

INTRODUCTION

Marcus Vitruvius Pollio wrote his ten books¹ on architecture in the first decade of the Pax Augusta, c. 30–20 B.C. This was a decade of renewed peace and prosperity that followed some two or three generations of brutal turmoil and civil war, starting with the conflict between Marius and Sulla in the 90s B.C. (or the “reforms” of the Gracchi in the 130s) and culminating in the civil war of the second triumvirate and the defeat of Marc Antony and Cleopatra at Actium in 31. It was a time of renewed building, both architectural and cultural, a time endowed with a confidence that the world was being remade anew. It was also a time when an educated person seeking to visualize this new world order could draw on a rich international Hellenistic and Italic culture of science, technology, literature, arts, and architecture.

Literary Genre

The *Libri Decem* are a hybrid type of literature that was common in the last century of the Republic: a technical handbook with literary ambitions.² As a loosely defined type, these books tend to be rather idiosyncratic and original because the approach tends to force the authors to combine topics in unusual ways.

Duality of style is necessarily inherent in these specialized books. Rhetorical language was focused on the prefaces, or excursus, and technical sections relied on more prosaic language.³

- 1 Physically, a book was a scroll of papyrus (although from the second century B.C. it could also be parchment) and had to be held in two hands to be unrolled and read, which made checking references slow and difficult. Books did not normally have titles. Hence *De Architectura Libri Decem* is not a title but a description: ten books, or scrolls, on architecture (i.e., ten scrolls, “libri”). The work is so recorded in the oldest surviving manuscripts.
- 2 The following is derived largely from E. Nilsson Nylander, “Prefaces and Problems in Vitruvius’s *De Architectura*” (Diss. Göteborg, 1992).
- 3 This idea is further developed by Michael Dewar at a seminar at the University of Chicago: “Stylistic Level and *poikilia* in Vitruvius’

The readership of these books was intended to be fairly wide and almost certainly did extend well beyond the “experts” or “professionals” in the particular field.⁴ Augustus was fond of books of precepts and would copy books he thought to be useful and send them to members of his household or to officers and to provincial officials.⁵ He would commonly read such books to assemblies and on one occasion read sections of Rutilius’s *De Modo Aedificiorum* to the Senate.⁶ It is debatable whether Vitruvius’s work was ever the “handbook” of Augustan architecture,⁷ but he certainly must have hoped it would become so.

By Vitruvius’s time, book copying appears to have become a substantial business, and books could be “published” and disseminated fairly widely in a sense not too different from modern use. Rightly or wrongly, Cicero’s friend T. Pomponius Atticus is credited with putting publishing on a commercial basis in the middle of the first century B.C., establishing a large scriptorium with slaves.⁸ The cost of a book was approximately the cost of wages for hand copying; a book of seven hundred lines of Martial cost five denarii, about two days’ skilled wages. By this reckoning, a copy of the *Ten Books* might run about 100 denarii.

The book trade must have been considerable because private libraries of the wealthy could often run to several thousand volumes (cf. that of L. Calpurnius Piso, Caesar’s father-in-law and consul in 58 B.C., found intact in Herculaneum, which supposedly has about three thousand vol-

Decem Libri de Architectura. Also see L. Callebaut, “Rhétorique et architecture dans le ‘de architectura’ de Vitruve,” *Colloq. 192* (1972), 31–46.

4 “. . . non modo aedificantibus, sed etiam omnibus sapientibus . . .” (1.1.18).

5 Nylander (1992), 32.

6 Suet. Aug. 89.2. P. Rutilius Rufus was a senator, and this was more of a formal oration, not a technical or theoretical manual.

7 D. Favro, *The Urban Image of Augustan Rome* (Cambridge University Press, 1996), 145–146.

8 R. Ogilvie, *Roman Literature and Society* (London, 1980), 14–15; H. Blanck, *Das Buch in der Antike* (Munich, 1992), 120–132.

umes).⁹ Private libraries were normally available to clients and would probably have been the primary means of access to books by those who were not wealthy until the first "public" libraries opened in Rome about the time Vitruvius was writing: that established by Asinius Pollio in the Atrium Libertatis in 39 B.C.; that honoring Marcellus placed in the Porticus Metelli/Octaviae by Octavia; or that established by Augustus near his house and the temple of Apollo on the Palatine.¹⁰ Teachers would normally have to have their own small libraries of the classics, such as Ennius or Homer, for use in instruction.

Name and Date

Vitruvius is unknown to contemporary writers, and therefore virtually everything we know about his life must be extracted from the *Ten Books* themselves. The *Ten Books* were probably written and published between c. 30 and 20 B.C., and Vitruvius himself was probably born c. 80/70 B.C. and raised and educated in Campania or in Rome itself.

