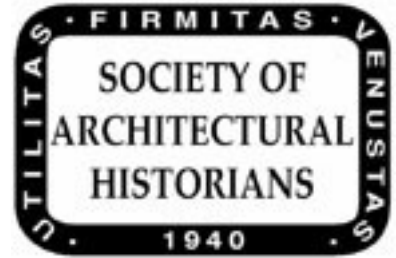




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Architects Read Vitruvius: Renaissance Interpretations of the Atrium of the Ancient House

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From Alberti to Palladio, Renaissance architects and architectural theorists struggled to interpret the description of the ancient Roman house set forth by Vitruvius in De architectura. The debate concerning the form and function of the atrium—the most essential room of the ancient domus—provides the basis for a case study of the process by which Renaissance readers transformed words into images to visualize the parts of the ancient house.

Lacking archaeological remains of the Roman domus, architects were forced to rely on written sources. Their zeal to understand led them to appropriate the philological tools of humanists, explicating Vitruvius's words by reading other texts. The result was a wealth of contradictory information, which permitted, indeed encouraged, a variety of reconstructions of the atrium. During a period of about one hundred years—from the 1450s to the 1560s—the Vitruvian atrium underwent numerous incarnations: a courtyard, a vestibule, a domed octagonal sala, a three-aisled basilica. Despite their often imaginative and probing research, none of the Renaissance architects ever conceived of the atrium exactly as it was in antiquity. Their [mis]interpretations, nonetheless, had an impact on contemporary design. In a period in which patrons wanted houses inspired by antiquity, the reconstructed atriums of Renaissance theorists appeared in the palaces and villas of princes, popes, and cardinals.

ONE OF THE MOST IMMEDIATE RESULTS of Renaissance humanism was the realization that the present was nothing like the past. When describing the customs and rituals of ancient

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Unless otherwise noted, the translations in this article are my own. All italics in quotations of primary texts are found in the original.

Rome, Flavio Biondo could not avoid the conclusion that Italian architecture in the mid-quattrocento stood in the shadow of a more glorious age. In the opening to book IX of *Roma triumphans* (1457–1459), Biondo wrote: "... today neither Rome, nor Venice, nor Genoa, nor Florence, nor Milan, nor Naples, nor Siena, nor Bologna, nor any other richer or more famous city in Italy has a single citizen who could equal the greatness, the magnificence, the splendor, the display of one house . . . of those ancient Roman citizens."¹ In the 1450s, Biondo was certainly not alone in regarding the houses of the ancients as more magnificent than those of his own day. Yet Renaissance patrons were not content to remain in second place. Challenged by the eloquence of ancient ruins and the silver-tongued rhetoric of many an ancient writer, they were determined to build in the grand style of their predecessors.

For information about the domestic architecture of the Roman aristocracy, Renaissance patrons and architects turned to a variety of sources. Chief among these was Vitruvius's *De architectura* (Ten Books on Architecture). Vitruvius dedicated most of book VI to the Roman *domus*. Yet his text was difficult to interpret and gave rise to a variety of hypotheses regarding the

1. "... che non ha hoggi ne Roma, ne Vineggia, ne Genova, ne Firenze, ne Milano, ne Napoli, ne Siena, ne Bologna, ne altra piu ricca e piu famosa citta del'Italia, cittadino alcuno, che possa agguagliarsi ne la grandezza, ne la magnificentia, ne la splendidezza, ne l'apparato d'una casa . . . di que cittadini antichi Romani." F. Biondo, *Roma triumphans* (1457–1459), Brescia, 1473–1475, and subsequent editions in 1482 (Brescia), 1503 (Brescia), 1511 (Venice), and 1531 (Basel); Italian trans. by L. Fauno, *Roma trionfante*, Venice, 1544, and subsequent editions in 1548, 1549, and 1588; I cite here the Italian edition of 1544, bk. IX, 304r.

Despite his seemingly categorical condemnation of modern palaces, Biondo elsewhere praised some of the more impressive houses of his day, favorably comparing them to ancient ones. In *Roma trionfante*, bk. IX, 320r–v, Biondo noted with admiration the courtyard of the palace of Bernabò Visconte in Milan: "E gli si veggono hoggi in Roma in alcune case di illustre persone, et in molte ville ancho di mediocri, e di libertini, che v'hebbeno due, e tre ordini di portici cosi di sotto, come di sopra; perche que di sopra corrispondevano a que di sotto; delche ci meravigliamo meno; havendo visto in Milano il palaggio di Bernabò Visconte, c'ha di giu tre portici quadrati con colonne di marmo altissime, che sostengono il portico, che vi è sopra. . . . Così belli palaggi furono ancho (e ve n'è ancho hoggi in pie una buona parte) et in Verona edificati da i signori de la Scala, et in Padova, da que di Carrara."

form of the ancient *domus*, or atrium house, as it is often called.² The ruins that would eventually elucidate Vitruvius's description lay buried beneath the volcanic ash of Pompeii and Herculaneum. Not until their discovery in the eighteenth century would the *domus* be fully understood. In the meantime, what Renaissance viewers had before them—the ruins of imperial palaces and villas or those of less regal villas, such as the ruins at Settefinestre—did not conform to Vitruvius's description.³ Even the mid-sixteenth-century excavations of partial remains of "ancient houses" had little clear impact on the reconstruction of the Vitruvian *domus*.⁴

2. On the interpretation of the form of the ancient house in the sixteenth century, see the seminal article by P. N. Pagliara, "L'attività edilizia di Antonio da Sangallo il Giovane," *Controspazio*, IV, 1972, 22–37. See also C. L. Frommel, *Der römische Palastbau der Hochrenaissance*, 3 vols., Tübingen, 1973, I, 54–56. In general, the importance of Vitruvius's sixth book in the fifteenth century has been largely ignored. See, however, H. Biermann, "Das Palastmodell Giuliano da Sangallos für Ferdinand I. König von Neapel," *Wiener Jahrbuch für Kunstgeschichte*, XXIII, 1970, 154–196; and idem, "Das Haus eines vornehmen Römers: Giuliano da Sangallos Modell für Ferdinand I. von Neapel," *Sitzungsberichte Kunstgeschichtlichen Gesellschaft zu Berlin*, XV, 1966–1967, 10–14.

3. The villa at Settefinestre was known and drawn as early as the fifteenth century. See P. Ruschi, "La villa romana di Settefinestre in un disegno del XV secolo," *Prospettiva*, XXII, 1980, 72–75. See also A. Carrandini, ed., *Settefinestre: Una villa schiavistica nell'Etruria romana*, 3 vols., Modena, 1985.

4. The problem of evaluating the effect of sixteenth-century excavations on the interpretation of the *domus* has been briefly treated by Pagliara in "L'attività edilizia," 34 n. 8. As he notes, the main evidence for the excavations of ancient houses in the latter part of the sixteenth century is textual rather than visual. Indeed, the scarcity of drawings after excavated ancient houses makes it particularly difficult to gauge the influence of the sixteenth-century excavations on the reconstruction of the Vitruvian *domus*. In general, it seems that the newly discovered ruins were interpreted in the light of certain preconceived ideas, based on texts, regarding the ancient house. See, for example, Pagliara's discussion of Antonio da Sangallo the Younger's drawing of what Sangallo thought were the ruins of a "domus" ("L'attività edilizia," 22). The predominance of archaeological evidence over textual evidence, common in later periods, was reversed in this period. The archaeological excavations of the sixteenth century were of limited utility to architects trying to understand the Vitruvian atrium.

For the evidence for Renaissance excavations, see R. Lanciani, *Storia degli scavi di Roma*, 4 vols., Rome, 1902–1903, repr. 1989–1990. For sixteenth-century references to atriums or peristyles, see Lanciani, *Storia degli scavi*, III, 75–77, 150, and 208. Pagliara ("L'attività edilizia," 34 n. 8) gives a brief summary of these excavations, as follows: In 1551 a square Corinthian atrium was discovered in the house of the Vettii on the Aventine, along with columns and ornaments from the atrium or peristyle of the "domus Anicia." The discovery of the atrium or peristyle of the "domus" of L. M. Maximi on the Celian hill probably dates to the same year. In 1554 the peristyle of the "domus Valeriorum" near S. Stefano Rotondo was excavated. Ligorio (vol. XV, Turin, Archivio di Stato) mentioned objects found in the atrium of the "domus Flavium," which was excavated between 1547 and 1555. In 1558, columns of the peristyle of the "domus Pomponiorum" were discovered.

At present, there is no comprehensive list of ancient buildings known in the Renaissance. The architectural part of the "Census of Ancient Works of Art Known in the Renaissance" is now in progress at the

In the Renaissance, words were the primary vehicle for understanding Vitruvius's atrium house. Vitruvius's text turned architects into part-time grammarians searching for clues to explicate the form of the ancient house. Their problem was how to transform a text into visual form—how to create images from words.

In this study I examine the attempts of Renaissance architectural theorists—from Alberti to Daniele Barbaro—to explicate and visualize one of the most essential rooms of the ancient *domus*, the atrium. I have chosen the theorists discussed below not only because of their importance to Renaissance architectural theory, but also because they wrote in some detail about the form of the atrium or published graphic reconstructions of their vision of the Roman *domus*.⁵ (Architects whose ideas about the atrium are gleaned solely from scattered drawings are treated only tangentially when relevant.) I also discuss the efforts of three fifteenth-century humanists, Flavio Biondo, Niccolò Perotti, and Francesco Maria Grapaldus, who grappled with the meanings of several Vitruvian terms. Their nonarchitectural texts are included and given prominence—even if their goals differ from those of the architects—because they provide the background of Renaissance textual studies without which it would be impossible to understand the works of the architectural theorists themselves.

Vitruvius and the Pompeian house

Vitruvius's *De architectura* was precious as the only treatise on architecture to survive from antiquity.⁶ It was also difficult, obfuscating, and irritating. Alberti's remarks at the beginning of book VI of *De re aedificatoria* sum it up:

Bibliotheca Hertziana in Rome, funded by the Getty Trust, and will eventually be available to the public.

5. I have not treated the ideas of Giovan Battista da Sangallo and his brother Antonio the Younger in a separate section. Although Giovan Battista translated and illustrated Vitruvius, much of what he thought about the atrium is similar to Fra Giocondo's ideas and is thus discussed in that section. In addition, the work of these two brothers has been treated in depth by Pagliara, "L'attività edilizia," 26–32. The translation of Vitruvius by Castel Durante, called Durantino, published in Venice in 1524, is not a new translation. It is an unacknowledged republication of Cesariano's translation and Fra Giocondo's illustrations. Caporali's translation and commentary published in Perugia in 1536 stops at book V.

6. *De architectura* was known in Northern Europe from the Carolingian period on. In Italy, references to it begin only in the mid-fourteenth century in the circle of Petrarch and Boccaccio. In 1416 Poggio Bracciolini heralded his discovery of a Vitruvius manuscript in the library of St. Gall as the "rediscovery" of the ancient treatise, but by this time Vitruvius's text was already known in humanist circles. The date, nevertheless, marks the beginning of intensive study and explication of the text. On the knowledge and use of Vitruvius in the Middle Ages and Renaissance, see C. H. Krinsky, "Seventy-eight Vitruvius Manuscripts," *Journal of the Warburg and Courtauld Institutes*, XXX, 1967, 36–70; and L. A. Ciapponi, "Il 'De architectura' di Vitruvio nel primo umanesimo," *Italia medioevale e umanistica*, III, 1960, 59–99. See also P. N. Pagliara,

For I grieved that so many works of such brilliant writers had been destroyed by the hostility of time and of man, and that almost the sole survivor from this vast shipwreck is Vitruvius, an author of unquestioned experience, though one whose writings have been so corrupted by time that there are many omissions and many shortcomings. What he handed down was in any case not refined, and his speech such that the Latins might think that he wanted to appear a Greek, while the Greeks would think that he babbled Latin. However, his very text is evidence that he wrote neither Latin nor Greek, so that as far as we are concerned he might just as well not have written at all, rather than write something that we cannot understand.⁷

De architectura was not only incomplete; it was filled with words, Greek or otherwise, whose meanings were unclear. To its Renaissance readers, it was at times unintelligible. In an effort to understand the ancient writer, Renaissance architects collaborated with humanists or, in several cases, themselves adopted humanist methods. The results were diverse, complex, and contradictory. The obscurity of Vitruvius's language permitted, indeed, encouraged, a variety of interpretations.

While Vitruvius's section on the ancient house was difficult to understand, two points were clear and often quoted in the Renaissance. One concerned the location of the atrium: it came first in the entry sequence in town houses and followed the peristyle in country residences.

The rules on these points [concerning the house] will hold not only for houses in town, but also for those in the country, except that in town atriums are usually next to the front door while in country seats peristyles come first and then the atriums. . . .⁸

The other related to its social significance. The atrium was one of the public spaces of the house that conveyed social status. Grand atriums were necessary only to individuals of sufficient stature to merit them.

"Vitruvio da testo a canone," in *Memorie dell'antico nell'arte italiana*, ed. S. Settis, 3 vols. (Biblioteca di storia dell'arte, n.s.), Turin, 1984–1986, III, 7–85; and L. Vagnetti, L. Marcucci, and M. Bartoli, *2,000 anni di Vitruvio* (Studi e documenti di architettura, 8), Florence, 1978, for more complete bibliographies.

7. L. B. Alberti, *De re aedificatoria*, VI.1. The text used throughout is L. B. Alberti, *L'architettura*, ed. G. Orlandi, 2 vols., Milan, 1966. Unless otherwise noted, translations are taken from J. Rykwert et al., *Leon Battista Alberti On the Art of Building in Ten Books*, Cambridge, Mass., 1988.

8. Vitruvius, VI.v.3. The Latin edition used throughout is Vitruvius, *De architectura libri decem*, ed. F. Krohn, Leipzig, 1912. The English edition is Vitruvius, *Ten Books on Architecture*, trans. M. H. Morgan, New York, 1960. Pliny the Younger also refers to the position of the atrium in his description of his Laurentine and Tuscan villas. The first room of his Laurentine villa is an atrium; the atrium of his Tuscan villa opens onto the porch. This would seem to contradict Vitruvius's recommendation that in the country the peristyle should come first. On Pliny, see A. N. Sherwin-White, *The Letters of Pliny*, Oxford, 1966, letters II.17 and V.6 with further bibliography. See also H. Tanzer, *The Villas of Pliny the Younger*, New York, 1924, for an English translation.

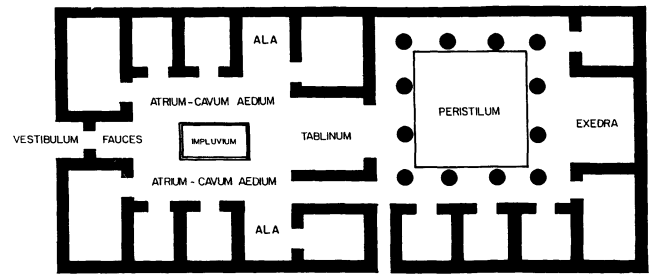


Fig. 1. Plan of the Pompeian atrium house (redrawn after Mau, *Pompeii*, by Margaret Watson).

Hence, men of everyday fortune do not need entrance courts [*vestibula*], tablina, or atriums built in grand style, because such men are more apt to discharge their social obligations by going round to others than to have others come to them. . . . For men of rank who, from holding offices and magistracies, have social obligations to their fellow-citizens, lofty entrance courts [*vestibula*] in a regal style, and most spacious atriums, and peristyles, with plantations and walks of some extent in them, appropriate to their dignity [must be constructed].⁹

Vitruvius's discussion of the forms of the atrium was valid for both palace architecture and villas, since the main distinction between the country and the city house lay only in the placement of the atrium.

Modern archaeology, especially of Pompeii, permits the definition of the form and function of the atrium of the Roman house with an accuracy impossible in the Renaissance. The classic atrium of the Pompeian house was a rectangular room with an opening in its roof (*compluvium*) through which rain-water fell to be collected in a basin in the floor (*impluvium*). A modern reconstruction of Vitruvius's Roman house based on the findings at Pompeii (Fig. 1) shows that one entered a vestibule (*vestibulum*) that led into a narrow passageway (*fauces*), which opened directly into the atrium. On axis with the entrance was the *tablinum*, a large room opened nearly the width of the atrium. To either side of the atrium were two wings (*alae*). To one side of the *tablinum* was a passageway that led to a colonnaded peristyle in the center of which was a garden. The atrium and *tablinum* functioned as reception spaces for clients greeting the head of the house and were the most important public spaces of the house. The *tablinum* was the most elaborate and elegant public room. The atrium also was the core around which bedrooms, dining rooms, and storerooms were organized. It was the perfect solution for lighting interior rooms, since there were few windows, if any, along the outer walls of the Pompeian house.¹⁰

9. Vitruvius, VI.v.1–2.

10. The most complete discussion of the Pompeian atrium house is L. Richardson, *Pompeii: An Architectural History*, Baltimore, 1988, esp. appendix 2 entitled "The Development of the Pompeian House," 382–400. See also A. G. McKay, *Houses, Villas, and Palaces in the Roman World*, Ithaca, 1975, 16; and A. Mau, *Pompeii: Its Life and Art*, London, 1899, 245–279.

Without the archaeological evidence of Pompeii and other sites, the unfamiliar words that Vitruvius used were difficult to interpret. Most problematic were the words *atrium* and *cavum aedium*. Vitruvius used the two terms almost interchangeably; he never explicitly stated that they referred to the same room, presumably since he took that knowledge for granted.¹¹ In book VI, when Vitruvius used the word *atrium*, he spoke mostly of its proportions: all Vitruvian atriums were rectangular with proportions of 3:5, 2:3, or 1 to the diagonal of a square. In passing, he mentioned a ceiling, a roof, and beams. He noted that the size of the *compluvium* was determined by that of the atrium, that *alae* flanked the atrium on the right and the left, and that the *fauces* of the atrium was related in size to the *tablinum*.¹²

When he described the *cava aedium*, however, he went into greater detail. There were five types of *cava aedium*. Four were impluviate (each with a *compluvium* and an *impluvium*): the displuviate, Tuscanic, tetrastyle, and Corinthian. Of these four, the displuviate, where the roofs surrounding the *compluvium* slope away from the center, may have been the oldest.¹³ The Tuscanic, tetrastyle, and Corinthian were characterized by roofs that sloped in toward the *compluvium*, allowing for more efficient collection of rainwater into the *impluvium*. The Tuscanic was without columns, while the tetrastyle and Corinthian were supported, respectively, by four corner columns or by colonnades. Vitruvius's fifth type, the testudinate, was a dark, covered, interior space that lacked both *compluvium* and *impluvium*.¹⁴ From Vitruvius's text alone, it was not self-evident that the two words *atrium* and *cavum aedium* referred to the same space.

To complicate the issue further, some Renaissance writers believed the atrium was similar to the vestibule.¹⁵ In addition, other words mentioned in relation to the *cavum aedium*/atrium, such as *compluvium*, *impluvium*, or *alae*, demanded definition and sometimes obscured the task of visualizing the ancient atrium.

Finally, in antiquity, the word *atrium* not only was used in connection with the Roman house but also designated large

public buildings or complexes. In the fourth century, Maurus Servius, whose commentary on Vergil was known throughout the Middle Ages and the Renaissance, gave several definitions for the word, including "a large and capacious building" such as the "atria Lincinia" and the "atrium Libertatis."¹⁶ In the fifteenth century, Flavio Biondo mentioned the Atrium Regium and the Atrium of Pompey.¹⁷ The word *atrium* was even used occasionally in the Middle Ages and the early Renaissance to designate a large state building with a loggia. The Broletto Nuovo in Milan is defined as an atrium in an extant fourteenth-century inscription on its façade.¹⁸ The depiction of the Loggia dei Lanzi was labeled "atria priorum" in the city view of Florence in Ptolemy's *Geography* of 1470.¹⁹ In 1527, in *Le Antichità della città di Roma*, Andrea Fulvio gave two examples of ancient public atriums, the Atrium Libertatis and the Atrium Minervae, which he seems to have envisioned much like the atrium of the private house:

The atrium, which occupies half the area of the house, is the first part of the house where the rainwater collects from every side and where the ancients used to eat with their doors open. In Italian it is called a courtyard and by the Latins it is called an atrium, from certain Tuscan people as Varro writes. Vitruvius writes in this way, in Rome the atriums must be next to the door of the house. Atriums were in

16. *Servianorum in Vergilii Carmina Commentariorum*, editionis Harvardianae, II (American Philological Association, Special Publications, 1), Lancaster, Pa., 1946, 298. "Alii 'atria' magnas aedes et capacissimas dictas tradunt, unde 'atria Lincinia' et 'atrium Libertatis.'" See also G. Thilo and H. Hagen, *Servii Grammatici qui feruntur in Vergilii Carmina Commentarii*, Leipzig, 1881; J. F. Mountford, *Index rerum et nominum in scholiis Servii*, Ithaca, 1930; and H. Nettleship, *Ancient Commentators to Vergil*, Oxford, 1885.

17. Biondo, *Roma restaurata*, 1542, bk. III, 57r-v, and bk. II, 46r (see n. 25 for full citation). The Atrium Regium is found only in Livy and apparently refers to the Atrium Vestae. See T. Ashby and S. B. Platner, *A Topographical Dictionary of Ancient Rome*, London, 1929, 58, who note that by the end of the Republic writers used the phrase "Atrium Vestae" in reference to the house of the Vestal Virgins, but that originally it referred to a whole precinct that included, among other things, a temple, the house of the Vestal Virgins, and the Regia, or palace of the kings. See also F. Coarelli, *Il Foro Romano*, 2 vols., Rome, 1983; and H. Jordan and C. Huelsen, *Topographie der Stadt Rom in Altertum*, 2 vols., Berlin, 1878-1907.

18. "MCCCXXXIII Dominus Oldradus de Trexeno pot. Mediolani - Atria qui grandis solii regalia scandis - Presides hic memoris Oldradi semper honores - Civis laudensis fidei tutoris et ensis - qui solium struxit Catharos ut debuit uxit." The Broletto was built in 1233 by the Podestà Oldrado da Tresseno. P. Mezzanotte and G. Bascapè, *Milano nell'arte e nella storia*, 2d ed., Milan and Rome, 1968, 113 n. 1.

19. Biblioteca Apostolica Vaticana, Vat. Urbino 277, fol. 130v, illustrated in G. Boffito and A. Mori, *Piante e vedute di Firenze*, Florence, 1926, repr. Rome, n.d., pl. I, no. 3. The Vatican has produced a lavish facsimile edition of Vat. Urbino 277 with introductory essays and bibliography: *Die Cosmographia des Claudius Ptolemäus Codex urbinas latinas 277*, ed. A. Dürst, Vatican, 1983. On the miniaturist of the codex, Pietro del Massaio, see M. Levi d'Ancona, *Miniatura e miniatori a Firenze dal XIV al XVI secolo*, Florence, 1962, 220-223. I want to thank Paula Spilner for calling the Ptolemy illustration to my attention.

11. Pagliara, "L'attività edilizia," 23-36, was the first to place special emphasis on the confusion between the two terms. Even today the precise difference in meaning between the term *cavum aedium* and *atrium* is not entirely clear to classical scholars. Richardson has suggested (oral communication) that by Vitruvius's time, the word *atrium* had a generic meaning—used both for the atriums of private houses and for the public atriums of the city. For this reason, Vitruvius used the more precise *cavum aedium* to designate the atrium of the house. The two terms may refer to different parts of the same space—i.e., to the covered and uncovered sections of the room; see below, n. 194.

12. Vitruvius, VI.iii.3-6.

13. Richardson, *Pompeii*, 391.

14. *Ibid.*, 382. Richardson suggests that the testudinate atrium was the earliest form of atrium and that it resulted from dividing the space of a roofed rectangular house into a large central area, which functioned as a lobby, and several smaller rooms around it, for sleeping and storage.

15. See Biermann, "Das Palastmodell Giuliano da Sangallo," 172-182; and Frommel, *Der römische Palastbau*, I, 54-56. I will return to this problem below when discussing Flavio Biondo.

great quantity in Rome, but among the principal ones were that of Minerva in Piazza and that of Liberty on the Aventine.²⁰

Fabio Calvo, however, also in 1527, represented the atriums of Liberty and of Minerva in quite different form in his book on the ancient regions of Rome, *Antiquae urbis Romae cum regionibus Simulachrum*. Calvo's public atriums resemble pictograms of Roman temples (Fig. 2).²¹ The contrast between Fulvio and Calvo illustrates the degree to which two contemporary students of antiquity could reach divergent conclusions.²²

The humanist tradition and ancient authors other than Vitruvius

Anyone wishing to understand the forms of the ancient house had first to define Vitruvius's terms. Three Renaissance humanists who defined the word *atrium* merit our consideration: Flavio Biondo, Niccolo Perotti, and Francesco Maria Grapaldus.²³ Their method, typical of quattrocento humanists, consisted of combing the texts of Latin writers in order to explicate words.²⁴ Thus, in addition to defining the word *atrium*, they

20. "Atrio è la prima parte della casa, et occupa la metà del piano di quella, ove l'acqua piovana da ogni banda si raccoglie, et ove gli antichi con le porte della casa aperte soleuono stare à mangiare. Vulgarmente si chiama cortile et da i latini è chiamato Atrio, da certi populi di Toscana come scrive Varrone. Vitruvio scrive in questo modo, in Roma gli atrij debbono esser accanto alle porte della casa. Furono in Roma gli Atrij in grande quantità ma tra i principali, fu quello di Minerva in piazza, et quello della Libertà nello Aventino." A. Fulvio, *Le antichità della città di Roma*, Venice, 1543, bk. IV, 181r–v. First published in Latin as A. Fulvio, *Antiquitates Urbis*, Rome, 1527. On Fulvio, see R. Weiss, *The Renaissance Discovery of Classical Antiquity*, 2d ed., Oxford, 1988, 86–89. On the *atrium Libertatis* and *atrium Minervae*, see Pauly-Wissowa, *Realencyclopädie der classischen Altertumswissenschaft*, Stuttgart, 1896, s.v.

21. Fabio Calvo, *Antiquae urbis Romae cum regionibus Simulachrum*, Rome, 1527, fols. 16 and 19. See Regio VIII for the Atrium of Minerva and Regio XIII for the Atrium of Liberty. Both atriums are represented as pictograms rather than as specific buildings. Nonetheless, they represent Calvo's generic vision of the public atrium. On Calvo's depictions of ancient buildings in the *Simulachrum*, see P. N. Pagliara, "La Roma antica di Fabio Calvo: Note sulla cultura antiquaria e architettonica," *Psicon*, 8–9, 1976, 65–87; and P. Jacks, "The *Simulachrum* of Fabio Calvo: A View of Roman Architecture all'antica in 1527," *Art Bulletin*, LXXII, 1990, 453–481.

22. In his map of ancient Rome, Du Perac depicted the temple and atrium of Liberty on the Aventine as a small temple within an open court. A. P. Frutaz, *Le piante di Roma*, 3 vols., Rome, 1962, II, pl. 44.

23. I begin with these authors instead of Alberti because they usually identify their ancient sources and often quote ancient texts. With the exception of Biondo's *Roma instaurata*, however, *De re aedificatoria* precedes the works discussed below.

24. On humanist methods for interpreting texts and the freedom that some scholars took with their sources, see A. Grafton, "On the Scholarship of Politian and Its Context," *Journal of the Warburg and Courtauld Institutes*, XXXX, 1977, 150–185; and idem, "Renaissance Readers and Ancient Texts: Comments on Some Commentaries," *Renaissance Quarterly*, XXXVIII, 1985, 615–649, with extensive bibliographies. In "Renaissance Readers," 618, 636, Grafton points out that for one type of humanist interpreter the task was not to "devise a single, absolutely valid interpretation of a text but to collect all remotely plausible ones," while others "[amassed] around the individual words of the passage general information useful to the modern student."

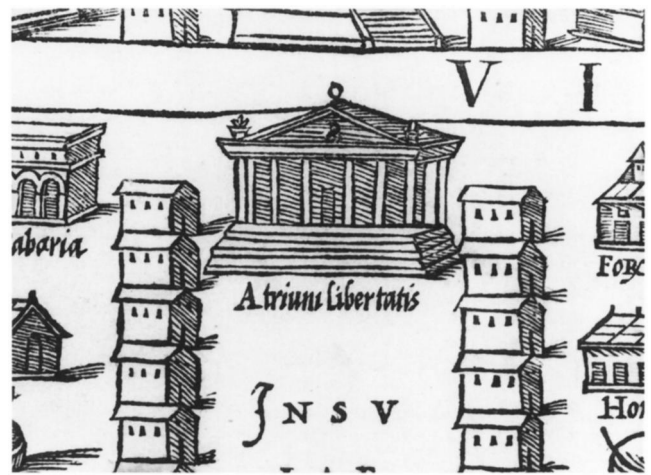


Fig. 2. Fabio Calvo, Atrium Libertatis, *Antiquae urbis Romae cum regionibus Simulachrum*, fol. 19r, detail, 1527 (Biblioteca Apostolica Vaticana).

supply a list of ancient sources employed in the Renaissance to supplement Vitruvius. Perotti and Grapaldus are especially useful in this regard, since they exemplify the grammarian's approach—collecting etymologies, collating excerpts, and summarizing a variety of Latin authors. Grapaldus, in particular, placed the highest priority on comprehensiveness. Biondo was more selective and synthetic in his approach, attempting to reach a single definition rather than supplying all possible ones. Perotti falls somewhere between the other two—reaching a single conclusion about the atrium but supplying several etymologies. The works of all three reveal the conflicting nature of the literary evidence, which affected not only their interpretations but those of Renaissance architects as well. In attempting to understand Vitruvius's words, the architectural theorists, too, were forced to wade through the same murky textual waters.

Biondo, a historian and archaeologist who is distinguished from the two grammarians by his greater intelligence and his passionate interest in buildings as well as texts, wrote two books about Rome. His *Roma instaurata*, composed between 1444 and 1446, was the first systematic discussion of the archaeology of ancient Rome.²⁵ It was intended to describe the city as it was in antiquity, and it remained unsurpassed until Marliani's *Urbis*

25. F. Biondo, *Roma instaurata* (1444–1446), Rome, 1470–1471, and subsequent editions in 1481–1482 (Verona), 1503 (Venice), and 1510 (Venice); Italian trans. by L. Fauno, *Roma ristaurata* (with *Italia illustrata*), Venice, 1542, and subsequent editions in 1543, 1548, and 1558. The text used throughout is Fauno's 1542 *Roma ristaurata* published in Venice. Biondo mentioned the word *atrium* several times in *Roma instaurata*, but not in the context of the ancient house. He referred instead, as noted above, to examples of such public buildings as the Atrium Regium and the Atrium of Pompey. On Biondo, see Weiss, *The Renaissance Discovery*, 66–70; idem, "Biondo Flavio Archeologo," *Studi romagnoli*, XIV, 1963, 335–341; and V. Fanelli, "Flavio Biondo," in *Dizionario biografico degli Italiani*, Rome, 1968, X, 536–559.

