

VITRUVIUS POLLIO, Marcus
Rome? *circa* 80/70 BC — Rome? *circa* 20 BC

[De architectura libri decem]
*M. Vitruvius per locundum solito
castigatior factus cum figuris et
tabula ut iam legi et intelligi possit.*

Venice, Joannes Tacuinus, 22 May 1511

Folio (290 × 210mm), 124 leaves, complete, collating AA⁴ A–N⁸ O⁶ P¹⁰ (blank P¹⁰), A¹–O⁶ foliated 1–110 (the register incorrectly calls for 8 leaves in quire O). Printed in Roman type with occasional words in Greek, 41 lines.

136 woodcut illustrations and diagrams mostly enclosed by a double-line border (52 × 128mm to 230 × 132mm), plus four-piece woodcut title-border with dolphins (see below), eleven woodcut outline initials (one 9-line and ten 7-line) within a double-line border, all illustrations, diagrams, and initials with FINE CONTEMPORARY COLOURING. Woodcut orb and cross device incorporating the printer's initials (Kristeller 326). In this copy, folio 92 is correctly numbered, and the woodcut on folio G8 verso is printed upside down as usual (see below).

Inventory inscription 'N^o. 2390' in brown ink at head of title-page. Marginal annotations in Latin written in brown and red ink by a single contemporary hand (see below). Ownership stamp (20 × 50mm) expertly deleted from blank area of title-page. Title-border trimmed at bottom by the binder's knife (2mm of design lost). Three small wormholes in title-page, two of which continue into quires A and B, the third persisting into quire F (passing mostly through lower margins), otherwise in excellent state of preservation.

Bound first in our Sammelband, before (2) Dürer and (3) Pèlerin (for description of binding, see above).

The didactic treatise *On Architecture* is the only text on architectural theory and practice to have survived from classical antiquity and the single most important work of architectural history in the Western world, having shaped humanist architecture and the image of the architect from the Renaissance to the present. It was written *circa* 30–20 BC for an intended readership of knowledgeable patrons

(including foremost the Emperor Augustus) and professional architects and conceives of architecture as a Liberal Art concerned with the entire built and mechanical environment. The first eight of its ten books deal with *aedificatio*, the science of building, including the education of an architect, theoretical principles, materials, public and private building types, hydrology and hydraulics; book nine is concerned with *gnomonice*, the working of the heavens, the art of making sundials, and relevant mathematics; and the last book with *machinatio* or mechanics, military engineering and ballistics.

Some eighty manuscripts of *On Architecture* survive, divided into two primary families, the oldest extant written at the Carolingian court. Until the mid-14th century, there was apparently just one copy in the Italian peninsula, in the library at Montecassino. About 1350, Petrarch brought a copy from France and showed it to Boccaccio and other literary friends, and about the same time Nicola Acciaiuoli obtained a copy from Montecassino.¹ By the mid-15th century, the treatise was widely disseminated in humanistic circles, and the long process of comparing the text with surviving Roman architecture had begun. Soon the treatise was directly influencing architectural practice. The first printed edition was produced by the grammarian Giovanni Sulpizio da Veroli and printed at Rome by Eucharius Silber *circa* 1486–1487. Second and third editions were published (without the name of their editor) at Venice in 1495 and 1497.²

- 1 On the manuscript tradition and transmission, see Lucia A. Ciapponi, 'Vitruvius,' in *Catalogus translationum et commentariorum*, edited by F. Edward Cranz (Washington, DC 1976), III, pp.399–409; S.F. Weiskittel & L.D. Reynolds, 'Vitruvius', in *Texts and transmission: A Survey of the Latin classics*, edited by L.D. Reynolds (Oxford 1983), pp.440–443; Carol H. Krinsky, 'Seventy-eight Vitruvius manuscripts', in *Journal of the Warburg and Courtauld Institutes* 30 (1967), pp.36–70.
- 2 The *terminus ad quem* of the undated *editio princeps* is 16 August 1487, on which day John Shirwood, protonotary to the Apostolic See in Rome, purchased a copy (now Corpus Christi, Oxford; see Dennis E. Rhodes, *A catalogue of incunabula in all the libraries of Oxford University outside the Bodleian*, Oxford 1982, no. 1835). The second edition (Goff V–307) was printed by Christophorus de Pensis on 13 November 1495 (it has an additional colophon reading Florence 1496, on which see *Catalogue of books printed in the XVth century now in the British Museum*, reprint London 1963, V, p.xlii). The third edition (Goff C–742) was printed by Simon Bevilacqua on 3 August 1497 with a tract of Cleonides prefixed. A partial collation of these editions reveals independent work by three editors; see Lucia A. Ciapponi, 'Fra Giocondo da Verona and his edition of Vitruvius', in *Journal of the Warburg and Courtauld Institutes* 47 (1984), pp.72–73 and Appendix I.

