

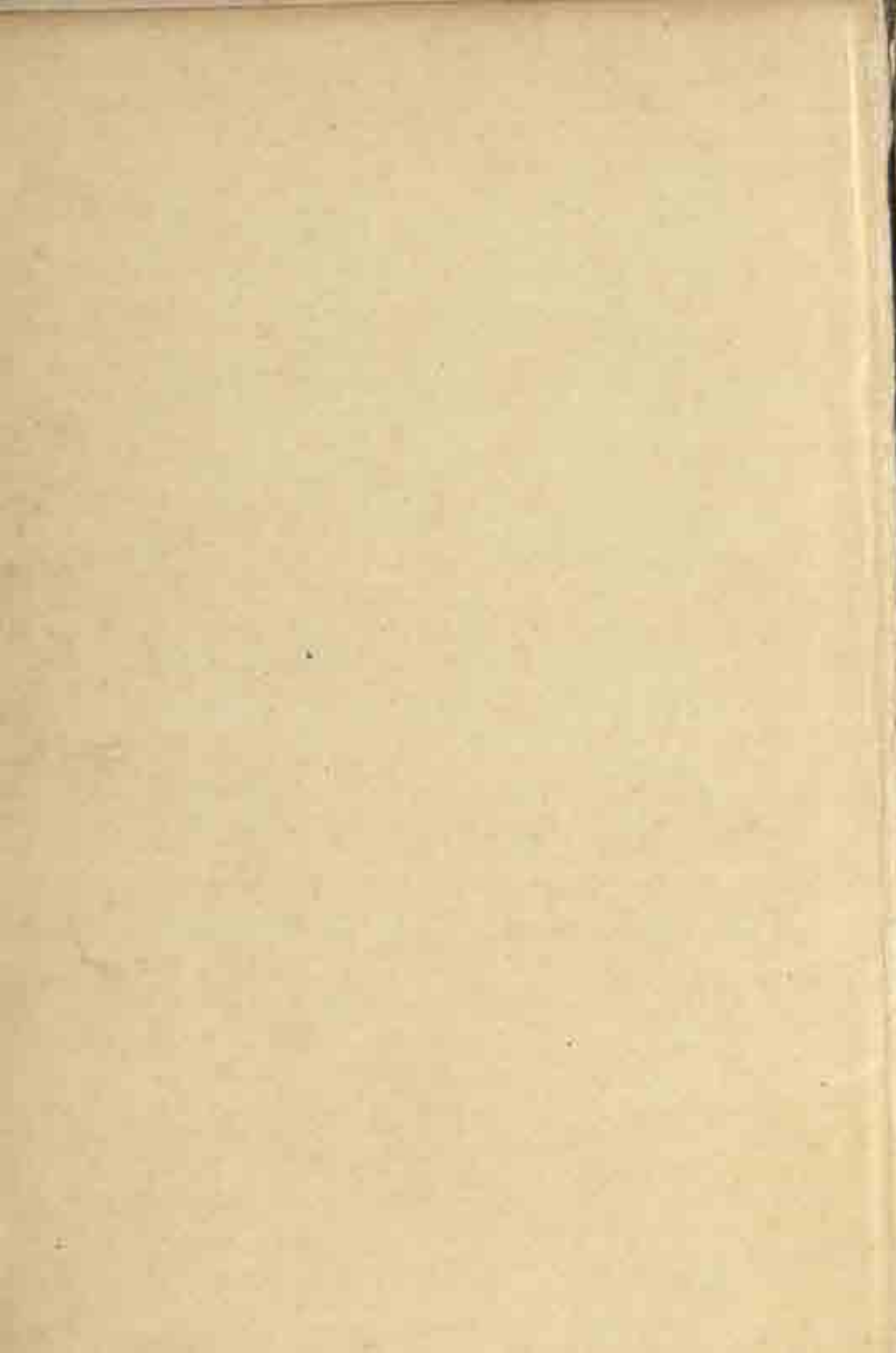
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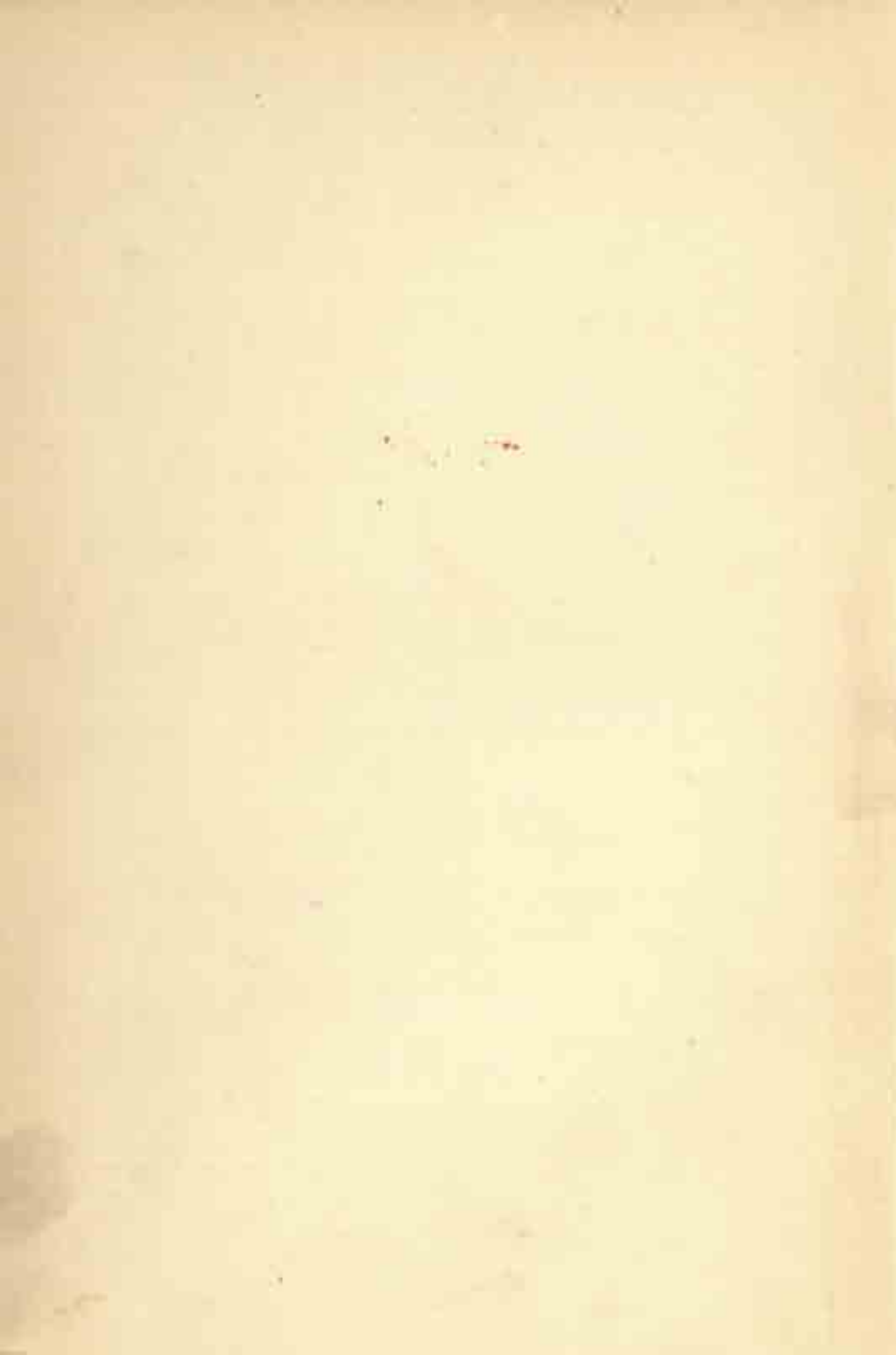
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THE REMAINS OF ANCIENT ROME



