Alina Payne. *The Telescope and the Compass: Teofilo Gallaccini and the Dialogue between Architecture and Science in the Age of Galileo.*
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Teofilo Gallaccini. *Selected Writings and Library.*
Ed. Alina Payne. Biblioteca dell'"Archivum Romanicum" Serie I: Storia, Letteratura, Paleografia 394. Florence: Leo S. Olschki, 2012. ix + 412 pp. €45. ISBN: 978–88–222–6163–2.

Teofilo Gallaccini (1564–1641) studied at the University of Siena, graduating in 1597 with the thesis *De rerum amore*. He knew the painter Francesco Vanni (1563–1610) and the celebrated Giulio Mancini (1559–1630), author of the *Considerazioni sulla pittura* (1620) as well as papal physician. Together with the compass, the telescope was one of the varied objects that linked and brought together geometry and science, practice and theory, because for a polymath figure such as Gallaccini these interests were not separate but part of a larger body of knowledge. Alina Payne has gone to great lengths to reconstruct this intellectual milieu (also in the choice of manuscript texts included in the second volume) in which the telescope was one of the focal points of the meeting of architecture and science in the person and age of Galileo, to which Gallaccini belonged. Until now he has remained much less well known than his close contemporary Vincenzo Scamozzi (1548–1615), principally because all except one of his pioneering texts remained unpublished; the *Trattato sopra gli errori degli architetti* was printed much later and only saw the light because Antonio Visentini (1688–1782), toward the end of his life in 1767, decided to push it into print, well over a century after it was composed.

Here a prologue sets out Gallaccini's circles of friends, pointing out how physical meeting and discussing was often more important than the printed book on a daily and local basis, although the printed book was the way most erudite humanists far and wide came to know of each other's intellectual contributions to the scientific culture of early modern Europe.

The first chapter, dedicated to Gallaccini and his biographers, contrasts his relative obscurity up until recent years with the series of almost-contemporary writers Gallacini attracted in the early years after his death in 1641, such as the cleric Isidoro Ugurgieri Azzolini, who penned a life in 1649 and who expressed the wish, not fulfilled until now, that someone print Gallacini's manuscript treatises. Given that there were so many texts by Gallaccini, covering such widely differing topics, it is not entirely surprising that they remained unpublished, so the accompanying second volume here is particularly valuable.

In the second chapter Payne explores Gallacini in the context of the period from Galileo to John Dee because, in 1633, just a year after publishing his *Dialogue Concerning the Two Chief World Systems*, Galileo was in Siena hosted by Archbishop Ascanio Piccolomini, and for six nights a group of fellow learned men viewed the moon through his *cannochiale*. This strategy of Galileo's to get others to see with

their own eyes what he had illustrated in his books — even sending his lenses along with copies of his *Sidereus nuncius* to important patrons — also finds its related modus operandi in Gallacini's sharing knowledge through active personal discussion rather than merely through passive reading of books. Payne points out that the focus on learned conversation was one reason why the publication of Gallacini's manuscript treatises — the majority of which were collected and contained in his study and working library in Siena — was not brought to fruition.

In the third chapter, dedicated to "Enlivened Mechanics: Matematica Media, Motion and Anatomy," Payne shows how one cluster of Gallaccini's interests was characterized by what he taught within the chair in logic (later mathematics) at Siena University. Here subjects ranged from geometry to the investigation of motion, but within this field the curriculum included fortifications, perspective, and Vitruvius on architecture. Gallaccini's originality lay in bringing other disciplines under the umbrella of mathematics, creating a hybrid domain linking physics and mathematics by way of his interest in the fundamental components of mechanics: the science of motion, the waters, and the resistance of materials.

The title of chapter 4 makes a play on the volume's overall title, here examining the combination of "Compass and Trowel," Gallacini's contribution to the *ars aedificandi*, where Payne is able to show how architecture and engineering were part and parcel of Gallacini's training and conception of the built environment. Here too architecture was but one activity within a cluster of disciplines that connected cosmography, anatomy, geometry, and mechanics. In this context it is crucial to consider Gallacini's writing on fortifications and architecture as being intimately linked to perspective, geometry, and ballistics. Architectural historians will find the discussion here particularly interesting and useful for clarifying much received wisdom about the author of *Degli errori degli architetti* and his intentions and intellectual context.

The fifth chapter, "Architettura con ornato," explores Gallacini's interest in the richness and variation of architectural sculpture, clearly demonstrated in his attention to the writings of Sebastiano Serlio and in his own manuscript text dedicated to column capitals, the *Capitelli delle colonne*, thus countering the general perception of Gallaccini as principally important because of his authorship of the *Degli errori degli architetti*, where planning a building rather than its ornament was the main focus. This chapter interprets the numerous drawings and diagrams that Gallaccini sketched in his pages of text because they are a fundamental part of his working method. For example, in the text on *Porti di Mare*, as well as that of *Capitelli delle colonne*, together with his treatise on fortifications, and that on perspective *Prospettiva scenografica*, his illustrations are fundamental.

In the second of the two volumes, following the editor's preface, Giovanni Maria Fara contributes an essay entitled "Teofilo Gallaccini in his Library: Reflections and Critical Catalogue." This is followed by the texts themselves, Gallaccini's selected writings presented in over 350 printed pages. There are four manuscripts in number, the first a "Selection from *Varii e diversi discorsi Accademici*, ed altre diverse compositioni," followed by three entire manuscript texts: the

"Illustrated Commentary on Sebastiano Serlio's Books on Architecture," "Commentary of John Dee, Monas hieroglyphica, Antwerp 1564," and "Dell'Unità del Cielo [Monade Celeste]." Perhaps it is the Serlio commentary that is most fascinating in this context, as Gallaccini not only writes an extensive commentary, but also illustrates it with fine architectural drawings, proving himself to be an able heir to Serlio's own treatise marrying text and image. This is crucial because just as image and text are here intimately related, so architecture is just one part of Gallaccini's spheres of interest, which Payne shows were all linked as clusters of connected fields of knowledge that he pursued. Just as Galileo's practical telescope opened up the heavens to scientific scrutiny, so too Gallacini's compass and trowel went hand-in-hand with treatises on perspective (unfinished) and another on the unity of the heavens. Although *early modern* remains a debated term, if we are prepared to configure this as meaning a historical moment when multiple fields that subsequently were separated out as distinct and individual disciplines were instead seen as part and parcel of the same intellectual inquiry — telescopes, astronomy, circulation of the blood, mechanics — then one begins to see how the term might be valid.

Just as Leon Battista Alberti wrote on sculpture, painting, and architecture, as well as the family and much more, so too Gallacini's interests were extremely wide-ranging and more varied, for example, than his contemporary Vincenzo Scamozzi. But with his only published work up to the present being the text dedicated to the errors of the architects, and this being published posthumously over a century after its composition, it has not been possible until now to fully evaluate the diverse nature of Gallacini's endeavor, the traces of which, after his death, were largely confined to a few biographies and the treasure trove hidden away in Siena. The publication for the first time of the texts presented here, together with an analytical exposition of Gallacini's intellectual context, go a long way to changing this situation and according him the attention he deserves.

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