

PLINY THE ELDER AND THE EMERGENCE OF RENAISSANCE ARCHITECTURE

The *Naturalis historia* by Pliny the Elder provided Renaissance scholars, artists, and architects with details of ancient architectural practice and long-lost architectural wonders – material that was often unavailable elsewhere in classical literature. Pliny’s descriptions frequently included the dimensions of these buildings, as well as details of their construction fabric and ornament. This book describes, for the first time, how these passages were interpreted in Italy during the fifteenth and sixteenth centuries. Chapters are arranged chronologically within three interrelated parts – antiquarianism, architectural writings, and drawings and built monuments – thereby making it possible for the reader to follow the changing attitudes to Pliny over the period. The resulting study establishes that Pliny’s account of architecture was used extensively during the Renaissance. Indeed, the *Naturalis historia* represented the single most important ancient literary source on architecture after Vitruvius’s *De architectura*.

Peter Fane-Saunders is a specialist in the history of art and architecture. His main research interest is the classical tradition – particularly those aspects of the visual arts that derive their inspiration from the ancient world. He received his doctorate from the Warburg Institute, London. His articles have been published in various academic journals. He was Rome Fellow at the British School at Rome and currently holds a Leverhulme Trust Early Career Fellowship at the University of Durham.

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RENAISSANCE
ARCHITECTURE

PETER FANE-SAUNDERS

University of Durham



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For my parents

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EDITORIAL NOTE

References to classical works are given according to the modern divisions of the text. When quoted without reference to a specific edition, the text is taken from the relevant volume of Loeb Classical Library. For classical Latin texts, sentences begin with lowercase letters (except at the start of chapters or sections); but for Renaissance Latin, capital letters are used instead, while “e” is lengthened to “ae” where necessary. I have normalised the punctuation and spelling of printed editions, both Renaissance and modern. Abbreviations have been expanded and accents modernised in Italian. I have changed “u” to “v,” and vice versa, to distinguish, respectively, vocalic and consonantal “u,” and changed “j” uniformly to “i.” I have, however, retained the orthography of annotations to architectural drawings and of uppercase inscriptions in Latin. Greek personal names, topographical locations, and titles of classical texts appear in their Latinised or Anglicised forms. Manuscripts and early printed material have been transcribed, except where the text is already available in modern editions. All transcriptions and translations are my own unless otherwise stated.

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est enim benignum, ut arbitror, et plenum ingenui pudoris fateri per quos profeceris [...]

For it is generous, in my opinion, and rich in noble modesty to acknowledge those through whom you may have profited [...]

Pliny the Elder, *Naturalis historia*, Praef.21

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Durham, December 2014

ABBREVIATIONS

ARCHIVES, GALLERIES, AND LIBRARIES

ASMa	Archivio di Stato, Mantua
ASMi	Archivio di Stato, Milan
ASS	Archivio di Stato, Siena
ASTo	Archivio di Stato, Turin
ASVi	Archivio di Stato, Vicenza
BAF	Biblioteca Comunale Ariosteana, Ferrara
BAM	Biblioteca Ambrosiana, Milan
BAV	Biblioteca Apostolica Vaticana, Vatican City
BCS	Biblioteca Comunale degli Intronati, Siena
BEM	Biblioteca Estense, Modena
BIF	Bibliothèque de l'Institut de France, Paris
BL	British Library, London
BM	British Museum, London
BMLF	Biblioteca Medicea Laurenziana, Florence
BNCF	Biblioteca Nazionale Centrale, Florence
BNE	Biblioteca Nacional de España, Madrid
BnF	Bibliothèque nationale de France, Paris
BNM	Biblioteca Nazionale Marciana, Venice
BPPr	Biblioteca Palatina, Parma
BRAH	Biblioteca de la Real Academia de la Historia, Madrid
BRT	Biblioteca Reale, Turin
BSB	Bayerische Staatsbibliothek, Munich
BSLE	Real Biblioteca del Monasterio de San Lorenzo de El Escorial, San Lorenzo de El Escorial
DSB	Deutsche Staatsbibliothek, Berlin
GDSU [U A/S]	Galleria degli Uffizi, Gabinetto dei disegni e delle stampe, Florence [Uffizi Architettura/Santarelli]
HAB	Herzog August Bibliothek, Wolfenbüttel
OBL	Bodleian Library, Oxford
PCVi	Pinacoteca Civica, Gabinetto dei disegni e delle stampe, Vicenza
RIBA	Royal Institute of British Architects, British Architectural Library, London