LIBER QVARTVS.



VM aiauertissem Impator plures de architectura pcepta volumiaq; comētarioꝝ nō ordinata sed icepta vti particulas errabūdas reliq̄sse, dignā & vtilisimā rē putavi antea disciplinæ corpus ad pfectā ordinationē pducere, & p̄scriptas in singulis voluminibus singulorum generum qualitates explicare. Itaq; Cæsar priō volumine tibi de officio eius & q̄bus eruditū eē rebus architectum oporteat, exposui, Secūdo de copiis materiæ & q̄b⁹ ædificia cōstituant, disputavi, Tertio autē de ædiū sacrag; dispositiōibus & de earg; genere

varietate q̄sq; & quot habeāt spēs, earūq; q̄ sūt in singulis gñib⁹, distributiōes, ex tribusq; gñib⁹ q̄ subtilissimas hēret ppor tōib⁹ modulog; q̄litates, ionici gñis mores docui. Nūc hoc volumie de dorici corinthiq; istitutis & oibus dicā, eorūq; discrimia & proprietates explicabo.

De tribus gñibus columnarū origines & inuentiōes. Cap. I. Columnæ corinthiæ p̄ter capitula oēs symmetrias hñt, vti ionicæ, sed capitulog; altitudies efficiunt eas pro rata exceliores & graciliores, q̄ ionici capituli altitudo tertia pars ē crassitudis columnæ, corinthi tota crassitudo scapi, Igit q̄ duæ partes ē crassitudine columnarū capitulis corinthiog; adiciunt efficiunt excelitate speciem earg; graciliore. Cætera mem



c. capitulum corinthiū
d. capitulū ionicum

a. colūna ionica
b. colūna dorica

e. spira attica
f. spira ionica



13. Illustrations of a water mill and the *Coclea* or water screw (folios N5 verso and N6 recto).

Reproduced on previous page 12. 'The Corinthian column appears more slender than the Ionic' (folio D8 recto).

Reproduced opposite 14. Construction of a cistern using *opus signinum*, a waterproof mortar of crushed terracotta (folio L3 recto).

The numerous Greek and Latin theoretical and technical terms, as well as proportions and measurements expressed in Roman numerals, had become garbled by generations of scribes, and the texts presented in the earliest printed editions are replete with inconsistencies, pervaded by confusing and even nonsensical passages. While some words in Greek were restored by the editor of the 1497 edition, Sulpizio and the anonymous editor of the 1495 edition had printed Greek words in Latin characters, and in all three editions blank spaces occur in book eight where three whole Greek poems belong. The nine to eleven geometric diagrams to which Vitruvius referred in his text were not preserved in the manuscript tradition. Sulpizio provided one (a circle, at the end of book one) and ordered his printer to leave wide margins in which his readers could supply their own. Additional geometrical figures were introduced in the two subsequent editions, but they were of little help in elucidating the text.

The present, fourth edition, represents a turning point in Vitruvian studies. It delivers an ingeniously reconstructed

and emended text integrated with diagrams and illustrations and complemented by a lexicon of Vitruvius' technical terminology and by a table of the mathematical symbols which he used. Nearly all the Greek words are reinstated and the Greek text of the epigrams is published for the first time. The title proudly announces the editor's achievement: 'An exceptionally good text of M. Vitruvius prepared by Giocondo with figures and index so that it can now be read and understood'. Indeed, for the first time, the work was presented in a form which enabled Renaissance architects and engineers and their patrons to comprehend what Vitruvius really wrote.

THE EDITOR

Fra Giovanni Giocondo (1433–1515) was a humanist philologist, thoroughly acquainted with the Greek sources of Vitruvius as well as other ancient texts on scientific disciplines, and at the same time a practising architect and field archaeologist. From his youth, Giocondo had collected Latin inscriptions and studied the remains of ancient building, in

rint,vti percolatiōibus aquæ transmutari possint,multo salubriorē ei^o vsū
efficient, Limus enim cū habuerit quo subsidat,limpidior aqua fiet, & sine
odoribus conseruabit saporem, si non,salē addi necesse erit, & extenuari.