NAME: MARCUS VITRUVIUS POLLIO

The *nomen* Vitruvius is the only certain one repeatedly passed down by manuscripts.¹¹ The *cognomen* Pollio comes from a single reference from a building manual of the early third century, the *De Diversis Fabricis Architectonicae* of M. Cetus Faventinus.¹² Faventinus is largely a recension of those parts of Vitruvius that deal with domestic architecture. Its first line reads, "*De artis architectonicae peritia multa oratione Vitruvius Polio aliique auctores . . .*" which, it has been

pointed out, could mean, "Vitruvius, Pollio, and other authors . . ." ¹³ The praenomen is variously reported as Aulus, Lucius, and most frequently Marcus.¹⁴

The name of the *gens* *Vitruvia* is not well known in history. A Vitruvius Vaccus is cited for the year 329 as a *vir clarus* from Fundi.¹⁵ The name is, however, well attested in gravestones, mainly from the coast of Latium and Campania between Gaeta and Naples, centering around Formia.¹⁶ Campania and Rome are throughout the *Ten Books* clearly the central points of his reference. Vitruvius consistently refers to Rome simply as the "City," and the range of building materials he discusses is limited to this area; he refers to the Adriatic coast as the "other" side of Italy. It would be quite plausible, then, that he was born and raised in the area of Formia or the Bay of Naples. This area produced many of the innovations of Roman architecture in the last centuries of the Republic, such as the first amphitheater (that at Pompeii, c. 80 B.C.), the first stone theaters in Italy (second century B.C.), and even the invention of Roman "concrete" (as early as 300 B.C.); presumably it produced many of its professional architects as well.

The person of Vitruvius has also been associated with three other testimonia. One is the arch of the Gavi in Verona, dated variously from the end of the Republic to the end of the first century A.D. It bears the inscription "L(ucius) VITRUVIUS L(uci) L(ibertus) CERDO ARCHITECTUS."¹⁷ Our Vitruvius, however, is certainly not a freedman (libertus), therefore this Vitruvius Cerdo was very possibly a freedman of the family of Vitruvius who, like a son, was also brought up and trained in architecture. The second is an inscription¹⁸ from Thibilis (Annuna in Algeria), which refers to a Vitruvius building an arch from his own funds: M VITRUVIUS ARCUS S(ua) P(ecunia) F(ecit), hence probably not the architect. The third is the person of Mamurra, a native of Formia and the *praefectus fabrum* (chief engineer or supply officer) of Julius Caesar.¹⁹ He was notorious for using his office to enrich himself enormously and supposedly was the first person to fill his house in Rome with marble,²⁰ not too surprisingly, he is

9 H. Blanck, *Das Buch in der Antike* (Munich, 1992), 152–160.

10 These public libraries were essentially private libraries writ large and made only slightly more available to the public than a "private" library would be available to friends and clients. Their purpose was to serve the personal political advertisement of the patrons in the environment of competitive patronage of the 30s and 20s B.C. A "public" library in effect asserted the right of Pollio – a partisan of Caesar but not necessarily a supporter of Octavian – or Octavian to the clientage of the entire public.

11 P. Ruffel, J. Soubiran, "Vitruve ou Mamurra?" *Pallas* 11.2 (1962), 174–176.

12 Dated to the later fourth century by H. Plommer, in *Vitruvius and Later Roman Building Manuals* (Cambridge, 1973), the first half of the third by most others: E. Pasoli, "Vitruvio nella storia della scienza e della tecnica," *Atti dell'Accademia delle Scienze dell'Istituto di Bologna, Classe di scienze morali, Memorie* 66 (1971–1972), 1–37, esp. 2.

13 P. Thielscher, *Realencyclopädie der Klassischen Altertumswissenschaft* II series, vol. 9, A.1 (Stuttgart, 1961), cols. 419–489; P. Ruffel, J. Soubiran, op. cit., 141.

14 E. Pasoli, op. cit., 2–3.

15 Livy, 8.19.4.

16 E. Pasoli, op. cit., 2–3.

17 CIL 5.3464.

18 CIL 8, 18913.

19 Thielscher, loc. cit.

20 Pliny the Elder, *Natural History* 36.48.

never referred to in Caesar's own accounts. This type of man, however, simply does not accord with the personality and the details of the career we can get from the author of the *Ten Books*, who was living on a pension.²¹

DATE

The entire mood of the preface is one of the strongest reasons for dating the composition of the *Ten Books* to the decade or so after Actium (31 B.C.). The events of the period center around the struggle for supreme power between the partisans of Octavian and the partisans of Marc Antony (44–30 B.C.), and the establishment of the Pax Romana and one-man rule of Octavian-Augustus (in the 20s B.C.).

Octavian entered into the struggle for the inheritance of his adoptive father C. Julius Caesar immediately upon Caesar's assassination in 44 B.C. (Caesar was in actuality his great-uncle; Octavian's natural father, C. Octavius, died in 56 B.C.) Octavian was then eighteen years old, and from the first always referred to himself as Gaius Caesar, omitting his cognomen Octavius. (Marc Antony referred to him as "the youth who owed everything to his name."²²) In 42 he obtained the admission of his "father" into a state cult and thereafter claimed for himself the title of "divi filius." In the same year he entered into the second triumvirate with Marc Antony and M. Aemilius Lepidus. The following ten years (42–32) were a period of tense competition between Octavian's partisans, who were centered in Rome, and Antony's, centered in the eastern empire, particularly Alexandria. There were other open conflicts, such as that with the sea power of Sextus Pompey, son of Gnaeus Pompeius Magnus, who was centered in Sicily, which was brought to an end by the victory of Octavian's admiral M. Agrippa at Naulochoi (36). Civil war broke out again among the triumvirate in 32, Antony and Cleopatra were defeated at Actium in 31, and Egypt finally fell in 30. In 29 Octavian celebrated a magnificent triple triumph (Illyricum, Egypt, and Actium) in Rome and dedicated the temple of Divus Iulius in the Forum, and in 27 he was given the honorific name of Augustus by the Senate in gratitude for the "restoration" of the Republic.²³

The preface to the *Ten Books* makes it clear that the reason Vitruvius is writing at this particular time is that Octa-

vian had previously been preoccupied with "taking possession of the world," which is clearly a delicate euphemism for the civil wars. Now a period of peace has brought about considerable building activity: "When, however, I perceived that you were solicitous not only for the establishment of community life and of the body politic, but also for the construction of suitable buildings . . ."