Romae topographia of 1544.²⁶ His second book, *Roma triumphans*, written between 1457 and 1459, treated the public and private institutions of ancient Rome. It was here that he defined the atrium of the Roman house:

The Atrium is so called from the Etruscan people of Atria, according to Varro; in fact it is said that the first example [in Roman territory] was taken up from that place. It seems the atrium is [also] so called because it is before the house [and] similar to the vestibule of Aulus Gellius. Those who made spacious houses left a space before the entrance (*ianuam*) which remained between the door (*fores*) of the house and the street. There those who had come to greet the head of the house waited before they were allowed to enter, standing neither in the street nor within the house; thus it was called vestibule.²⁷

Biondo's text continued, making references both to Vergil, who mentioned a vestibule,²⁸ and to Pliny the Elder, who said that the ancients kept wax busts of their ancestors in the atrium.²⁹

Using Varro as his source, Biondo began by citing the most commonly accepted etymology for the word *atrium*, that it derived from the Etruscan city of Atria.³⁰ His second sentence focused on the location of the atrium, which he described as before (*anterius*) the house. He concluded that it was, therefore, similar to the vestibule described by the second-century writer Gellius in his *Attic Nights*.³¹ In fact, the last two sentences of Biondo's text are almost direct quotations from Gellius, who, citing Gallus, said:

Gaius Aelius Gallus . . . says that the vestibule is not in the house itself, nor is it a part of the house, but is an open place before the door of the house, through which there is approach and access to the house from the street. . . . Those then in early times who made spacious houses left a vacant place before the entrance (*ianuam*), mid-

way between the door (*fores*) of the house and the street. There those who had come to pay their respects to the master of the house took their places before they were admitted, standing neither in the street nor within the house.³²

Gellius's description of the vestibule as not in the house nor a part of the house, but a vacant place in front of the house, midway between the inner door and the street, apparently corresponded to Biondo's vision of the atrium, even if it directly contradicted Vitruvius (whom Biondo must have read), who viewed both the vestibule and the atrium as part of the house. Biondo's atrium was, therefore, a public space in front of the house where clients, supplicants, and others could wait before entering the house. Like Gellius's vestibule, it was a transitional space neither out in the public street nor within the private quarters of the *domus*.

It is difficult to know how Biondo visualized this vestibule-like atrium, although evidence from elsewhere in his texts suggests that he could have seen it as a vacant space in front of the house, surrounded by columns—rather similar to the atriums of Early Christian churches. Even though the usual Renaissance term for such ecclesiastical forecourts was *paradiso*,³³ Biondo had referred to an atrium at the church of Santo Stefano de la Pigna (or del Cacco, as it is called today).³⁴ He also associated a colonnade with the Atrium of Pompey, where, he said, one could still see "a half-complete portico where there are twelve very tall columns."³⁵ The similarity between the atrium and the vestibule—both conceived of as colonnaded courts—was noted as late as the seventeenth century by Bernardino Baldi, who, after using the word *vestibule* to describe the atriums of the

26. B. Marliani, *Topographia Urbis Romae ad Franciscum Regem Galorum*, Rome, 1544; Italian trans., Rome, 1548 and 1662.

27. "Atrium ab atriatis hetruscis dictum vult Varro illinc enim primum exemplum fuisse sumptum dicit. Atrium que videri posse dictum quod sit anterius idemque et vestibulum de quo Aulus Gellius. Qui domos amplas faciebant locum ante ianuam relinquebant: qui inter fores domus et viam relictus esset. In eo loco qui dominum eius domus salutatum venerant priusquam admitterentur consistebant: et neque in via stabant: neque intra aedes: idque vestibulum appellabant." Biondo, *Roma triumphans*, 1511, 115. I have used the Latin edition here instead of the Italian translation because in this particular case an interpolation by the sixteenth-century translator alters the sense of the original. See n. 38.

28. The reference to Vergil is to *Aeneid*, VI.273–274. It is identical to the excerpt quoted by Gellius in his discussion of the vestibule to which Biondo had just referred. A. Gellius, *Noctes Atticae*, ed. J. C. Rolfe (Loeb Classical Library), New York, 1928, XVI.v.11: "Vestibulum ante ipsum primisque in faucibus Orci / Luctus et ultrices posuere cubilia Curae."

29. Pliny the Elder, *Natural History*, ed. and trans. H. Rackham (Loeb Classical Library), 10 vols., Cambridge, Mass., 1961, XXXV.ii.6.

30. For Varro, see below, n. 57.

31. Biermann, "Das Palastmodell Giuliano da Sangallo," 181, first noted that Biondo, basing himself on Gellius, associated the atrium with the vestibule.

32. "C. Aelius Gallus . . . 'vestibulum' esse dicit non in ipsis aedibus neque partem aedium, sed locum ante ianuam domus vacuum, per quem a via aditus accessusque ad aedis est. . . . Qui domos igitur amplas antiquitus faciebant, locum ante ianuam vacuum relinquebant, qui inter fores domus et viam medius esset. In eo loco, qui dominum eius domus salutatum venerant, priusquam admitterentur, consistebant et neque in via stabant, neque intro aedis erant." Gellius, *Noctes*, XVI.v.3–10.

33. D. Du Cange, *Glossarium ad scriptores mediae et infimae Latinitatis*, 10 vols., Niort, 1883–1887, s.v. Du Cange quotes one medieval author who says, "Atrium ante Ecclesiam quod nos Romana consuetudine Paradisum dicimus." The medieval period is filled with glossaries, familiar to Renaissance humanists, listing and sometimes defining ancient words. The majority of authors associated one or more porticoes with the word *atrium*. See, for example, the works of Papias, Hugutio (Uguccione da Pisa), and Balbus (Giovanni da Genova) discussed in M. Manitius, *Geschichte der lateinischen Literatur des Mittelalters*, 3 vols., Munich, 1911–1931; and the *Corpus Glossariorum Latinorum*, ed. G. Goetz, 7 vols., Leipzig, 1899–1901, repr. ed., Amsterdam, 1965. I would like to thank Ron Witt for his invaluable help with the tradition of medieval encyclopedists.

34. "La casa di Filippo Marerio presso S. Stefano de la Pigna ò (come dicono) di Caco, che è da mezzo giorno a l'atrio di questa chiesa." Biondo, *Roma trionfante*, bk. IX, 319v.

35. "L'atrio di Pompeo è da credere, che fuisse là, dove hoggi corrotta la voce, si dice volgarmente Satrio, e vi si vede insino ad hoggi un portico mezzo intiero, dove sono da 12 colonne altissime. . . ." Biondo, *Roma restaurata*, bk. II, 46r.

basilicas of St. Paul and St. Peter in Rome and that of S. Celso in Milan, said that atriums and vestibules were very similar.³⁶ In the 1560s Pirro Ligorio, who in contrast to Biondo or Baldi imagined the atrium and the vestibule as two separate parts of the house, nonetheless saw a similarity between them. He imagined both as uncovered spaces surrounded by columns. In his plan of the “*Domus Parthorum*” (Fig. 3), an elegant vestibule open to the sky (“*vestibulum sub dio*”) precedes an atrium in the form of a courtyard.³⁷

Biondo’s text is too ambiguous to permit a definitive conclusion concerning his visualization of the atrium; yet his mid-sixteenth-century translator, Lucio Fauno, gave Biondo’s words a specificity lacking in the original. By adding the words “that today we call an *andito*” after the word *vestibulum* in Biondo’s text, he defined Biondo’s vestibule-like atrium as a vaulted entranceway connecting the outside door to the inner door of the house, since this is what *andito* meant in the period.³⁸ While Fauno may be correct in his rendering of Biondo’s atrium, it seems more likely that his interpolation reflects ideas held in the sixteenth century rather than ideas current in the mid-quattrocento. In 1527 Fulvio had described the vestibule (“an empty entrance space in front of the house”) as an *andito*.³⁹ Slightly later, Antonio da Sangallo the Younger visualized an atrium as an *andito* in a palace project for Raffaele Pucci in Orvieto (Fig. 4).⁴⁰ Fauno’s interpretation is most likely an anachronism—attributing to Biondo ideas that were held in his own

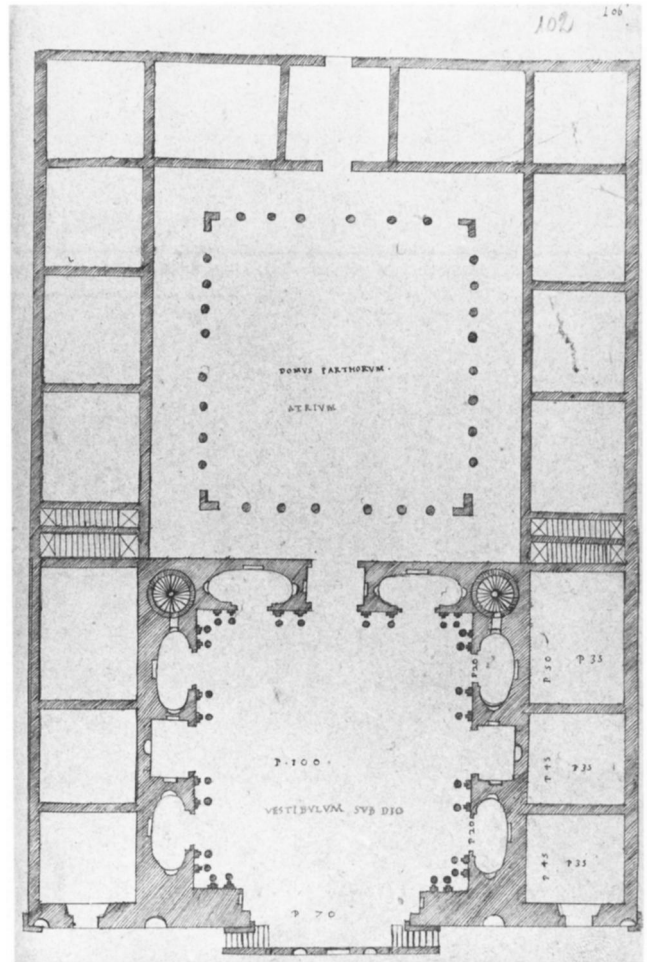


Fig. 3. Pirro Ligorio, plan of the “*Domus Parthorum*,” vol. V, fol. 102 (previously 106) (Turin, Archivio di Stato).

time. Lacking firm evidence, we can only speculate on how Biondo conceived of his vestibule-like atrium.

Biondo’s fusion of the atrium and vestibule, however, warrants further comment. Given his reliance on the *Attic Nights*, it is odd that Biondo ignored Gellius’s opening comments on the word *vestibulum*. Just prior to his description of the vestibule, Gellius had said:

There are numerous words which we use commonly, without however clearly knowing what their proper and exact meaning is; . . . an example is *vestibulum*. . . . For I have observed that some men who are by no means without learning think that the vestibule is the front part of the house, which is commonly known as the *atrium*.⁴¹

41. “Pleraque sunt vocabula quibus vulgo utimur, neque tamen liquido scimus quid ea proprie atque vere significant; . . . sicuti est ‘vestibulum’. . . . Animadverti enim quosdam hautquaquam indoctos viros opinari ‘vestibulum’ esse partem domus primorem, quam vulgus ‘atrium’ vocat.” Gellius, *Noctes*, XVI.v.1–3. The italics in the translation are mine.

It is possible that Biondo read only an excerpt of the *Attic Nights* that did not include Gellius’s statement about the difference between the vestibule and the atrium. Grapaldus later in his summary of Gellius’s

36. Frommel, *Der römische Palastbau*, I, 54–55, called attention to the early seventeenth-century work of B. Baldi, *De verborum Vitruvianorum significatione*, Augsburg (Augustae vindelicorum), 1612, 22, 195. Baldi noted that Festus had called the vestibule a forum.

37. Ligorio’s plan of the “*Domus Parthorum*” is found in volume V of his manuscripts in the Archivio di Stato in Turin. On the Turin manuscripts, see E. Mandowsky and C. Mitchell, *Pirro Ligorio’s Roman Antiquities*, London, 1963, 37–40 and passim. Ligorio earlier depicted reconstructed perspective views of several buildings on the Aventine—each of which he called “*Domus Parthorum*” in his map of ancient Rome of 1561. Frutaz, *Le piante*, II, pl. 44. The *Domus Parthorum Septem* were houses which the emperor Severus gave to friends. They were near the site where the baths of Caracalla were built. See Ashby and Platner, *Topographical Dictionary*, 187.

38. “L’Atrio fu così detto (come vuol Varrone) da gli Atriati popoli di Toscana; onde venne primieramente in Roma l’esempio di fare questi Atrij, o pure furono così detti da lo stare avanti a la casa, perciò che sono una cosa medesima co’l vestibulo che chiamano hoggi andito. . . .” Biondo, *Roma trionfante*, bk. IX, 317v.

39. “Vestibulo è detto à vestiendo, perciòche egli veste et cinge et fortifica le case, overo le addorna; et questo è lo spacio et luogo dinanzi alla casa et dinanzi alla porta della casa che sta voto, nel quale si entra, et dipoi si arriva alla porta della casa, et volgarmente è chiamato andito. . . .” Fulvio, *Le antichità della città di Roma*, bk. IV, 180v. Fulvio considered the atrium a courtyard. See n. 20.

40. For this palace see G. Giovannoni, *Antonio da Sangallo il Giovane*, 2 vols., Rome, [1959], I, 294–297, who dates the projects for the Pucci from 1528–1534. Antonio da Sangallo the Younger seemed especially fond of this form and used it (or variations of it) in more than one project. See n. 139.

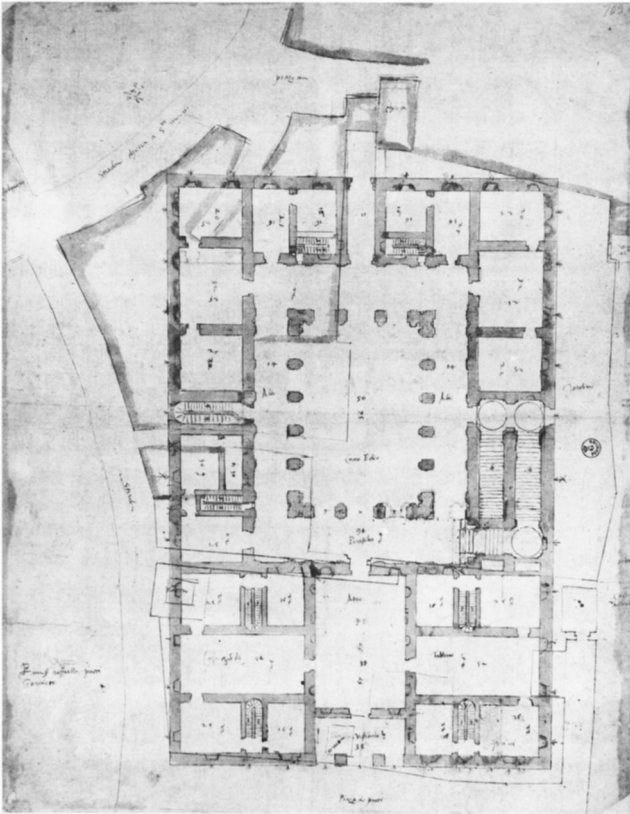


Fig. 4. Antonio da Sangallo, plan for the Pucci palace, Orvieto (Uffizi, Gabinetto dei Disegni, A969).

Biondo's apparent rejection of Gellius's distinction between the vestibule and the atrium may have been inspired by other ancient writers not specifically acknowledged by him. In his well-known commentary on Vergil, Servius wrote that "others say that Atria was a city of Etruria, which had houses with large vestibules; which were called 'atriums' when imitated by the Romans."⁴² For Servius the vestibule and atrium were similar. The essential difference was not one of placement or form, but of culture and nomenclature. When the Etruscan vestibule moved to Rome, it became an atrium. Moreover, Festus, a late second-century scholar, in his *De verborum significatu*, described the atrium in terms that recalled Gellius's vestibule, at least with regard to its placement. For Festus, the atrium was not a part of the house but a structure located in front of the house:

description of the vestibule eliminated the statement that the atrium and vestibule were not to be confused (*De partibus*, 4v; for complete reference, see n. 53). Grapaldus did not suggest any affinity between the atrium and the vestibule, however, and he gave each word its own rubric. Gellius's statement about the confusion between atrium and vestibule was known in the quattrocento, for Perotti made an indirect reference; see n. 51. In the end, Biondo may simply have felt that Gellius was incorrect.

42. "Alii dicunt Atriam Etruriae civitatem fuisse, quae domos amplis vestibulis habebat; quae cum Romani imitarentur 'atria' appellaverant." *Servianorum*, 298.

The atrium proper is a type of building in front of the house that contains a space in the middle into which the rain, having been collected from the whole roof, falls. It is called atrium either because this type of building was first built in Atria in Etruria, or because it rises from the earth [*terra*], as if *a-terrium*.⁴³

While the importance of Festus's definition for Biondo is not clear, it was fundamental for Perotti.⁴⁴ Perotti, a humanist especially noted for writing the first modern Latin grammar and for his translations of Greek authors, worked in Rome for Nicholas V at the same time as Alberti. As secretary to Cardinal Bessarion, he moved in one of the most important humanist circles. While not so versed in architecture as Alberti or Biondo, he could not have failed to take an interest in the revival of ancient architecture occurring in his very neighborhood, where first Cardinal Bessarion and then Pietro Riario began constructing magnificent palaces *all'antica*.⁴⁵ He even described the landscape surrounding his villa in Sassoferrato in Plinian terms.⁴⁶

43. "Atrium proprie est genus aedificii [ante aedem] continens mediam aream, in quam collecta ex omni tecto pluvia descendit. Dictum autem atrium vel quia id genus aedificii atriae primum in Hetruria sit institutum, vel quod a terra oriatur, quasi 'atterrium.'" Sextus Pompeius Festus, *De verborum significatu*, ed. W. M. Lindsay, Leipzig, 1813, 12. Festus was the epitomizer of the *De significatu verborum* of Verrius Flaccus. Varro, before Festus, said that the atrium came originally from the Etruscans of Atria; see n. 57.

Festus's work was first published in the Renaissance in 1510 by Seinenzeler in an edition of Giovan Battista Pio. It was republished in more accurate form in Perotti's *Cornucopiae* of 1513 (below, n. 47), printed by Aldus Manutius in Venice, in which the above quotation appears with minor variations. (Both these editions include Nonius and Varro.) Manuscripts were available prior to 1500, however. On the Renaissance treatment of this text, see A. Grafton, *Joseph Scaliger: A Study in the History of Classical Scholarship*, Oxford, 1983, 134-160.

44. Perotti, who lived from 1429 until 1480, translated several Greek works into Latin, among them Polybius, for Nicholas V. He was in Rome from about 1447, became apostolic secretary in 1455, and must have had contact with Alberti, who was also in the service of Nicholas V. He frequented numerous Renaissance courts and became archbishop of Siponto in 1458. On Perotti, see G. Mercati, *Per la cronologia della vita e degli scritti di Niccolò Perotti* (Studi e Testi, 44), Rome, 1925 (repr. 1975); R. P. Oliver, *Niccolò Perotti's Version of the Enchiridion of Epictetus*, Urbana, 1954; idem, "'New Fragments' of Latin Authors in Perotti's *Cornucopiae*," *Transactions of the American Philological Association*, LXXVIII, 1947, 376-424; and J. D'Amico, *Theory and Practice in Renaissance Textual Criticism*, Berkeley, 1988, 19-20.

45. Perotti lived in the neighborhood of SS. Apostoli, where a series of cardinals, starting with his patron, Cardinal Bessarion, began to construct large, extravagant, palaces *all'antica*. On the Bessarion/Riario/Della Rovere palace at SS. Apostoli, see T. Magnuson, *Studies in Roman Quattrocento Architecture* (Figura, 9, also published separately), Stockholm, 1958, 312-325; and P. Tomei, *L'architettura a Roma nel quattrocento*, Rome, 1977, 206-217. Most exceptional was Pietro Riario, who built a full-scale wooden courtyard (an atrium?) in front of his palace to serve for the festivities surrounding the passage of Eleonora d'Aragone through Rome; see P. Faranga, "'Monumenta Memoriae' Pietro Riario fra mito e storia," in *Un pontificato ed una città: Sisto IV (1471-1484)*, ed. M. Miglio et al., Vatican, 1986, 47-65. I would like to thank Debra Brown for the information concerning the whereabouts of Perotti's residence.

46. Not much is known about this villa, which is now destroyed, except for Perotti's description of the countryside around it. Perotti was

His magnum opus, the *Cornucopiae sive Commentariorum linguae Latinae*, written between 1472 and 1478 and published posthumously in 1489, was dedicated to Federico da Montefeltro. The *Cornucopiae* was primarily an edition of and commentary on two works by Marcus Valerius Martialis, *De spectaculis* and book I of the *Epigrams*. In it, Perotti explicated every word used by Martial in those two works. In essence, the *Cornucopiae* amounted to a thesaurus of Latin usage, providing a wealth of information about the Latin language and its culture.⁴⁷ Under the word *atrium* Perotti said:

The first (or most important) part of the house is called the atrium, which contains a space in the middle, where the rain, collected from the whole roof, falls. It was called an atrium either because this type of building was first built in Atria in Etruria, or because it rises up from the earth almost *aterarium*, or because it was black (*atrum*) from the smoke because of the kitchen.⁴⁸

The central part of Perotti's text on the atrium is lifted practically word for word from Festus.⁴⁹ Perotti ignored Festus's

especially proud of his artificial lake, which abounded in a variety of fish. See G. Battelli, *Curiafugia: L'antica villa dei conti Perotti a Sassoferrato*, n.p., n.d. A copy of this private publication can be found in the Vatican Library, R.G. Miscell., IV, G13 (int. 12).

47. The edition of Perotti's *Cornucopiae* used here was published in Venice in 1513 by Aldus Manutius. It contains editions of Festus, Nonius, and Varro that were not included in earlier publications of the *Cornucopiae*. In those sections quoted herein, the publication of 1513 is identical to the one published in 1499 by Manutius. I use the *Cornucopiae* published in 1513 instead of the earlier one because it is more easily available and because the pagination corresponds to later editions.

The importance of Perotti's text is attested by its numerous editions. The Vatican, for example, has editions of 1499, 1502, 1504, 1507, 1513–1517, 1522, 1527, and 1536. As late as 1612, Bernardino Baldi referred to Perotti in his *De verborum Vitruvianorum significatione*, 196.

Perotti published an edition of Martial in Rome in 1473, but the first commentary on the ancient author was published in the same year by Poggio's disciple, Domenico Calderini. See P. Howell, *A Commentary on Book One of the Epigrams of Martial*, London, 1980, 16; and F. R. Hausmann, "Martial in Italian," *Studi Medievali*, 3d ser., 17.1, 1976, 200–207. Hausmann discusses Roman authors in the Middle Ages and the relationship between Perotti and Calderini.

48. "Atrium prima pars domus appellatur, quae continet mediam aream, in quam collecta ex omni tecto pluvia descendit. Dictum atrium, vel quia id genus aedificii Atriae primum in Etruria sit institutum, vel quod à terra oriatur, quasi *aterarium*, vel quod *atrum* ex fumo esset propter culinam." Perotti concludes this passage with the perplexing sentence, "In atrio enim tria habitacula erant" (For in the atrium were three little dwellings). Perotti, *Cornucopiae*, 100.42–47.

49. See n. 43. The word *aterarium* derives from Festus's *aterrium*. In keeping with the grammarian's task, Perotti included not only the two etymologies given by Festus, but also a third, that the word derived from *atrum*, black, because its walls were darkened by smoke from its proximity to the kitchen. The derivation of *atrium* from *atrum* is found in Servius, who also mentioned its smoke-blackened walls. In fact, Servius said that the kitchen was in the atrium. "Ibi et culina erat; unde et atrium dictum est, quod atrium erat ex fumo" (or "atrum enim erat ex fumo"). *Servianorum*, 298. While the idea that the atrium was a kitchen sounds outrageous, it was repeated by Grapaldus and Cesare Cesariano. As late as the seventeenth century, Du Cange (1678) gave it among his definitions in the *Glossarium*, I, s.v.

statement that the atrium was a separate building in front of the house, however, following Vitruvius instead, who defined it as a major space within the house. In general terms, his visualization of the architectural form was fairly clear: it was the first room at the entrance to the house with a hole in its roof through which rain could fall.

Immediately after the passage on the atrium, Perotti mentioned the vestibule, noting that it was a separate place in front of the house where the *sportula*, the alms given daily to one's clients, was dispensed.⁵⁰ In words that reveal his knowledge of Gellius's distinction between the atrium and the vestibule, Perotti declared that the vestibule should not be confused with the atrium. It was not, he noted, the first part of the house, which was called the atrium, but rather an open space in front of the door of the house through which one had access to the street.⁵¹

Thus, while using the same sources available to Biondo, Perotti arrived at totally different conclusions. The atrium was not similar to the vestibule. While both were open spaces, the atrium was in the internal part of the house where domestic functions such as collecting rainwater took place. The vestibule, on the other hand, was located in front of the inner door of the house and was characterized by more purely public functions connected with such social rituals as the *sportula*.

It is possible that Perotti's text, which was written almost twenty years after Biondo's, reflects a knowledge of Alberti's *De re aedificatoria*.⁵² Before we turn to Alberti's architectural writing, however, we must discuss the work of another quattrocento grammarian.

In 1494 Grapaldus published an extremely useful book on the parts of the ancient house entitled *De partibus aedium*.⁵³ It was, in essence, a dictionary of words used in connection with the ancient house, in which every word was explained by excerpts from important ancient authors. In spite of its popularity,

50. "Vestibulum, locus sportularum, qui et ipse sportula dicebatur, ubi proponebantur eo die, quae dono danda erant. Et culina. Quanquam vestibulum proprie locus sit ante aedes, quemadmodum inferius ostendimus. Atrium proprie nigrum significat: unde atritas à veteribus nigredo dicebatur." Perotti, *Cornucopiae*, 100.48–51. The *sportula* was a regular, if small, dole extended to clients such as poets or writers. For Martial's epigram on the abolition of the *sportula* under Domitian, see III.7.

51. "Hinc etiam vestibulum, quod non est prima pars domus, hoc est atrium, ut aliqui putant, sed locus ante ianuam domus vacuus, per quem à via ad aedes itur." Perotti, *Cornucopiae*, 116.42. Immediately following this sentence, Perotti quoted the rest of Gellius's statement about the vestibule. For Gellius's passage, see nn. 41, 32.

52. The use of the words "prima pars" in association with the atrium may reflect a knowledge of Alberti, who referred to the atrium as "pars primaria" in *De re aedificatoria*. See n. 64.

53. F. M. Grapaldus, *De partibus aedium libri duo*, Parma, 1494. Grapaldus's text went through several editions and was translated into German and French. The edition used here was published in 1508 by Argentin. Pagliara, "L'attività edilizia," 24, first called attention to the importance of Grapaldus in the reconstruction of the ancient house. See also J. Schlosser, *La letteratura artistica*, Florence, 1964, 253, 257.

De partibus probably did more to confuse the vision of the atrium than any previous work. The problem did not concern the relationship of the atrium to the vestibule. Instead, as Pagliara was the first to note, Grapaldus clearly and unequivocally separated the atrium from the *cavum aedium*. Each had its own rubric and each its own list of ancient sources.

Because of the nature of his book, Grapaldus identified his excerpts more specifically than either Biondo or Perotti. In fact, Grapaldus mentioned six sources under the rubric "atrium." After stating that the atrium was the first part of the house one encountered upon entering, he summarized or quoted Vitruvius, Lucan, Vergil, Servius, Festus, and Varro.⁵⁴ The references to Servius, Varro, and Festus are familiar from our discussions of Biondo and Perotti. Servius, Grapaldus noted in more detail than Perotti, said that the ancients made kitchens in their atriums.⁵⁵ Varro said the word came from Atria. Festus explained that the atrium was a type of building in front of the house. Grapaldus, however, eliminated from his summary of Festus important information included by Perotti: that the atrium had an opening in the roof through which rainwater fell. Thus, while Grapaldus cited more authors in his discussion, his excerpts were not more useful to architects trying to imagine the atrium. He never mentioned that the atrium had an opening in its roof, and he drew no conclusions about the way the atrium looked.

In the rubric on the *cavum aedium*, Grapaldus, citing Pliny, Varro, and Vitruvius, defined the *cavum aedium* as a place that was open to the sky, surrounded by porticoes, and for the common use of all.⁵⁶ Vitruvius had described five *cava aedium*—four

of which were open to the sky and two of which had columns. Varro, who wrote in the first century B.C., also referred to an open-air *cavum aedium* (without, however, mentioning a colonnade). He contrasted it with the covered *cavum aedium* called by Vitruvius the *testudinate*. In book V of *De lingua Latina*, Varro said:

The roofed place which was left open within the walls, so that it might be for the common use of all, was called the *cavum aedium*. If in this no place had been left which was open to the sky, it was called a *testudo* . . . from the likeness to the *testudo*, as it is at the general's headquarters and in the camp. If some space had been left in the middle to catch the light, the place into which the rain fell down was called the *impluvium*, and the place where it ran together up above was called the *compluvium*; both from *pluvia* [rain]. The *Tuscanicum* [Tuscan style] was named from the *Tusci* [Etruscans], after the Romans began to imitate their style of *cavum aedium*. The *atrium* . . . was named from the Etruscans of Atria; for from there the model was taken.

Around the *cavum aedium* the house was divided by walls, making rooms useful for different purposes [he goes on to mention a *cella* (storeroom), *penaria* (food pantry), *cubiculum* (sleeping chamber), and *cenaculum* (dining room)].⁵⁷

Unknown to Grapaldus (or Biondo, for that matter), Varro, like Vitruvius, was also describing the atrium. The inclusion of the sentences about the etymology of the Tuscan *cavum aedium* and the Etruscan-inspired *atrium* in this passage on the *cavum aedium* might have allowed Varro's Renaissance readers to realize that the atrium and *cavum aedium* referred to one and the same space,⁵⁸ but few came to this conclusion. More typical was a reading of Varro that posited the atrium and the *cavum aedium* as two distinct entities. Thus, Grapaldus summarized Varro's etymology for *atrium* under the rubric on the atrium; other parts of Varro's commentary on the *cavum aedium* found their way into Grapaldus's section on the *cavum aedium*.⁵⁹ Even Perotti, who

54. "Atrium primus intra aedes aditus. Vitruvius: in urbe atria proxima ianuis esse debent: ruri a pseudo urbanis statim peristylia: Lucae. XI. Cum fortis armatus custodit atrium suum in pace sunt ea quae, possidet: et poeta [Vergil]: Atria longa patescunt. Ubi ut notavit Servius culinam facere antiqui consueverant: hinc atria dicta quasi atra propter fumi fuliginem: sive ab Atriatibus aethuriae populis ut autor est M. Var. Nam Pompeius atrium ante aedes genus aedificii proprie dictum putat quasi aterrium quod e terra oritur: unde Atriensis inter primores Servus nomen accepit: Et atriolum in amplis domibus in quibus erat atrium maius." Grapaldus, *De partibus*, 6.