c. mortariū

a. Fistuca seu
uetes lignei
b. opus signi
num

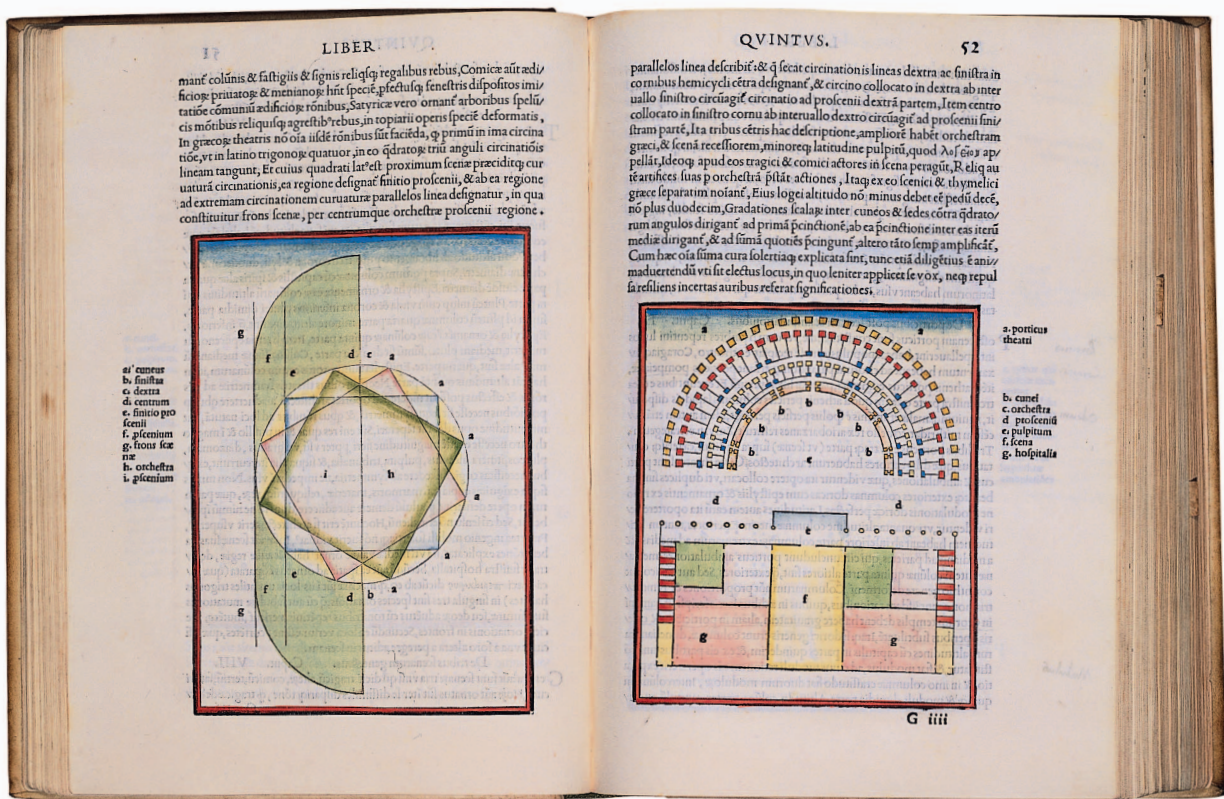
Quæ potui de aq̄ virtute & varietate, q̄sq; habeat vtilitates, quibusq; ratio
nibus ducatur & p̄betur, In hoc uolumine posui, de gnomonicis vero re/
bus & horologiorum rationibus insequenti perscribam.

M. VITRUVII DE ARCHITECTVRA.

LIBER NONVS.

N

OBILIBVS athletis, q̄ olympia, pithia, isthmia, ne/
mea, uicissent, græcorū maiores ita magnos honores
constituerūt, vti nō modo in cōuentu stātes cū palma
& corona ferāt laudes, sed etiā cū reuertant̄ in suas ci/
uitates cū victoria triūphantes quadrigis ī mœnia &
in patrias inuehant̄ e req; publica perpetua vita con/
stitutis uestigialibus fruant̄, Cū ergo id aīaduertā ad
miror quid ita nō scripto ribus iidē honores etiāq; maiores sint tributi, qui



15. Woodcuts illustrating principles of Greek theatre design (folios G3 verso and G4 recto).

Rome, and also in Naples and its environs. In 1492, he had been paid by the king of Naples for illustrating two manuscripts of the Sieneese architect Francesco di Giorgio Martini, and it is supposed that Francesco di Giorgio's own study of Vitruvius – he prepared a partial Italian translation about the same time Sulpizio produced the *editio princeps* – stimulated Giocondo to edit the treatise.