Vitruvius's delicacy in referring to events of the civil wars seems typical of the overall change in Augustan imagery in the 20s. Augustus himself, in his public propaganda, was careful not to make too much of these victories in the civil wars because they were, after all, victories over other Roman armies. In general, the public art of Augustus changed from triumphal imagery to abstract classicistic presentations of religious items, such as wreaths, tripods, and candelabra. Everyone, including the former partisans of Antony, could join in the general worship of the new age of peace through such generic, inoffensive images.²⁴ Vitruvius's own panegyric style seems to have more of the cautious classicistic abstraction of the 20s than the triumphal rhetoric of the 30s. This caution may also be the reason that Vitruvius rarely makes clear reference to his own travels in the *Ten Books* because it is possible that these too might have reminded readers of the places of the civil wars.

Another possibility is that the period of writing was a decade earlier, the time of the second triumvirate, 42–32. In this decade the rival factions of Octavian and Antony did in fact do a considerable amount of building in Rome. Octavian vowed the temple of Mars Ultor (after Pharsalus in 42) and was finishing the Forum of Caesar, the Temple of Divus Iulius, the Basilica Iulia, the Curia, his own mausoleum, and his temple of Apollo near his house on the Palatine (36–28), and his partisans C. Domitius Calvinus and L. Cornificius were rebuilding the Regia and the temple of Diana of the *plebs* on the Aventine (after 33). Antony's man C. Sosius set out to rival Octavian's temple of Apollo by rebuilding the temple of Apollo in the Campus Martius, and Munatius Plancus (consul 42) rebuilt the temple of Saturn in the

21 Pasoli, *op. cit.*, 4–6.

22 Cicero, *Philippics* 13.11.24.

23 *Res Gestae* 34.

24 P. Zanker, *The Power of Images in the Age of Augustus*, trans. A. Shapiro (University of Michigan Press, 1988), ch. 3, esp. 82. Zanker argues that the imagery of Augustus changed radically after Actium from self-glorification to religious devotion. It did so because Augustus was in the delicate position of having to celebrate triumphs without referring to the enemies, as the defeated armies were also Roman, and to do so would have aroused bitter and divisive memories of the civil wars (hence the choice of abstract religious imagery of peace and prosperity).

Forum.²⁵ The preface makes it clear, however, that at the time of writing Octavian had achieved sole power, which was not the constitutional or de facto situation of the second triumvirate.

The fact that Vitruvius does not address Octavian as Augustus does not necessarily mean the *Ten Books* must predate 27 B.C. when the name was granted. The title was unusual and sacral in nature (meaning "stately," "dignified," or "holy," or possibly recalling "augur," the type of priest who reads omens),²⁶ and came into use gradually in the years after 27. As late as 14–13 Horace uses both Caesar and Augustus.²⁷ Vitruvius does refer to the Aedes Augusti in his basilica at Fano, which makes clear that the title and the imperial cult were well established at the time of writing.²⁸

Various attempts have been made to date the composition by the buildings that are referred to in the *Ten Books*. Unfortunately, there is some contradiction. He mentions as existing buildings the temple of Equestrian Fortune (3.3.2), which had been destroyed by 22 B.C., the temple of Ceres on the Aventine (3.3.5), which was destroyed by fire in 31 B.C. (and not replaced until it was rebuilt by Tiberius in A.D. 17), and the Porticus Metelli (3.2.5), which existed under that name until 32/27, after which it was transformed into the Porticus Octaviae (dedicated 23). But he also refers to the *pronaos aedis Augusti* in his basilica at Fano (5.1.7), although Octavian was not given the title of Augustus until after 27. The temple of Divus Iulius in the Forum is the most recent building he mentions, dedicated 18 August 29 B.C., but possibly completed before (by 33 or 31). He refers only to one temple of Apollo, that in the Forum Holitorium, and ignores the temple of Apollo built by Octavian on the Palatine in 36–28 next to his own house. He refers to

the *theatrum lapideum* (3.2.2), thus implying there is only one stone theater in Rome (that of Pompey), and that the theaters of Marcellus (dedicated at the Ludi Saeculares in 17) and L. Cornelius Balbus (begun 19, dedicated 13) are not yet begun.

Others have suggested that the *Ten Books* were written separately and published at separate times; Lugli²⁹ suggests that Books 1–5 were written before 31 B.C., possibly 40–35, and Pellati that the first six books were written and published first (45–32), revised in 32–28 and republished in 27, and the last four published in 16–15.³⁰ The latter calculus is based partly on the expression *cubica ratione* (5.praef.4), which Vitruvius uses to describe how his work is ordered like a cube, that is, with six faces/six books. A work like this surely took a few years to compose, and it was indeed common practice to pass a manuscript in limited circulation around to friends for comment before publishing it, but the idea that it was originally conceived as complete in six books is contradicted by the clarity with which the content of the entire ten books is previewed in Book 1.