In this passage, Grapaldus referred to Vitruvius's statement about the position of the atrium in city and country houses. The excerpt from Lucan, which says merely that when the atrium is defended all one's worldly goods are protected, comes from *Bellum civile*, bk. XI. The excerpt from Vergil (*Aeneid*, ed. H. R. Fairclough [Loeb Classical Library], Cambridge, Mass., 1986, II.483), "... apparet domos intus et atria longa patescunt," comes from the description of the storming of Priam's palace that gives a vivid if unspecific picture of the palace at Troy and reinforces the importance of the atrium, for once the enemy force their way into the atrium, the whole palace is lost.

55. Perotti merely referred to the smoke-blackened walls from the kitchen. See n. 48.

56. "Cavedium ut Pli. Cecilius in epistolis dictione mutilata: sive cavumaedium ut M. Var. dictione integra: locus est sub dio vacuus: cinctus undique porticibus ad comunem omnium usum. . . ." Grapaldus, *De partibus*, 8. The passage continues with a reference to the five types of *cava aedium* described by Vitruvius.

57. "Cavum aedium dictum qui locus tectus intra parietes relinquebatur patulus, qui esset ad com[m]unem omnium usum. In hoc locus si nullus relictus erat, sub divo qui esset, dicebatur testudo ab testudinis similitudine, ut est in praetorio et castris. Si relictus erat in medio ut lucem caperet, deorsum quo impluebat, dictum impluvium, sursum qua compluebat, compluvium: utrumque a pluvia. Tuscanicum dictum a Tuscis, posteaquam illorum cavum aedium simulare coeperunt. Atrium appellatum ab Atriatibus Tuscis: illinc enim exemplum sumptum. . . . Circum cavum aedium erat unius cuiusque rei utilitatis causa parietibus dissepata. . . ." Varro, *De lingua Latina*, ed. and trans. R. Kent (Loeb Classical Library), Cambridge, Mass., 1967, V.xxxiii.161–162. I have made some minor corrections to the Loeb translation, and for reasons of clarity I have replaced "inner court" with the original Latin *cavum aedium*.

58. Perotti also quoted Varro's section on the *cavum aedium* in his *Cornucopiae*. In the 1499 publication, however, the sentence referring to the atrium is missing. Perotti, *Cornucopiae*, Venice, 1499, 90.40–45. In the 1513 version, this omission was rectified. Perotti, *Cornucopiae*, 1137.62–63.

59. Grapaldus did not actually quote Varro's discussion. He did not describe Varro's distinction between the impluviate atrium and the covered (testudinate) form. He did, however, repeat Varro's description of

knew that the atrium had an opening in its center and who had paraphrased Varro's text, seems not to have realized that the *cavum aedium* and the atrium were synonymous.⁶⁰

The works of Biondo, Perotti, and Grapaldus contribute to our understanding of how quattrocento scholars perceived the atrium of the Roman *domus*. In this regard, Grapaldus is the least useful, for his text provided no clear image of the atrium. Perotti, on the other hand, was the most explicit: the atrium, which he considered the first major space of the house, resembled a court-like structure surrounded by sloping roofs along which the rain collected and ran into the opening at its center. Biondo's account was more ambiguous: his location of the atrium was precise—it was located before the main quarters of the house—but its form was less clear. The evidence points perhaps to a courtyard or, less likely, to a vaulted entranceway. What most interested Biondo was the function of the atrium: like the vestibule, which it resembled, it provided a buffer between the public and private zones of the house.

The three humanists discussed above reveal a great deal about the sources and methods available to architects trying to understand Vitruvius's obscure terminology. Even if these scholars did not simplify the problems of visualizing the form of the atrium of the ancient house, they provide a list of essential ancient texts used in the Renaissance to supplement and amplify Vitruvius's account. They also clearly illustrate the conflicting nature of the textual evidence itself. It is against the background of these humanist texts that one must consider the achievements and limitations of the architectural theorists.

Alberti: The atrium as the core of the house

Alberti's *De re aedificatoria* was presented to Nicholas V in 1452, shortly before Biondo's *Roma triumphans* was published and significantly before the publication of the works of Perotti and Grapaldus.⁶¹ Alberti's goal in writing his book differed from

the *cavum aedium* as the space within the house for the common use of all. See n. 56.

60. Perotti, *Cornucopiae*, 144.4–5, returned to the atrium and to a discussion of porticoes and peristyles concluding with a summary of Varro's discussion of the *cavum aedium*. Even though he discussed the atrium and the *cavum aedium* in the same paragraph, he seems not to have connected them.

61. Alberti's treatise was not published until 1485. Grayson, who concluded that the work was complete (with minor lacunae) by 1452, dates its execution to 1444–1452; C. Grayson, "The Composition of L. B. Alberti's *Decem libri de aedificatoria*," *Münchener Jahrbuch der bildenden Kunst*, XI, 1960, 152–161. In one of the Jerome lectures given at the American Academy in Rome in 1992, Anthony Grafton suggested that Grayson's dating, while substantially correct, needs to be revised. Because of certain passages taken from Greek authors, Grafton concluded that Alberti must have continued working on the text after 1452. The literature on Vitruvius and Alberti is extensive. Among others, see R. Krautheimer, "Alberti and Vitruvius," *Studies in Western Art: Acts of the Twentieth International Congress of the History of Art*, 4 vols., Princeton, 1963, II (Renaissance and Mannerism), 42–52 (republished in idem,

theirs. It was intended neither as a discussion of life in ancient Rome nor as a humanist collation of texts. Its purpose was more practical: to stimulate the production of a modern architecture based on classical precedents. Therefore, he could relegate the quotation of sources to a minor role, even if he, like Perotti and Grapaldus, relied on texts to understand the ancient house.⁶² In contrast to those of the grammarians, his text is a model of clarity. Unlike Biondo, he provides a precise image of the atrium. In book V he says of the atrium:

The most important part [of the house] is that which we shall call the "bosom" [*sinum*] of the house, although you might refer to it as the "*cavum aedium*"⁶³ or "atrium"; next in importance comes the dining room, followed by private bedrooms, and finally living rooms. Then come the remainder, according to their use. The "bosom" is therefore the main part of the house, acting like a public forum, toward which all other lesser members converge; it should incorporate a comfortable entrance, and also openings for light, as appropriate. Clearly then everyone would prefer the bosom of his building to be a generous, open, noble, and prominent space. But whereas some are content with having one bosom to their building, others have added several, enclosed either completely by high walls or by a combination of high and low ones. They have covered some with roofs, others they have left open, and others partly covered and partly open; in some places they have added porticoes to one or more sides, and sometimes all four; some they have built on the ground, others on a vaulted base. . . . In the center of the bosom of the building should be the entrance with a vestibule; this should be dignified and in no way narrow, tortuous, or poorly lit. There should be a consecrated chapel, immediately visible, with an altar; here any guest on entry may make a pledge of friendship, and here the head of the family on his return home may pray to the gods above for peace and calm for his family.⁶⁴

Studies in Early Christian, Medieval, and Renaissance Art, New York and London, 1969, 323–332); J. Onians, "L. B. Alberti and Φιλαρκτη: A Study in Their Sources," *Journal of the Warburg and Courtauld Institutes*, XXXIV, 1971, 96–114; and F. Choay, "Alberti and Vitruvius," *Architectural Design*, XLIX, 1979, 26–35.

62. Any writings known to humanists like Perotti or Grapaldus would have been familiar to Alberti even if he does not specifically mention them by name in the *De re*. See Hans-Karl Lücke, *Leon Battista Alberti, De re aedificatoria: Index Verborum*, 4 vols., Munich, 1975, s.v., for all names mentioned by Alberti.

63. For reasons of clarity, I have replaced Rykwert's translation, "court," with the original Latin, *cavum aedium*.

64. "Omnium pars primaria ea est, quam, seu cavum aedium seu atrium putes dici, nos sinum appellabimus; proxima veniunt coenacula; subinde habentur, quae singulorum sunt, cubicula; postrema existant conclavia; reliqua ipsis ex rebus notescunt. Itaque sinus pars erit primaria, in quam caetera omnia minora membra veluti in publicum aedis forum confluant, ex quave non aditus modo commodissimus verum et luminum etiam commoditates aptissime importentur. Hinc apparet sinum queneque sibi optare amplum spatium apertum dignum promptum. Sed sinu alii contenti uno sunt, alii plures producere prosequi sunt, hosque aut quoque undique altis parietibus aut partim praealtis partim humilioribus parietibus concludere. Et voluere alibi opertos esse tecto, alibi sub divo, alibi partim opertos partim nudos; alibi uno latere, alibi pluribus, alibi omnibus lateribus porticum adiungere; alibi in solo coadaequatos, alibi subtestudinato posuere pavimento. . . . Patebitque in medium sinum aditus et vestibulum, honestissimus, minime arctus, minime arduus, min-

Alberti's opening sentence makes his interpretation of the words *cavum aedium* and *atrium* clear: they were synonymous. His understanding that *atrium* and *cavum aedium* were two words that described the same space is nothing less than extraordinary. He was the only quattrocento writer to do so. In contrast to Biondo, he viewed the vestibule as a separate space, located on one side of the *cavum aedium*/atrium. To avoid the ambiguity and confusion surrounding Vitruvius's words, Alberti simply used another word, *sinus*, or bosom of the house. By using a term with such intimate connotations, Alberti vividly characterized the significance of the atrium. Like the forum of the city with which he compared it, the *sinus* was the center—the core—of the ancient house in both figurative and physical senses. Surrounding it were other rooms: bedrooms, dining rooms, and living rooms. From it, light penetrated the interior of the house. Generous, open, and noble, it was the fundamental space of the house—both a gathering place and a communication center. Its location, following the entrance vestibule, with the chapel of the house visible across it, heightened its importance. While Alberti does not go so far as to advocate the inclusion of ancestor busts, which Pliny the Elder said were kept in the ancient atrium, he does place the gods of the family and the house in a chapel that was intimately connected to the *sinus*.

Although the relationship has not been mentioned previously in the scholarly literature, Alberti's characterization of the *sinus* is strikingly similar to Varro's description of the *cavum aedium*. Both describe the atrium/*cavum aedium* in a central position in the house—a source of light and air—surrounded by rooms for dining, sleeping, and other functions. For both, the atrium/*cavum aedium* was a communal room that was essentially public in nature but was also crucial to the functioning of the private life of the house.

Vitruvius's descriptions of the types of *cava aedium* were clarified by Varro, whose text probably aided Alberti's visualization of the *sinus*. Vitruvius had mentioned five types of *cava aedium*, some of which resembled courts or courtyards. Varro made clear that every atrium/*cavum aedium*, except one, had an opening in the center of its roof for light. The exceptional form lacking the opening to the sky, he called *testudo* (Vitruvius's testudinate). Indeed, Varro's text might have contributed to Alberti's understanding that the atrium and *cavum aedium* were not two different spaces. While Varro did not make the connection explicit, his description of the *cavum aedium* as a room with an opening in its roof that allowed the collection of rain repeated the key elements of Festus's description of the atrium. By com-

paring Varro and Festus, Alberti could have concluded that the words *atrium* and *cavum aedium* described the same room.

Because Alberti understood that the words *atrium* and *cavum aedium* referred to the same room, he visualized the *sinus* in more than one fashion, imagining both open and covered forms. The uncovered *sinus* could be anything from a simple court without porticoes, to something partially porticoed, to a full courtyard surrounded by ambulatories and colonnades on all sides. In fact, Alberti was the first Renaissance writer to describe the atrium of the house unequivocally as a colonnaded courtyard.⁶⁵

While texts undoubtedly influenced his conception, what distinguished Alberti from grammarians like Perotti or Grapaldus was his ability to synthesize texts and visual sources. Since there were no remains of ancient atrium houses, Alberti turned to other building types. The most obvious way to visualize the atrium/*cavum aedium* was to compare it to the colonnaded *paradiso* of Early Christian churches, known as an atrium from Early Christian writers.⁶⁶ Renaissance writers also sometimes referred to these forecourts as atriums. It has already been noted that in *Roma triumphans* Biondo mentioned the "atrium" of Santo Stefano della Pigna; and in the *Itinerarium urbis Romae* (1518), Fra Mariano spoke of the "atrium" of St. Peter's.⁶⁷ Renaissance counterparts were also called atriums, as is attested by the prominent inscription in the forecourt of SS. Annunziata in Florence: "Petrus Cosmi F. de Medicis hoc atrium ornavit."

While it was not unusual in the quattrocento to use one building type to elucidate another, there was a good reason for assuming that ecclesiastical forms reflected Roman domestic architecture. Biondo explicitly noted that early monasteries were built on the ruins of ancient Roman houses.⁶⁸ Since ancient domestic forms influenced medieval ecclesiastical ones, medieval church forms could be used to understand the forms of the ancient house. The mixture of ecclesiastical and domestic forms continued into the sixteenth century with architects self-consciously modeling some monastic forms on the *domus*. A drawing for the monastery of S. Giacomo in Augusta in Rome, designed by Peruzzi, has a courtyard labeled "testudinate opus," at whose center is inscribed the word "cavedium" (Fig. 5). The most

65. While Alberti does not use one word for *courtyard*, what he describes is a courtyard.

66. Du Cange, *Glossarium*, s.v. The atriums of Early Christian churches sometimes have proportions similar to those described by Vitruvius for the ancient house. See K. J. Conant, "The After-life of Vitruvius in the Middle Ages," *JSAH*, XXVII, 1968, 33–38.

67. Biondo, *Roma trionfante*, bk. IX, 319v. Fra Mariano da Firenze, *Itinerarium urbis Romae*, ed. E. Bulletti (Studi di Antichità Cristiana, 2), Rome, 1931, 79.

68. "Molti monasterij ancho, massimamente de gli antichi, de l'ordine di san Benedetto, ritengono questa forma gia detta de gli antichi edificiij, perche ne furono gran parte di loro da principio edificati sopra case di que cittadini antichi Romani. . . ." Biondo, *Roma trionfante*, bk. IX, 320v.

ime obscurus. Aderitque primario obtutu religioni dicatum sacrarium cum ara propalam, quo loci ingressus hospes religionem ineat amicitiae, et domum pater familias repetens, pacem a superis et suorum tranquillitatem poscat. . . ." Alberti, *De re*, V.17 (trans. Rykwert, 146; ed. Orlandi, I, 417–419).

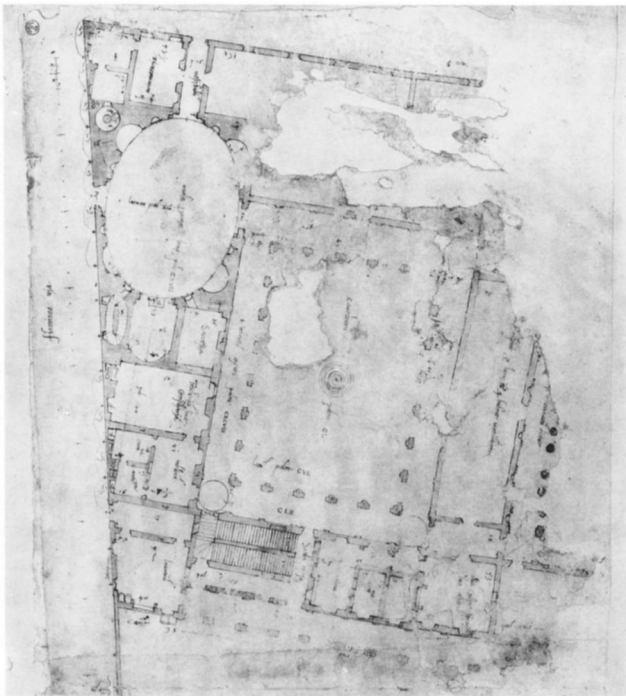


Fig. 5. Peruzzi, Monastery of S. Giacomo in Augusta in Rome (Uffizi, Gabinetto dei Disegni, A577).

famous example of a monastic complex inspired by the forms of the ancient house is Palladio's design for the monastery of the Carità in Venice, where he reconstructed the Vitruvian *domus*.⁶⁹

Alberti wrote *De re aedificatoria* as a useful guide for princely patrons and their architects who were seeking to erect buildings inspired by antiquity. Thus, it is reasonable to look for the influence of his description of the *sinus* on Renaissance domestic architecture. While in the absence of specific documents it may seem difficult to distinguish an Albertian *sinus* from a traditional courtyard, I have suggested elsewhere that Alberti's vision of the ancient atrium influenced at least one Florentine suburban villa. Perhaps as early as the mid-1470s, Giuliano da Sangallo designed an unusual house for Bartolomeo Scala on Borgo Pinti in Florence. Filled with allusions to antiquity, the Scala palace is one of the earliest attempts to reconstruct the ancient house; and its courtyard can be viewed as an Albertian atrium (Fig. 6).⁷⁰

69. See below, n. 190.

70. L. Pellecchia, "The Patron's Role in the Production of Architecture: Bartolomeo Scala and the Scala Palace," *Renaissance Quarterly*, XLII.2, 1989, 258–291. I point to the influence of Alberti on Giuliano, as well as the similarity between Giuliano's design and Francesco di Giorgio's visualization of a small house inspired by the ancient *domus*. The Scala palace is so unusual in the context of Florentine palace design that its atypical qualities must be explained. The very sequence of the rooms of the Scala palace—entrance vestibule, courtyard, chapel—was influenced by Alberti and antiquity, and its courtyard should be seen as an atrium.

Alberti also influenced Giuliano's design of 1492 for a forecourt at Cestello in Florence. The large, spacious courtyard at the entrance to

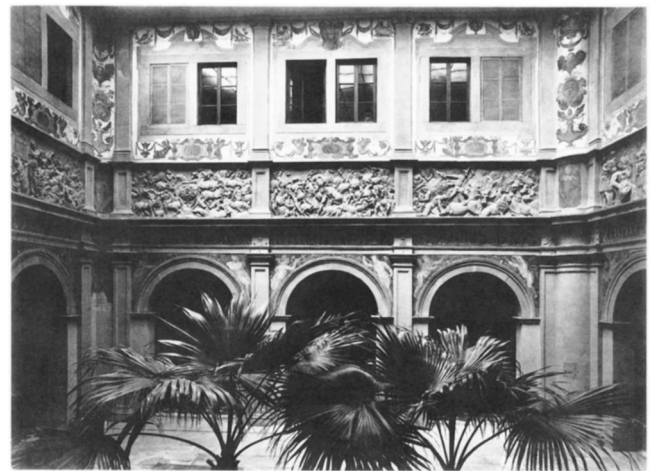


Fig. 6. Giuliano da Sangallo, Palazzo Scala, Florence. Courtyard (Kunsthistorisches Institut von Florenz).

While it is relatively easy to visualize an atrium that resembles a courtyard, the covered atrium described by Alberti presents greater difficulties. The testudinate was the one form of atrium that Varro clearly described as lacking an opening in its roof. Vitruvius said only that this type of *cavum aedium* was used where the span was not great and where there were large rooms above.⁷¹ The most common meaning of *testudo* is tortoise, but architecturally it means arch or vault.⁷² Several later Renaissance architects viewed the testudinate *cavum aedium* as a courtyard with vaults, as Peruzzi did in his drawing for the monastery of S. Giacomo (Fig. 5). Some commentators on Vitruvius did likewise. Fra Giocondo, Cesare Cesariano, and Giovan Battista da Sangallo all envisioned the testudinate *cavum aedium* as a courtyard with vaulted ambulatories (Figs. 7, 29, and 44).

Varro had said that the testudinate *cavum aedium* was called a *testudo* because it resembled the military *testudo*. In book X, Vitruvius described some military machines, each called a *testudo*. One, "the tortoise of the ram" (*testudinem arietariam*), was ba-

the church should be viewed as an atrium. Its placement clearly recalls the Early Christian atriums of Rome. The trabeated design *all'antica* ties it even more explicitly to Rome and to Alberti. Surely Giuliano was "correcting" the impression made by the dainty Florentine forecourt, explicitly identified as an atrium by a prominent inscription, at the nearby complex of SS. Annunziata. (For Giuliano's work on the interior of SS. Annunziata, see H. Teubner, "Das Langhaus der SS. Annunziata in Florenz: Studien zu Michelozzo und Giuliano da Sangallo," *Mitteilungen des Kunsthistorischen Institutes in Florenz*, XXII, 1978, 27–60.) On the forecourt of Cestello and its Albertian influence, see A. Luchs, *Cestello: A Cistercian Church of the Florentine Renaissance* (Garland Outstanding Dissertations in the Fine Arts), New York, 1977, 25. While Luchs gives several convincing Renaissance and medieval sources for the design of the individual sides of the forecourt at Cestello, none explains why it was designed as a courtyard. It seems to me one cannot avoid the conclusion that the forecourt is an atrium.

71. Vitruvius, VI.iii.2.

72. In bk. III, Alberti used the word *testudo* (*testudinum*) for vaults. Alberti, *De re*, III.14 (ed. Orlandi, I, *passim*).

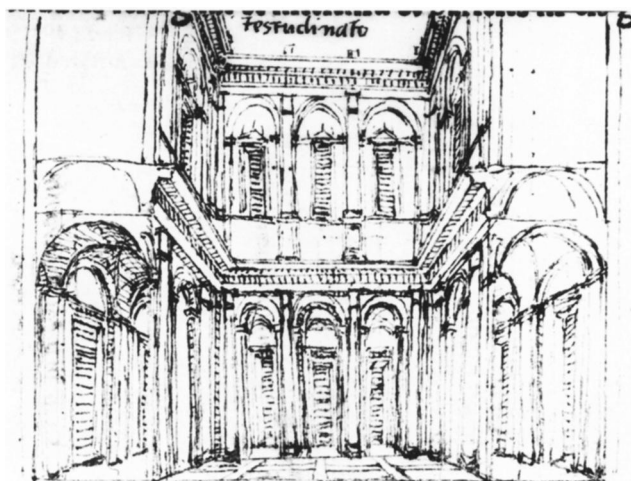


Fig. 7. Giovan Battista da Sangallo, *testudinate cavum aedium*, detail of Figure 31 (Biblioteca dei Lincei e Corsiniana, Rome, Corsiniana 50.F.1, folios not numbered).

sically a platform on wheels containing a battering ram and covered by rawhide to protect the men who used it. Francesco di Giorgio called this weapon “the testudinate ram,” depicting it (bless his literal soul) as a flat wooden *testudo* on wheels through which a long pole with a ram’s head was inserted (Fig. 8).⁷³

The second machine mentioned by Vitruvius was a “tortoise [*testudo*] for filling ditches” so that the walls could be reached.⁷⁴ It, too, was covered with rawhide to protect the men from fire and hurled stones. The connection between the machines seems to be that both were rawhide-covered shelters to shield soldiers as the curved shell of the tortoise protects the animal. On the most literal level, then, a *testudo* is a tortoise with its curved shell. Given the Renaissance penchant for visualizing words through creative etymologies, this alone could have suggested a form for the testudinate *cavum aedium*.

Alberti searched elsewhere for his visualization, however—in the Roman imperial baths. In book VIII, he describes an imperial bath complex:

In the middle, as in the center of a house, there is an atrium, roofed, spacious, and majestic; off this are rooms, their lineaments taken from the Etruscan temple, as we have described it. The entrance to this atrium is through the main vestibule, whose facade faces south.⁷⁵

It is hard to avoid the conclusion that for Alberti the central vaulted halls of the Roman baths were testudinate atriums sim-

73. Vitruvius, X.xiii.2. Francesco di Giorgio, *Trattato I*, in *Trattati*, ed. Maltese, I, 223 and pl. 111 (for complete citation see n. 78).

74. Vitruvius, X.xiv.1–3. See also Hegetor’s tortoise described by Vitruvius, X.xv.

75. “Sub tectis medium est, quasi centrum aedis, atrium amplissimum et dignissimum cum cellis ex lineamento templi, quod esse Etruscum diximus. In atrium datur aditus ex vestibulo quodam primario, cuius frons sese porrigit ultro meridiem versus spectans.” Alberti, *De re*, VIII.10 (trans. Rykwert, 287; ed. Orlandi, II, 769–773).

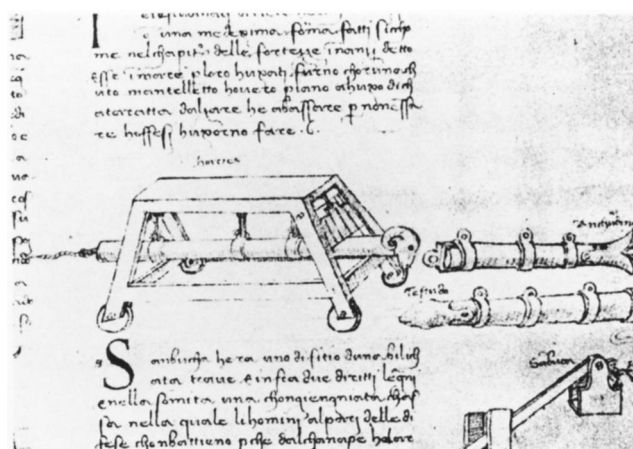


Fig. 8. Francesco di Giorgio, battering ram (Turin, Biblioteca Reale, Codex Saluzziano 148, fol. 60r, detail).

ilar in form and placement to those of the ancient house.⁷⁶ It is not difficult to imagine how Alberti visualized this “vast and majestic” space, because extant ruins and Renaissance drawings provide specific examples (Fig. 9). Alberti’s conception of the testudinate atrium might also have influenced Giuliano da Sangallo. If the courtyard of the Scala palace reflects Alberti’s atrium with porticoes, the unusually large, centrally located, vaulted *salone* at Poggio a Caiano, so similar to the vaulted halls of the Roman baths, might exemplify his covered *sinus* (Fig. 10).⁷⁷

Despite Alberti’s conclusions, the challenge of interpreting the atrium was just beginning. Biondo reached different conclusions as did Grapaldus, whose *De partibus* was published ten years after Alberti’s *De re*. Only Perotti’s image of a room open to the sky unequivocally resembled Alberti’s. Since Alberti cast aside unproductive etymologies and contradictory Latin authors, his work could not be considered definitive by the humanists. It must have been equally unsatisfying to many architects, since Alberti used words rather than drawings to illustrate the *sinus*.

Francesco di Giorgio Martini: The atrium as sala and ridotto

Francesco di Giorgio embarked on a study of Vitruvius and Roman ruins perhaps as early as the mid-1460s. Eventually he

76. In addition to using terms, such as *atrium* and *vestibulum*, that reflect those of the ancient house, Alberti explicitly stated that the baths have elements taken from private buildings as well as public ones. “I am still not quite sure whether baths should rather be considered private or public. But clearly, as far as one can tell, they are a mixture of both. They contain many elements derived from private buildings, and many from public ones.” Ibid., VIII.10 (ed. Orlandi, II, 769; trans. Rykwert, 287).

The atrium of imperial Roman baths (for example, the Baths of Trajan) was viewed in quite a different form by Ligorio, who imagined it as a large courtyard in his map of *Roma antica* (1561). See Frutaz, *Le piante*, II, pl. 25.

77. I want to thank Howard Burns for first suggesting to me that the *salone* at Poggio was an atrium. The elevation of Poggio’s *salone* on vaulted rooms below also conforms to Alberti’s specification that the *sinus* can either rest upon the ground or be raised upon a vault.

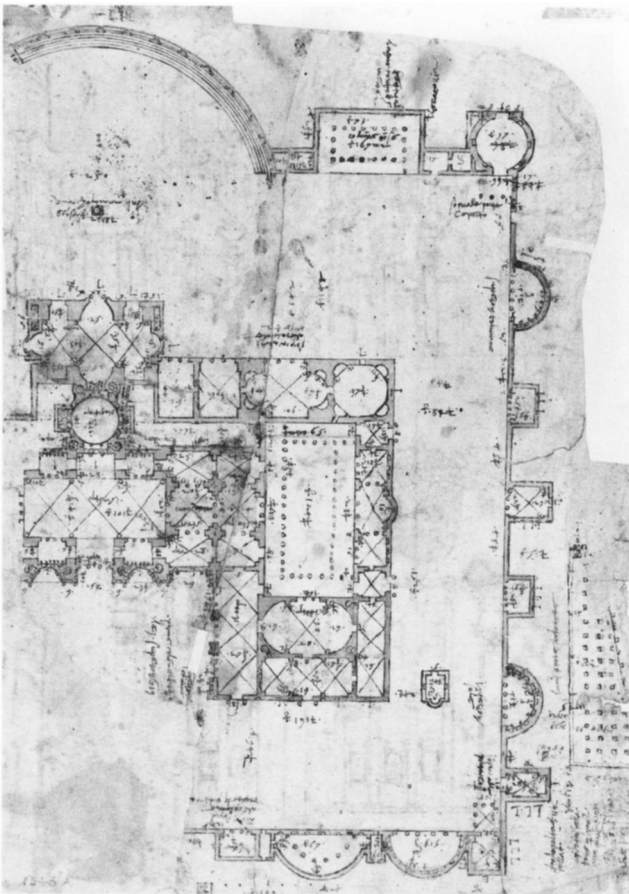


Fig. 9. Antonio da Sangallo il Vecchio (?), plan of the Baths of Diocletian (Uffizi, Gabinetto dei Disegni, A1546r).

wrote two versions, each with variations, of a *Treatise on Architecture, Engineering, and Military Art* and an autograph translation of Vitruvius's *De architectura*, together revealing his developing understanding of the ancient text.⁷⁸ Like Alberti's, Francesco's concern with the ancient house was motivated by his interest in contemporary house design. His humanist training and his knowledge of Latin, however, were rudimentary. His treatise clearly reveals the difficulties architects faced in reading

78. There are several manuscripts associated with Francesco's treatise. The four primary ones were published in *Trattati di architettura ingegneria e arte militare*, ed. C. Maltese, 2 vols., Milan, 1967. The first version (hereafter, *Trattato I*) is found in manuscripts in the Biblioteca Reale of Turin (Saluzziano 148) and in the Biblioteca Laurenziana in Florence (Ashburnham 361). The second (hereafter, *Trattato II*) derives from manuscripts in the Biblioteca Comunale of Siena (S.IV.4) and the Biblioteca Nazionale of Florence (Magliabechiano II.I.141). There are four other important manuscripts: Urbinate Latino 1757 in the Vatican Library in Rome; 24.949 in the British Museum in London; Spencer 129 in the New York Public Library; and the Zichy Codex in the Erwin Szabo Public Library in Budapest. The dating of many of the manuscripts is still controversial. *Trattato I* was begun perhaps as early as 1472; *Trattato II* may have been finished as late as 1492. For a discussion of the major arguments, see C. Maltese, "Introduzione," in *Trattati*, I, xi-lxviii; R. Betts, review of Maltese, *JSAH*, XXXI, 1972, 62–64; idem,



Fig. 10. Giuliano da Sangallo, Poggio a Caiano, 1485. Salone.