In 1495, Giocondo left Naples to become 'deviser des bastiments' to Charles VIII, king of France. During his ten-year residence in Paris, Giocondo apparently gave lectures on Vitruvius assisted by a commentary backed up with illustrations.³ On returning to Italy, Giocondo settled in Venice, as architect to the Council of Ten, and in that capacity and as an hydraulics expert undertook projects throughout the

3 Vladimir Jurén, 'Fra Giovanni Giocondo et le début des études vitruviennes en France', in *Rinascimento* 14 (1974), pp.101–115, describing a copy of the Venice 1497 edition (Bibliothèque nationale, Rés. 318) containing annotations and drawings made by Guillaume Budé under direction of Giocondo; see further, Ciapponi (*Op. cit.*, note 2), p.80.

Veneto, meanwhile editing Nonius Marcellus, Caesar, and the *Scriptores rei rusticae*, for his friend the publisher Aldo Manuzio. Despite his advanced age, Giocondo was invited to Rome by Pope Leo X in 1514 and appointed architect of St. Peter's, together with Raphael and Giuliano da Sangallo; he died there on 1 July 1515.

THE EDITION

The exact manuscripts utilised by Giocondo in his edition of Vitruvius have not been certainly identified, however, it appears that he based his text on manuscripts of several families, including part of the manuscript tradition unknown to the earlier editors. The Greek epigrams of Vitruvius were restored by Giocondo with the help of a friend and fellow-member of the Aldine Academy, Janus Lascaris, who also identified for Giocondo some Byzantine poliorcetic sources used by Vitruvius. Giocondo's consultation of Lascaris is mentioned in a letter of Giovanni Bembo, who also credits himself, 'Ioannes Marcus of Lendinara, the expert on optics', and 'Nana, the German mathematician',

LIBER

**Cornu luum
Cornu luum**
Ergo cu pp ignis inuentione cõstutus initio apud hoies & cõsiliu & cõstitus
et natus, & in vni loco plures cõueniret, hites ab natura primi pter reliq
alia vniq; pui sed erecti ambularet, mudiq; & atrog; magnificetiam alip;
cerent, sic mamb; & articulis, qui tunc rem facilius tractaret, cõperit in co
cõuati ali de fronde facere tecta, ali p lictas fodere sub montibus, nõnulli
Sagittarum
Sagittarum
Luto de huto
et virgultis
Cõpae
Hinc dicitur natura quõdã inuentionibus gloriõtes, aliis ali ostendebant
adificiõq; effectus & ita exercetis ingeniã certationibus, in dies melioribus
iudicis efficebant. Primitiq; furcis erectis, & virgultis interpositis luto, pa
rietes texerunt. Alii luteas glebas arefacientes, strubeant parietes, materia
eos ingumentes utiq; hymbres & ætus tegebant harudinibus & fron
de postea quã per hibernas expellentes tecta nõ poterant hymbres sustine
re, saligina faciẽtes, luto inducto i procliuatis tectis, sillicidia deducebant.
Hæc autẽ exiis quæ supra scripta sunt originibus inuicta esse possimus sic
ad auertere: q; ad hinc diẽ, patribus exteri ex his rebus adificia cõstituit
murv in Gallia, Hispania, Iustania, Agraria, scidulis robotibus, aut stram
tis. Adificiõne cõlchopos in pãto pp siluag abidificia arborib; pperuit, pla
nis dextra ac sinistra in terra possit, spacio iter eas relicto, q;o arboros; legi
vires patiant, collocant. In extremis pib; exq; supra alere traluerit q; cir
cificidit mediu spãsi hitatõis inq; sup altis trabibus ex quõnor pib;
sãgulos ingumentes, & ita pietes ex arborib; struẽtes ad ppediculi imar,
educit ad altitudinẽ turres, si uallag q; reliquã pp crassitudinẽ matie
schidus & luto obstruit. Itẽ tecta recidẽtes ad exteros sãgulos trãtra trauit
unt, gradatõ corãtẽtes. Itã ex quõnor pib; ad altitudinẽ educit medio me
tasq; & frõde & luto tegetes, efficiit barbarico more testudata turri te
da. Phryges uero q; capetrib; locis sũ hitates pp iopia siluag egẽtes ma
teria, eligunt cumulos naturales, colq; medios follura exinanites, & itera p
fodites, dilatãt spacia, quã natura loci patit. Insup sãt stipes ite re religan
tes, metos efficiit, q; harditib; & stramẽtes tegetes, exagerãt supra hitatõis
maximos grimos & terrata hymes calidissimas, ætates frigidissas efficiit,
redõq; rone. Nõnulli ex vilia palustri cõponunt rugaria tecta. Apud ceteras
quõq; ptes, & nõnulla loca, pari, siliq; rõe, calas p hũit cõlõnes. Nõ min;
& Massilie adiuuere possunt, in teq; tubacta cõ paleis terra tecta, Athe
nis ite pãp; frãgãta exteplãr ad h; p; luto tecti. Itẽ in capitolio cõmoneta
cere fit & significare mors uentura. Hitõis sic ea fuisse rõcõnes possunt
tecta, itã hũs signis & itaq; iustitib; adificiõ; sic ea fuisse rõcõnes possunt
iudicare. Cũ tam quõdã faciliõ rõcõnes man; ad adificadum p hũit
sent & colera ingeniã exercendo per cõstuentidnem ad artes perueniant,
tun etiã industria in animis eorum adiecta perfecti, vt qui fuerunt in his