The latest chronological date proposed is after 14 B.C.³¹ on the grounds that the prefaces are a derivation from literary devices of Horace,³² but the devices (in particular the expression in 1.praef.1 that he did not "dare" to publish while Octavian was preoccupied with making peace) have a specific meaning in Vitruvius's writing in the 20s, whereas they were literary topoi for Horace in the 10s. Two other events may limit the completion date of the *Ten Books* to about 22.³³ In 10.praef.4 Vitruvius says that it is the joint responsibility of the praetors and aediles to sponsor the games, but this situation obtained only until 22 when sponsorship became the sole responsibility of the praetors.³⁴ In 2.1.4 he refers to straw huts of the sort that one can still see in Aquitania and Gallia, which means that Aquitania was no longer a part of Julius Caesar's three parts of Gaul (Belgica, Gallia/Celtica, and Aquitania), but a separate

25 For an analysis of the reflection of this political competition in the arts during the second triumvirate, see P. Zanker, *The Power of Images in the Age of Augustus*, trans. A. Shapiro, (University of Michigan Press, 1988), ch. 2, 33–77.

26 Zanker, *op. cit.*, 98.

27 Caesar only in *Epistulae* 2.1.4; in the *Odes* once Caesar (4.15.4), once Augustus (4.14.3). Ovid uses Caesar twelve times, Augustus twice.

28 Wistrand argued that the section in 5.1.1–6 on the basilica at Fano with its Aedes Augusti was interpolated into the text at a later date, *Vitruvstudier*, Akademisk Avhandling (Diss. Göteborg, 1933) 6 f. We take the position that its inconsistency relative to the text that immediately precedes it is the result of one arithmetical error in the manuscript transmission, and that otherwise the differences between Fano and the prescriptions are meant to illustrate how innovations may be introduced into the prescriptions.

29 G. Lugli, *Tecnica edilizia romana* (Rome, 1957), 371, n. 1.

30 F. Pellati, "La Basilica di Fano e la formazione della trattato di Vitruvio," *RPAA* 33–34 (1947–1949), 153–174, esp. 155 ff.

31 P. Thielscher, *loc. cit.*

32 *Epistulae* 2.1.

33 F. Pellati, *loc. cit.*

34 Dio Cassius 54.2.3. M. H. Morgan, in *Harvard Classical Studies* 17 (1902), 19, envisaged a period of joint responsibility, based on this passage, but it is just as likely that the event in 22 simply transferred the responsibilities from the aediles to the praetors.

province, which occurred in 27; but in 22 Gallia Narbonensis and the other three parts of Gaul (Belgica, Lugdunensis, and Celtica) were elevated to senatorial provinces, erasing the simple distinction between Aquitania and Gallia.³⁵

These indications and contradictions give the impression that the composition of the *Ten Books* reflects rapidly changing events of the 20s B.C. and that they were probably published before 22.

Probable Career

The evidence for Vitruvius's career is almost completely internal to the *Ten Books*. He was clearly a freeborn Roman citizen, although not likely of high (equestrian) class. It also is clear from the preface to Book 6 that he was given a broad "liberal arts" education by his parents as well as a professional education on which he depended to earn his living. This education was not necessarily the standard one for architects, but it may have been common to many. It is also clear that much of his erudition is the result of lifelong continuous study, the kind that would have been possible through access to libraries of the rich and powerful or, to a much lesser extent, through books of his own. The fact that his parents could afford such an education does not mean they were wealthy. Liberal education was probably not common in the early first century for families of modest means but became so later; Horace's father was a man of modest means (a small farmer) who financed his talented son's advanced education (including study in Athens) with the view that it was an important means of advancement.³⁶

Vitruvius's principal frame of reference throughout the *Ten Books* is always the City (Rome), and less overtly, Campania, which is the principal location of inscriptional references to the Vitruvius *gens* (see earlier). It is likely that he grew up and was educated in one or both of these places; Campania was a principal source of architects and architectural innovation in the second and first centuries B.C. One intriguing question is how exactly he was trained as an architect; he refers six times to his *praeceptores* (teachers).³⁷ Presumably after his liberal education he was in effect apprenticed to an architect, or several, or to architectural teachers. At least some of

these teachers may have been architects who were Greeks (not uncommon among teachers or any kind of profession, especially doctors) or who were trained by a Roman who was trained by a Greek. Gros has suggested that Vitruvius may have been trained by someone who was in turn trained by Hermodorus of Salamis, the (Cypriot) Greek architect hired by Q. Caecilius Metellus Macedonicus to build the Porticus Metelli in 146.³⁸ Vitruvius has often been taken to be a disciple of the conservative tradition of Ionian Hellenistic architecture deriving from Pytheos, the architect of Priene and the Mausoleum, in the fourth century, particularly as codified by Hermogenes in the later third or early second century. In any case, he clearly had some contact with Greek building and its theory of practice, whether at second or at first hand.³⁹ The extent to which the *Ten Books* (especially Books 3 and 4) accurately represent this tradition is affected by the extent to which he or his teachers were selective or revisionary.