Vitruvius. It also illuminates the imaginative and creative processes by which Vitruvius's text inspired new and original solutions to the problems of the ancient and modern house. In contrast to Alberti's double vision of the atrium as either an open-air courtyard or a covered interior room (*testudinate cavum aedium*), Francesco depicted it almost exclusively as an interior

"On the Chronology of Francesco di Giorgio's Treatises: New Evidence from an Unpublished Manuscript," *JSAH*, XXXVI, 1977, 3–14; P. Fiore, *Città e macchine del quattrocento*, Florence, 1978, 57–75; G. Scaglia, *Il "Vitruvio Magliabechiano" di Francesco di Giorgio Martini*, Florence, 1985, 30–36; and C. Kolb, "The Francesco di Giorgio Material in the Zichy Codex," *JSAH*, XLVII, 1988, 132–159.

Francesco's translation of Vitruvius in the Biblioteca Nazionale in Florence, Cod. Magliabechiano II.I.141, was published by Scaglia, *Il "Vitruvio Magliabechiano"*. On Francesco's knowledge of Latin and humanist training, see *ibid.*, 37–44, dating the translation to 1485; and P. Fiore, "La traduzione da Vitruvio di Francesco di Giorgio," *Architettura: Storia e Documenti*, I, 1985, 7–30.

On Francesco's theories in general, see R. Betts, "The Architectural Theories of Francesco di Giorgio," Ph.D. diss., Princeton University, 1971, 51–130. On his early years of study of antiquity, see T. Buddensieg, "Die Konstantinsbasilika in einer Zeichnung Francescos di Giorgio und der Marmorkoloss Konstantins des Grossen," *Münchener Jahrbuch der bildenden Kunst*, XIII, 1962, 37–48. The catalogue for the exhibition on Francesco di Giorgio held in Siena in the fall of 1992 appeared after this article was in press.

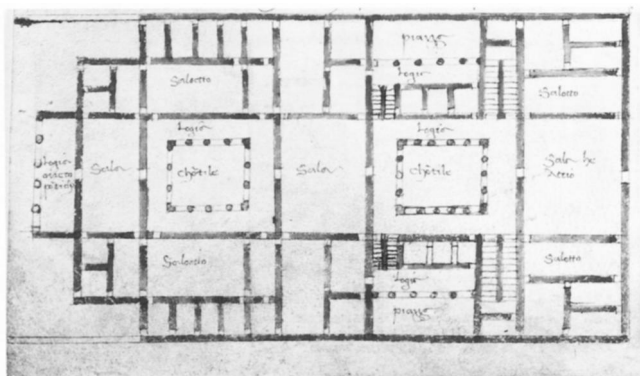


Fig. 11. Francesco di Giorgio, house plan (Turin, Biblioteca Reale, Codex Saluzziano 148, fol. 17v, detail).

room that sometimes had an opening in its roof.⁷⁹ He never imagined it as a courtyard surrounded by porticoes.

As anyone who has tried to read the first version of the treatise (hereafter, *Trattato I*) knows, clarity of expression and organization were not Francesco's forte when he first began to write. Inspired by Vitruvius's comments on adapting houses to the social status of their owners, Francesco loosely divided his treatment of the modern house *all'antica* into three categories: *reali e signorili*, *de' principi e gran signori*, and *de' privati e particolari cittadini*.⁸⁰ He began with the royal and seigneurial class: on folio 17r of the Codex Saluzziano, he described a large house with several rooms characterized in particular by two courtyards.⁸¹ The house was preceded by a spacious piazza toward the street and looked out onto a luxurious garden behind. On the verso of folio 17 are numerous house designs, one of which appears to illustrate this grand seigneurial house (Fig. 11).⁸² In addition to its two courtyards and garden portico, the plan has a large room, not mentioned in the text, labeled *sala he atrio*. In this particular house, Francesco imagined the atrium as a covered

79. It should be noted that Francesco labeled the entrance space in Fig. 18 "Porticho he atrio." The label is perplexing, however, because the space depicted here, and in the equivalent drawing in the Zichy Codex (Fig. 17), is not a portico but rather an entrance hall. This is the only instance of Francesco's labeling an entrance portico "atrio." In the text of *Trattato I*, Francesco had referred to the entrance portico at the front of the house as a vestibule; see n. 86. In *Trattato II*, Francesco labeled one arm of a courtyard with the word *atrium* in a public palace; see n. 103.

80. Because of the nature of Francesco's text, it is difficult to know when he is describing the ancient house and when he is proposing a modern counterpart based on its principles. Occasionally, he will clarify his text by referring explicitly to the past.

81. Francesco di Giorgio, *Trattato I*, in *Trattati*, ed. Maltese, I, 70–72.

82. The text is on folio 17r and the drawing on 17v. In a copy of the Codex Ashburnham 361 in the Beinecke Rare Book Library (Ms. 491) at Yale University, the sixteenth-century copyist considered this plan as an illustration of the text and added the inscriptions "piazza della prima entrata" before the atrium and "giardino" before the portico of the garden.

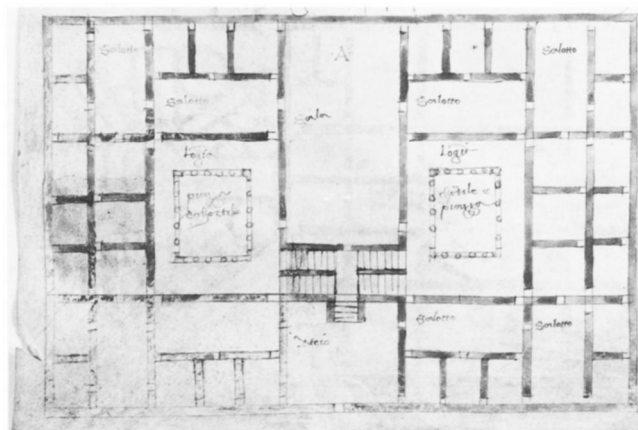


Fig. 12. Francesco di Giorgio, house plan (Turin, Biblioteca Reale, Codex Saluzziano 148, fol. 18v, detail).

sala at the entrance to the house—what we would call an entrance hall or foyer. On folio 18v, Francesco referred to a specific house plan, labeled A, where the atrium, a square room described as 40 by 40 feet, likewise serves as the entrance hall of the house (Fig. 12). For his vision of the atrium in these two houses, Francesco need not have consulted any text other than Vitruvius, who described the atrium as the first room of the town house of men of class who needed public rooms for visitors. Vitruvius, however, never recommended the square proportions used for the atrium in Figure 12.

The illustrations to Francesco's text contain several other houses of unspecified social class with rooms labeled *atrio* or *atrio e sala*. Every *sala*, however, is not an *atrio*, for there are, in addition to the atrium, everyday living rooms and other rooms labeled *sala*. In *Trattato I*, the difference between a *sala* and an *atrio* is not one of form but rather one of location and function: the atrium at the entrance to the house is its first reception room. In larger houses, the atrium opens directly onto the street. In smaller houses, it is often preceded by an *andito* or portico. In three plans for small houses, it is a square room at the core of the house, which has a prominence and centrality similar to that of Alberti's *sinus* (Figs. 13–15).⁸³ While Francesco did not visualize the atrium as a courtyard, the atriums of these smaller houses had either openings in their roofs or higher clerestory levels from which they received light. The use of roof openings or clerestories becomes explicit in *Trattato II* where several illustrations include the words "lume superficiale" below the words "atrio & sala" (see Figs. 19–21). In most of the atriums

83. While to date there is no evidence that Francesco had access to Alberti's *De re aedificatoria* before its publication, the centrality of the atriums of these small houses is quite similar to that of Alberti. The prominence given to some atriums in *Trattato I* is continued in *Trattato II*, which postdates the publication of the *editio princeps* of *De re aedificatoria* so that Francesco could have been aware of Alberti's ideas by the time he wrote the second redaction.

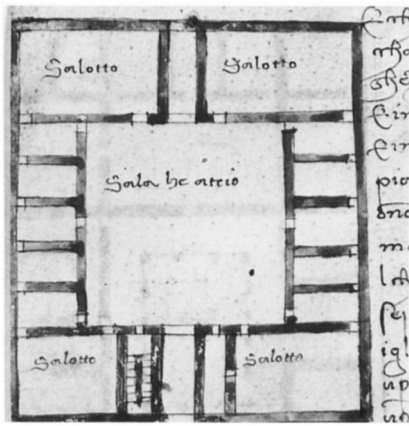


Fig. 13. Francesco di Giorgio, house plan with centralized atrium (Turin, Biblioteca Reale, Codex Saluzziano 148, fol. 18v, detail).

without the additional inscription, Francesco drew a circle in the center of the room, rather like the oculus of the Pantheon (see Fig. 22).⁸⁴

Francesco first discussed the atrium of the ancient house in his text under the category of houses of *privati e particolari cittadini*:

It should be noted that many ancients used to make a portico and vestibule at the front entrance to the house, [but] such vestibules are no longer used today. And [one should know that] in the middle of these [vestibules] the entrance [was made], in a hallway [*andito*] opposite which the courtyard was placed, from which one could see the stairs. Similarly [the ancients] used atriums, that is, *ridotti*, and *piazze*;⁸⁵ through the atriums one arrived at the courtyard. And the staircase that ascends to the living spaces above was placed on the left side [of the courtyard]. And around the courtyard or loggias were located the collected entrances [to the rooms of the house] opposite each other. The first entrance was to the *sala* and through it to the antichambers and [to] the chambers necessary to the *sala*. And through the above mentioned courtyard was the entrance to a *salotto* or everyday living room.⁸⁶

84. In his article on Mantegna's house, Rosenthal makes the attractive hypothesis that the central "court" of the artist's house in Mantua was not a courtyard but an atrium with an oculus along the model of those visualized by Francesco and perhaps influenced by him. E. Rosenthal, "The House of Andrea Mantegna in Mantua," *Gazette des Beaux-Arts*, LX, 1962, 325–348.

85. I have added a comma after *ridotti* because I do not believe Francesco meant to imply that atriums were *piazze*. See below, n. 103.

86. "E da sapere che molti antichi in nelle prime fronti e entrate el portico e vestibulo fare usorno, i quali al presente pare tralassati sieno. E in nel mezzo d'essi l'entrata, in uno andito al quale dalla rincontra el cortile era posto, per lo quale la scala si vedea. Similmente usorno atri over ridotti e piazze, per li quali atri al cortile si pervenia. E da man sinistra la scala alle sopra poste abitazioni montando andava. E intorno al cortile o logge le conferenti intrate l'una all'altra opposta collocoro. La prima entrata era della sala e d'essa all'anticamare a camare che al servizio d'essa si richiede. E per lo detto cortile l'entrata a un salotto o sala cotidiana entrava. . . ." Francesco di Giorgio, *Trattato I*, in *Trattati*, ed. Maltese, I, 78–79. Maltese noted that Francesco himself added the words "e vestibulo" after the word "portico" in the margin of the Saluzziano text (*Trattati*, ed. Maltese, I, 78 n. 5).

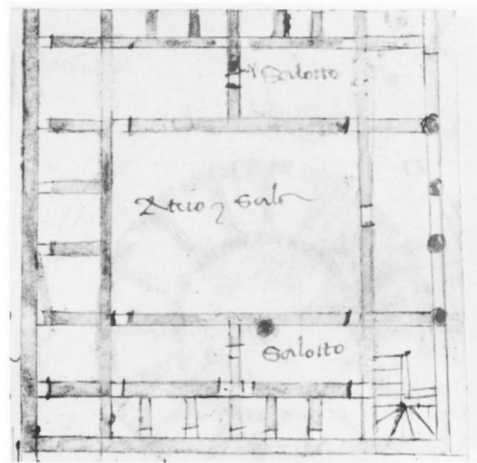


Fig. 14. Francesco di Giorgio, house plan with centralized atrium (Turin, Biblioteca Reale, Codex Saluzziano 148, fol. 19r, detail).

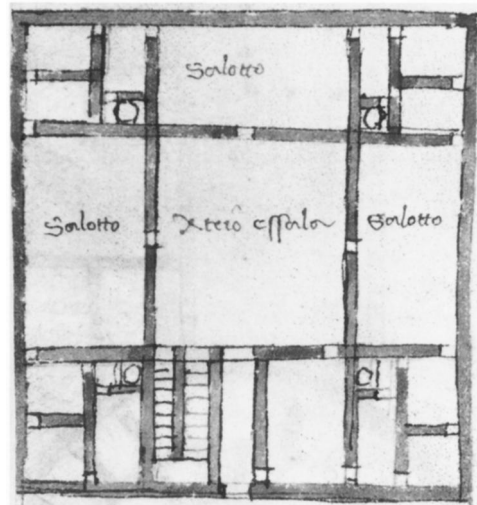


Fig. 15. Francesco di Giorgio, house plan with centralized atrium (Turin, Biblioteca Reale, Codex Saluzziano 148, fol. 19v, detail).

In fairly straightforward terms, this brief excerpt described the essential parts of the ancient house: vestibule, atrium, courtyard, and *sala*.⁸⁷ The vestibule as the porticoed entrance to the house acted as a transitional space between exterior and interior; from the vestibule, and on axis with the courtyard, was an *andito* with access to the stairs; the atrium led into the courtyard(s); from the courtyard, one entered the main *sala* of the house. For the first time, Francesco defined the word *atrium*: it was a *ridotto*—that is, a gathering place or reception room.⁸⁸

While none of the house plans depicted in the text of the Codex Saluzziano illustrates the house described above, it has

87. Vestibule, atrium, peristyle, and *tablina* were the rooms singled out by Vitruvius as important to the houses of men of rank; Vitruvius, VI.v.1–2.

88. *Vocabolario degli Accademici della Crusca*, Florence, 1622, s.v.: "Ridotto, luogo, dove altri si riduce. Ricetto. Ricettacolo."

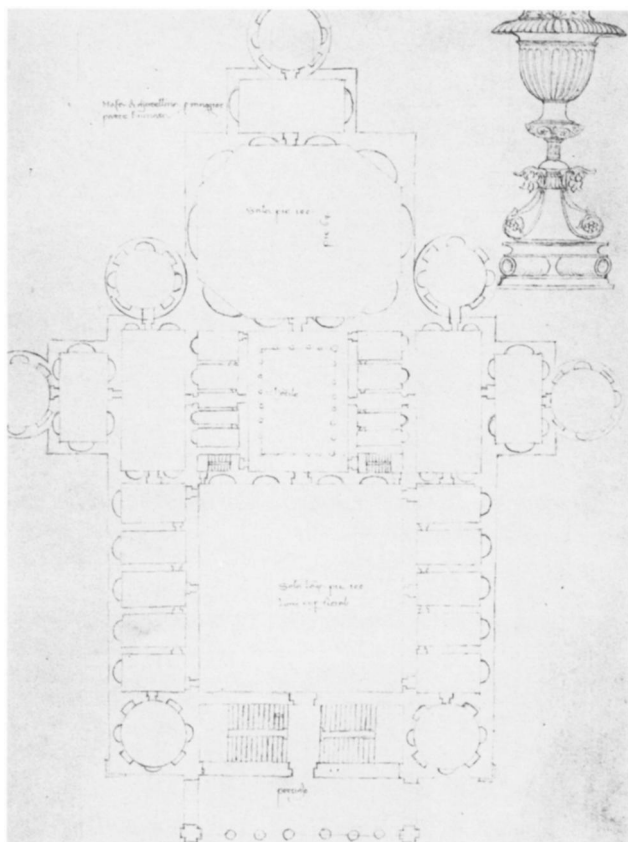


Fig. 16. Francesco di Giorgio, Catiline's House (Turin, Biblioteca Reale, Codex Saluzziano 148, fol. 87r, detail).

not been previously noted that a drawing of an ancient house labeled "Hasa di Chatellina per maggior parte ruinata" conforms quite clearly to the description in the text (Fig. 16).⁸⁹ The house is entered through a portico that opens through a narrow passageway flanked by stairs into a large square room labeled "sala longa pie 100 lumi superficialj." The position of the square *sala*, immediately following the portico (or vestibule), indicates that it is an atrium. The inscription "lumi superficialj" means that the atrium, like the atriums of Francesco's smaller houses, was lighted from above. Beyond the atrium, surrounded by the requisite entrances to other rooms and to a large *sala*, is the courtyard—strangely diminutive in comparison to the atrium that precedes it or the *sala* that follows it. As the text suggests, other living spaces flank the courtyard. The square atrium of "Catiline's house" might have suggested the square form used in the house plans illustrated in *Trattato I*.⁹⁰

89. The sketch is found in the collection of drawings after the antique appended to the Codex Saluzziano. The building has not been identified. Maltese suggested the Macellum Liviae. Promis thought it was part of the *Palatium* (i.e., the Palatine) that was called the "Casa di Catilina." For both Promis and Maltese, see *Trattati*, ed. Maltese, I, 285, under fol. 87: tav. 161. Catiline lived from 108 B.C. until 62 B.C., when he was executed for treason.

90. The prominent square atrium in *Trattato II* labeled "ATRIO ET SALA Lume superficiale" (Fig. 19, upper right) might also have been

The problematic term *cavum aedium* does not appear in the illustrations of the first treatise. Yet Francesco did realize that it belonged in any discussion of the ancient house. Toward the end of his section on houses, without preface or explanation, Francesco inserted a translation of Vitruvius that begins, "There are five types of private buildings: Tuscan, Corinthian, tetrastyle, displuviate, and testudinate. . . ."⁹¹ The five types of "private buildings" are the five Vitruvian types of *cava aedium*. For Francesco, at this point in his studies, the word *cavum aedium* was used to designate not a part of the house, but the entire house!⁹²

The Zichy Codex, a sixteenth-century manuscript in Budapest, which Kolb has shown to be a copy of a version of the

inspired by the "Hasa di Chatellina." In *Trattato II*, Francesco also gave a justification for using square atriums—that they had the "medesima simmetria" as *sale* (*Trattato II*, in *Trattati*, ed. Maltese, II, 345–346). Vitruvius had recommended the use of square proportions for *oeci*—that is, large halls (Vitruvius, VI.iii.8). Francesco, however, recommended square proportions for all sorts of rooms: "*Anco mi par d'usare in tutti li altri salotti o vero teclini queste proporzioni* [i.e., square proportions]. . . . Li ticcini dieno essere d'uno quadro perfetto" (*Trattato II*, in *Trattati*, ed. Maltese, II, 346–347). Other rooms, such as "*camere, talami o vero cubiculi*" (ibid., 346), could be square. Courtyards were square as well. It is not surprising, then, to find square atriums. Betts, "The Architectural Theories," 76–81, discusses Francesco's proportional system.

91. "Le generazioni delli edifizii privati cinque sono: toscano, corinzio, tetrastilo, disprunatum e testudinatatum. . . ." Francesco di Giorgio, *Trattato I*, in *Trattati*, ed. Maltese, I, 81.

92. While the translation is incorrect, it may derive less from pure invention than from Francesco's textual investigations. In preparing his early treatise, Francesco might have turned to a highly popular medieval commentator, Isidore of Seville, who, as Grafton has shown, was often consulted by Renaissance humanists (Grafton, "On the Scholarship of Politian," 159). Isidore defined the atrium (not the *cavum aedium*) as "a large house, or rather a more ample and spacious house" in his *Etymologiarum sive originum*: "Atrium magna aedes est, sive amplior et spatiosa domus; et dictum atrium [eo] quod addantur ei tres porticus extrinsecus. . . ." (Isidorus of Seville, *Etymologiarum sive originum*, ed. W. M. Lindsay, 2 vols., Oxford, 1985, II, bk. XV.iii). Francesco may have momentarily confused the words *atrium* and *cavum aedium* and applied Isidore's definition to the wrong word.

This is not the only instance of Francesco's using one word for another. Elsewhere in his translation, he substituted Vitruvius's word *peristylum* with the word *atrium*. Vitruvius, VI.iii.7, has a sentence beginning "Peristyla autem . . .," which Francesco translated: "Come che dell'atrio è detto . . ." (*Trattato I*, in *Trattati*, ed. Maltese, I, 83). Betts, "The Architectural Theories," 60, cites another example of Francesco's transposition of information about one term to another term. Francesco recorded the proportions that Vitruvius gave for the *alae* but attributed them to the atrium, even though he had earlier given the correct proportions for the atrium.

It seems possible that Buonaccorso Ghiberti's fragmentary translation of Vitruvius may also reveal knowledge of Isidore. Buonaccorso translated Vitruvius's section on the three proportions of the atrium with the preface "Di tte gienerazioni si fformino le chasse de privati cittadini. . . ." Thus, the word *atrium* is translated "the houses of private citizens." On Buonaccorso's translation, see G. Scaglia, "A Translation of Vitruvius and Copies of Late Antique Drawings in Buonaccorso Ghiberti's *Zibaldone*," *Transactions of the American Philosophical Society*, LXIX, 1979, 3–30. I would like to thank Paula Spilner for first suggesting that I consult Isidore.

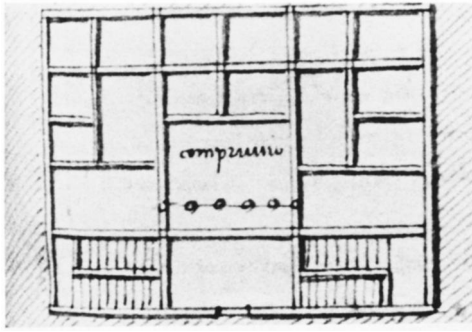


Fig. 17. Angelo dal Cortivo after Francesco di Giorgio, house plan (Erwin Szabo Library, Budapest, Zichy Codex, fol. 147r, detail; photo, Douglas Lewis).

treatise that precedes even *Trattato I*, provides new evidence concerning how Francesco visualized the *cavum aedium*.⁹³ While Francesco had already arrived at his translation of the word *cavum aedium* as house,⁹⁴ one of the essential elements of this house was the courtyard, or, as Francesco called it, the *compluvium*. In an interpolation to his translation of Vitruvius's description of the Corinthian *cavum aedium*, Francesco defined the word *compluvium* as "the light that comes inside in the Corinthian house. . . ."⁹⁵ Further on in the text, while translating Vitruvius's discussion of the size of the *compluvium* in relation to the atrium,⁹⁶ Francesco amplified his definition. He explained that "[the] *compruvium* [sic] is the *piazza* in the middle where it rains."⁹⁷ Thus, the *compluvium* was an opening in the *cavum aedium* that let in light and air and allowed rainwater to be collected. The association of the *compluvium* with a central opening into which rain falls suggests that Francesco may have been familiar with Varro.⁹⁸ More important, however, is Francesco's

93. On the dating and significance of the Zichy Codex, see Kolb, "Francesco di Giorgio Material in the Zichy Codex," 132–159.

94. "Le generacioni degli edificii privati sono 5 Toschano Corintio Tretastillo disprunatum e Testudinatum." Zichy Codex, fol. 157v. A few sentences later he referred to the "chaxa Corintio."

95. Vitruvius, VI.iii.1. The passage reads as follows: "Tuscanica sunt, in quibus trabes in atriis latitudine traiectae habeant interpensiva et collicias ab angulis parietum ad angulos tignorum intercurrentes, item asseribus stillicidiorum in medium compluvium deiectus. In corinthiis isdem rationibus trabes et compluvia conlocantur. . . ." Francesco's translation is: "Toschano e dove sono le travi innel atrio cioe erido[to?] dal uno muro al altro e dipoi sopra esse si mete e chorenti e facessi el palco eda. El compruvio, cioe el lume che viene dentro in chaxa Corintio, e el medesimo modo. . . ." Zichy Codex, fol. 157v. I have supplied the punctuation in this passage.

96. Vitruvius, VI.iii.6. Vitruvius merely says that the width of the aperture of the *compluvium* should not be narrower than one fourth nor wider than one third the width of the atrium and that its length should also be in proportion to the length of the atrium.

97. "In ne lume del compruvio della larghezza de ridotto [the atrium] nomeno di quarta ne piu di terze parte si lassi la longezza. Compruvio e la piazza di mezo dove piove. Come che de ridotto per ratta partte si faci le cholone tanto alte quanto. . . ." Zichy Codex, fol. 158v.

98. Varro used the word *compluvium* to describe the opening in the roof of the *cavum aedium* into which the rain fell. See n. 57. Vitruvius

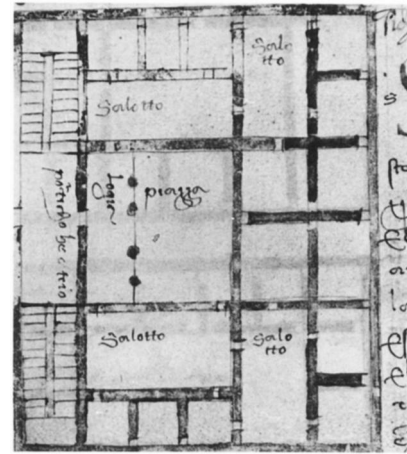


Fig. 18. Francesco di Giorgio, plan of a small house (Turin, Biblioteca Reale, Codex Saluzziano 148, fol. 18v, detail).

use of the word *piazza* to translate *compluvium*, for it permits us to conclude that Francesco visualized the *compluvium* as a courtyard. An unpublished illustration in the Zichy Codex depicts the plan of a small house with a central court flanked by a single portico. The word *compruvio* appears as the label for the open space in front of the loggia (Fig. 17).⁹⁹ In *Trattato I*, the same opening in a nearly identical house is labeled "piazza" (Fig. 18).¹⁰⁰ In fact, courtyards are often labeled "piazza e cortile" in *Trattato I* (Fig. 12).¹⁰¹ For Francesco, the Italian translation of *compluvium* was *piazza*, and a *piazza* was the open part of a courtyard.

His vision of the *compluvium* as the opening in the center of the *cavum aedium* did not change in the interval between the Zichy Codex and *Trattato I*. In translating the same two Vitruvian passages noted above, Francesco described the *compluvium* as the center of the Tuscan style *cavum aedium* around which the pavement circled¹⁰² and referred to an aperture in the *compluvium*.¹⁰³ Even if Francesco thought of the *cavum aedium* as a

used the word *compluvium* in reference to the Tuscan and Corinthian *cava aedium* and, more obliquely, in relationship to the atrium. See nn. 95, 96.

99. I have not been able to consult the original of this manuscript. I noticed this illustration in the Fototeca of the Bibliotheca Hertziana in Rome too late to be able to order a photograph. I would like to thank Carolyn Kolb for lending me the photograph of this page and for generously sharing with me photocopies and her transcriptions of relevant sections of the Zichy Codex.

100. Francesco labels the entrance to this house "Porticho he atrio"; see n. 79.

101. See also the drawings reproduced in *Trattati*, ed. Maltese, I, pls. 29, 32, 34.

102. In *Trattato I* (in *Trattati*, ed. Maltese, I, 81), Francesco translated the passage as follows: "Toscano e quello dove sono le travi in nell'atrio dall'uno muro e l'altro ch'è sopra d'esse con lavoro di legname. El pavimento intorno intorno fassi col compruvio in mezzo d'esso."

103. "El lume del compruvio e larghezza dell'atrio non meno di quarta né più di terza parte." Francesco di Giorgio, *Trattato I*, in *Trattati*,

house, the very center of this house—inseparable from it—was a courtyard called the *compluvium*.¹⁰⁴

ed. Maltese, I, 83. It is not clear whether Francesco understood from this section that the *compluvium* was also a part of the atrium. It seems likely, however, that this passage may have led Francesco to visualize the atrium with an opening in its roof, as is implied in some of the illustrations in *Trattato I* and *Trattato II*. This does not mean that he drew the conclusion that the atrium and the *cavum aedium* both referred to the same space. It will be seen below, for instance, that Fra Giocondo concluded that some atriums had an opening in their roofs, but that the *cavum aedium* was located in the peristyle.

Without knowledge of the passage from the Zichy Codex, Fiore had earlier suggested that Francesco might have understood the relationship of the atrium and the *cavum aedium*, although he admitted that the evidence was ambiguous, and that Francesco increased the ambiguity in *Trattato II*; Fiore, “La traduzione da Vitruvio di Francesco di Giorgio,” 24–26, 29 n. 25. In one instance that Fiore cites to show that Francesco may have understood the correct relationship of the atrium and *cavum aedium*, the section on the houses of *privati e particolari cittadini* quoted above, Francesco used the word *piazze* in a sentence that appears to relate to the atrium: “Similarly they used atriums, that is, *ridotti* and *piazze* . . .” (cf. n. 85). Since there is no comma between *ridotti* and *piazze*, one might conclude that the atrium was a *ridotto* and a courtyard (*piazza*). In the corresponding section of the Zichy Codex (fol. 147v), however, the ambiguity is missing. Francesco does not use the word *piazza* and says only that the atrium leads to the courtyard. “E pertanto veremo a le partichularita d’alchuna forme desse [houses]: molti antichi uxorno in ella prima fronte el portticho overo logia e per lo mez[z]o le intrato in uno andito el quale da la rencontra al cortile era posto. Per propria intrata ancho usorno ridoti e peres[s]i al cortile si pervenie e dessi cortile si monta la scala a man sinistra e andava ale sopra aposte abitacioni intorno al chortille . . . [my punctuation].” In this section there is no confusion between the atrium and the courtyard.

While Fiore does refer to one drawing in *Trattato II* that illustrates a palace for a republic where Francesco wrote “socto atrio et sopra sala” on one side of the courtyard (*Trattati*, ed. Maltese, II, pl. 206), he himself notes that none of the houses depicted in *Trattato I* or *Trattato II* has a room labeled “atrio e cortile.” Likewise, Francesco never labels a space “atrio e piazza” although he does once use the label “Porticho he atrio” (see n. 79). By comparing the two plans on pl. 206, which roughly represent the upper floor and ground floor of the same building, it becomes clear that the “atrio” below the “sala” occupies only one arm of the courtyard and should not be understood as being identical to the courtyard. While some of Francesco’s atriums were open and some covered, none was depicted as a courtyard.