SECUNDVS. 14

Fabre
Nõnulli in his sed
Dumus
Symmetris
Cõpue orõctis
Reminiscies
Põrecepta p hũ
Põrripua uerõ
Atomi
Aqua formõ
Aer uerõ
Põrecepta p hũ
Põrripua uerõ
Atomi
Aqua formõ
Aer uerõ

studiosiores, fibros esse se profiterent. Cũ ergo hæc ita fuerit prio cõstitui
ta, & natura nõ folli sũb; ornauit gẽtes quãdãmodu reliq; aialia. Sed et co
gnatõibus & cõsiliis artauit mites, & subiectã cetera aialia fũb; pãte,
tũc uero & fabricatõib; adificiõq; gradatim pgressi ad ceteras artes & dilu
plinas, & fãra gressiq; uita ad mãtãtã pduxerunt hãmãtã. I tũc struẽtes
aiole & picipites maiorib; cogitãtib; ex uarietate arborum nãtũ casus fãci
et domos sũdãtas ex lateritiis pib;: aut e lapide struẽtas materiq; et tegu
la tectas p hũit cepunt, deide obfusarõib; studio euagãtõ iudicis ex feceris
ad certas symmetriag rõnes pduxerit, postea q; adiuuẽterit, p hũit et p
ab natura materia, & abidificiõ copã ad adificiões ab ea copãrãtã tractãdo
nutriuerit, & auctã p artes ornauerit uoluptãtib; ad elegãtiã uita. Itẽ de
his reb; q; luto & adificiõ ad vli idoneo, quib; luto q; luto, & q; hãnt virtu
tes (vt poterõ) dicãt, Sed sigs de ordie hũ; libri dispũtare uoluerit, q; putau
erit eũ primũ istiu oportuisse, ne putet me errauisse, sic reddã rone. Cũm
corp; architecture scriberẽt prio uolumine, putau q; b; rãditõib; & discipul
nis eẽt ornata exponẽt, finireq; terminatõib; p hũit, & e q; b; rãtẽtã nãtã dicit
Itaq; qd oporteat eẽt i architectõ ibi pntiaui, Ergo i prio dãtis officio, i h
d naturalib; materiã reb; quẽ hãnt vli dispũtãto Nãq; h; liber n; p hũit vñ
architectura nãtã, sed vñ origines adificiõ; sũt istuẽtes & q; b; rãtib; enu
trãte & progredite sũt gradatim ad hãc finitõne, Ergo itã suo ordine et loco
hũit vñ uoluminis cõstitutio. Nũc reuertar ad ppositiõ, & d; copis q; apãt
et adificiõ; p hũit q; quãdãmodu uideãt eẽt ab natura resp; pãte, quib;
mixtõib; p hũit q; quãdãmodu uideãt eẽt ab natura resp; pãte, quib;
rõcõnãtib; Nãq; nulla materia q; nãq; corpora nãtã sine fine p hũit
cõuati nasci neq; hũit intellectũ p hũit, neq; aliter natura resp; pãte p hũit
cõuati uerã pãte habere explicationes, nãtã eũt, que sũnt in his reb; quẽ
admodum, & qd itã sũt subtilibus rationibus habeant demonstrationes.
De p hũit resp; secundã p hũit opinionões. Caput. II.
I tãles qdẽ primã aquã putauit oĩum resp; eẽt p hũit, Hæc hũit p hũit q; p
obscuritate scriptorã & grãcis ex p hũit p hũit, ignẽ, Democriẽ q; q; et e
cutẽt, epicur; atomos, q; nãtã sãcã b; cõpãrãtõib; dũidua uocantur.
Nũc, Pythagoreõ uero dũcãtia adiectã ad ignẽ & aquẽ aera et terrenũ, ergo
Democriẽ et sũ p hũit res nõ uiait, Sed itẽ dũidua corpora p hũit, iõ ea ipã
dixisse uideãt, q; ea cũ sũt dũidua, nec legũt, nec iternitõne recipiũt, nec le
dũidua dũidua, sed tempore suo p hũit sũnt retinẽt i se soliditatẽ. Ex
his ergo cõgnatõib; uñ res oĩes coire nãtã uideãt, & ex istuẽtis grãtib; rerũ
natura eẽt dispũtãta, putau oportẽ d; uarietãtib; & dũcãriminãtib; earũ
quãq; hãrẽt adificiõs q; lites expõere, vñ cum fuerit nota, non hãnt qui
adificiare cogitãt, errorem, sed apãt ad usum copias adificiõs comparẽt.
De Latibus. Caput. III.
I itaq; primũ de laterib;, quã de terra dũcẽt eos oporteat dicit, Nõ, nãtã arenosõ,
neq; calculosõ, neq; sãbulosõ luto sũt dũcẽtã, qd ex his generibus cum sũt