If Vitruvius was born c. 85/80 B.C. his career would have started c. 50 B.C. when he was in his thirties, that is, at the time of the outbreak of the civil war between Caesar and Pompey (49 B.C.). It is logical that in the next two decades much of his career might have been primarily military; he mentions his responsibility for the catapults (a highly technical responsibility), but he also clearly built as designer the basilica at Fano, a Caesarian/Augustan foundation or refoundation. This is a mix of activities attested in the careers of other *architecti*. Trajan's architect, Apollodorus of Damascus, designed a campaign bridge over the Danube and wrote a treatise on siegecraft in addition to his spectacular public works in Rome itself. Magistrates and generals commonly retained architects among their professional technical staff, and it is thus likely that Vitruvius spent many years of his career as a Caesarian staff architect, either on campaign or in the foundation of colonies (at least of Fano). It has also been suggested, on the basis of the explicitness of much of the material on water in Book 8, that part of his professional activity included work on aqueducts.⁴⁰ This is very plausi-

35 E. Pasoli, *op. cit.*, 9–10.

36 Horace, *Sermones* 1.4.105 ff.

37 4.3.3; 6.praef.4; 6.praef.5; 9.1.16; 10.11.2; 10.3.8.

38 P. Gros, "Hermodoros et Vitruve," *Mélanges de l'École Française de Rome* 85 (1973), 137–161.

39 One should be cautious about arguing that this was his principal training in architecture merely because it is the approach that dominates his presentation of monumental architecture. Throughout the *Ten Books* Vitruvius is highly selective of his influences, and he tends to choose those approaches that illustrate strong theoretical fundamentals.

40 L. Callebaut, ed., *Vitruve, de l'Architecture* viii (Paris, 1973), ix–x.

ble because it may have been an experience that would have especially qualified him to work as M. Agrippa's staff architect on the *cura aquarum* after writing the *Ten Books*.⁴¹

There are many tentative indications throughout the *Ten Books* of Vitruvius's probable association with Caesarian supporters. In addition to the very explicit statement that he maintained Caesar's artillery, and the other suggestions that he was on campaign with Caesar or branches of his army, his anecdotes mention people associated with Caesar,⁴² and he cites other probable accomplishments of the Dictator.⁴³

As to the question of whether Vitruvius traveled, readers are on their own to judge from the intimacy of knowledge revealed in various descriptions. The architect's strongest association is clearly with Rome and Campania. Clearly, too, he was sent on campaign or assignment in northern Italy (Gallia Cisalpina, Gaul "This-Side-of-the-Alps") and possibly Gaul itself. He obviously worked at Fano on the Adriatic coast, he is the only source for the siege at Larignum (2.9.15: somewhere in the foothills of the Alps; Caesar does not mention it in *Bellum Civile*), and he may have been present at the siege of Massilia (Marseilles) in 49. A hypothetical experience of North Africa is based mainly on the vividness of his descriptions in Book 8, but he could have gotten these descriptions from

the recently published *Libyka* of Iuba of Numidia.⁴⁴ Possible travel to Greece is suggested particularly by the vividness of the description of Halicarnassus and his knowledge of Ionian buildings.⁴⁵

Of Vitruvius's later career there are two indications: the first that through Octavian he received a *commoda*, which was continued through Octavia's⁴⁶ intervention (1.praef.2); the second is the testimony in Frontinus that he may have worked on the *cura aquarum*. The meaning of *commoda* is obscure,⁴⁷ but presumably it means "stipend," a regular annuity.⁴⁸ This may have given him leisure for study and writing, and he credits it explicitly with affording him the leisure to write, or at least finish, the *Ten Books* (Book 1.praef.). The *Ten Books* in turn may have secured him the post in the *cura aquarum*.

The extent to which Vitruvius was known or read in his lifetime, or influenced the development of early Imperial architecture, is a highly debatable subject.⁴⁹ There are probably no contemporary references or certain traces of influence,⁵⁰ but he was known later, at least to educated readers: he is mentioned five times in subsequent classical literature. The first is the encyclopedic *Natural History* of Pliny the Elder (died in A.D. 79),

41 *De Aquis Urbis Romae* 25.1. Sextus Iulius Frontinus was praetor, suffect consul, and military governor of Britannia (i.e., a man at the top of the *cursum honorum*), who became Trajan's *curator aquarum* in 97 and wrote an extensive technical report on the Roman aqueduct system. In it he reports that the plumbers of Rome standardized their pipe sizes according to instructions from the *architectus* Vitruvius; hence the conclusion that our author may very likely have been a staff architect of the *cura*. Regular administration of police protection, fire patrol, and water delivery did not exist in the city of Rome until early in the reign of Augustus, and its establishment was one of the *princeps'* major innovations. In 33 Octavian's right-hand man, M. Vipsanius Agrippa, took the office of aedile and became the perpetual *curator aquarum* until his death in 11, endowing the office with an attendant corps of slaves and professionals. Vitruvius would presumably have been Agrippa's staff architect, or one of them. See D. Favro, *The Urban Image of Augustan Rome* (Cambridge, 1996), 110–111.

42 Faberius Scriba (7.9.2), secretary to Caesar, Vestorius (7.11.1), banker of Puteoli, and Gaius Iulius, son of Masinissa (8.3.25), presumably related to the royal house of Numidia and who served with Caesar.