There is, however, one place in *Trattato I*, not mentioned by Fiore, where a correction in Francesco’s hand suggests some confusion among the words *atrium*, *cortile*, and *cavum aedium*. In the section on the proportions of the courtyard, Francesco begins, “Avendo detto in parte dell’edificazioni e varie forme de atri e casamenti, ora delle particolarità, proporzioni e misure d’esse abitazioni discriverò.” Francesco then describes the proportions for *cortili*. As Maltese noted (in *Trattati*, I, 86 n. 2), “atri” is a correction in Francesco’s hand. In the Laurenziana text, *cortile* appears in place of *atri*. Since Francesco had been describing the *cavum aedium*, his use of the word *atri* instead of *cortile* might imply a connection between the atrium and *cavum aedium* or, more likely, an uncertainty about the relationship of the three words.

104. The conceptualization of the *cavum aedium* as both a courtyard and a house can be found in two other sixteenth-century writers. In Fabio Calvo’s 1514 translation of Vitruvius, a marginal note commenting on the five Vitruvian *cava aedium* refers to the “displuviante house”; see n. 147. Cesare Cesariano also referred to the displuviante *cavum aedium* as a type of building; see n. 165.

After writing *Trattato I* but before beginning *Trattato II*, Francesco made an autograph translation of Vitruvius. It reveals a vastly improved understanding of the *cavum aedium*, which he now renders not as house but as the *chonchavita delle chase*, the hollow of houses.¹⁰⁵ How he visualized the *chonchavita* and where he placed it are not spelled out, since there are no illustrations to the translation; but the “hollow of houses” could easily be a courtyard. Since Francesco did not visualize the atrium as a courtyard, it is unlikely he considered the *cavum aedium* as a part of the atrium. It is possible, indeed likely, that he imagined the *chonchavita delle chase* as a part of the main courtyard of the house, that is, the peristyle. It will be seen below that Fra Giocondo and later Giovan Battista da Sangallo conceived of the *cavum aedium* as the center of the peristyle. Perhaps the idea of placing the *cavum aedium* in the peristyle dates back to the late quattrocento. One wonders, in fact, whether the amphitheater-like depressions in courtyards in late-quattrocento villa design, such as those found in Giuliano da Sangallo’s project for the king of Naples (Fig. 35) or in Giuliano da Maiano’s Poggio Reale, were meant to reflect the “concavity” of the *cavum aedium*.

Francesco’s translation of the word *compluvium* also changed in his later translation of Vitruvius: “*Compluviums* are *gronde*.”¹⁰⁶ *Gronde* can mean either the sloping roofs that project beyond the façades of palaces to protect pedestrians and buildings from the rain or the gutters that hang at the end of such roofs.¹⁰⁷ The *compluvium*, still a feature of the *cavum aedium*, could thus be imagined as an opening surrounded by projecting roofs with rain gutters. The association of the *compluvium* with the upper part of the *cavum aedium* where the rain collects again recalls Varro, who defined the *impluvium* as the basin on the floor into which the rain fell and the *compluvium* as the opening at the top where the rain collected.¹⁰⁸

In *Trattato II* Francesco reveals a new sense of purpose and clarity in his treatment of Vitruvius. In contrast to the first redaction, where he sprinkled his own words with translated fragments of Vitruvius, in the second version Francesco integrated Vitruvius’s recommendations fully into the structure of the treatise. Yet Francesco’s increased comprehension of the ancient author does not lead to slavish imitation. On the contrary, it is accompanied by a willingness to disagree openly with Vitruvius.

As in *Trattato I*, the section on the house is divided by social class. Instead of three, all five classes mentioned by Vitruvius

105. “E prima . . . delle chonchavita delle chase anno cinque spetie chosi denominate. Tuschanicho chorintio, tetrastilo, dispruviato e testudinato.” Scaglia, *Il “Vitruvio Magliabechiano,”* 164.

106. “E chonpruvi si e le gronde.” *Ibid.*, 165.

107. The gutter is more usually called a *grondaia*, but in *Trattato I* (in *Trattati*, ed. Maltese, I, 71), Francesco referred to “le gronde de’ tetti” suggesting that he used it to mean gutters.

108. See n. 57.

are represented: farmers, artisans, merchants, professionals (*studianti*), and nobles. The atrium is treated primarily in the discussion of the houses for nobles:

In the last part of [the section on] private houses one must consider the houses of nobles, that is, palaces, which must have many more parts than the other [types of houses], and first they must have an atrium, a courtyard . . . [and other private and public rooms].¹⁰⁹

Because Francesco mentions them first, the atrium and the courtyard assume an added prominence in this large, impressive, noble house. Missing, however, is the vestibule, so prominent in *Trattato I* and specifically mentioned by Vitruvius.¹¹⁰

The absence of the vestibule is one indication of Francesco's independent stance toward his ostensible authority. Indeed, Francesco, who sometimes substituted his own ideas for those of Vitruvius, criticized specific parts of *De architectura*.¹¹¹ His discussion of the atrium, too, reveals his new attitude toward Vitruvius:

The atrium, that is, the *ridutto* can be made in three ways [*modi*], and likewise the *sala* because they have the same proportions [*simmetria*]. In the first, one divides the length into five parts and three of these make up the width; in the second, one divides [the length] into three and two make up the width. . . . The third principal type is the centralized form [*forma rotonda*].¹¹²

109. "In l'ultima parte delle case private è da considerare delle case delle nobili overo palazzi, le quali dieno avere molte parti più che le altre, e prima dieno avere l'atrio, el cortile, stanze per forestieri libere a piano e separate, stanze dove si possono ridurre li cittadini, una sala come pubblica, ticini per la state e per lo verno, cucine, stalle ampie [e] canove, et ultimamente uno giardino secondo la [sua] condizione del cittadino o gentile omo." Francesco di Giorgio, *Trattato II*, in *Trattati*, ed. Maltese, II, 344. Francesco referred to the atrium under public palaces as well (*ibid.*, pl. 206).

110. In *Trattato II*, Francesco mentioned the vestibule and portico under farmhouses. "Prima adonque si facci uno vestibulo, levato in colonne, per lo quale si entri in più luoghi da lavorare e butighe e canove." *Ibid.*, 342. There is only one design in *Trattato II* for a house that has an entrance labeled "portico" (Fig. 36).

111. For instance, after repeating Vitruvius's recommendation that the proportions of atriums change according to size once they reach the length of 30 feet, Francesco takes issue with his authority saying: "El quale modo, salva l'autorità sua, a me non piace, si perché è imperfetto, dicendo di certa quantità e non di maggiore o minore, si ancora perché quando per dieci e quando per venti p[er] di di lunghezza, non varia la proporzione della larghezza, la quale proporzione così debba essere variata come la lunghezza perché variata la cagione si varia l'effetto." *Ibid.*, 345–346. Francesco is, in fact, criticizing Vitruvius on the basis of design principles that come in part from Vitruvius: that the proportions of rooms change according to their visual effect and the social importance of the patron; see Vitruvius, VI.v.1–3.

112. "L'atrio overo ridotto si può fare in tre modi, e così le sale perché hanno una medesima simmetria. El primo è ch'el se divida la sua lunghezza in parti 5, e 3 di quelle sia la larghezza; el secondo che se divida in parti 3, e due di quelle sia la larghezza. . . . El terzo modo principale sia in forma rotonda." Francesco di Giorgio, *Trattato II*, in *Trattati*, ed. Maltese, II, 345–346. As the illustrations indicate, the *forma rotonda* is not necessarily round; rather, it can have any centralized form, such as a circle, an octagon, or another form of centralized polygon. In *Trattato I* (*ibid.*, I, 82), Francesco gives only the three Vitruvian proportions for the atrium.

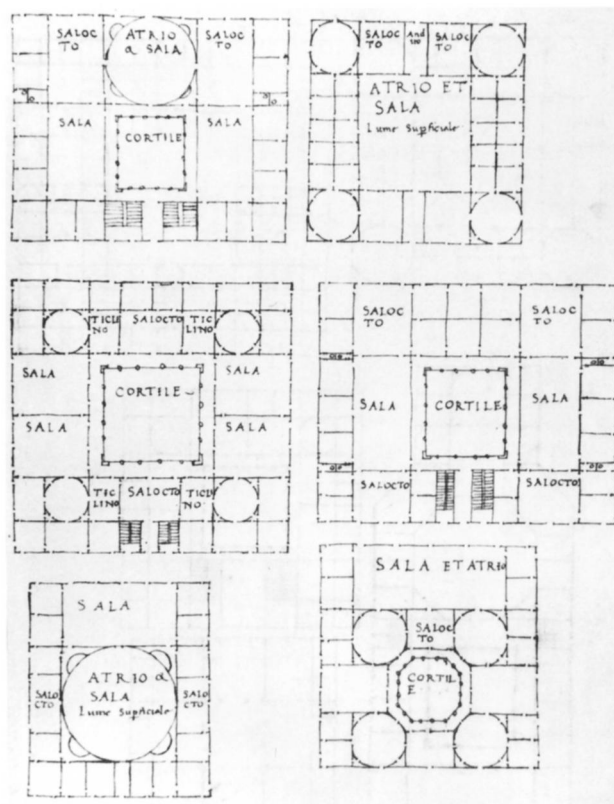


Fig. 19. Francesco di Giorgio, house plans for *signori* (Florence, Biblioteca Nazionale, Codex Magliabechiano II.I.141, fol. 21r).

The first two *modi* (3:5 and 2:3) are Vitruvian. The third type, however, the *forma rotonda*, is startlingly original. To my knowledge, round atriums were not mentioned by Vitruvius or any other ancient author, nor do they appear in earlier or later interpretations of *De architectura*. Pliny the Younger described a D-shaped courtyard in his Laurentine villa that, due to a mistranscription in the Renaissance, became an O-shaped courtyard.¹¹³ Francesco, however, did not view the atrium as a courtyard. In *Trattato I*, Francesco visualized rectangular or square atriums. In contrast, rooms labeled "atrio" in the houses of *Trattato II* are either round or polygonal, with only two exceptions: one, a square, still considered a centralized form; and the other, a rectangle similar to those of *Trattato I* (Figs. 19–22). None follows Vitruvius's recommendations for proportions. The illustrations not only support Francesco's conclusions in his text but also demonstrate a preference for his own "modo" over those of Vitruvius.

Yet the *forma rotonda* may not be so arbitrary as it initially seems. Similar perhaps to his use of square atriums in *Trattato I* (see our discussion of the "Hasa di Chatellina" above), it may be that Francesco's invention was based on his study of ancient

113. See, for example, the *editio princeps*, *Caii Plinii Secundi Nouicomenis Oratoris facundissimi epistolarum*, [Venice], 1471.

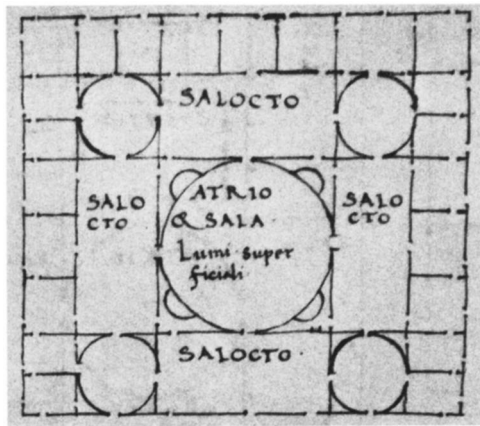


Fig. 20. Francesco di Giorgio, house plan for *signori* (Florence, Biblioteca Nazionale, Codex Magliabechiano II.I.141, fol. 20v, detail).

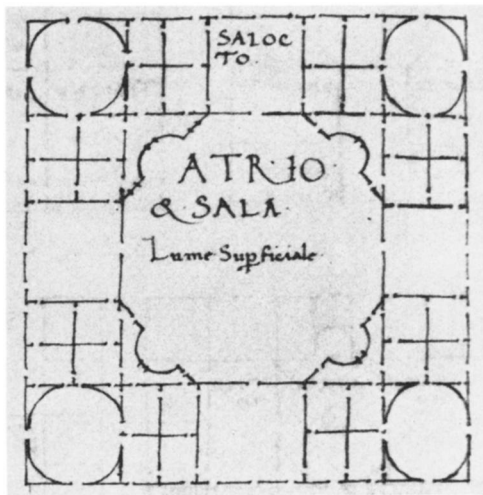


Fig. 21. Francesco di Giorgio, house plan for *signori* (Florence, Biblioteca Nazionale, Codex Magliabechiano II.I.141, fol. 20v, detail).

ruins rather than ancient texts. The *forma rotunda* exemplifies Francesco's method of comparing ideas found in written authorities with evidence from archaeological sites, as he described in the preamble of *Trattato II*:

To execute works without reason and authority certainly seems to me an imperfect thing and unsuited to calm the minds of intelligent men. And where the ancients have left us their teachings, it seems to me that one cannot follow a more valid authority than Vitruvius. And this task of mine seemed less difficult, especially having compared his words with those few relics of antique buildings and sculpture that remain in Italy, of which I believe I have seen and considered the greater part.¹¹⁴

114. "[E] certamente a me pareva cosa imperfetta et inetta a quietare le menti delli intelligenti seguire le opere senza ragione regolata et autentica autorità; e in quella parte che per li antichi a noi è rimasta insegnata non mi parse possere seguire più valida autorità che quella di Vitruvio]. E questa mia fatica tanto meno grave pareva, massime avendo io

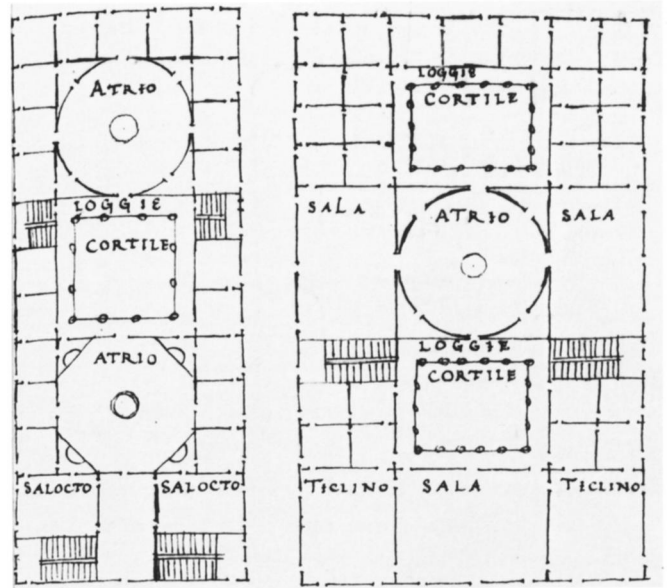


Fig. 22. Francesco di Giorgio, house plans for *signori* (Florence, Biblioteca Nazionale, Codex Magliabechiano II.I.141, fol. 20r, detail).

Among the drawings of ancient monuments appended to the Codex Saluzziano is a plan of a square building identified merely as "h edifitio in Tiboli" (Fig. 23).¹¹⁵ (The drawings on the recto of the sheet illustrated here come from Hadrian's villa.) The building, approached by a flight of steps, was entered through an oblong room or passage; at its center was a large circular room. In the triangular interstices between the square and the circle, Francesco drew semicircular niches. An inscription in the center of the circular room says "lumj superficialj In diametro pie 93," informing us that the room was lighted from above and was 93 feet in diameter. The plan bears a striking resemblance to several house plans in *Trattato II* where a round (or in one case octagonal) room with semicircular niches, located roughly in the center of the building, is labeled "Atrio et Sala. Lume Superficiale" (Figs. 19–21).¹¹⁶ While the rooms in the

concordato li ditti soi con quelle poche di reliquie delli antichi edifici e sculture che per Italia sono rimaste, delle quali io stimo avere visto e considerato la maggiore parte. . . ." Francesco di Giorgio, *Trattato II*, in *Trattati*, ed. Maltese, II, 295–296. Scaglia, *Il "Vitruvio Magliabechiano,"* 51–52, discusses this passage.

115. Francesco's drawing in the Uffizi, A335r, depicts a similar plan. C. H. Ericsson, "Roman Architecture Expressed in Sketches by Francesco di Giorgio Martini," *Commentationes Humanarum Litterarum*, 66, 1980, 151, suggests that the ancient monument was a bath or a tomb. Despite what it might have been in antiquity, I think Francesco thought it was a house. Renaissance architects sometimes "invented" villas from other types, especially ancient baths; see n. 117. The importance of bath architecture for the development of the Renaissance villa has not been adequately treated.

116. In one case (Fig. 20) the inscription reads "lumi superficiali." Betts, "The Architectural Theories," 81, first noted the similarity of the plan of the "h edifitio in Tiboli" to Francesco's house plans without, however, drawing the conclusions reached here.

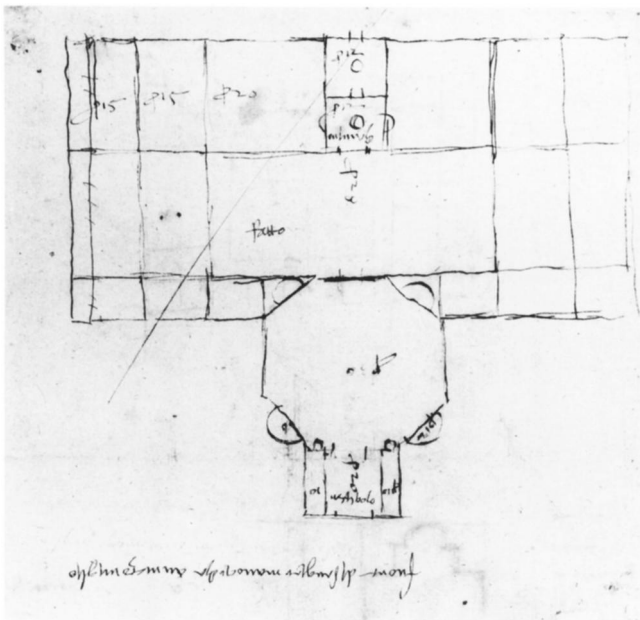


Fig. 25. Francesco di Giorgio, plan of Varro's villa (Uffizi, Gabinetto dei Disegni, A322).

method makes clear that the careful comparison of, as Francesco called it, the signified [ruins] with the signifier [text] began in the late quattrocento. In fact, immediately preceding the statement quoted above from the preamble of his treatise, Francesco stated that it was impossible to understand ancient authors, and especially Vitruvius, by recourse to language alone.

Because the [ancient] authors who wrote about architecture left their works unfinished; used words that for reasons mentioned above are totally obscure; and, moreover, provided examples of buildings that are long since in ruin, it has been necessary for many reasons to consider the works of the best ancient Roman and Greek sculptors and architects by matching the signified [ruins] with the signifier [text] to rediscover almost as if for the first time the meaning of the ancient authors, especially Vitruvius, heralded among the most authentic [authors], something that has not been achievable by Greek and Latin [alone], even when the best experts in one or the other language have been induced by me and my lord to tire themselves.¹²⁰

on his plan of the Campidoglio in the Codex Saluzziano (*Trattato I*, in *Trattati*, ed. Maltese, I, pl. 151), Francesco wrote, "fondo del palazzo del Chanpitolio in maggior parte ito immaginando che per le molte ruine pocho comprender se ne po." Cited in H. Burns, "Pirro Ligorio's Reconstruction of Ancient Rome: The *Anteiqvae Urbis Imago* of 1561," in *Pirro Ligorio: Artist and Antiquarian*, ed. R. W. Gaston (I Tatti Studies, 10), Florence, 1988, 46 n. 18.

120. "Peroché li autori che di architettura hanno scritto hanno lassato le opere incomplete. Dall'altra hanno usato vocabuli che per le cagioni ante ditte sono totalmente ignoti; et apresso di questo hanno addotti esempi di molti edifici li quali al presente già molti anni sono stati in ruina. Onde è stato necessario per molte circostanze e per considerare le opere delli antichi Romani e Greci *optimi* scultori et architettori, concordando el significato col segno, ritrovare quasi come di novo la forza

Fra Giocondo: The impluviate atrium and its noble three-aisled counterpart

Fra Giocondo, scholar, epigraphist, and architect, published the first illustrated edition of Vitruvius in 1511. The fruit of years of study, it was a landmark in the interpretation of the ancient author.¹²¹ Like Francesco di Giorgio, Fra Giocondo assiduously compared ruins and texts. In a letter to Julius II he said, "... and do not think that my effort was slight, since everyone knows that to understand Vitruvius, I laboriously compared the meanings of his words again and again with the remains of ruins and ancient buildings. . . ."¹²²

An inscription scrawled across a drawing of an Ionic capital from the Theater of Marcellus by Giovan Battista da Sangallo, brother of Antonio da Sangallo the Younger, indicates how problematic comparing texts and ruins could be. According to Giovan Battista, the form of the capital, which was quite acceptable to the architect of the theater, would have offended Vitruvius.¹²³ The discrepancy between what Vitruvius said and what Renaissance architects could see became so acute that Daniele Barbaro lashed out in his commentary on Vitruvius at the arrogance of those who slandered Vitruvius because the measurements they took from architectural ruins did not conform to his recommendations. Vitruvius, Barbaro insisted, never intended his comments as ironclad rules. They were, rather, guidelines that intelligent architects modified, as Vitruvius himself recommended, according to vision, site, and necessity.¹²⁴ The

del parlare di più antichi autori, massimamente di Vetrurio, *delli altri più autentici reputato*; la qual cosa per forza di grammatica greca e latina non è stato mai possibile venirne al fine, benché più peritissimi ingegni nell'una e nell'altra lingua in questo se sieno affatigati, da me e dal signore mio indutti." Francesco di Giorgio, *Trattato II*, in *Trattati*, ed. Maltese, II, 295. I would like to thank David Stone for his perceptive comments on the meaning of this passage.

121. Fra Giocondo, *M. Vitruvius per Iocundum solito castigatior factus, cum figuris et tabula ut iam legi et intelligi possit*, Venice, 1511. On Fra Giocondo's edition of Vitruvius, see L. A. Ciapponi, "Fra Giocondo da Verona and His Edition of Vitruvius," *Journal of the Warburg and Courtauld Institutes*, XLVII, 1984, 72-90, with earlier bibliography.

122. Quoted from L. A. Ciapponi, "Appunti per una biografia di Giovanni Giocondo da Verona," *Italia medievale et umanistica*, IV, 1961, 131-158. On Fra Giocondo, see also R. Brenzoni, *Fra Giovanni Giocondo Veronese*, Florence, 1960; and V. Fontana, *Fra' Giovanni Giocondo: Architetto 1433c.-1515*, Venice, 1988.

123. Giovan Battista wrote, "Sta male malissimo secondo vetrurio Ma sta bene secondo e savelli a punto come quelli del theatro di marcello." The drawing is found in Giovan Battista's personal copy of Sulpitius's *editio princeps* of *De architectura*, Biblioteca dei Lincei e Corsiniana (hereafter, Corsiniana), Inc. 50.F.1, fol. 40r. There are two other volumes in the Corsiniana which are translations of Vitruvius by Giovan Battista, Inc. 43.G.8. and 43.G.1. On these volumes, see Pagliara, "L'attività edilizia," 26-32, and idem, "Vitruvio da testo a canone," 46-55, who dates them to the end of the 1530s and suggests that the drawings were added around 1541.

124. "... di piu ancho si deprime l'arroganza di molti che misurano molte membra, et molte parti nelle ruine di Roma, et non trovando

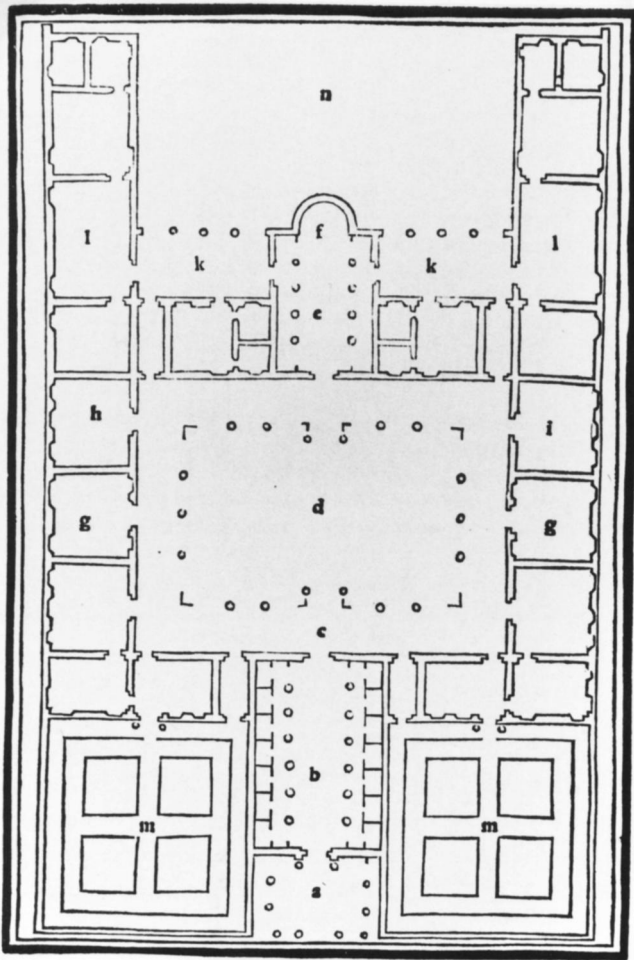


Fig. 26. Fra Giocondo, large Roman house (*Vitruius per Iocundum*, 1511, fol. 64v; Kunsthistorisches Institut von Florenz).

quelle rispondere alle misure di Vitruvio subito le biasimano dicendo, che Vitruvio non la intendeva: la dove imitando nelle fabbriche le cose, che hanno misurato fuori de i luoghi loro, come ferma regola sempre allo istesso modo si governano, et non hanno consideratione a quello, che Vitruvio ha detto di sopra, et molto piu chiaramente dice nel presente luogo, cioe, che non sempre si deve servare le istesse regole, et simmetrie, perche la natura del luogo richiede spesso altra ragione di misure, et la necessit  ci astringe a dare, o levare di quelle, che proposte havevamo. Per  in quel caso dice Vitruvio, che si vede molto la sottigliezza, et giudicio dello Architetto, il quale togliendo, o dando di pi  alle misure, lo fa in modo, che l'occhio ha la parte sua, et regge la necessit  con bella et sottile ragione. [He went on to say it was equally ridiculous to criticize the architects of major monuments that lack Vitruvian proportions.] Et se non troviamo la cornice de Theatro di Marcello alquanto diversa dalle regole di Vitruvio et il restante esser benissimo inteso, non dovemmo biasmare quel grande Architetto, che fece il detto Theatro. Imperoche chi havesse veduto tutto l'opera insieme forse havrebbe fatto miglior giudicio, et per  ben dice Vitruvio che se bene la maggior cura, che ha l'Architetto, sia d'intorno le misure et proportioni, per  grande acquisto fa di valore, quando egli   forzato partirsi dalle proposte simmetrie, et niente leva alla bellezza dello aspetto, n  puo essere incolpato, perche con la ragione habbia medicato il male della necessit ." Barbaro, *Vitruvius*, 282 (for complete citation, see n. 189).

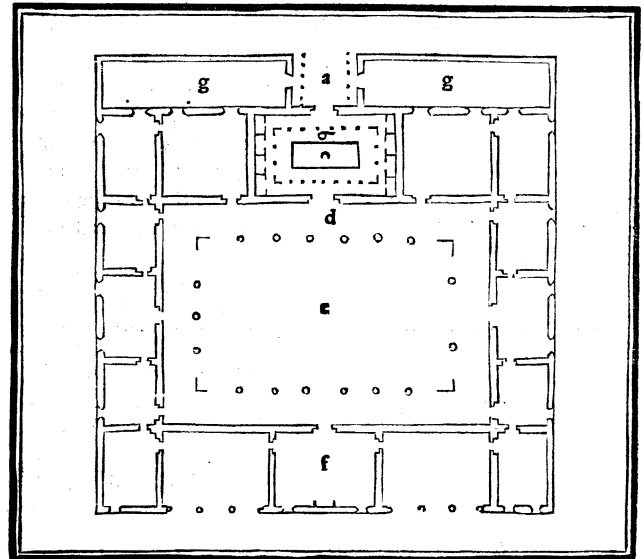


Fig. 27. Fra Giocondo, smaller Roman house (*Vitruius per Iocundum*, 1511, fol. 63r; Kunsthistorisches Institut von Florenz).

main problem, not clear in the Renaissance, underlying the discrepancy between Vitruvius's recommendations and the measurements taken from extant ruins was that most of the famous ancient structures still standing in the Renaissance were built after Vitruvius's death. Furthermore, Vitruvius was a conservative, many of whose neo-Greek recommendations were nostalgic recollections even as he wrote.

Fra Giocondo illustrated two plans of the ancient Roman house in book VI of his edition of Vitruvius. Figure 26 depicts his "nobilium amplissime domus," while Figure 27 represents a more modest ancient abode. In his more magnificent Roman house, Fra Giocondo imagined a broad colonnaded vestibule (a) as the transitional space between exterior and interior. Following it is a long, narrow atrium (b), divided into three aisles by columns, with a series of small cells along its sides. The atrium led into the peristyle (c) with the *cavum aedium* (d) at its center. Across the peristyle, on axis with the atrium, was a basilica (e) terminating in a *locus tribunalis* (f). The sequence of spaces in the smaller Roman house is similar: vestibule (a), atrium (b), peristyle (d) with *cavum aedium* (e), and terminating room (f) (in this case a dining room). The smaller house is more compact, however—squarish rather than rectangular—and the forms of the vestibule and atrium are quite different from those of their more noble counterparts. As a reminder that the similarities that Biondo saw between the atrium and the vestibule did not disappear in the sixteenth century, the vestibule of the small house resembles the atrium of the noble one. The atrium of the smaller house, on the other hand, is surrounded by columns with corner piers and has an opening (c) in its roof. It appears less as an impressive passageway and more as a small gathering space at

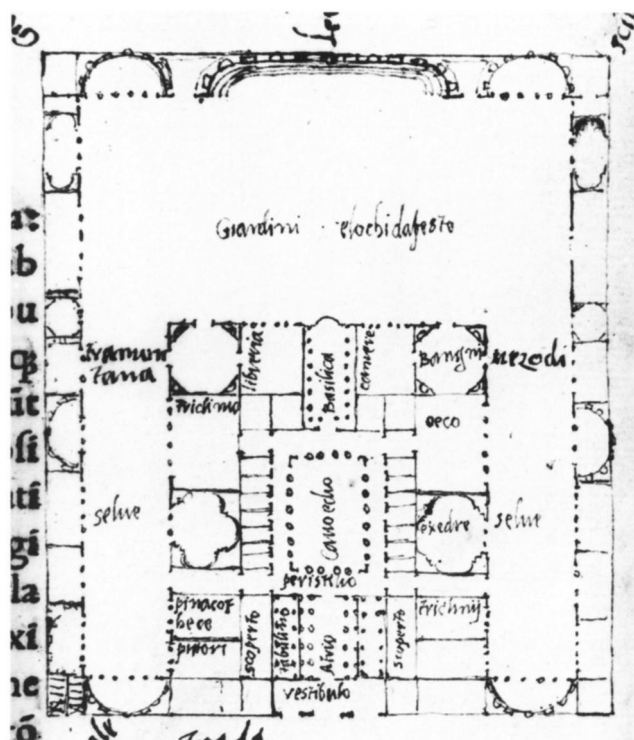


Fig. 28. Giovan Battista da Sangallo, plan of the ancient Roman house (Rome, Biblioteca dei Lincei e Corsiniana, Corsiniana 50.F.1, folios not numbered).

the front of the house. In this sense, it is not unlike Alberti's or Francesco di Giorgio's conceptions of the room. In contrast to both quattrocento architects, however, Fra Giocondo never imagined the atrium as the core of the ancient house—the ample, central, space of Alberti's *sinus* or, in some examples, Francesco di Giorgio's *atrio e sala*. The primary space of Fra Giocondo's ancient house was the peristyle.