16. Annotations to a discussion of the timber huts supposedly built by primitive man (book two, chapter 1, paragraphs 2-9).

with helping Giocondo resolve other Vitruvian problems.⁴

The 136 woodcut illustrations accompanying Giocondo's text are an outstanding feature of his edition. They include non-technical illustrations reminiscent of Venetian painting of the time, such as the discovery of fire by primitive men (folio B5 recto), the discoveries of Archimedes (folio L5 verso), Archytas and Eratosthenes (L6 recto), and a man searching for water according to a technique described by Vitruvius (K4 recto); antique buildings in plan, elevation, and section (with particular emphasis on houses); architectural orders; and woodcuts of the machines for hydraulics, lifting, and defence described by Vitruvius in book ten. In the illustration of a mill (folio N5 verso), the two sacks on the floor have a version of the printer's orb and cross device with his initials ZT (see our fig. 13). The

title-border, a continuous design with scrolling foliage and dolphin motifs in four parts, became one of the most influential pieces of ornamentation of the century, copied not only in Venice, but also at Rome, Bologna, Basel, Cologne, London, and Paris.

The edition was reprinted with Giocondo's edition of Sextus Julius Frontinus' *De aqueductibus urbis Romae* by Filippo Giunta at Florence, in 1513, in octavo format, with reduced copies of the Tacuinus blocks. Antonio da Sangallo the younger owned a copy of this second edition, as did Raphael. Cesare Cesariano consulted a copy when producing his Italian translation, but he designed his own edition on the luxurious model of Giocondo's 1511 edition. A third edition by Giunta's heirs followed in 1522; a fourth edition was printed surreptitiously at Lyon in 1523. The text and illustrations of Giocondo's edition continued to influence editions of Vitruvius well into the next century and his table of mathematical symbols was often quoted verbatim. The impact of the edition on architects and engineers of the Cinquecento has been more difficult to assess.

4 Ciapponi (*Op. cit.*, note 2), pp.75-76, 83-84. Polittan had found the epigrams in a manuscript brought to Lorenzo de' Medici from Greece (now Laurentianus Gr. 56, 1) and from that source Lascais apparently copied them into his own copy of the Venice 1497 edition.

THE COPY

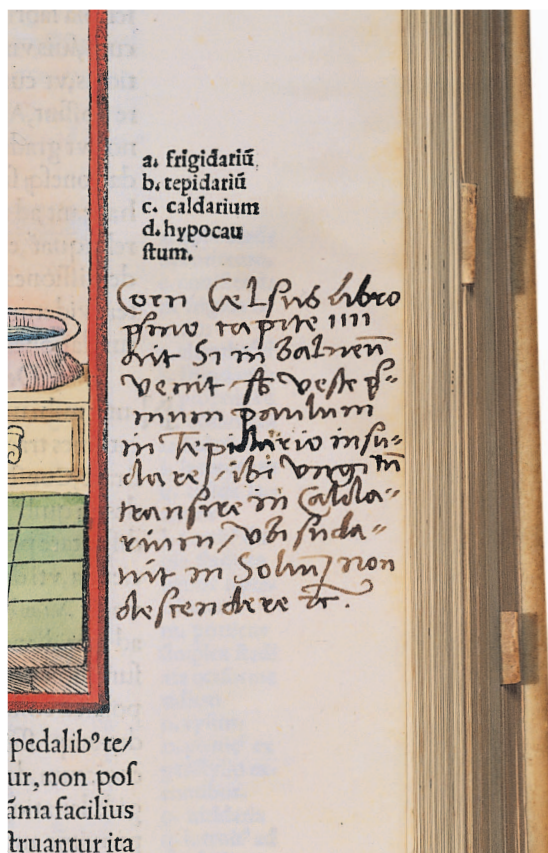
There is insufficient evidence to reconstruct with certainty the history of this copy. The palette utilised by the colourist and his manner of applying the pigments strongly suggest that the copy was coloured in Venice. The colours pink, yellow, red, green, blue, and black are used on the eleven woodcut initials (50 × 45mm) and diagrams with remarkable subtlety, whereas the woodcuts incorporating background landscapes or human figures are coloured to obtain maximum dramatic effect. This style of decoration is typically Italian, quite unlike colouring executed north of the Alps.⁵