43 He mentions that Caesar, when a magistrate, may have started the habit of holding public trials in his own house (6.5.2). The draining of the marshes of Salpia (1.4.12; if the date is c. 40 B.C. See note loc. cit.) and the foundation or refoundation of Fano may have been Caesarian projects.

44 Published in 26/25, or 23. The *Ten Books*, 8.3.24 seems to be lifted directly from it. E. Nylander, *Prefaces and Problems in Vitruvius' 'De Architectura'* (Diss. Göteborg, 1992), 19; B. Baldwin, "The Date, Identity and Career of Vitruvius," *Latomus* 49 no. 2 (1990), 427; L. Callebaut, ed., *Vitruve, de l'architecture viii* (Paris, 1973), 125–127.

45 Of course he could well have gotten his detailed knowledge of Hermogenean Ionic design from teachers or writings available in Rome.

46 On Octavia, see Commentary: 1.praef.2.

47 It can also imply a onetime dismissal payment or a fee for services. E. Nylander, *Prefaces and Problems in Vitruvius' 'De Architectura'* (Diss. Göteborg, 1992), 32–36.

48 Otherwise he would not have had to seek its continuance through appealing to Octavia.

49 See later: "Vitruvius's Position in the History of the Development of Roman Construction Methods and Forms."

50 It has been suggested that the panegyric of 1.praef may, including the use of *numen* and the topos of not wanting to publish these matters while the *princeps* was busy with weightier matters (i.e., the civil wars), have influenced Horace (*Epistulae* 2.1.1, and 2.1.16). B. Baldwin, "The Date, Identity and Career of Vitruvius," *Latomus* 49 no. 2 (1992), 426. The exact opposite has also been suggested, namely that this similarity shows Vitruvius must have been influenced by Horace and hence the *Ten Books* must date to after 14 B.C. Teufel-Schwabe, *A History of Roman Literature*, trans. G. C. W. Warr (London, 1900), vol. 1, 548. Also see F. Callebaut, ed., *Vitruve, de l'architecture viii* (Paris, 1973), 125–127.

who refers to Vitruvius as a source of information on timber (N.H., Book 16), painting and pigments (N.H., Book 35), and stones (including *emplekton* walls, Book 36). The next is Frontinus, writing in A.D. 97. The next is M. Cetus Faventinus,⁵¹ whose work is largely recension of parts of Vitruvius. Servius⁵² refers to him; Sidonius Apollinaris regards him as the architect par excellence.⁵³ The references in Pliny the Elder and Sidonius Apollinaris imply that Vitruvius did indeed achieve what he had set out to do, namely, to write the only comprehensive account of ancient classical architecture, and his book probably remained authoritative in this regard throughout antiquity.⁵⁴

Education and Encyclic Studies ("Liberal Arts")

The concept of *artes liberales* (liberal arts) as a basis for professional⁵⁵ training was based on a Greek Hellenistic type of education called *enkyklios paideia* or *enkyklia mathemata* (Vitruvius refers to it as *encyklios disciplina*). Vitruvius's own ideas on liberal arts as the basis of the education of the architect are not just an ideal, and they are not his own invention, because his education, designed by his parents, clearly embodies them (6.praef.4). Vitruvius's education, however, almost certainly does not represent the way all Roman architects were trained.

Enkyklios paideia may be traced to the appearance of the Sophists of the later fifth century B.C., whose instructional methods developed into a fairly standard group of disciplines in Hellenistic Greece. The curriculum's original intention was to serve as preparation (*propaideumata*) for leadership in society. In the common view of those who favored such a curriculum in Rome (e.g., Cicero), *enkyklios*

paideia was a type of education in general studies (or "other studies" as Aristotle termed them) whose intention was to "broaden judgment" before specializing in a certain field. In the Roman world liberal study became accepted as a standard prelude only to the study of law and rhetoric (which were not paid "professions" in Vitruvius's time, but rather the activities of "those who guide the affairs of the republic") and to the professions of medicine and teaching, as well as various of the literary arts.

The ideal of a liberal course of study began to permeate the upper levels of Roman society during the second century B.C. (e.g., in the Scipionic circle), and by the first century it had not only become firmly established but had also permeated further down the social scale. For the generation of Cicero and Caesar (born c. 100 B.C.), the idea of finishing off this education with a stay in Athens was relatively unusual; by the time of Horace, a little over half a century later, this kind of general education was seen as an important family investment even for a small farmer.

The encyclic subjects (Vitruvius calls them *encyklios disciplina*, Cicero, *artes liberales*) were seen as a tightly knit group of fields that were already standardized by the late Hellenistic period: the verbal arts of grammar, rhetoric, and dialectic (logic); and the mathematical subjects of arithmetic, geometry, music theory, and astronomy.⁵⁶ Vitruvius's list of *disciplinae* includes several of the presumably "standard" subjects, as well as additions that were, in his opinion, specially pertinent to architecture and probably not part of standard education (e.g., draftsmanship, knowledge of painting, sculpture, and law). Philosophy, which Vitruvius includes, was normally the goal of encyclic studies, but not part of them.

In the normal course of Roman education there would be some introduction to encyclic studies while a youth was studying literature with a grammarian (from age twelve to fifteen), but for most Romans "general education" would consist of a patchwork of tutors from different fields who taught youths from ages fifteen to eighteen before they went into specialized training or apprenticeship. It is to these tutors that Vitruvius refers when he says he learned geometry and astronomy from his "teachers" (9.1.16).

