford, translated the book into English as early as 1559.

Impact and Legacy

Textbooks and reference works had a huge impact on learning and the distribution of knowledge. Writers were responsible for the language and translations not only of newly edited ancient texts but also of their own works. Organizing bibliographical material into reference books, the idea of the encyclopedia was the foundation of modern learning. And finally, collections of books formed large libraries and were displayed in the cabinets of curiosity that we today admire as the beginning of public libraries and museums.

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