PRIMARY SOURCES

- AP Sebastiano Serlio, *Tutte l'opere d'architettura, et prospetiva, di Sebastiano Serlio bolognese, dove si mettono in disegno tutte le maniere di edifici, e si trattano di quelle cose, che sono più necessarie a sapere gli architetti. [...]* Diviso in sette libri, Venice 1619
- CC Niccolò Perotti, *Nicolai Perotti Cornu copiae, seu linguae Latinae commentarii*, ed. Jean-Louis Charlet et al., 8 vols, Sassoferato 1989–2001
- CIL *Corpus inscriptionum latinarum*
- CP Ermolao Barbaro, *Castigationes pliniana et in Pomponium Melam*, ed. Giovanni Pozzi, 4 vols, Padua 1973–9
- DA Vitruvius, *De architectura*
- DL (1556) Vitruvius, *I dieci libri dell'architettura di M. Vitruvio tradutti et commentati da Monsignor Barbaro eletto Patriarca d'Aquilegia [...]*, ed. and tr. (volgare) Daniele Barbaro, Venice 1556
- DL (1567^a) Vitruvius, *I dieci libri dell'architettura di M. Vitruvio, tradotti & commentati da Mons. Daniel [sic] Barbaro eletto Patriarca d'Aquileia [...]*, ed. and tr. (volgare) Daniele Barbaro, Venice 1567
- DL (1567^b) Vitruvius, *M. Vitruvii Pollionis De architectura libri decem, cum commentariis Danielis Barbari, electi Patriarchae Aquileiensis [...]*, ed. Daniele Barbaro, Venice 1567
- DRA Leon Battista Alberti, *L'architettura: De re aedificatoria*, ed. and tr. (Italian) Giovanni Orlandi and Paolo Portoghesi, 2 vols, Milan 1966
- DVF Poggio Bracciolini, *De varietate fortunae*, ed. Outi Merisalo, Helsinki 1993
- HP Francesco Colonna(?), *Hypnerotomachia Poliphili, ubi humana omnia non nisi somnium esse docet. Atque obiter plurima scitu sane quam digna commemorat*, Venice 1499
- LA Antonio Averlino, *Trattato di architettura*, ed. Anna Maria Finoli and Liliana Grassi, 2 vols, Milan 1972
- LT Ciriaco d'Ancona, *Later Travels*, ed. and tr. (English) Edward W. Bodnar and Clive Foss, Cambridge, MA and London 2003
- MR Diego de Sagredo, *Medidas del Romano: necesarias a los oficiales que quieren seguir las formaciones de las Basas, Columnas, Capiteles y otras piezas de los edificios antiguos*, Toledo 1526
- NH Pliny the Elder, *Naturalis historia*
- PL *Patrologiae cursus completus. Series latina*, ed. Jacques-Paul Migne, 221 vols, Paris 1844–65
- QL Andrea Palladio, *I quattro libri dell'architettura di Andrea Palladio. Ne' quali, dopo un breve trattato de' cinque ordini, & di quelli avvertimenti, che sono più necessari nel fabricare; si tratta delle case private, delle vie, de i ponti, delle piazze, de i xisti, et de' tempii*, Venice 1570
- RA Giovanni Tortelli, *Roma antica*, ed. Luisa Capoduro, Rome 1999
- RI Flavio Biondo, *Rome restaurée. Roma instaurata*, ed. and tr. (French) Anne Raffarin-Dupuis, 2 vols, Paris 2005–12
- RT Flavio Biondo, *Blondi Flavii Forliviensis De Roma triumphante libri X*, in his *Opera omnia*, Basle 1559, 1–217

SHA	<i>Scriptores Historiae Augustae</i>
TA	Francesco di Giorgio Martini, <i>Trattati di architettura ingegneria e arte militare</i> , ed. Corrado Maltese, 2 vols, Milan 1967
VC	Vitruvius, <i>Di Lucio Vitruvio Pollione De architectura libri dece traducti de latino in vulgare, affigurati, commentati & con mirando ordine insigniti [...]</i> , ed. and tr. (<i>vulgare</i>) Cesare Cesariano, Como 1521