The annotations are by a single hand, writing in brown and red inks, apparently at different times, underscoring words and phrases to facilitate later reference, summarising in the margin the content of adjacent text, or simply extracting names out of it, occasionally commenting on a passage or on an illustration in several lines. A few Greek names and terms are translated into Latin, for example in a discussion of a herb used by the Cretans to cure splenetics (A7 recto), where the unidentified annotator cites Dioscorides, thereby possibly signalling his own background. The hand defies an unequivocal localisation to either Italy or Germany, nor can it be dated precisely.

Variation in the density of annotation reveals the interests of the annotator. He read with attention and care the first four chapters of book one, devoted respectively to the education of the architect, the analytical terms of architecture, the three divisions of architecture (construction,

5 Two other copies with coloured illustrations have been seen recently on the market. The Otto Schäfer copy (sold by Sotheby's, New York, 8 December 1994, lot 194, realised \$145,500) is finely coloured throughout, and also partly rubricated; compare the reproduction of folio L3 recto in Sotheby's sale catalogue, p.194, with our fig. 14. Unusually, three woodcuts in the Schäfer copy (folios A4 recto, E1 recto, G8 verso) were corrected by paste-on cancels before being coloured (in our copy, woodcuts on A4 recto and E1 recto are printed correctly, and G8 verso printed upside down and coloured uncorrected).

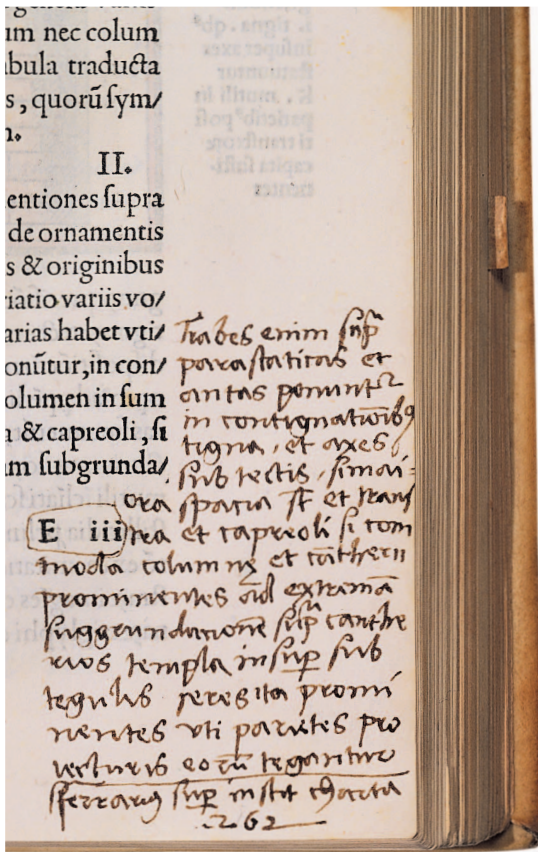
The Haskell Norman copy (sold by Christie's, New York, 18 March 1998, lot 223, realised \$277,500) has unidentified heraldic insignia painted by a contemporary hand on folio A1 recto, and woodcut initials decorated in red, blue, and green, with penwork in white and black, highlighted with gold. The title-border and eight only of the text woodcuts were coloured at later date: the sale cataloguer speculates 'perhaps in the 18th century', whereas Diana H. Hook & Jeremy M. Norman, *The Haskell F. Norman Library of Science & Medicine* (San Francisco 1991), pp.790–791, no.2157, comment 'probably not contemporary'. In the Norman copy, folio 92 is incorrectly numbered 62 (the leaf is foliated correctly in our copy).



17. Detail of folio G6 recto shown actual size (see footnote 6).

gnomonics, mechanics), and choice of a healthful site, apparently giving up as Vitruvius commenced a technical discussion of the construction of city walls. In the margin next to Giocondo's illustration of a caryatid portico (folio A2 recto), the annotator cites Giovanni Battista Pio's *Annotationa*, printed at Bologna in 1504–1505 (chapter 119, 'Quae sint in eodem cariatides').