⁵⁶ The terms *trivium* and *quadrivium* are first found in Boethius, but the Greek term *hai tesseres methodoi* ("the four methods") is found from the first century A.D. (Gerasimus (c. A.D. 100, *Introductio Arithmeticae* 1.3.4). The fields were grouped this way by the late Hellenistic period.

⁵¹ Probably early third century, but see H. Plommer, *Vitruvius and the Later Roman Building Manuals* (Cambridge, 1973). One should also probably include Palladius, whose work is dependent on Faventinus, and hence at secondhand, on Vitruvius.

⁵² Grammarian and commentator, late fourth century, *Ad Aeneidem* 6.43.

⁵³ *Epistulae* 4.3.5. Mid-fifth century Christian writer.

⁵⁴ For subsequent history of his influence, see H. Koch, *Vom Nachleben des Vitruv* (Baden-Baden, 1951). One might also include the question of whether Vitruvius plagiarized Athenaeus Mechanicus, or whether Athenaeus plagiarized Vitruvius, or whether they both share a common source in Agesistratus. See commentary, 7.praef.14, 10.13.1–2.

⁵⁵ The development of the concept of "professional," or at least the use of that word in that sense, slightly postdates Vitruvius. See Commentary: 1.1.11.

There were three levels of education in late Republican and early Imperial Rome, and the first two levels had fairly standard curricula.⁵⁷ The first or primary level began at about age six or seven and went through age ten or twelve, depending on the child. In the early Republic, education was traditionally supposed to be the responsibility of the *paterfamilias* ("traditional" parents like Cicero would try to continue the tradition by carefully designing their sons' education), but by the later Republic the wealthiest families hired tutors into their homes. Most other parents would send their children out to the care of a *magister ludi*, who worked in a hired space in the city. Here they would learn letters, basic reading and writing, and basic arithmetic. The wealthier children were accompanied by a "pedagogue," a slave who saw to it that they did their lessons and who sometimes assisted in teaching.

The second level of Roman education was in effect a grammar school, designed for students from ages ten or twelve to about age fifteen or seventeen. The pupil was in the care of a *grammaticus* or *scholasticus*, and the curriculum focused on grammar and literature (learned mainly through memorization) and further arithmetic. It was at this stage, depending on the ambitions of the parents, that extra tutors would be hired for subjects such as geometry, music, or history. Those going on to study and practice oratory were sometimes even sent to a comic actor, to increase the range of emotional expression in delivery.

The third stage, as far as we know it,⁵⁸ was the highly specialized preparation for a "career" in oratory. It would begin at about the age of fifteen or seventeen, that is, the age at which a youth would assume the clothing of an adult male, the *toga virilis*, and he would be placed in the care of a speech instructor, a *rhetor*. It would be at this stage that he normally would have tutelage in fields such as philosophy and rhetoric, if ever. This third stage of education would also often coincide with a youth's first military service, or might precede it by a few years.

As mentioned earlier, study abroad served as a fourth stage of education for many, at least for the sons of the

wealthiest Romans. Foreign study usually involved advanced training in rhetoric or philosophy and would take place with the best of Greek scholars in Rhodes, Athens, and Marseilles.

One can speculate that Vitruvius may have been apprenticed in the third phase of his education primarily to the care of an architect, or an architectural teacher, although he may have begun to pick up some skills, such as drawing, earlier.⁵⁹ He also probably continued some liberal education into this third stage, as his writing shows knowledge, if not easy mastery, of rhetoric.⁶⁰ Whether Vitruvius's travel comprised part of his education or of his career, or both, remains an open question. Clearly, however, he continued his self-education for the rest of his life (1.praef.3; 8.3.25).

In the first and second centuries A.D., liberal arts education fell somewhat out of favor as parents expressed more interest in their sons' rapid professional advancement; hence students were pressed more quickly to learn declamation, and rhetoric became more and more a matter of fluent showmanship without substance.⁶¹

Building in Augustan Rome (Figure 1)

During Vitruvius's lifetime the appearance of the city of Rome was radically transformed by considerable building activity in two areas: the open area of the Campus Martius and the densely built-up area of the old Forum. Most of this construction was sponsored by the principal political rivals of the last decades of the Republic and their partisans: Pompey, Caesar, Octavian, M. Agrippa, and to a lesser extent Marc Antony.⁶²

Throughout the first century B.C. it became common

57 See S. F. Bonner, *Education in Ancient Rome* (Berkeley and Los Angeles, 1977), and R. A. Kaster, *Guardians of Language: The Grammarian and Society in Late Antiquity* (Berkeley and Los Angeles, 1988).

58 We know about the third level of education almost exclusively from descriptions of the preparation of a "career" in oratory: the anonymous *Rhetorica ad Herennium*, Cicero, Suetonius, and Quintilian.

59 There were, by the late Hellenistic period and into the first couple of centuries A.D., a few "schools" of medicine, complete with a curriculum (varying from as little as six months to as much as four to six years) and initiation rituals for the entering class of students. There is no evidence of any similar schools for architects, or even architects who offered orderly curricula to their apprentices.

