non-expert Petrarchan reader is misled into considering Petrarch as eminently tied to the patronage of the Carrara family. Long endnotes do not help here, either. Endnotes 115 and 117 contain several inaccuracies, if not outright mistakes, about the history of Petrarch's collections, and indeed of his own life outside Padua. The historiography cited is outdated. An expert reader's advice prior to publication should have saved the author from such naive misrepresentations. Petrarch was only briefly in Padua, and even though I share Kyle's overall take on the poet's relation with and influence on the iconography of the Carrara library, I remain utterly unimpressed by her way of dealing with such a major historical and literary figure. I would have liked to see mentioned, for instance, the centrality of Petrarch's French years, stretching all through 1312–1353, including the Avignon period and the coming and going between Italian states and France in the later years. Surely Petrarch's ideas as reflected in the Carrara library were the result of much French influence? Indeed, Kyle herself could have developed this point in relation to the prologue to the French translation of Boccaccio's *Decameron*, which she discussed on page 78. It is true that Jacopo II Carrara made Petrarch a canon of the Padua *duomo* in 1349, but that was late in the poet's life, well after Petrarch had developed his ideas in writing. Indeed, so much evidence hints at the major importance of French and Provençal cultures for Petrarch that King's College London has received ERC funding for its The Values of French project (www.tvof.ac.uk).

I was equally disappointed with Chapter 5, 'Physiognomy in late medieval Padua' (pp. 149–168), because it is mainly derivative. While its presence can be understood within the economy of a doctoral thesis on the *Carrara Herbal*, because it provides some context about teaching and medical practice at the University of Padua, I would have advised cutting it significantly and inserting what was left into the first chapter. Finally, Chapter 6, 'Embodiment of virtue in Francesco Novello's library' (pp. 169–187), is the most art-historical of all. It is well written and well argued. It presents the library iconography in tune with contemporary treatises of political thought, as one might expect, and reiterates Kyle's argument about Carrara patronage as a means for the ruling family to address their peers among the urban elite, mainly those in the university.

Overall, *Medicine and Humanism in Late Medieval Italy* is a good and useful book, which makes a contribution to the history of medicine from an interdisciplinary perspective. It would have benefited from better advice prior to publication, and from lighter footnotes rather than longer endnotes. But these are not Kyle's faults, who has managed to turn a good thesis into a good monograph. I recommend it to historians of medicine, and to book and art historians alike.

Vittoria Feola
University of Padova

Ingrid Alexander-Skipnes (ed.), **Visual Culture and Mathematics in the Early Modern Period**. Abingdon and New York: Routledge, 2017. Pp. ix + 204. ISBN 978-1-138-67938-2. £110.00 (hardcover).
doi:10.1017/S0007087418000109

The edited volume of Ingrid Alexander-Skipnes, a lecturer in art history at the Kuntsgeschichtliches Institut of the Albert-Ludwigs-Universität Freiburg and an associate professor emerita of art history at the University of Stavanger, Norway, is a collection of essays on the cultural history of mathematics and art, with a focus on the early modern period. The title is very appropriate, since visual culture and mathematics have mutually enriched each other from prehistoric times to the present day. From medieval times and the Renaissance, mathematics became the key support of innovations in the arts and of the emergent modern science and thence of modern technology and engineering. This book covers this historical period. It promotes new models of inquiry and new narratives of early modern art and its history, with a focus on mathematics. It is organized in nine chapters covering how mathematics developed in Europe between 1400 and 1800, in relation to painting, sculpture and architecture, with special reference to religious and/or ritual practices.

The origin of this collection is the presentations and discussions in two sessions organized by the editor during the 100th Annual Conference of the College Art Association held in Los Angeles in 2012. Chapter 1 is a generous introduction by the editor, explaining the range and the scope of each of the eight chapters commissioned from experts in various specialities. The chapters are organized in three parts. Part I, 'The mathematical mind and the search for beauty', is divided into three chapters; Part II, 'Artists as mathematicians', has two chapters; Part III, 'Euclid and artistic accomplishments', has three chapters.

Renaissance is a moment of definition of new aesthetics and the introduction of new elements for beauty and harmony, such as new theories of vision and of proportion. John Hendrix, a professor at Roger Williams University in Bristol, Rhode Island, wrote Chapter 2 on 'Renaissance aesthetics and mathematics'. From the beginning of his chapter, he clarifies that he uses the word 'aesthetics' to mean philosophy of art. He examines the contributions of Leon Battista Alberti, Nicolas Cusanus, Marsilio Ficino, Piero della Francesca and Luca Paccioli. These scholars relied much on the ancient writers Plato and Vitruvius. The author does not discuss their approaches to mathematics, but the way they were influenced by their theories and how they were decisive in the formulation of a new philosophy of aesthetics. Hendrix offers a long analysis of Alberti's *De re aedificatoria*, with many references to Vitruvius. Some paragraphs are devoted to Plato's *Timaeus*. Chapter 3 on 'Design methods and mathematics in Francesco de Giorgio's *Trattati*' is authored by Angeliki Pollali, an assistant professor of art history at Derec–the American College of Greece. She claims that Francesco's intention was to establish a correspondence between geometrical and numerical methods, and proceeds with a detailed study of his works. The final chapter of Part I is written by Matthew Landrus, a research fellow in the history of art at Wolfson College, University of Oxford. In this chapter on 'Mathematical and proportion theories in the work of Leonardo da Vinci and contemporary artists/engineers at the turn of the sixteenth century', Landrus shows that Leonardo favoured visual solutions to numerical ones and briefly discusses how many of his contemporaries used proportional geometry in pictorial, mechanical and architectural projects.