As Pagliara first noted, Fra Giocondo placed the *cavum aedium* unequivocally in the center of the peristyle. Pagliara suggested the almost-certain influence of Grapaldus in such a choice.¹²⁵ It is possible that Francesco di Giorgio may have been instrumental as well, since he seems to have imagined the *cavum aedium* as a courtyard that was not connected to the atrium.¹²⁶ Inspired by Fra Giocondo, other theorists, like Giovan Battista da Sangallo, followed suit, placing the *cavum aedium* in the peristyle (Fig. 28).¹²⁷ That Vitruvius's description of the five types of *cava aedium* offered both of them a wealth of information for imagining the peristyle can be seen in their reconstructions of the elevations of the *cava aedium*. Figures 29 and 30 depict Fra

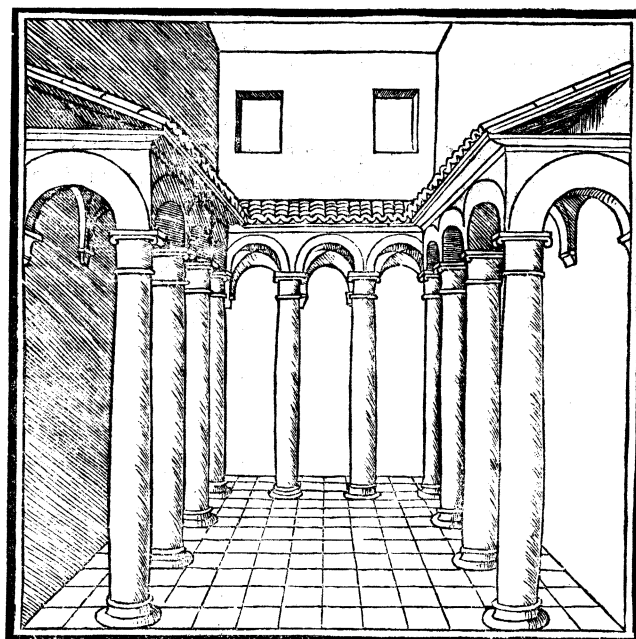


Fig. 29. Fra Giocondo, testudinate *cavum aedium* (Vitruvius per Iocundum, 1511, fol. 62r; Kunsthistorisches Institut von Florenz).

Giocondo's vision of the testudinate and tetrastyle *cava aedium*. Giovan Battista sketched five elaborate versions of the *cava aedium* in the margins of his personal copy of the *editio princeps* of Vitruvius (Fig. 31).¹²⁸ Placing the *cavum aedium* in the peristyle, however, meant that there was little left of Vitruvius's text that seemed to apply specifically to the atrium.

The atrium of Fra Giocondo's smaller Roman house, in contrast to that of his noble abode, looks remarkably like the atrium of the Pompeian house—with an aperture in its roof and a colonnade. While the image of a Corinthian *cavum aedium* might suggest itself, it must be remembered that for Fra Giocondo the *cavum aedium* was found in the peristyle, not in the atrium. Instead, the decision to place an aperture in the roof of this atrium derives most likely from Vitruvius's comments concerning the *compluvium*. It has been noted above that Vitruvius mentioned the *compluvium* twice in chapter iii of book VI, in his description of the five types of *cava aedium* and again when discussing the size of the *compluvium* in relation to the atrium.¹²⁹ While Vitruvius used the word *compluvium* each time, Fra Giocondo used *compluvium* in the section on the *cavum aedium* but *impluvium* in the reference relating to the atrium.¹³⁰ In the key explaining the letters on his plan of the smaller Roman house,

125. Pagliara, "L'attività edilizia," 24–26.

126. On Francesco di Giorgio's relationship to Fra Giocondo, see n. 145.

127. Biermann, "Das Palastmodell Giuliano da Sangallo," 154–196, first recognized the similarities between Fra Giocondo's large Roman house and Giovan Battista's and discussed Giovan Battista's reconstruction in some depth. On Giovan Battista see also n. 123.

128. On this volume, see n. 123.

129. Vitruvius, VI.iii.1, 6.

130. "Impluvii lumen latum latitudinis atrii, ne minus quarta, ne plus tertia parte relinquatur, longitudo vti atrii pro rata parte fiat." Fra Giocondo, *Vitruvius*, fol. 63. Vitruvius said, "Conpluvii lumen latum latitudinis atrii. . . ." Vitruvius, VI.iii.6. Festus had described an opening in the roof of the atrium through which rain fell, but he used neither *compluvium* nor *impluvium*; see n. 43. (Festus did define both words

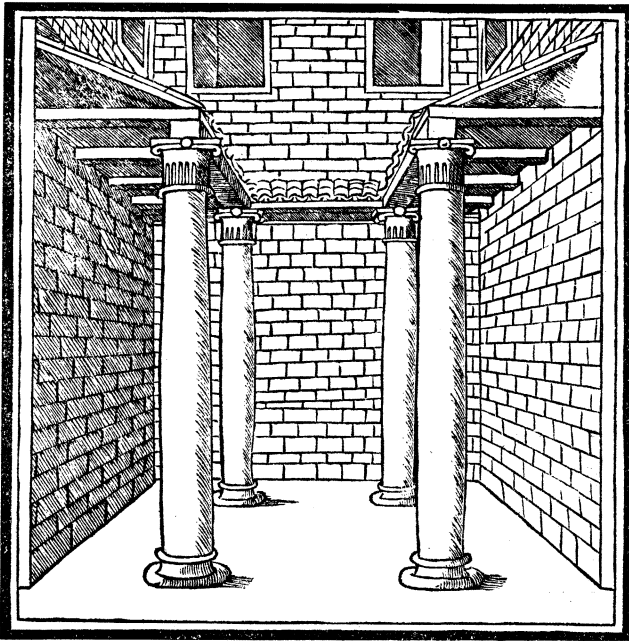


Fig. 30. Fra Giocondo, tetrastyle *cavum aedium* (Vitruvius per Iocundum, 1511, fol. 61r; Kunsthistorisches Institut von Florenz).

Fra Giocondo described the opening in the atrium as the “*impluvium* from which the atrium gets its light” (*impluvium ex quo lumen atrio datur*).¹³¹ As Varro had specified, the two words were related by the common root, *pluvia*—one being the opening in the roof (*compluvium*) and the other the basin into which the water fell (*impluvium*). Yet in Fra Giocondo’s text the *compluvium* appears as the aperture in the *cavum aedium* and the *impluvium* as that in the atrium. Fra Giocondo’s separation of *compluvium* from *impluvium* may have permitted him to imagine a court-like atrium without, however, displacing the *cavum aedium* from his peristyle.¹³² Francesco di Giorgio’s influence may be operative here as well, for he too visualized some atriums with apertures in their roofs, although these were quite distinct from the courtyard of the *domus*.

Fra Giocondo’s visualization of the atrium of the small Roman house must not have been his preferred solution, since he imagined that of his large, noble house in an entirely different way:

elsewhere in the *De significatu*.) The earlier editions of Vitruvius—Sulpitius’s *editio princeps* of 1486(?) (without pagination); that published in 1496 in Venice (fol. 31v); and that of 1497 printed by Simone Bevilacqua (without pagination)—all use *compluvium* in both passages. (On these editions, see L. Marcucci, “Regesto cronologico e critico,” in *2,000 anni di Vitruvio* [full citation in n. 6], 29–32.) Fra Giocondo’s substitution of *impluvium* for *compluvium* probably derives from his use of a wider variety of manuscripts than his predecessors. See Ciapponi, “Fra Giocondo,” 75.

131. Fra Giocondo, *Vitruvius*, fol. 63r.

132. It is not without interest that Giovan Battista da Sangallo, who was so heavily influenced by Fra Giocondo’s vision of the Roman house, seems not to have followed Fra Giocondo’s distinction between *compluvium* and *impluvium* in the two Vitruvian passages mentioned above.

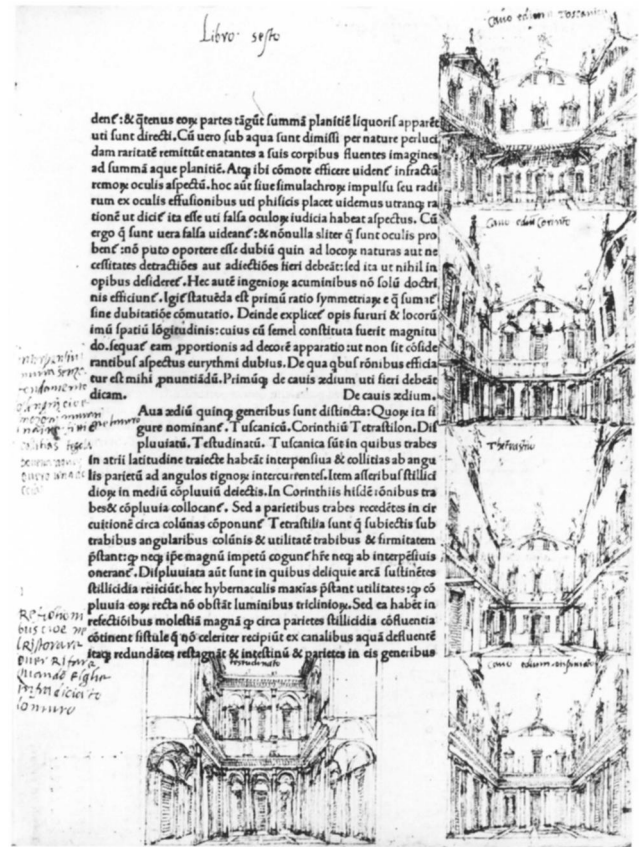


Fig. 31. Giovan Battista da Sangallo, the five Vitruvian *cava aedium* (Rome, Biblioteca dei Lincei e Corsiniana, Corsiniana 50.F.1, folios not numbered).

a three-aisled, basilical form. The three-aisled atrium was quite popular in reconstructions of the Vitruvian *domus* in the first half of the sixteenth century. Giovan Battista da Sangallo reconstructed the atrium of his ancient Roman house in a similar fashion (Fig. 28). In 1958 Hamberg first elucidated the genesis of the three-aisled form by suggesting that it stemmed from a mistranslation of Vitruvius. The ancient author described rooms called *alae* on either side of the atrium (Fig. 1); but in medieval Latin, *alae* are side aisles.¹³³ Hamberg did not note that Giovan

He translated Vitruvius’s sentence in VI.iii.6 as “*Ellume dello scoperto del cortile: sie largho della larghezza de l’atro.*” (*Cortile* was Giovan Battista’s translation for *cavum aedium*, as can be seen from his translation of Vitruvius’s sentence in VI.iii.1: “*E cortili delle case son distinti in cinque generationj. . .*”) *Scoperto* was his translation for *compluvium*. “*E toscani* [i.e., the Tuscan *cavum aedium*] *son quelli . . .* [in which the rain falls] *imezo allo scoperto [compluvium] . . .*” (Vitruvius, VI.iii.1). Thus, his translation of VI.iii.6 could be rendered as, “The opening of the *compluvium* of the *cavum aedium* should be as large as the width of the atrium.” For Giovan Battista, the opening mentioned by Vitruvius was a *compluvium*, which, even though its size was related to that of the atrium, was firmly located in the *cavum aedium*. All excerpts from Giovan Battista come from Corsiniana, Inc. 43.G.8, fol. 95v.

133. G. Hamberg, “G. B. da Sangallo detto il Gobbo e Vitruvio con particolare riferimento all’atrio di Palazzo Farnese a Roma e all’antico Castello Reale di Stoccolma,” *Palladio*, 2d ser., VIII, 1958, 17.

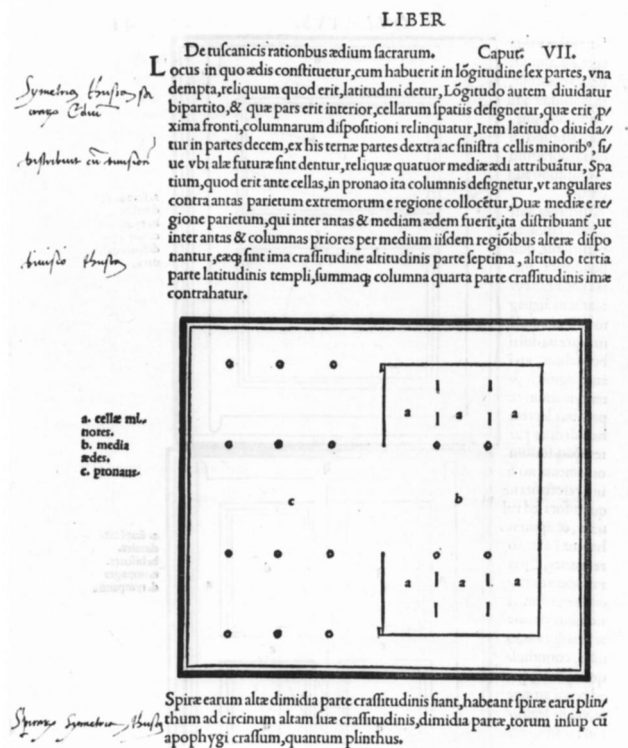


Fig. 32. Fra Giocondo, Etruscan temple plan (*Vitruvius per Iocundum*, 1511, fol. 41v; Biblioteca Apostolica Vaticana).

Battista made the connection explicit in the marginal notes of his partial translation of Vitruvius: “*alie* [are] small passageways on either side like the aisles of the church.”¹³⁴

The word *alae* is also responsible for the small cell-like rooms

134. Corsiniana, Inc. 43.G.8, fol. 97v: “*alie anditi minori cheson di qua e di la come le nave piccole delle chiese.*” On fol. 98r, Giovan Battista again says, “*alie sono le nave piccole delle chiese.*”

As with so many other Vitruvian terms, the meaning of *alae* was neither self-evident nor universally agreed upon. Cesare Cesariano would translate it side parts rather than side aisles. (See below in the section on Cesariano.) Earlier, Francesco di Giorgio had struggled with this word. In book VI Vitruvius had said: “*Alis dextra ac sinistra latitudinis (spatium), cum sit atrii longitudo ab XXX pedibus ad pedes XL, ex tertia parte eius constituatur.*” Vitruvius, VI.iii.4. In *Trattato I*, confusing *alis* with *aliis* (which comes from *alius*, not *alae*), Francesco di Giorgio translated the word as other things: “*E l’altre cose nella man destra e man sinistra. . .*” Francesco di Giorgio, *Trattato I*, in *Trattati*, ed. Maltese, I, 82. In another sentence of the same section, Vitruvius used *alarum*, which Francesco translated *alari* or interior walls: “*alari overo parete di mura.*” (According to his editors, for Francesco *alari* were the walls flanking the wing of a portico; *Trattati*, ed. Maltese, I, 82 n. 8. A more common meaning for *alari* in the Renaissance was andiron or firedog.) In his subsequent translation of Vitruvius in the Magliabechiana, Francesco settled on *ale* as the Italian for *alae*, but he continued to regard them as interior walls—apparently the side walls of the atrium itself. (He translated Vitruvius’s first reference as “*alle alle che sono da lato destro e sinistro le ale id est le parete delle mura. . .*” and his second reference as “*. . . de l’atrio divisa in cinque parti sara giusta larghezza delle ale id est delle parete dachanto.*” Scaglia, *Il “Vitruvio Magliabechiano,”* 165.)

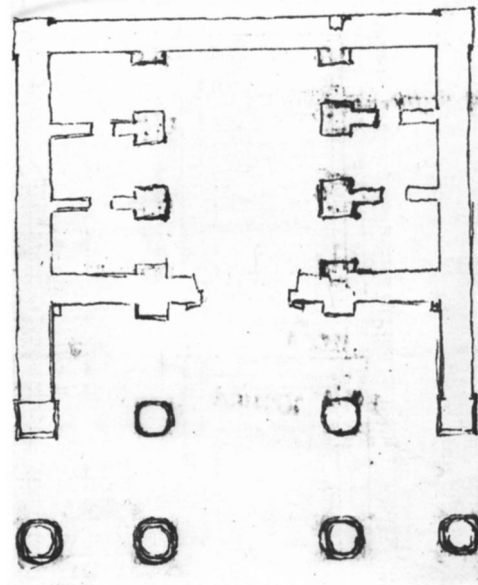


Fig. 33. Giovan Battista da Sangallo, Etruscan temple plan (Rome, Biblioteca dei Lincei e Corsiniana, Corsiniana 50.F.1, folios not numbered).

within the atriums of both of Fra Giocondo’s Roman houses. They derive from Vitruvius’s discussion of the Etruscan temple, where he mentioned *alae* in conjunction with small *cellae* that flanked the left and right sides of the temple the way the *alae* of the house were found on the left and right of the atrium. Vitruvius said, “Next let the width [of the temple] be divided into ten parts. Of these, let three on the right and three on the left be given to the smaller *cellae* [*cellis minoribus*], or to the *alae* if there are to be *alae*, and the other four devoted to the middle of the temple.”¹³⁵ Alberti imagined these smaller *cellae* as small rooms flanking either side of the main room of the temple.¹³⁶ In Figure 32, Fra Giocondo depicted the Etruscan temple with a broad porch (c) in front of a cella of a broad nave (b) flanked by small *cellae* (a), their dividing walls perforated by passageways. Calvo, writing in 1514, just three years after Fra Giocondo, made the connection between *alae* and smaller *cellae* explicit in his translation of Vitruvius’s passage on the Etruscan temple: “Next the width is divided into ten parts and of these ten parts give three on the right and three on the left to the small *celle*, or *ale*, if one wants to make them. . .”¹³⁷ Giovan Battista made

135. “Item latitudo dividatur in partes x. Ex his ternae partes dextra ac sinistra cellis minoribus, sive ibi alae futurae sunt, dentur; reliquae quatuor mediae aedi attribuantur.” Vitruvius, IV.7.2.

136. R. Krautheimer, “Alberti’s *Templum Etruscum*,” *Münchener Jahrbuch für Kunstgeschichte*, XII, 1961, 65–72 (republished in idem, *Studies in Early Christian, Medieval, and Renaissance Art*, 333–344).

137. “Di poi la larghezza se divida in diece parti e di queste diece parti tre a destra e tre a sinistra se dia alle minor celle, overo ale, se le vorremo fare, e l’altre quatro parti se attribuischino al mezzo della ede.” Calvo, *Vitruvius*, 189 (for complete citation, see below, n. 146). Fontana

their connection to the *alae* of the house clearer by imagining them as a series of small rooms connected by doors—as if they doubled as *alae* and small *cellae* (Fig. 33). Thus, Fra Giocondo imagined the *alae* of the atrium of the Roman house flanked by the small *cellae* of the Etruscan temple.

Although the three-aisled atrium of Fra Giocondo's *nobilium amplissime domus* looked quite different from anything found in antiquity or imagined by Alberti or Francesco di Giorgio, it was clearly the atrium of status—and one that stimulated Fra Giocondo's contemporaries, as has been widely noted, to build several vaulted, three-aisled entrances to luxurious sixteenth-century palaces.¹³⁸ Most famous among these was Antonio da Sangallo the Younger's three-aisled entrance to the Palazzo Farnese in Rome, designed in 1516, not long after the publication of Fra Giocondo's edition of Vitruvius (Fig. 34).¹³⁹

It has also been noted, but not emphatically enough, that the roots of the three-aisled atrium go back to the late quattrocento and Giuliano da Sangallo. As Biermann convincingly demonstrated, Giuliano's design of 1488 for the king of Naples is both a palace for a Renaissance prince and a reconstruction of the

has suggested that Fra Giocondo was part of an *équipe* of scholars working on this translation; see n. 146.

138. One can find three-aisled entrances in the Palazzo Farnese in Rome, the Palazzo del Tè in Mantua, and the Palazzo Pitti in Florence. V. Scamozzi, *L'idea della architettura universale*, Venice, 1615, 236, referred to the entrances of the Pitti palace in Florence and the Farnese palace in Rome when talking about the Corinthian atrium: "Si puo dire per certa simiglianza, che l'entrata del Palazzo di Pitti de Serenissimi Duchi di Fiorenza, e quella della Illustrissima Casa Farnese in Roma tenghino non sò che dell'Atrio Corinto." On the three-aisled atrium of the Palazzo del Tè, see F. Hartt, *Giulio Romano*, 2 vols., New Haven, 1958, I, 96; and A. Belluzzi and W. Capezzali, *Il palazzo dei lucidi inganni: Palazzo Te a Mantova*, Mantua, 1976, 50–55. On the entrance to the Palazzo Pitti, which was constructed only in 1825, see P. Waddy, "Palazzo Barberini: Early Proposals," Ph.D. diss., New York University, 1973, 96 n. 42.

139. According to Frommel, *Der römische Palastbau*, II, 131–135, the entrance to Palazzo Farnese was designed as early as 1516. On the Farnese palace and Vitruvius, see Hamberg, "G. B. da Sangallo," 17–19; and Pagliara, "Vitruvio da testo a canone," 48–52. Variants of the three-aisled solution can be found in other projects by Antonio. In a drawing for the Pucci palace in Orvieto (Uffizi, A969), Antonio eliminated the side aisles of the atrium (Fig. 4). His project for a royal palace (Uffizi, A999) envisioned a three-aisled atrium preceded by an extravagant five-aisled vestibule. Rather idiosyncratic interpretations of the major rooms of the house described by Vitruvius can be found in Antonio's design for a palace for Messer Agnolo in Castro (Uffizi, A747) and in a plan for his own house on Via Giulia in Rome (Uffizi, A1224). For a discussion of the effect of the *domus* on Antonio's domestic architecture, see Pagliara, "L'attività edilizia," 38–47; and Frommel, *Der römische Palastbau*, I, 54–55. On Antonio's drawings in general, see Giovannoni, *Antonio da Sangallo il Giovane*.

Antonio da Sangallo was not the only architect to use Vitruvian labels on contemporary plans. Peruzzi, for example, used Vitruvian vocabulary in several drawings for a monastery (Uffizi, A577), a hospital (Uffizi, A566), and several house plans (Uffizi, A524 and A598). For illustrations of Peruzzi's drawings, see H. Wurm, *Baldassarre Peruzzi Architekturzeichnungen*, Tübingen, 1984. See also n. 198 for a project by Ligorio.

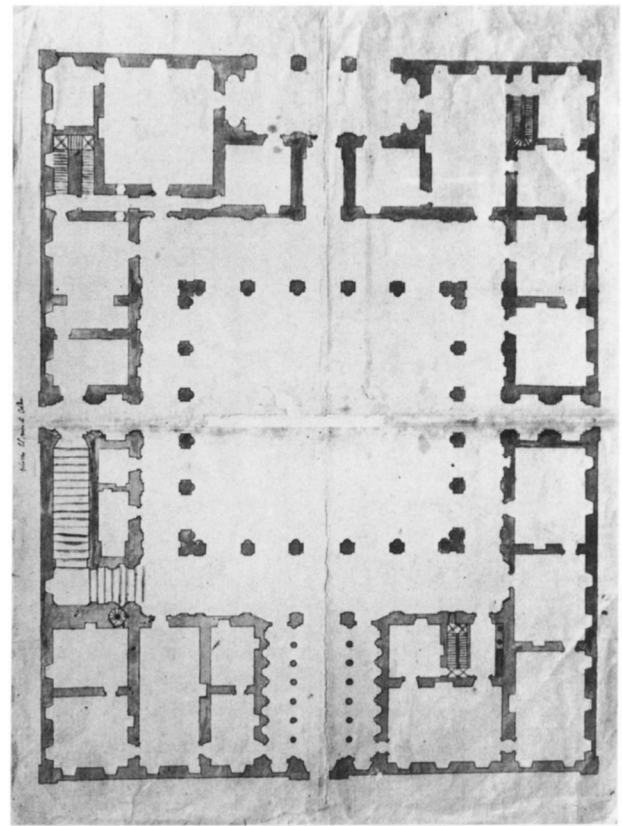


Fig. 34. Antonio da Sangallo the Younger, plan of Palazzo Farnese (Uffizi, Gabinetto dei Disegni, A298r).

ancient Roman house (Fig. 35).¹⁴⁰ Its three-aisled entrance hall is an interpretation of the atrium of the Roman house in which Giuliano departed from his earlier visualizations in the Scala palace and Poggio a Caiano—both of which appear to have been stimulated by Alberti. Not only did Giuliano imagine a different type of atrium for his Neapolitan project; but he also placed the peristyle, not the atrium, in the center of the house. The amphitheater-like depression of the peristyle may well be the *cavum aedium*—that is, as Francesco di Giorgio called it, the "chonchavita delle chase." While the atrium of the Neapolitan palace, at first glance, appears non-Albertian, it should be noted that Alberti may have envisioned a basilical atrium, although evidence for it is quite indirect. In *De re aedificatoria*, V.3, Alberti says, "Then before the innermost rooms should be an atrium or basilica (*atrium basilicamve*), where clients can await the chance to discuss business with their patrons, and where the prince may sit on the tribunal and give judgement."¹⁴¹

Giuliano's plan for the king of Naples (Fig. 35) bears a remarkable resemblance to Fra Giocondo's noble Roman house

140. Biermann, "Das Palastmodell Giuliano da Sangallos," 154–195. Fontana, *Fra Giocondo*, 25, has recently suggested that Giuliano's plan was designed as a *palazzo tribunale*.

141. Alberti, *De re*, V.3 (Rykwert, 121; Orlandi, I, 345).

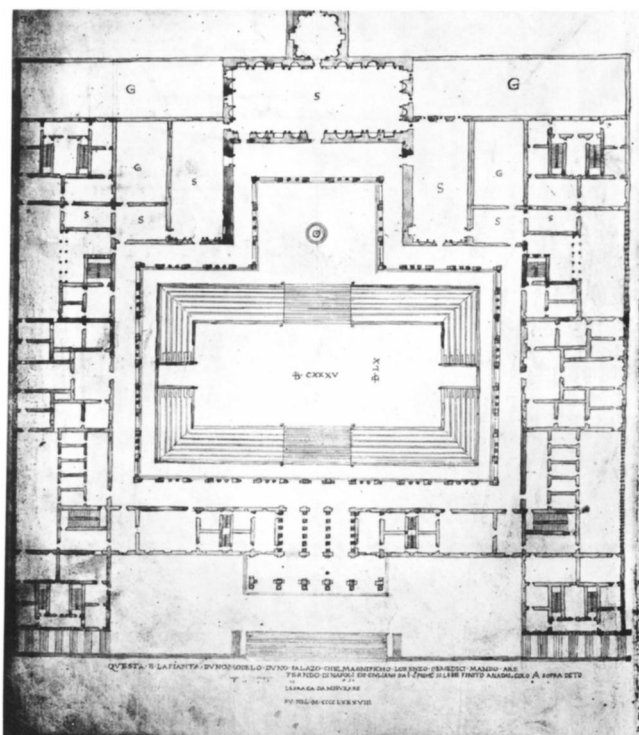


Fig. 35. Giuliano da Sangallo, plan for the palace of the king of Naples, 1488 (Codex Barberini, Barb. Lat. 4424, fol. 39v; Gab. Fotografico Soprintendenza Beni Artistici e Storici di Firenze).

(Fig. 26).¹⁴² In both, a porticoed vestibule precedes a three-aisled atrium followed by a peristyle set on cross axis and terminating in a prominent architectural feature, a *sala* and chapel in Giuliano's plan and a basilica with a *locus tribunalis* in Fra Giocondo's. It may be that the laurels for inventing the three-aisled atrium rest not with Fra Giocondo, who merely was the first to publish it, but with Giuliano da Sangallo, or perhaps, through him, with Alberti. Fra Giocondo and Giuliano must have met in Naples, where Giuliano went in 1488 to present his palace design to King Ferrante. We do not know, however, whether they had met earlier.¹⁴³ In any case, Giuliano drew his "Roman house" with its three-aisled atrium twenty-two years before Fra Gio-

142. Giuliano's vision of the Roman house and its three-aisled atrium also was important for his nephew, Giovan Battista (Fig. 28). For Giuliano's influence on Giovan Battista's vision of the ancient Roman house, see Biermann, "Das Palastmodell Giuliano da Sangallos," 162–163. The most complete of Giuliano's drawings for the palace for the king of Naples is found in the Codex Barberini lat. 4424, which passed into the hands of Giuliano's son Francesco and was used by Antonio the Younger and Giovan Battista da Sangallo. On the history of the Codex Barberini, see *Il libro di Giuliano da Sangallo: Codice Vaticano Barberiniano Latino 4424*, ed. C. Huelsen, Leipzig, 1910, V–LIX.

143. Biermann, "Das Palastmodell Giuliano da Sangallos," 25, believes that Giuliano's plan influenced Fra Giocondo's interpretation of the Roman house. The relationship between Giuliano and Fra Giocondo is not clear, largely because nothing is known about Fra Giocondo's early life until his arrival in Rome in the 1480s.

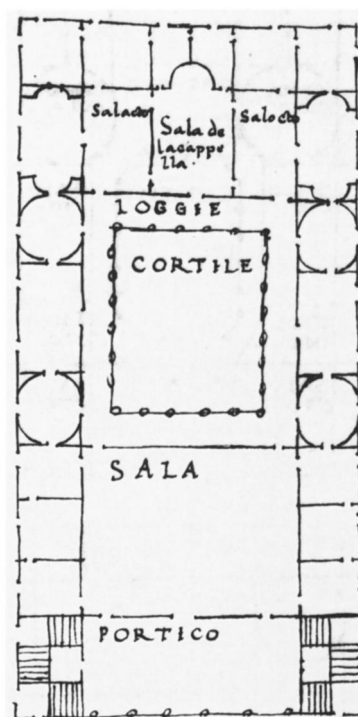


Fig. 36. Francesco di Giorgio, house plan for signori (Florence, Biblioteca Nazionale, Codex Magliabechiano II.I.141, f. 20r, detail).

condo published his *nobilium amplissime domus*. In the end, the innovation of the three-aisled atrium, so popular in sixteenth-century palaces and reconstructions, probably derives from Giuliano rather than Fra Giocondo.

