

and look instead at the changing local contribution of *words* to a “semantics of culture” (p. 5). The lesson of this approach is twofold. On the one hand, there are common elements to the various national developments, which are to various degrees rooted in the common heritage of the Latin culture of Western Europe, and which therefore allow the authors to write of a “pan-European culture of ingenuity” in the early modern period (p. 236). On the other hand, there are also significant national differences, testifying to the force of cultural–historical context. Excellent (if necessarily brief) pages are devoted, for example, to the intercourse of lexicography and cultural politics in Italy, Spain, and France, to the interplay between language and class dynamics in England, or to the effort of German and Dutch lexicographers to balance a presumed Teutonic identity with the Latin heritage.

Reconstructing the contours of the early modern culture of ingenuity is indeed the core aim of the research project of which this volume is a product (the ERC-funded grant “Genius Before Romanticism: Ingenuity in Early Modern Art and Science,” 2014–2019, hosted by CRASSH, Cambridge, led by Alexander Marr and counting his co-authors among its members). The context of this research project explains why the book includes brief, tantalizing references to dimensions of the early modern culture of ingenuity other than its language—that is, to the theoretical discussions, the technical embodiments, and the visual culture associated with it. These dimensions are objectives of other strands of the project, which will be addressed in other publications. *Logodaedalus* is thus also meant to whet the reader's appetite in anticipation of these future outputs.

Sorana Corneanu
University of Bucharest, Romania
Email: sorana.corneanu@lils.unibuc.ro

DOI: 10.1111/1600-0498.12252

Making mathematical culture: University and print in the circle of Lefèvre d'Étaples

Richard J. Oosterhoff

Oxford, United Kingdom: Oxford University Press, 2018, xiv + 276 pp. ISBN: 9780198823520

This book offers a contextualised analysis of the pedagogical reforms implemented in the University of Paris at the turn of the 16th century by Jacques Lefèvre d'Étaples and by his disciples and colleagues, Josse Clichtove and Charles de Bovelles, through the constitution of a print mathematical culture in universities.

The book starts with a sharp outline of the context (institutional, social, and political, as well as intellectual and technical) and motivations of Lefèvre's project to reform the pedagogical practices of the University of Paris. Oosterhoff then makes clear the significance of Fabrist print mathematical culture, which emerged in the inadequately studied context of the university as it started integrating printed sources as teaching material, to the historiography of early modern scientific and pedagogical practices. Mathematics is shown, throughout Chapters 3–6, to have played a key role in this pedagogical reform, as it was understood and used by Lefèvre and his circle as a universal tool to gain and manage knowledge (in conformity with the propaedeutic function attributed to mathematics in the Platonic doctrine), as an object of experimentation when conceiving the ideal structure for the printed university textbook, and as a link between the theological and the natural, as

well as between the *vita contemplativa* and the *vita activa* (representing scholastic and humanist ideals, respectively).

Oosterhoff examines the Fabrists' use of mathematics to reform university pedagogical practices by analysing both the content and form of their mathematical teaching, as displayed by the printed textbooks they authored on this topic and the very rich annotations (textual and visual) made by Beatus Rhenanus—a student of the Collège du Cardinal Lemoine from 1503—on his copies of those textbooks (complemented in the appendix by a useful reference list of books annotated by Beatus). He then precisely details the techniques implemented by the Fabrists to facilitate their students' access to and memorisation of educational content (through diagrams, synoptic tables, lists of definitions, indexes, marginal indications, paraphrases and analogies, and so on), as well as the way Beatus received these techniques and applied them to his own note-taking practice.

Oosterhoff goes on to consider the actual conditions in which these printed textbooks were produced, showing also how Lefèvre's experiments with printing as a teaching medium, notably to teach mathematics, impacted the very structure of the early modern printed scientific book and the dynamics of its production. The production of printed mathematical works, especially ones that were highly illustrated and oriented toward practice, required a collaborative effort to overcome the attendant technical challenges. This thereby transformed the relationship and hierarchy between the author and the labour involved in the production of the actual book (from the editor and corrector to the illustrator, type-setter, and printer). This contributed to transforming the very notion of author, since those involved in the material production of the textbook (among whom were several of Lefèvre's students) also contributed to its content in the form of paratexts, some of which were fairly substantial.