60 E. Nylander, *Prefaces and Problems in Vitruvius' 'De Architectura'* (Diss. Göteborg, 1992), 22. Vitruvius also specifically states that he has read Cicero on the art of rhetoric and Varro on the Latin language, so that his knowledge of rhetoric could well be part of his lifelong self-education (9.praef.17).

61 Bonner, *Education in Ancient Rome* (Berkeley and Los Angeles, 1977), 332.

62 For a summary of Augustan architecture and its overall historical context, D. Favro, *Image of Augustan Rome* (Cambridge, 1996).



Figure 1. Rome in the time of Augustus (partly reconstructed).

for competing individuals or factions to restore or completely rebuild temples that had fallen into disrepair. Maintenance of temples was normally a senatorial prerogative, and individuals or military *triumphatores* were not permitted to build or restore temples in their own names; L. Opimius was the first to be allowed to do so when he rebuilt the temple of Concord in 121 B.C., setting a precedent that other ambitious Romans were eager to follow. Many of the temples Vitruvius refers to are restorations or rebuildings of this sort. Most of the rebuildings were in the form of up-to-date Hellenistic monumental architecture, although they existed side by side with the older form of Italic/Etruscan temple of mud brick, timber, and terracotta, quite a number of which survived into the first century A.D.

The buildings that set the style for the monumentalization of the Campus Martius were a series of Greek-influenced lavish temples and porticoes built mainly by victorious generals (*imperatores*) from the middle of the second century B.C.: the temples of Hercules Musarum, Juno Regina and Diana, built by the censors M. Fulvius Nobilior and M. Aemilius Lepidus in 179; the Porticus Octavia, built by Gn. Octavius, the victor in a minor sea battle, in 168; the Porticus Metelli, built by Q. Caecilius Metellus Macedonicus, the conqueror of Macedon, in 146–131; and the Porticus Minucia, by M. Minucius Rufus, the victor in a Thracian campaign in 107. The Porticus Octavia was either two story or two aisled (*porticus duplex*) and had Corinthian columns decorated in gilded bronze.

In contrast to the older part of Rome, these monuments struck contemporaries as a radiant new city. Strabo, c. 9–6 B.C., writes,

In fact, Pompey, the Deified Caesar, Augustus, his sons and friends, and wife and sister, have outdone all others in their zeal for building, and in the expense incurred. The Campus Martius contains most of these, and thus, in addition to its natural beauty, it has received still further adornment as the result of foresight. Indeed, the size of the Campus is remarkable, since it affords space at the same time and without interference, not only for the chariot races [in the Trigarium and Circus Flaminius] and every other equestrian exercise, but also for that multitude of people who exercise themselves by ball-playing, hoop-trundling, and wrestling; and the works of art situated around the Campus Martius and the ground, which is covered with grass throughout the year, and the crowns of those hills that are above the river and extend as far as its bed [i.e., the modern Pincio, ancient Collis Hortulorum, crowned with villa-gardens, like the Villa of Lucullus], which present to

the eye the appearance of a stage painting – all this, I say, affords a spectacle which one can scarcely draw away from. And near this campus is still another campus, with colonnades round about it in very great numbers [i.e., the southern end of the Campus Martius], and sacred precincts, and three theaters, and an amphitheater, and very costly temples, in close succession to one another, giving the impression that they are trying, as it were, to declare the rest of the city a mere accessory. For this reason, in the belief that this place was the holiest of all, the Romans have erected in it the tombs of their most illustrious men and women; the most noteworthy is what is called the Mausoleum [the Mausoleum of Augustus], a great mound near the river on a lofty foundation of white marble, thickly covered with evergreen trees to the very summit. Now on top is a bronze image of Augustus Caesar; beneath the mound are the tombs of himself, and his kinsmen and intimates; behind the mound is a large sacred precinct with wonderful promenades [i.e., public garden]; and in the middle of the Campus is the wall (this too of white marble) round his crematorium [*ustrinum*]; the wall is surrounded by a circular iron fence and the space within is planted with black poplars. And again, if, on passing to the old Forum, you saw one forum after another ranged along the old one, and basilicas, and temples, and say also the Capitolium and the works of art there and those of the Palatium and Livia's promenade [Porticus Liviae], you would easily become oblivious to everything else outside. Such is Rome.⁶³

In addition, one other major feature of architectural activity in the reign of Augustus was the long overdue reorganization of the administration of building codes, water supply, police and fire brigades.⁶⁴ Agrippa himself, although he had been consul, took the lower office of aedile in 34/33 to take control of the aqueducts and organized a permanent staff. Vitruvius may later have served as a professional on that staff when he standardized the sizes of the water pipes in Rome.⁶⁵

Throughout this entire period, however, the main part of the city of Rome was a warren of winding streets and precarious multistory tenements (6–8 stories high), of mud brick and half-timber with cantilevered wooden bal-

63 Strabo, *Geography* 5.3.8, trans. H. L. Jones (London, 1938).

64 See D. Strong, "The Administration of Public Buildings in Rome in the Late Republic and the Early Empire," *Institute of Classical Studies Bulletin* 15 (1968), 97–109; D. Favro, "Pater Urbis, Augustus as City Father of Rome," *Journal of the Society of Architectural Historians* 51.1 (1992), 61–84.

65 Frontinus, *De Aquis Urbis Romae* 1.25.