A pattern is established by book two: its first two chapters, on the invention of the arts and of building and on the principles of earth–air–fire–water chemistry as expressed by the pre-Socratic philosophers, are closely annotated, also the following chapter on mud-brick masonry, after which the annotator again breaks off, leaving unremarked subsequent chapters on other building materials. He annotates the preface of the third book, concerned with judgment of artistic skill, but not the discussion which follows on temple architecture and construction (continued in book four). His next annotations



18. Detail of folio E3 recto shown actual size (see footnote 7).

appear in chapters nine and ten of book five, adjacent to discussions of theatre porticoes and baths, and include a quotation from the discussion ‘De his quibus caput infirmum est’ in Celsus’s *De medicina* (see our fig. 17).⁶

Uncharacteristically, chapters two, three, four, and fourteen of book seven, in which Vitruvius deals with specific aspects of finishing – plasterwork, ceilings, plasterwork in damp locations, and preparation of pigments which simulate purple, Attic ochre, malachite green, indigo, etc. – are annotated. The annotator then rested his pen until the

6 The annotation is adjacent to Vitruvius’s illustration of the correct arrangement of bronze tanks (caldarium, tepidarium, frigidarium) above the furnace in a bath (book five, chapter 10, paragraph 1) and reads ‘Corn. Celsus libro primo capite iii Si in balne[u]m venit s[u]b veste primum paulum in tepidario insudare ibi ungi tu[m] transire in caldarium, ubi sudarit in Solium non descendere’ (compare the edition of C. Daremberg, Leipzig 1859, p.22).

preface of book eight, on ‘water as the first principle of all things’, afterwards again until a passage in chapter three, where Vitruvius refers to the medicinal properties of hot springs. The technical discussion in the final books interests our annotator not at all: only chapters concerned with the Greek inventors of sundials and water-clocks (book nine, chapter nine) and Diades and his siege engines (book ten, chapter nineteen) inspire marginalia.

There is evidence that the annotator consulted manuscripts. Adjacent to Vitruvius’s discussion of the nomenclature of Doric and Ionic roof systems (book four, chapter 2, paragraph 1), the annotator supplies in the margin (see our fig. 18) a more honest reading, deleting a gloss printed by Giocondo, Sulpizio, and the editors of the 1495 and 1497 editions. In the last line the annotator identifies the manuscript in his hands, however we make no sense of it (*fer[ia... ?] sup[er] inst[ar ?] charta 262*).

On this evidence, we conclude our unidentified annotator was more interested in Hellenistic liberal and scientific knowledge, than in Roman construction methods and forms. He knew Greek and was perhaps a physician, or at least was in possession of medical knowledge.

REFERENCES Staatliche Museen zu Berlin, *Katalog der Ornamentstichsammlung der Staatlichen Kunstbibliothek Berlin* (reprint New York 1958), no. 1798; Laurence Hall Fowler & Elizabeth Baer, *The Fowler architectural collection of the Johns Hopkins University. Catalogue* (Baltimore 1961), no. 393; Ruth Mortimer, *Harvard College Library, Department of Printing and Graphic Arts, Catalogue of books and manuscripts. Part I: Italian 16th century books* (Cambridge, MA 1974), no. 543

7 The text of Giocondo (gloss): *Trabes enim supra columnas & parastatas & antas ponuntur, in contignationibus tigna & axes, sub tectis si maiora spatia sunt, columnae in summo fastigio culminis, unde & columnae dicuntur sic, & transtra & capreoli, si commoda, columnae & cantherii prominentes ad extremam subgrundationem. Supra cantherios, te[m]pla, deinde insuper sub tegulas asseres ita promine[n]tes, uti parietes proiecturis eorum tegantur* (folio E3 recto and verso).

The annotator writes: *Trabes enim sup[ra] parastaticas et antas ponunt[ur] in contignatio[n]ib[us] tigna, et axes sub tectis si maiora spatia s[un]t et transtra et capreoli si commoda column[e]n[et] et ca[n]therii prominentes ad extrama[m] suggrundatione[m] sup[ra] cantherios templa insup[er] sub tegul[as] [asse?]res ita prominentes uti parietes proiecturis eoru[m] tegantur*. Modern editors also delete the gloss. Manuscripts containing it are cited in the editions of Gottlob Schneider (Leipzig 1808), II, p.238; and Valentinus Rose & Herman Müller-Strübing (Leipzig, Teubner, 1867), p.88.