By analysing specific aspects of Lefèvre's scientific teaching, Oosterhoff shows how the Parisian master, through his work on astronomy and music, contributed to the transformation of the *quadrivium* both by emphasising the role of practical mathematics, an important subject in Fabrist pedagogy for fostering the collaboration of the mind and the senses, and by shifting the boundaries between mathematical disciplines, particularly by dealing with discrete quantities geometrically. Considering the topic of natural philosophy, Oosterhoff demonstrates how, in taking up the 14th-century natural philosophy of the Oxford *calculatores*, Lefèvre promoted a geometrical analysis of change based on the similitude between the intension and remission of physical qualities and the increase and decrease of quantities. One of Lefèvre's main contribution to the physics of the *calculatores*, besides detaching it from its scholastic argumentative form, was the use of geometrical linear diagrams to represent physical change in print. At this point, Oosterhoff also describes how Lefèvre and his disciples attempted to offer a pedagogy founded on empirical knowledge as a response to the search for a universal path to truth and for a more intuitive understanding of the relationship between the world as an object of the divine mind, of the human soul, and of the senses.

The book concludes with an outline of Lefèvre's career and mathematical output after he left the university, showing how his contribution to the Euclidean tradition laid aside pedagogy in favour of more scholarly concerns. Oosterhoff then considers Lefèvre's legacy in Renaissance France, describing how the lecturers of the Collège Royal, from Oronce Fine to Henri de Monantheuil, continued to expand the Fabrist project for the promotion and diffusion in print of a mathematical culture that was both learned and oriented toward practice.

Throughout his analysis of the Fabrist's experiments on these different levels, Oosterhoff demonstrates the importance of the notions of analogy (as a means to transcend disciplinary boundaries and thereby unify the whole cycle of the arts), hands-on knowledge (as sense-based apprehension and artisanal knowledge), and *amicitia* (as a principle of friendly collaboration toward the successful exchange and diffusion of knowledge). Mathematics and Fabrist mathematical culture are then presented as a means for the deployment of these three key concepts, showing the power of analogy in helping students efficiently navigate the arts curriculum; unifying the intellect and the senses, speculative and operative knowledge, and scholarly and craft cultures; and calling for a friendly collaboration to rethink and technically rework the structure of printed university textbooks.

Generally speaking, this book presents the Fabrist reform of the university as simultaneously a point of convergence, a bridge, and a factor in the transformation of many aspects of early modern culture. It connects different historical periods (the Middle Ages and the Renaissance), different cultural traditions (French, Italian, and German), different instances of power (the Court, the Church, and the University), different social groups (scholars and craftsmen), different visions of pedagogy (scholastic and humanistic), different roles within the university (masters and students), different modes and styles of transmission of knowledge (manuscript/print, oral/written, and contemplative/operative), and different disciplines (both within the *quadrivium* and between mathematics and non-mathematical disciplines). This book therefore stands as a crucial case study to reassess and transcend these various dichotomies in the historiography of early modern European scientific culture and education.

Besides the rich and original outlook this book provides on the Fabrists' mathematical teaching and pedagogical reform, it is also invaluable for the rare opportunity it offers the reader to consider the form and content of 500-year-old textbooks from the perspective of their intended audience (university students) and within the context of direct interaction with their authors, in a classroom environment. As Oosterhoff makes clear throughout the book, the very fact that this precious material can be accessed is possible because of the way Lefèvre and his circle conceived, organised, and transmitted their mathematical teaching to their students: that is, as an education that was more affordable to acquire, adapted to the pedagogical needs of students (especially to manage a large sum of learning), and which was presented as the key to the arts curriculum. Thus, this work not only fills a gap in the historiography of early modern pedagogy in relation to the appearance of printing in Europe, but shows also how "mathematics became the engine for transforming knowledge" (p. 1) within an unexpected place and time—the University of Paris at the end of the 15th century.

Angela Axworthy 

Department I, Max Planck Institute for the History of Science, Berlin, Germany

ORCID

Angela Axworthy  <https://orcid.org/0000-0002-8329-5240>

DOI: 10.1111/1600-0498.12255

Un enfant à l'asile. Vie de Paul Taesch (1874–1914)

Anatole Le Bras

Paris, France: CNRS Editions, 2018, 298 pp. ISBN: 9782271115003

During its 19th-century heyday, how was the asylum system experienced by the ordinary inmates who constituted the majority of its population? And what light might the details of one of those individual asylum lives shed, in its singularity, on the broader historical conditions informing French psychiatric medicine or administrative practices around internments? Paul Taesch, the protagonist of *Un Enfant à l'asile*, is one such "ordinary" inmate, who is