In Part II, Chapter 5, on 'Dürer's *Underweysung der Messung* and the geometric construction of alphabets', is by Rangsook Yoon, an art historian and curator of many exhibitions who has devoted much of her research to Dürer's work. In this chapter, she concludes, based on the techniques and theoretical comments of Dürer and contemporaries, that everything, of nature or of human invention, can be explained through mathematics, including the letters of an alphabet. The next chapter, on 'The mathematical use of φ and π in the paintings of Piero della Francesca', is authored by Perry Brooks, who teaches Italian Renaissance art at the State University of New York at Stony Brook. The author claims that Piero della Francesca was fascinated by proportions and by irrational numbers and goes through a detailed study of how φ and π were dominant features in his paintings.

In Part III, Chapter 7, on 'The point and its line: an early modern history of movement', is written by Caroline O. Fowler, a postdoctoral associate in the physical history of art at Yale University. She points out how, in the period covered by this collection of essays, scholarly concerns with movement were influential in making the line the foundation of artistic practice. The next chapter, on 'Between a golden ratio and a semiperfect solid: Fra Luca Pacioli and the portrayal of mathematical humanism', is authored by Renzo Baldasso, an assistant professor at Arizona State University, and John Logan, an independent researcher in art history and the history of mathematics. The authors' focus is the interpretation of Euclidean figures in the famous portrait attributed to Jacopo de' Barbari. The final offering, Chapter 9, by Ingrid Akexander-Skipnes, the editor, is on 'Mathematical imagination in Raphael's *School of Athens*', and offers a detailed analysis of the painting, showing how a distinguished painter contributed, in a unique and pioneering way, to synthetic pictorial history of mathematics.

The book closes with a bibliography of around five hundred items, details of the contributors and a helpful index. This book is an important scholarly contribution to the history of early modern art and its relation to science and mathematics.

Ubiratan D'Ambrosio
Universidade Estadual de Campinas

Meredith K. Ray, **Margherita Sarrocchi's Letters to Galileo: Astronomy, Astrology, and Poetics in Seventeenth-Century Italy**. London and New York: Palgrave Macmillan, 2016. Pp. 98. ISBN 978-1-137-59769-4. £45.00 (hardcover).
doi:10.1017/S0007087418000110

This slim volume on the brief correspondence between Margherita Sarrocchi and Galileo Galilei sets out to show its reader that in the early seventeenth century in Italy, the boundaries between literature and science that we have come to know in our discursive moment did not apply to the humanist community at the time. Ray's stated goal is to open 'a window onto the fluid nature of networks of knowledge and the role of gender in early modern scientific and literary transactions' (p. 2). In this goal, Ray is quite successful. The volume she produces will indeed convince the reader that Sarrocchi's relationship with Galileo shows how tightly knit the worlds of astronomy, poetry, philology and astrology were in the period. Because of the volume's quite brief scope – the letters and the annotation take up only thirteen printed pages while the introductory chapters are quite a bit longer – the volume serves more as a starting point and source of inspiration for scholars interested in the history of science (and the history of gender and science) than as a fully developed intervention. However, given Ray's introduction and the publishing goals of Palgrave Pivot, an imprint designed to publish, among other things, briefer and more excitingly esoteric works, this is not meant as a criticism.

The first chapter sets the context of Galileo's and Sarrocchi's exchange within the scientific and literary culture of Renaissance Italy. The major takeaway from the chapter and from the book as a whole is the amount of overlap between the practice of poetry and the practice of astronomy in early seventeenth-century Italy. Sarrocchi's *Scanderbeide*, though not explicitly about scientific themes (unlike, perhaps, the *Galliade* of Guy le Fèvre de la Boderie), still, by nature of its being a heroic poem, must reflect the exceptional learning of its creator in matters scientific, historical and literary. There are echoes in this section, not explicitly brought up by Ray, of Strabo's praise of Homer at the beginning of his *Geography*. Epic and heroic poetry, in ancient Greece and in seventeenth-century Italy, requires a mind well versed in scientific matters.

Sarrocchi, as Ray explains, did indeed know her science and turned to Galileo for help in shaping and improving her poem. The outcome of this exchange, because of an implied break with Galileo, is never really seen in the finished poem and much of the remaining text is devoted to explaining the contents of the correspondence and Galileo's rise and fall. Sarrocchi, though answering a call to defend Galileo's work when asked (a letter included in the book), seems to break with Galileo just as he was facing house arrest and condemnation. The circumstances of this break, if indeed there was one, must be left to speculation. For all that Ray documents, so much of their relationship still seems lost to history.

There is so much that is interesting in this text that readers may find themselves frustrated by its brevity and its at times redundant and repetitive exposition. Sarrocchi's great poem, the one she turned to Galileo to improve, is treated only very briefly; this reader longed for more (and for more quotes from the poem itself). The letters, the *raison d'être* of the volume, take up only thirteen pages. Also, and this is not the author's fault, the print layout of the book makes it much harder to read than it should be. Awkward abstracts and keywords crowd the beginning of chapters and the endnotes, coming after each chapter, further draw attention to the brevity of the volume, especially the second chapter.