Late-quattrocento interpretations may have influenced other parts of Fra Giocondo's *domus*. On folio 20 of the Codex Magliabechiano, Francesco di Giorgio drew a plan (Fig. 36) for a house that is quite similar to Fra Giocondo's large Roman house (Fig. 26), not in the details, but in the spatial progression of the whole plan. Francesco did not use Vitruvian terminology for his plan, but *portico*, *sala*, and *cortile* are familiar as his translations for vestibule, atrium, and peristyle. While it is immediately apparent that the interpretations of individual rooms, especially the atrium, are quite different from Fra Giocondo's noble house, the overall organization of the two houses is strikingly close. Both are long and narrow—extending in depth rather than width.¹⁴⁴ Especially telling is the sequence of spaces: vestibule, atrium, peristyle, and chapel aligned along the central axis of

144. Giovan Battista's Roman house, too, has elements in common with Francesco's. Primary among them is the axis of the peristyle, which is not turned as Vitruvius had specified and as Fra Giocondo and Giuliano had depicted it. Also similar is the use of circles and multishaped rooms deriving from the study of the Roman baths. This is especially clear in Giovan Battista's plan (Fig. 28), where the perimeter wall resembles that of the Baths of Diocletian (Fig. 9). See also Biermann, "Das Palastmodell Giuliano da Sangallos," 164, who compared the plan to that of the Baths of Caracalla.

the house. Francesco and Fra Giocondo certainly met in Naples in 1492. In fact, Fra Giocondo was paid for making drawings for a copy of Francesco di Giorgio's treatise.¹⁴⁵ Even if the direction of the influence cannot be exactly determined, it is clear that many of the conclusions published by Fra Giocondo in the early sixteenth century were based on ideas that had their origin in the late quattrocento.

Calvo and Raphael: The atrium as aula

Between 1514 and 1515, Fabio Calvo made a translation of Vitruvius for Raphael.¹⁴⁶ Many of Calvo's ideas concerning the atrium and *cavum aedium* derive from Fra Giocondo. Like Fra Giocondo, he viewed the five types of Vitruvian *cava aedium* as courtyards: "The *cave delle ede*, that is the courtyards and spaces in the middle, are distributed and distinguished into five types. . . ."¹⁴⁷ In an interpolation to his translation of Vitruvius's description of the Tuscan *cavum aedium*, he equates the *compluvium* with a cloister—reiterating the close ties between the Roman house and the monastery.¹⁴⁸ Like Fra Giocondo, on whose

edition Calvo based his translation, Calvo substituted *impluvium* for *compluvium* in Vitruvius's discussion of the size of the *compluvium* in relation to that of the atrium.¹⁴⁹ In a marginal note he specified that the *impluvium* was the opening in the center of the atrium.¹⁵⁰ Thus, the *cavum aedium* had a cloister-like *compluvium* at its center, while the atrium had an aperture called the *impluvium*. Calvo's view of these parts of the ancient house is, to all intents and purposes, identical to Fra Giocondo's.

Like Fra Giocondo, who imagined not only an impluviate atrium but a covered atrium as well, Calvo visualized two forms for his atrium. A glossary to his translation says: "The atrium is in the first entrance of the house between the vestibule and the peristyle called by some the *aula*."¹⁵¹ The placement of the atrium between the vestibule and peristyle at the entrance to the house is nothing new. The comment that some people called the atrium an *aula*, however, needs some clarification. *Aula*, like atrium, had many meanings. It was used to refer to an inner court of a house, a large room or hall, or even a regal or noble palace.¹⁵² Cesare Cesariano, whose translation is roughly contemporary with Calvo's, defined the *aula* as a regal abode, essentially repeating the definition of Isidore of Seville.¹⁵³ Perotti, however, whose late-quattrocento *Cornucopiae* was republished by Aldus Manutius in 1513, just one year before Calvo began his translation, said that *aula* was the Greek word for atrium.¹⁵⁴ Vitruvius did indeed mention an *aula* and a *mesaula* in his description of the Greek house. He said, "Between the two peristyles and the guests' apartments are the passage-ways called *mesauloe*, because they are situated midway between two *aulas*; but our people called them *andronas*."¹⁵⁵ In the glossary to Calvo's translation, the word *mesaula* was defined as a vaulted pas-

145. See A. S. Weller, *Francesco di Giorgio, 1439–1501*, Chicago, 1943, 382, doc. CIV. It has been suggested that the manuscript for which Fra Giocondo made the drawings may have been a copy of the redaction in Magliabechiano II.I.141; Betts, "On the Chronology," 12; idem, review of Maltese, 63; and Fontana, *Fra Giocondo*, 21. Since the date of Francesco's Magliabechiano II.I.141 is uncertain, however, it is also possible that influence went in the other direction, from Fra Giocondo to Francesco.

146. The translation is preserved in two manuscripts in the Bayerische Staatsbibliothek in Munich, Cod. It. 37 and Cod. It. 37a—both in an early sixteenth-century hand that, however, is not Calvo's. In a paper presented at the American Academy in Rome in the summer of 1990, Ingrid Rowland proposed that the handwriting belonged to Angelo Colocci, a noted fifteenth-century humanist who spent most of his career in Rome. The translation (hereafter, Calvo, *Vitruvius*) was published in *Vitruvio e Raffaello: Il 'De architectura' di Vitruvio nella traduzione inedita di Fabio Calvo Ravennate*, ed. V. Fontana and P. Morachiello, Rome, 1975. Raphael annotated the translation in Cod. It. 37a, mostly concerning the orders. For a discussion of the manuscripts, see Morachiello's essays in *Vitruvio e Raffaello*, 9–24. For a discussion of Calvo, his sources, and his relationship to Raphael, see Fontana, in *Vitruvio e Raffaello*, 25–61, who proposed that a whole group of scholars, including Fra Giocondo and Fulvio, worked on the translation.

147. "Le cave delle ede, ovvero cortili e spazii di mezzo, sono distribuite e distinti in cinque spezie. . . ." Calvo, *Vitruvius*, in *Vitruvio e Raffaello*, 246. Calvo does not make explicit how the courtyard-like *cavum aedium* related to the peristyle. In a glossary to the translation that defines several Vitruvian terms, one finds the three principal parts of the house listed as *vestibulo*, *cavaedio*, and *peristyllo*: "Vestibulo è la prima intrata di casa nante l'atrio. Cavaedio è la secondo immediate doppo il vestibulo. Peristyllo è doppo il cavedio e questi tre membri si usavano in edifici pubblici ovvero di grandi homini anchora che private." *Vitruvio e Raffaello*, 529.

148. "Le toscaniche son quelle in le quali li travi per la larghezza dell'atrio traggati e posti hanno la intempersiva e sporgimento e le colizie e piane dalli angoli delli muri perfino alli angoli delli tigni e travi intercorrenti. Anchora li astere delle gronde siano pendenti verso el mezzo del compluvio over chiostro." Calvo, *Vitruvius*, in *Vitruvio e Raffaello*, 247.

149. "E'l lume dello impluvio sia largo non men de la larghezza dell'atrio, né più d'un terzo; la longhezza si faccia per rata parte dell'atrio." Ibid., 250.

150. The marginal note identifies the *impluvium* as the "scoperto in mezzo de l'atrio." Ibid., 250.

151. "Atrio è nella prima intrata di casa tra il vestibulo e'l peristyllo d'alcuni ditta aula." *Vitruvio e Raffaello*, 528. The glossary is written in the same hand as that of the translation.

152. See, for example, the *Oxford Latin Dictionary*, Oxford, 1968, s.v.; or the *Mediae Latinitatis Lexicon Minus*, ed. J. F. Niermeyer, Leiden, 1976, s.v. *Vitruvius*, in his discussion of the theater (V.vi.8), referred to a royal palace (*aula regia*).

153. See n. 183.

154. "Atrium Graeci vocant ἀνλήν propter quod poetae quoque nostri aliquando aulam pro atrio usurpant." Perotti, *Cornucopiae*, 102.45–48. He continued by referring to the princely *aula*, which was different from the Greek *aula*. "Item aulae principum domus, hoc est regiae dicuntur." At 144.4–5, Perotti reiterated that the atrium could be called *aula*. "Mox atrium est, quod à quibusdam et aula dicitur, de quo supra diximus. . . ." The importance of the early sixteenth-century republication of Perotti's *Cornucopiae* has not been noted in the scholarly literature.

155. "Inter duo autem peristylia et hospitalia itinera sunt, quae mesauloe dicuntur, quod inter duas aulas media sunt interposita; nostri autem eas andronas appellant." Vitruvius, VI.vii.5.

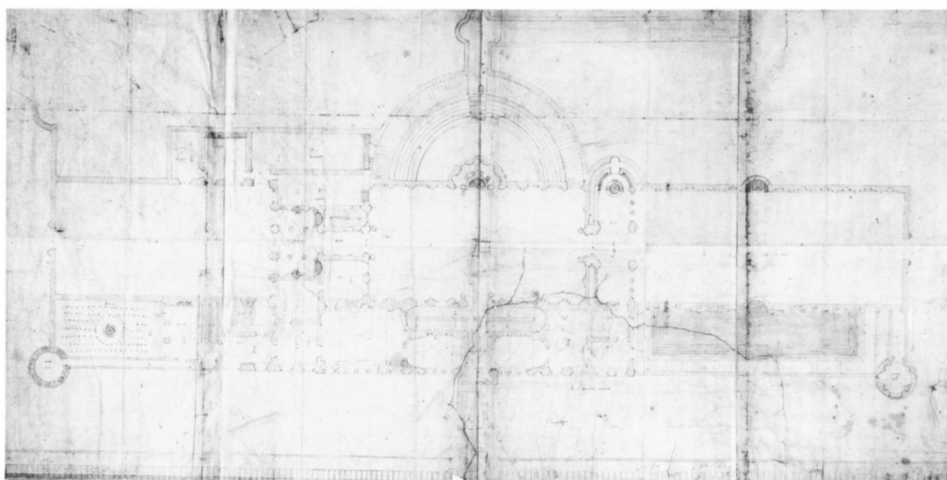


Fig. 37. Giovanfrancesco da Sangallo, plan of the Villa Madama, 1518 (Uffizi, Gabinetto dei Disegni, A273r).

sageway: “*Mesaule* called in Latin, *androni*, and in Italian, *anditi*.”¹⁵⁶ *Androne* or *andito* are both words used for the vaulted entrances common in Renaissance palaces.

Raphael, in fact, envisioned an atrium in the form of a *mesaula* in the project for Villa Madama. In the oft-quoted letter in which he described his project in Plinian and Vitruvian terms, he referred to both a vestibule with six round Ionic columns and an atrium “made in the Greek manner” like that the Tuscans call “*andrione*.”¹⁵⁷ The plan of the Villa Madama drafted by Giovanfrancesco da Sangallo is close enough to Raphael’s description to provide visual evidence for some of Raphael’s ideas (Fig. 37). A three-aisled entrance structure, labeled “*vestibolo*,” precedes a narrow passageway, labeled “*atrio*.” The atrium is an “*andrione*” connecting vestibule and courtyard—in other words, a *mesaula*. In calling the *mesaula* of the Villa Madama a Greek atrium, Raphael was openly disagreeing with Vitruvius, who had specifically stated that the Greeks did not build atriums.¹⁵⁸ Yet, for his Renaissance readers, Vitruvius’s comment seemed patently untrue. They found it impossible to believe that the aristocratic Greek house lacked an atrium and found abundant evidence in Vitruvius’s text itself to support their point of view.¹⁵⁹

Thus, Calvo viewed the atrium in two ways: one was a Roman atrium—a court with an *impluvium*, perhaps even with a col-

onnade; the other may have been a Greek atrium—a long, vaulted hall connecting two spaces.

Cesariano: The “peristyled” atrium

It is with Cesare Cesariano’s translation of Vitruvius in 1521—the first published Italian translation—that we come round, full circle, to the clear visualization of the atrium as a courtyard—ample, open, and spacious—as Alberti had conceived it nearly seventy years earlier.¹⁶⁰ Cesariano called it a “peristyled atrium.” Figure 38 depicts Cesariano’s ancient Roman house.¹⁶¹ An entrance (*Z, janua*) and a narrow passageway (*θ, thyroron*) at the

160. Di Lucio Vitruvio Pollione de Architectura Libri Decem traducti de latino in Vulgare affigurati: Commentati: et con mirando ordine Insigniti . . . , Como, 1521 (hereafter, Cesariano, *Vitruvius*). The works of C. H. Krinsky, “Cesare Cesariano and the Como Vitruvius Edition of 1521,” Ph.D. diss., New York University, 1965, 305–317, esp. 314; Pagliara, “L’attività edilizia,” 26; and F. P. Fiore, “Le architetture vitruviane nelle illustrazioni del Cesariano,” in *De architectura translatò commentatò et affiguratò da Cesare Cesariano, 1521*, ed. A. Bruschi et al., Milan, 1981, XLV–XLVI, should be mentioned in regard to Cesariano’s discussion of the ancient house. The three authors, whose works were important to mine, treat aspects of Cesariano’s ancient house without, however, focusing exclusively on the atrium. In addition, Fiore, XCIII–XCVII, provides an excellent glossary of important terms. On Cesariano’s edition in the context of the quattrocento, see Tafuri, “Cesare Cesariano,” 389–433 (see n. 118 for full citation).

161. Following in the footsteps of Fra Giocondo, Cesariano illustrated his edition. Based on the selection and sequence of illustrations in Cesariano, Fiore has concluded that Fra Giocondo’s edition of 1511 provided the basis for Cesariano’s woodcuts. F. P. Fiore, “La traduzione vitruviana di Cesare Cesariano,” in *Roma, centro ideale della cultura dell’Antico nei secoli XV e XVI: Da Martino V al Sacco di Roma, 1417–1527*, Milan, 1989, 458–466. In the context of Cesariano’s woodcuts, it should be noted that thirty-seven unpublished illustrations for books IX and X of Cesariano’s translation have been found in Spain together with a variant translation of and commentary on those books. See A. Bustamante and F. Marías, “El Escorial y la cultura arquitectonica de suo tiempo,” in *El Escorial en la Biblioteca Nacional: IV centenario del Monasterio de El Escorial*, Madrid, 1986, 187–190.

156. “*Mesaule ditto da’ Latini androni e da’ vulgari anditi*.” *Vitruvio e Raffaello*, 528.

157. For the text of Raphael’s letter, see P. Foster, “Raphael on the Villa Madama: The Text of a Lost Letter,” *Römisches Jahrbuch für Kunstgeschichte*, XI, 1967–1968, 309–311. For a discussion of the Villa Madama and its relationship to Pliny’s letter, see C. L. Frommel, “Villa Madama,” in *Raffaello architetto*, ed. C. L. Frommel, S. Ray, and M. Tafuri, Milan, 1984, esp. 324–325.

158. Vitruvius, VI.vii.1.

159. See, for example, Cesariano’s comments in n. 162.

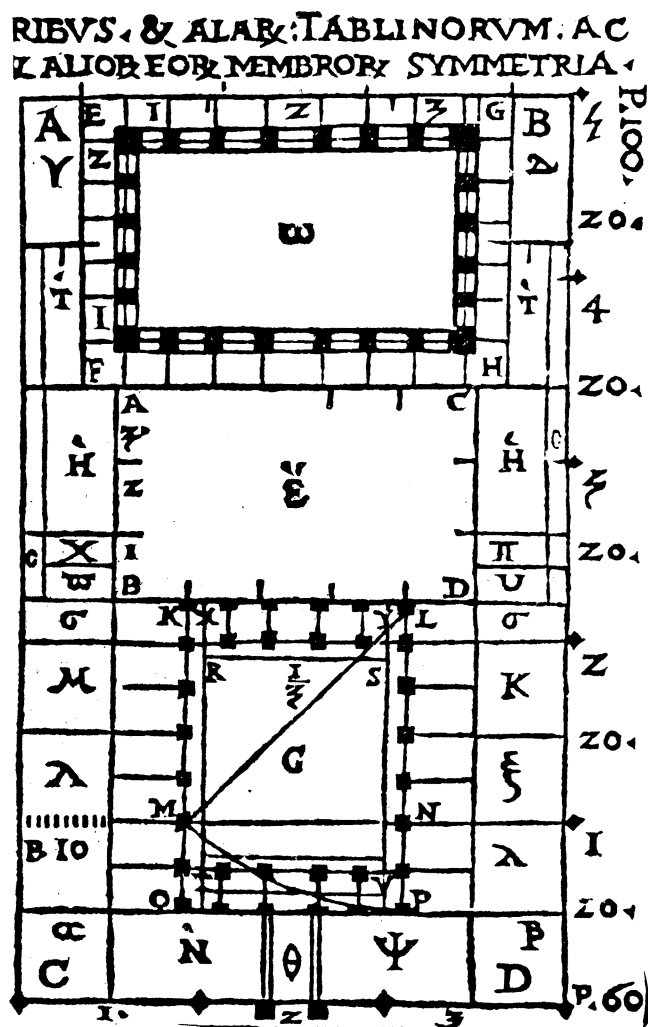


Fig. 38. Cesare Cesariano, plan of the ancient Roman house (Di Lucio Vitruvio Pollione *de Architectura*, 1521, fol. 98r; Kunsthistorisches Institut von Florenz).

front of the house were followed by a large courtyard (K.L.O.P.), at whose center was a magnificent Corinthian *cavum aedium* opened to the sky through an enormous *impluvium* (G).¹⁶² Cesar-

162. The entrance structures (*janua* and *thyronon*) preceding the atrium of Cesariano's Roman house come from Vitruvius's description of the Greek house. Vitruvius opened his chapter on the Greek house with the statement that the Greeks did not use atriums: "Atrii Graeci quia non utuntur, neque aedificant, sed ab ianua introeuntibus itinera faciunt latitudinibus non spatiosis, et ex una parte equilia, ex altera ostiarii cellas, statimque ianuae interiores finiuntur. Hic autem locus inter duas ianuas graece . . . [thyronon] appellatur." Vitruvius, VI.vii.1. So outrageous did this seem to Cesariano that he called the idea "absurdissima" (Cesariano, *Vitruvius*, fol. 101v). Cesariano countered Vitruvius's statement by noting that elsewhere Vitruvius had defined the atrium as an essential part of an upperclass house—one of the rooms that distinguished noble houses from their plebeian counterparts. How, he queried, could the extensive, obviously noble houses of the Greeks not have atriums? Cesariano resolved the dilemma by suggesting that what Vitruvius meant to say was that the Greek atrium looked unlike any of the Latin atriums described in the chapter on the *cavum aedium*. His conclusion permitted him to mingle Greek and Roman forms in a single

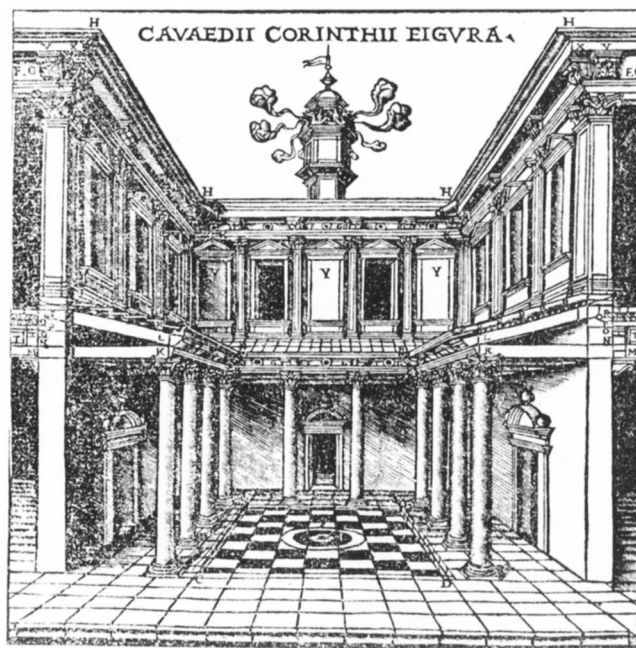


Fig. 39. Cesare Cesariano, Corinthian *cavum aedium* (Di Lucio Vitruvio Pollione *de Architectura*, 1521, fol. 96v; Kunsthistorisches Institut von Florenz).

iano's illustration of the Corinthian *cavum aedium*, looking very much like a Renaissance courtyard, supplied a vision of his "peristylato atrio" (Fig. 39). Following the atrium was a large, rectangular room (ξ *tablinum*) that led in turn into the peristyle (ω), at whose core was a garden. For Cesariano there were two open, light-filled spaces within the house, the atrium and the peristyle, connected by an impressive *tablinum*.

Fiore has suggested that Cesariano's visualization of the atrium as a courtyard was inspired by his reading, albeit unacknowledged, of Alberti.¹⁶³ Essential to Cesariano's conclusion that the atrium was a courtyard was his understanding that the words *atrium* and *cavum aedium* described the same space, as Alberti had first proposed in *De re aedificatoria*. In reaching this understanding, Cesariano stood in direct contrast to every theorist between himself and Alberti—particularly Fra Giocondo, who had rejected Alberti's notion that the *cavum aedium* was synonymous with the atrium.

Unlike his predecessors, Cesariano had not spent extensive periods in Rome. In fact, it is not clear that he ever went to

house. The passage also reveals how essential the atrium was to Cesariano, since it was impossible for him to conceive of a noble ancient house without one.

As noted above, Raphael, too, found it hard to believe that the Greeks did not use atriums. Scamozzi, *L'idea della architettura*, 236, decided that the Corinthian *cavum aedium*, which he visualized as a three-aisled passageway, had to be Greek because of its name.

163. F. P. Fiore, "Cultura settentrionale e influenze albertiane nelle architetture vitruviane di Cesare Cesariano," *Arte lombarda*, n.s., I, 1983, 43–52.

Rome.¹⁶⁴ As is evident from several passages in his commentary, Cesariano visualized Vitruvius's ancient house through the filter of contemporary architecture.¹⁶⁵ Lacking a knowledge of Roman archaeology, he relied instead on local building types to understand the *domus*. His use of Lombard forms, however, served him well: it has been suggested that the form of the ancient *domus* survived in postantique houses in the Po valley, especially in cities like Como.¹⁶⁶ Ironically, Cesariano's lack of extensive experience of Rome and his anachronistic reliance on contemporary architecture resulted in a more acute and sensitive and, in general terms, a more correct reading of Vitruvius's discussion of the Roman house.¹⁶⁷

Cesariano also avoided the pitfall that resulted in the vastly popular three-aisled atrium by translating *alae* as "side parts" rather than "side aisles"—thus disassociating the form of the atrium from that of the medieval basilica. He imagined the "side parts" as two broader porticoes on either side of the peristyled atrium.¹⁶⁸ The words *impluvium* and *compluvium* also interested

164. On Cesariano and Rome, see C. H. Krinsky, "Cesariano and the Renaissance without Rome," *Arte lombarda*, XVI, 1971, 211–218, who noted that, in spite of Vasari's statement in his *Life of Jacopo Sansovino* that Cesariano had been a guest of Domenico della Rovere in Rome, most of Cesariano's knowledge of Rome came from texts. While Cesariano mentioned some ancient Roman palaces, he was essentially unburdened by the weight of conflicting and confusing archaeological evidence being discovered in Rome (Pagliara, "L'attività edilizia," 26). Fiore, "La traduzione vitruviana," 458 n. 3, however, suggests that Vasari's comment should be examined more carefully.

165. See, for example, his commentary on the displuviate *cavum aedium*, fol. 97r: "queste generatione di aedificii sono facti como e li casamenti de li ianuensi, et como sono li stylicidii de la Senatoria chorte, et como e de la arcella di porta Tonsa in Milano. . . ."

166. On Cesariano's reliance on postantique architecture in Lombardy and the survival of antique traditions in Como, see Pagliara, "L'attività edilizia," 26; and idem, "Vitruvio da testo a canone," 37–38. Pagliara cites the work of G. F. Caniggia, *Lettura di una città: Como*, Rome, 1963, 53.

167. Pagliara, "L'attività edilizia," 26, called it "ineccepibile" in its general lines.

168. "Ale: di sopra e asai e dimostrato essere parte collaterale: Si como dice Virgilio in Aeneide: Remugio aliorum etc." Cesariano, *Vitruvius*, fol. 98v. The reference is to Vergil, *Aeneid*, I.301, where "alarum" refers to feathered wings. While Cesariano did not rely on the medieval basilica to help him understand the atrium, he did exploit Vitruvius's comments on ancient temples to understand the ancient house. On folio 98r, where Cesariano explained his plan of the ancient house, he said: "Anchora per che sapi trovare le ale dil atrio principale: cioe dal chortile si distinguono da .K. ad .O. aut da .L. ad .P. in cinque parte: & de una de quelle: da la dextra & sinistra parte: si fa la latitudine de li portici piu ampli: quali Vitruvio li chiama Ale: como sariano etiam de Hypetra sub divo: Vel de uno Templo concluso in tal modo: & lacunariato etc." Typical of Cesariano's commentary, the Latin indicates a quotation from an ancient author—in this instance, Vitruvius. The "Hypetra sub divo" is a temple called "hypaethros" by Vitruvius, the salient feature of which was that it was open to the sky in the center: "Medium autem sub divo est sine tecto." Vitruvius, III.ii.8. The lack of the roof must have suggested the comparison to the atrium. The "& lacunariato etc." comes from Vitruvius's discussion of the doors of temples and seems to have little or no relevance to the atrium. Vitruvius, IV.vi.1. Cesariano mentioned an *ala* in the "monoptere" temple of which

Cesariano. While he used several Latin editions of Vitruvius, in book VI, chapter iii, Cesariano followed Fra Giocondo's incorrect use of *impluvium* for the section relating to the atrium and *compluvium* for the *cavum aedium*.¹⁶⁹ Yet, since he did not separate the *cavum aedium* from the atrium, this had little practical effect. In his plan of the Roman house, Cesariano labeled the central opening of the Corinthian *cavum aedium* an *impluvio*, designated with the letter G (Fig. 38). In his elevation of the Corinthian *cavum aedium*, he described the *compluvium* at the level of the pavement, delineated by the letters A, B, C, and D (Fig. 39). In his discussion on the meaning of these terms, Cesariano paraphrased or quoted several well-known ancient sources, revealing a knowledge of both Grapaldus and Perotti.¹⁷⁰

he says, "Queste [i.e., round buildings] sono appellate monoptere: cioe che sono de una sola ala como etiam la sacrestia del Divo Satyro quale e sine cella ma columnata aticurgamente [sic] quale." Cesariano, *Vitruvius*, fol. 70v. He referred the reader to his illustration of the displuviate *cavum aedium* where he depicted the "monoptere" temple.

169. The earlier editions used *compluvium* in both passages. It is not surprising that Cesariano relied on Fra Giocondo's edition, which had inspired so many of his illustrations. On the Latin editions used by Cesariano, see C. H. Krinsky, *Vitruvius, De Architectura: Nachdruck der kommentierten ersten italienischen Ausgabe von Cesare Cesariano*, Munich, 1969, 11. While she has suggested that Cesariano relied most heavily on the edition printed by Simone Bevilacqua of Pavia in 1497 (a modification of the edition of 1496 printed in Florence by an unknown printer), she also noted that he knew and used the edition of 1496 and exploited manuscripts as well. Bruschi and Fiore insist that Cesariano must have compared several printed and manuscript editions of Vitruvius, rejecting or accepting words and interpretations according to his own criteria. They put less emphasis on the edition of 1497. A. Bruschi, "Introduzione," in *De architectura da Cesare Cesariano*, XI; and Fiore, "La traduzione vitruviana," 458–459.

170. Cesariano defined the words *compluvium* and *impluvium* on folio 97r in his commentary on the displuviate *cavum aedium*. In three sentences he reveals having read Grapaldus, Perotti, Festus, and Varro.

His opening sentence described the *impluvium* as the place in the ancient house where, because there was no roof, rain could fall into the house. "Impluvium locus sine tecto in aedibus: quo impluere imber in domus possit." The second half of this sentence is practically a direct quotation from Grapaldus: "Impluvium quoque qua impluere imber in domum potest." Grapaldus, *De partibus*, 8r.

His second sentence is an unacknowledged paraphrase of Festus. Here Cesariano mentioned both the *impluvium* and the *compluvium*—both of which were associated with the rainwater's collecting from the roofs and falling into the *cavum aedium*. "Ma anchora cosi esser dicto impluvium si expone: Impluvium dicitur quia aqua in aream impluvit colecta de tecto. Compluvium quo de diversis tectis aqua pluvialis compluvit in eundem locum." Cesariano stressed that *impluvium* was related to rain falling into (*impluvit*) the center, while *compluvium* was related to rain coming together (*compluvit*). Festus had said, "Impluvium, quo aqua impluit collecta de tecto. Compluvium quo de diversis tectis aqua pluvialis confluit in eundem locum." Festus, *De verborum significatu*, 96.10.

Cesariano's last quotation, "Impluvit quoque pro cavas aedium superiore parte accipit: Terentius quandoque accipitur per alueo recipiente pluviam aquam sed utrumque pervenit a pluvia," refers to Marcus Terentius Varro, whom Cesariano calls Terentius. Varro had specified that the *impluvium* was the basin in the floor and the *compluvium* the opening in the roof (see above, n. 57). Cesariano's paraphrase of Varro is distorted to the point that the original meaning of the text is unclear. Grapaldus, *De partibus*, 8, quoted Varro more accurately: "M. Var. si

Cesariano's discussions of the *alae* and the *impluvium* are found in his extensive commentary to the text of *De architectura*, in which he accomplished what Fra Giocondo had set out to do but then rejected as too difficult.¹⁷¹ The commentary returns us to the quattrocento and the grammarians with whom we opened our discussion, for the very act of writing it forced Cesariano to adopt their methods. Like Perotti and Grapaldus, he collected and collated texts, scattering his work with quotations of ancient authors. He exhibited a grammarian's passion for comprehensiveness that led him sometimes to obscure the very word he was seeking to elucidate. In his commentary, Cesariano tried to accomplish two apparently contradictory goals: to create a synthetic vision of the ancient house that would be useful for architects trying to emulate it, and to explicate every word of Vitruvius's thorny terminology in a scholarly manner.¹⁷²

His observations on the atrium illustrate both his synthetic approach and his mania for comprehensiveness. The first definition of the atrium comes in his commentary on the *cavum aedium* (which Cesariano, like Calvo, translated as "le cavi de le aede"). The atrium, he said, was "the principal introductory living room on the ground floor."¹⁷³ This, in essence, was how Cesariano viewed the function of the atrium. The description conforms to the location of the atrium illustrated in his plan of the ancient house, to which he referred any reader in need of clarification.

But to understand the less synthetic aspect of Cesariano's method, one must examine his other references to the atrium. On folio 98r we find a more extensive discussion:

But this word atrium: since in this author [Vitruvius] in this lesson and in this most learned chapter describing the palaces of the Greeks,¹⁷⁴ one can understand it [i.e., the atrium] not only to mean the whole

relictum erat in medio ut lucem caperent deorsum quo impluebat impluvium sursum qua compluebat compluvium: utrumque a pluvia. . . ."

Cesariano's excerpts of ancient authors in this passage reveal that he not only consulted Grapaldus but probably also turned to Perotti. The idea that Cesariano may have consulted Perotti's *Cornucopiae* has never been noted by scholars. Yet the Aldine republication of Perotti's work in 1513 contained one of the earliest editions of Festus; see n. 43. Since Grapaldus did not quote Festus, Cesariano had to have learned about him elsewhere. The Aldine publication seems the most likely source.

171. Ciapponi, "Fra Giocondo," 76, quotes Fra Giocondo's preface to his glossary, in which he said that he started to explain the etymologies and meanings of Vitruvius's words but gave up because of the difficulty of the task.

172. Krinsky placed Cesariano's commentary in the tradition of medieval encyclopedists, with which it has much in common (Krinsky, "Cesare Cesariano and the Como Vitruvius," 60); but it is more accurate to view him within the context of the particular brand of Renaissance humanism practiced by such grammarians as Grapaldus and Perotti and discussed by Grafton; see n. 24.

173. "Atrio: cioe de la principale habitatione introductiva terrena." Cesariano, *Vitruvius*, fol. 96r.

174. Cesariano was mistaken that the chapter described the Greek house. It was, rather, Vitruvius's chapter on the proportions of the atrium. Cesariano did return to the atrium in his commentary on the chapter on the Greek house.

palace, but the principal part of it. In fact, Ovid in his first book of the *Metamorphoses* says that the atriums [i.e., palaces] of nobles are usually made without doors. Not only do we have mention [of atriums] in many of his books, but also [in] Vergil, Lucan, and many other poets and not less in orators who in various ways tell us that this principal part of the house was the atrium. If I might for a moment speak of the portico of the courtyard [of the atrium?] so that it can be understood too—you can understand that it was used [as the] *αθροιστικος* which in Latin is called *congregativus* [place of reunions where people gather]. So the [atrium] can be the principal reception room for those who enter from the door or the whole entrance together [with the] *thyronon*: that is, the passageway between the door and the front door today called the *pusterla*.¹⁷⁵ And if you want to know what the atrium is, lots of others have written about it, but it is better to look at the most serious Latin authors like Pliny in 35 c.2 and 34 c.4 where he talks of statues. *Mox forum et in domibus privatis factum atque in atriis honos clyentum instuit sic coler[e] patronos* [Soon after the forum was established even in private houses and in atriums: the respect felt by clients inaugurated this method of doing honour to their patrons].¹⁷⁶ If you look closely at the plan you will see the manner in which they are put together and the way almost all the three principal members of the well-equipped palace are formed.¹⁷⁷

Cesariano gives three main definitions of the atrium in this passage: it can mean the whole house ("tuto lo palatio"), the principal part of the house ("il principale membro di epso"), and, elaborating on the latter, the principal reception room of the house ("il receptaculo principale de li introeunti"). Cesariano cited only Vergil, Lucan, Ovid, and Pliny the Elder.¹⁷⁸ The

175. This is how Vitruvius described the *thyronon* in the Greek house. Vitruvius, VI.vii.1. Pagliara, "L'attività edilizia," 26, mistakenly thought Cesariano was describing the atrium itself. A *pusterla* is a gateway. See, for example, L. Beltrami, *La pusterla dei Fabbri*, Milan, 1900.

176. This sentence was left in Latin because it is a direct quotation from Pliny the Elder, *Natural History*, XXXIV.ix.17. Cesariano gives an incorrect reference to XXXIV.iv. The English translation in brackets comes from the Loeb Classical Library edition, IX, 140–141. For Cesariano's other reference to Pliny (XXXV.ii.6), see n. 29.

177. "Ma questo vocabulo atrio: si como per epso auctore in questa lectione et in questo peritissimo Capo describendo li palatii de li graeci; non solum si po intendere chel significa tuto lo palatio: ma per il principale membro di epso: Nam Ovidius libro primo metamorpho. sic ait Atria nobilium valuis celebrantur apertis: nec solum in multis dictis librorum huius auctoris habemus: sed etiam Virgilii: Lucani: multorumque aliorum poetarum non minus oratorum vario modo testati sunt ipsam priorem partem domus esse Atrium. Ma per che si possa chiaramente intendere etiam per il porticato dil cortile si po capere: essere uti *αθροιστικος* quod latine congregativus dicitur. Et perho po essere il receptaculo principale de li introeunti de la porta comprehensivamente et del Thironon: cioe andito intra la porta: et la antiporta quale dicemo pusterla. Et si voi videre anchora quid sit atrium in molti altri expositori lo haverai: ma vede li gravi auctori latini: come Plynio in libro .35.C.2. et etiam in li .34.C.4. ubi de statuis ait. Mox forum et in domibus privatis factum atque in atriis honos clyentum instuit sic coler patronos. Ma si bene considerarai vederai per le praesente figure in che modo luna con l'altra e collocata et in qual modo formano quasi tuti li tri membri principali de uno accomodo palatio. . . ." Cesariano, *Vitruvius*, fol. 98r.

178. Of these, only Vergil and Lucan were quoted in Grapaldus's rubric on the atrium in *De partibus*, which Cesariano must have read; see above, n. 54.

passage itself, however, allows us to conclude that his reading was more catholic.¹⁷⁹ Alberti had clearly defined the atrium as the principal part of the house. Francesco di Giorgio had considered it the principal reception room (or *ridotto*, as he called it) at the entrance to the house.¹⁸⁰

While the evidence concerning his use of Alberti's or Francesco di Giorgio's discussion of the atrium is indirect, Cesariano's opening suggestion that the atrium signified the whole house clearly reveals his knowledge of Isidore of Seville, who defined the atrium as a large house.¹⁸¹ Cesariano cited Ovid as his source.¹⁸² Yet in his commentary on the Greek house, Cesariano indirectly revealed his knowledge of Isidore's definition of the atrium. Isidore defined the words *atrium* and *aula* in two consecutive sentences in a chapter called "De Habitaculis." Cesariano cribbed his definition of the *aula*, almost word for word, from the *Etymologiarum*.¹⁸³ He could hardly have failed to notice Isidore's definition of the atrium.

179. For a discussion of Cesariano's sources, see Krinsky, "Cesare Cesariano and the Como Vitruvius," 58–65; and idem, "Cesariano and the Renaissance," 211–218. Given her pioneering task, Krinsky understandably concluded that Cesariano probably did not know Alberti, Francesco di Giorgio, or Grapaldus. It has subsequently become clear that Cesariano had access to and exploited works that were never mentioned in his text but that have been detected, as Krinsky herself suggested would happen, through textual comparisons and indirect evidence.

180. It is not certain whether Cesariano had access to any of the manuscripts of Francesco di Giorgio's treatise—even that in the possession of Leonardo in Milan. There seems to be evidence that he had indirect knowledge of some of Francesco's ideas, however. See Fiore, "La traduzione vitruviana," 458–466. I do not think, however, as Fiore does, that Francesco arrived at or close to the conclusion that the atrium was related to the *cavum aedium* in his Magliabechiana translation of Vitruvius or in his second redaction of the treatise. Thus, I do not agree that Cesariano was helped to his correct understanding of the relationship between the atrium and *cavum aedium* by indirect knowledge of Francesco's ideas.

181. For Isidore's definition of the atrium, see n. 92.

182. Ovid said, "On either side the palaces [atriums] of the gods of higher rank are thronged with guests through folding-doors flung wide." Ovid, *Metamorphoses*, trans. F. J. Miller (Loeb Classical Library), Cambridge, Mass., 1916; repr. 1971, I.171–172.

183. Of the *aula*, Isidore said, "Aula domus est regia, sive spatiosum habitaculum porticibus quattuor conclusum." Isidore, *Etymologiarum*, XV.ii.iii. Cesariano, fol. 103r, says, "Aula etiam dicitur domus regia vel cortina picta sive spaciosum habitaculum porticibus quatuor conclusum. . . ." Isidore's definitions were sometimes repeated by Papias, an eleventh-century grammarian, whom we know Cesariano consulted; but while Papias repeated Isidore's notion that the atrium was a large house with three external porticoes, his definition of the *aula* differed somewhat from Isidore's: the *aula* was a "domus regia vel carcer ventorum." Papias, *Elementarium: Littera A*, ed. V. de Angelis (Testi e documenti per lo studio dell'antichità, 58), 3 vols., Milan, 1977–1980, III, 411, 425. Ultimately all definitions of the atrium as a large house derive from Servius, who called the atrium a "magnas aedes." See n. 16. While Servius was not talking about the Roman *domus* here, many later writers defined the word *aedes* as a large house. For example, see Cesariano's opening sentence in his commentary on the *cava aedium*: "Li cavi de le aede: cioe le vacua concavitate de le aede seu case magne aut palatii de gente private vel nobili quali hanno li chortili a la nostra usanza Mediolanense. . . ."

On folio 102, Cesariano took issue with those who considered the atrium synonymous with the vestibule. "Some, as we have said above, have called atrium what we call vestibule and one can now see from the present lesson that this is not true."¹⁸⁴ In the next sentence, Cesariano repeated that Vitruvius used the word to mean the whole house, this time citing Vergil, not Ovid.¹⁸⁵ In keeping with his desire for comprehensiveness, Cesariano gave two more definitions: that some say that the atrium could be "la chorte" or "la cucina." The idea that the atrium was considered a kitchen reveals a knowledge of Servius.¹⁸⁶ It should be noted, however, that while Cesariano repeated this definition, he did not necessarily agree with it. He was merely fulfilling the commentator's task: reporting what had been said about the atrium as thoroughly as possible. Cesariano concluded this passage with a note of frustration: "But let us now leave the worries about these words to the grammarians while we attend to the present lesson."¹⁸⁷

Daniele Barbaro and Palladio: The five Vitruvian atriums

While Cesariano's conclusions about the atrium were remarkably acute, his translation of Vitruvius was too idiosyncratic and inelegant to find universal acceptance.¹⁸⁸ The treatment of

184. "Alcuni si como e dicto di sopra hano appellato atrio quello che noi diciamo vestibulo: & vedi hora chel non e vero per la praesente lectione." Cesariano, *Vitruvius*, fol. 102. The "present lesson" was on the Greek house. While Cesariano does not mention him, this comment may indicate a knowledge of Biondo's *Roma triumphans*, where the atrium was described as similar to the vestibule.

Cesariano seemed to contradict himself on fol. 97r when he referred to the forecourt of the church of Santa Maria presso San Celso, which he designed, as "atrio seu vestibulo." Bernardino Baldi, who said the atrium and vestibule had much in common, also referred to the atrium of San Celso as a vestibule: Baldi, *De verborum Vitruvianorum significatione*, 197. Documents found by Gatti, however, which indicate that the idea of a forecourt in front of the church predates Cesariano, also demonstrate that the area in front of the church was called "claustrum seu vestibulum." The phrase on fol. 97r is Cesariano's only reference to the atrium as a vestibule. It may be that he was influenced by a traditional appellation for the form, or that the atrium of a church, in contrast to that of the house, could also be called a vestibule. S. Gatti, "L'attività milanese del Cesariano dal 1512–1513–1519," *Arte lombarda*, XVI, 1971, 219–229.

185. "Deinde Vitruvius volens ut pro tota domo intelligatur atrium: sic dixit: coniunguntur autem his domus ampliores habentes latiora peristylia etc. Chel sia anchora cosi il vero: vede Virgilio in secundo aeneidos cum ait apparent domus intus & atria longa patescunt." Cesariano, *Vitruvius*, fol. 102. Cesariano's quoted reference is more extensive than that in Grapaldus, indicating that he read at least some texts in the original; see n. 54.

186. "Alcuni hano dicto atrio essere la chorte: alcuni altri la coquina: et voleno che dicatur ab atro calore." Cesariano, *Vitruvius*, fol. 102r. For Servius, see n. 49. Cesariano mentioned Servius by name elsewhere in his text. Perotti cited Servius's passage on the atrium and the kitchen, as did Grapaldus.

187. "Ma lassamo hora il pensiero di questi vocabuli ali grammatici: et noi attendiamo a la praesente lectione." Cesariano, *Vitruvius*, fol. 102r.

188. Claudio Tolomei wrote a scathing assessment of Cesariano's linguistic abilities in a letter to Agostino de' Landi describing the goals of his Vitruvian Academy: ". . . insino a questi tempi Vitruvio è stato

the ancient *domus* that was most highly considered in the second half of the sixteenth century was that produced by Daniele Barbaro and illustrated by Andrea Palladio.¹⁸⁹ Barbaro's work paired his classical erudition and philological skills to Palladio's architectural and archaeological expertise. The collaboration of architect and humanist in this endeavor represented the culmination of over a century of study of the ancient house, resulting, moreover, in the transformation of domestic architecture in the Veneto. In his *Quattro libri*, Palladio thanked his noble and generous patrons for having the courage to depart from the old way of building to embrace his new manner, which was based on the study of the Vitruvian *domus*.¹⁹⁰

Pagliara illuminated the salient features of Barbaro's treatment of the atrium.¹⁹¹ Figure 40 depicts the plan of Vitruvius's Roman house published by Barbaro. The vestibule, embedded within the body of the building, resembles that designed by Giuliano da Sangallo for Poggio a Caiano even up to its crowning pediment (shown on the accompanying elevation). Following it was a large Corinthian atrium with a *cavum aedium*, labeled O, at its center and two rows of columns delimiting the *alae* on each side. Were it not for the prominent light well at its center,

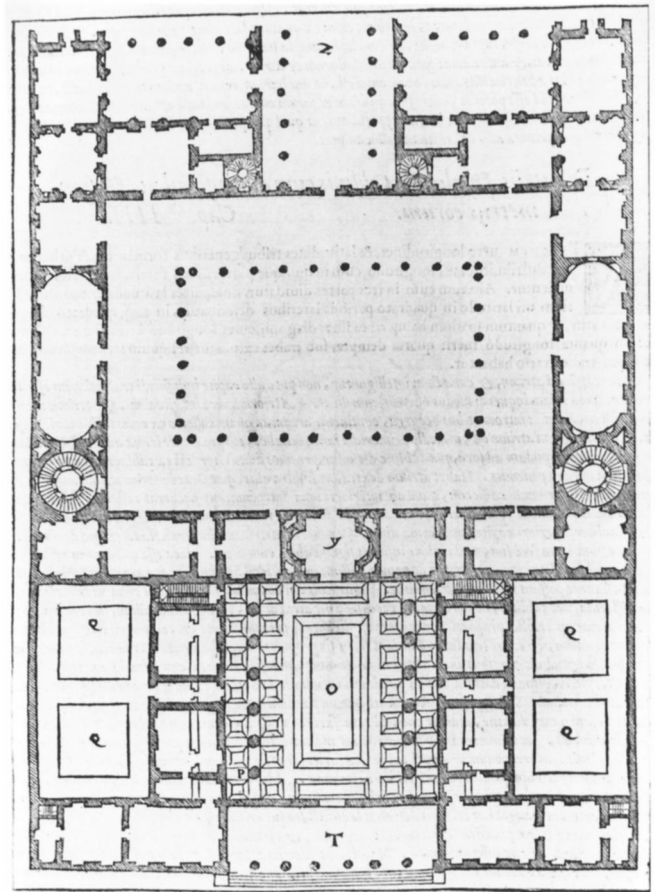


Fig. 40. Daniele Barbaro and Andrea Palladio, plan of the ancient Roman house (*I dieci libri dell'architettura di M. Vitruvio*, 1567, p. 280; Special Collections, University of Delaware Libraries).

tradotto almeno tre volte di latino in volgare [Cesariano, Lucio, and Caporali], ma così stranamente, e con parole e costruzioni così aspre ed intrigate, che senza dubbio manco assai s'intende in volgare, che non fa in latino." *Scritti d'arte del cinquecento*, ed. P. Barocchi, 3 vols., Milan and Naples, 1971–1977, III, 3040. On Tolomei's Vitruvian Academy, see Pagliara, "Vitruvio da testo a canone," 67–74. Nonetheless, Cesariano's translation was an immediate success, making its way even to Northern Europe and inspiring Francesco Lutio, called Durantino, to republish it twice, without acknowledgment, in 1524 and 1535. See Bruschi, "Introduzione," XX–XXI; and Marcucci, "Regesto," 37–40, 42, 44.

189. Barbaro published his translation and commentary first in 1556 and then again in 1567 in an updated version in both Italian and Latin. The Italian edition of 1567 (hereafter, Barbaro, 1567) has received a recent edition, *Vitruvio: I dieci libri dell'architettura tradotti e commentati da Daniele Barbaro*, Milan, 1987. For a discussion of the various versions, see M. Morresi, "Le due edizioni dei commentari di Daniele Barbaro, 1556–1567," in *Vitruvio: I dieci libri*, XLI–LIII; and, in more general terms, Marcucci, "Regesto," 58–62, 66–68. For treatment of Barbaro's work in the context of Venice, see M. Tafuri, "La norma e il programma: Il Vitruvio di Daniele Barbaro," in *Vitruvio: I dieci libri*, XI–XL.

Guillaume Philander's commentary on Vitruvius's text, *Guglielmi Philandri Castilioni Galli civis Ro. in decem libros M. Vitruvii Pollionis de architectura annotationes*, Rome, 1544, was also highly regarded but lacked all illustrations. On Philander, see Pagliara, "Vitruvio da testo a canone," 74–81, with earlier bibliography.

190. A. Palladio, *I quattro libri dell'architettura*, ed. L. Magagnato and P. Marini, Milan, 1980 (hereafter *Quattro libri*), bk. II, 95, 97, where Palladio declared his reliance on Vitruvius's sixth book. Palladio also noted in the *Quattro libri* that elements of the Greek house inspired his plan of the Palazzo Da Porto Festa (103–104) and that the convent of the Carità was built on the model of the Roman house with a Corinthian atrium (125). On the Vitruvian inspiration of several of Palladio's houses, see R. Wittkower, *Architectural Principles in the Age of Humanism*, New York, 1962, repr. 1971, 76–82.

191. Pagliara, "L'attività edilizia," 24, 32.

this atrium would be almost identical to that of Fra Giocondo's large Roman house, reflecting the tenacity of the three-aisled solution.

In his commentary Barbaro defined the atrium as one of the principal parts of the house, around which the minor members revolved. Citing Alberti, he compared it to a forum.¹⁹² He con-

192. The atrium "... adunque è una parte delle principali, nella quale (come dice l'Alberto) come in un Foro commune concorrono tutti gli altri membri minori..." Barbaro, 1567, 283. Barbaro did not fail to include etymologies for the atrium, but he rejected the derivation from *atrum* caused by the blackened walls of the kitchen: "Prima è la Toscana, che è la piu semplice delle altre, dalla quale forse sono gli Atrij nominati, perche erano in Toscana i popoli Atriensi, per ilche non piace, che Atrium sia detto dal color Atro, che procede dal fumo, come che in quelli si facesse la cucina." Barbaro, 1567, 283. He returned to the problem again when discussing the displuviated *cavum aedium*, saying, "... però ancho se io volesse dire che gli Atrij fussero detti dal color Atro, io direi, che il piovere, che sporta molto in fuori, fa quegli ombrosi, et oscuri. Ma forse Atrium puo venire dal Greco, et significare un luogo, che non ha via che volga." Barbaro, 1567, 288. No one has commented on the fact that Barbaro may have derived the idea of the Greek etymology of *atrium* from Philander, who, in his commentary to chapter 4 of book VI, in addition to paraphrasing Festus, Varro, and Servius, referred to two Greek derivations, one of which stemmed from his reading of Gellius. Philander, *Vitruvii Pollionis de architectura annotationes*,

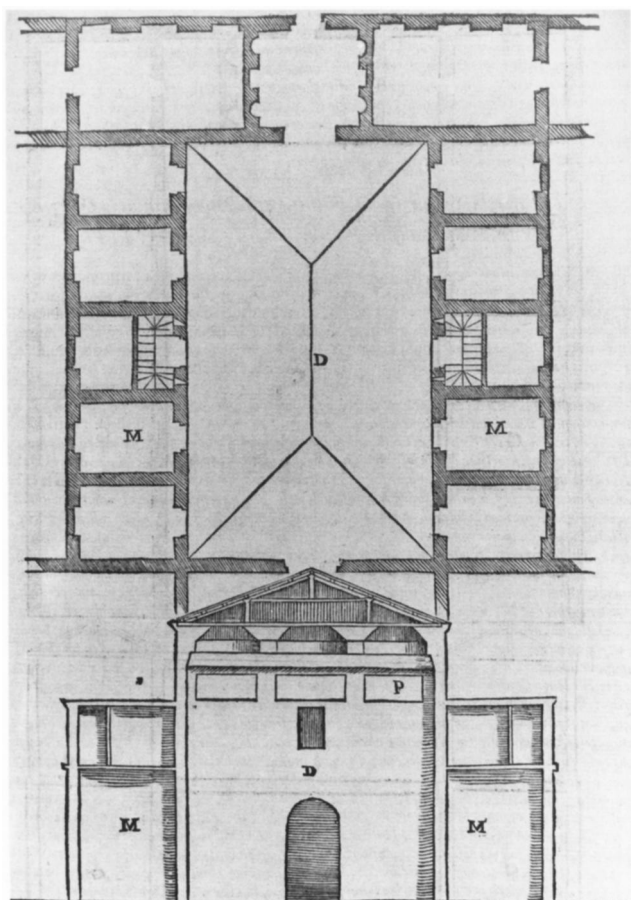


Fig. 43. Daniele Barbaro and Andrea Palladio, plan and elevation of the testudinate cavum aedium (*I dieci libri dell'architettura di M. Vitruvio*, 1567, p. 287; Special Collections, University of Delaware Libraries).

called the *cavum compluvium*.¹⁹⁶ Yet not everyone agreed. Not long after the publication of Barbaro's edition, Pirro Ligorio provided a dissenting voice. In one of his Turin manuscripts executed after 1568 is a measured drawing of a reconstruction plan of a partially excavated ancient house in the garden of Paolo de Puritate identified as the "Scauriana Casa o Domus Scauri" (Fig. 41).¹⁹⁷ Like Barbaro, Ligorio considered *cavum aedium* and atrium as two parts of the same space; but, in contrast to almost everyone who preceded him, Ligorio imagined the *cavum aedium* as the covered area rather than the open space. He inscribed the center of the courtyard "atrium"; the ambulatory was labeled "cavedium." The opening of the atrium was called "pluvium et impluvium."¹⁹⁸

196. Biblioteca Apostolica Vaticana, Ottoboni 1653, fol. 54r. "Atrio proprio è la loggia da basso che è al coperto et quella parte che è scoperta in latino è detta in più modi: et primamente è chiamata cavum compluvium."

197. On this excavation, see Lanciani, *Storia degli scavi*, II, 44–46. On the history and dating of the Turin manuscripts, see Mandowsky and Mitchell, *Pirro Ligorio's Roman Antiquities*, 35–45 (full citation at n. 37).

198. The colonnade around the atrium is labeled "peristylum." Creative archaeology influenced modern designs as well. The courtyard of

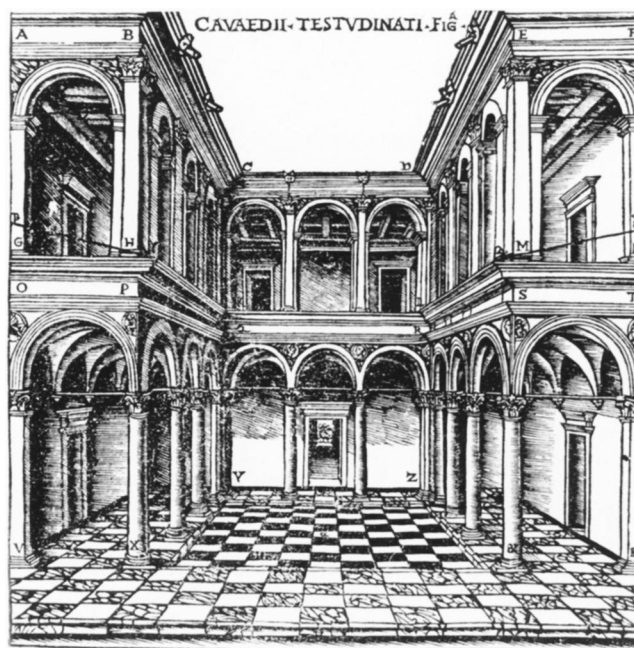


Fig. 44. Cesare Cesariano, testudinate cavum aedium (Di Lucio Vitruvio Pollione de Architectura, 1521, fol. 97v; Kunsthistorisches Institut von Florenz).

What most distinguished the vision of the atrium in Barbaro's edition from those of his predecessors was Palladio's graphic contribution. Palladio gave form to five quite different images of the atrium. While the five *cava aedium* of Fra Giocondo, Giovan Battista da Sangallo, and Cesariano reflect an overall uniformity within each architect's work, even if differentiated in particulars, Palladio endowed every atrium with a character entirely its own (Figs. 42 and 43). Furthermore, each atrium had a dignity and magnificence unheard of even in the Pompeian house.¹⁹⁹ Of all the atriums, the image of the testudinate was

an unidentified palace project was inscribed with the word *atrium* while the ambulatory was identified as the *cavum aedium*. The drawing was traditionally given to Peruzzi, but it has been reattributed to Ligorio. See Frommel, *Der römische Palastbau*, fig. 180A. Ligorio seemed particularly fond of viewing all atriums as courtyards. See, for example, his depiction of the Baths of Trajan in his map of *Roma antica* of 1561. Ligorio's reconstruction of the "Atrio Augustale Palatino," based on the excavations of the Palatine in 1552, depicted a circus-like atrium. (See Lanciani, *Storia degli scavi*, II, 51–52 and fig. 21.) One of his most impressive domestic atriums is located in the center of a huge edifice he called the "Domus Faustae et Constantini," where a large courtyard is inscribed with the word "ATRIUM." See Frutaz, *Le piante*, II, pl. 29. The building that Ligorio labeled "Domus Faustae et Constantini" is located generally where the Lateran complex is today and is more likely the House of the Laterani, marked as such in L. Canina's map of ancient Rome of 1850 (no. 9 in Regione II, Frutaz, *Le piante*, II, pl. 98). Du Perac, in his map of ancient Rome of 1574, labeled it both "Domus Laterani" and (its courtyard) "Atrium et Domus Fausta Constantini" (Frutaz, *Le piante*, II, pl. 40). I would like to thank Allan Ceen for his helpful discussion of the "Domus" on Ligorio's map. On the sources and methods used in Ligorio's map, see Burns, "Pirro Ligorio's Reconstruction of Ancient Rome," 19–92 (for full citation, see n. 119).

199. See A. Mauri, "Gli oeci vitruviani in Palladio e nella casa pompeiana ed ercolanese," *Palladio*, n.s., II, 1952, 1–8 (cited in Pagliara,

most startlingly new. In stark contrast to Cesariano, who imagined it as a courtyard with vaulted ambulatories (Fig. 44), Barbaro recognized that it lacked an opening in its roof.²⁰⁰ In this he was undoubtedly inspired by Varro and perhaps by Alberti. Palladio depicted it as a large hall with a wooden roof (Fig.

"L'attività edilizia," 32). That the atrium was for Palladio one of the most important parts of the ancient house is demonstrated by his devoting several pages in book II (120–131) of the *Quattro libri* to describing and illustrating the five types of atriums.

200. As Barbaro described them, there are two generic types of *cava aedium*/atriums: one that is a court or courtyard, and one that is covered entirely by a wooden roof. "Cavedia chiama egli questi luoghi, perche veramente sono come cavi delle case. Aulas i Greci sogliono nominare questi luoghi circondati da muri et scoperti nel mezo, noi Cortili, o Corti chiamamo, entrate, et cortili, quelli, che sono scoperti, entrate quelli, che sono coperti." Barbaro, 1567, 283. Barbaro was not entirely clear about the social status of the testudinate form. It was either quite luxurious or—just the opposite—the atrium for the meanest station. "La quinta maniera si chiama Testudinata fatta in quattro pioveri. Penso io, che questi fossero coperti, et che di sopra havessero le sale, et le stanze spaciose, et i palchi sostentati da bellissimi colonnati, che dinanzi alle porte facessero mostra di belle loggie, che per vestibuli servissero, o che nell'entrate havessero colonne compartite a modo, che dessero grandezza et bellezza. Puo ancho esser, che questi cavedi fussero di case ordinarie, et di persone di mediocre conditione, nelle quali non erano Atrij, ne colonnati; se forse non vogliamo dire, che Atrij si chiamassero quelle entrate; ilche niuno vieta, che cosi egli non s'intenda." Barbaro, 1567, 288. For Scamozzi there was no doubt that the testudinate *cavum aedium* was lower-class: "Il cavedio, o Atrio coperto [i.e., the testudinate], era ne luoghi ristretti, come a dire in xx in xxx piedi; secondo Vitruvio, e per la conseguenza nelle case mediocre. . . ." Scamozzi, *L'idea della architettura*, 237. Scamozzi was quite concerned with the social signif-

icance of various rooms. He seems even to have made social class the distinguishing characteristic that separated the *atrium* from the *cavum aedium*. "Gli Atrij, erano più nobili de' Cavedij, e più convenevoli alle Case de' principali. . . ." Scamozzi, *L'idea della architettura*, 236 (quoted from Waddy, "Palazzo Barberini: Early Proposals," 95).

201. In Palladio's *Quattro libri*, bk. II, 130–131, the testudinate atrium, rising two stories high, was quite magnificent.

202. On the tetrastyle *oecus*, see Mauri, "Gli oeci," 1–8.

Had Biondo written *Roma triumphans* in the mid-cinquecento rather than the mid-quattrocento, his statement about the stark contrast between the magnificent houses of the ancients and of the moderns with which this article opened undoubtedly would have been quite different. The intensive investigations of the Vitruvian *domus* over the course of one hundred years, stimulated by the desires of Renaissance patrons and their architects, left its mark on the houses of the rich. From the vantage point of the late sixteenth century, it would no longer be a given that the ancients had won.

Krinsky, "Cesare Cesariano and the Como Vitruvius," 312, noted that Cesariano misunderstood Vitruvius's use of the word *impetus* in describing the testudinate atrium. Vitruvius had said this type of atrium was used when the span (*impetus*) was not great. Cesariano thought *impetus* meant earth tremors or vibrations.