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TIMES," 1891, ETC., ETC.

* *Posita nihil urbe Roma
Visere majus.*—HOR. *Car. Sec. 11.*

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CHAPTER I

THE IMPERIAL FORA.

OWING to its situation, and the many important buildings which surrounded it, it was impossible to enlarge the *Forum Romanum*¹ so as in any way to keep up with the rapid growth of the population of Rome, and the increase of business both legal and commercial. Hence it happened that towards the end of the Republic the space provided in the old Forum was very inadequate to the needs of the people.

Want of
space.

In order, therefore, to meet the necessity for new law courts, exchanges, and other requirements of law and commerce, one Forum after another was planned and constructed by the Emperors of Rome.

The *Forum Romanum* was further relieved from one of its early uses, that of a place of scenic spectacles and gladiatorial fights, by the construction of a number of theatres, amphitheatres, and other places of amusement, allowing of theatrical representations and scenes of butchery on a much larger scale, and got up with far greater splendour than was possible in the narrow limits of the area of the *Forum*, with its shaky rows of temporary wooden platforms and seats.

Growth of
theatres.

¹ The name *Forum Romanum*, implying the old Forum, continued in use even when there were several other *Fora* in Rome. The old one was always "the Forum," *par excellence*; it was also known in late times as the *Forum Magnum*, though not equal in size to *Trajan's Forum*.

FORUM JULIUM.¹*Forum
Julium.*

The first of these additional Fora was that which was begun and in part completed by Julius Caesar, from whom it was called the *Forum Julium*. Its central area was partly occupied by a magnificent Temple to *Venus Genetrix*, the mythical ancestress of the Julian Gens. This temple was vowed by Julius Caesar at the battle of Pharsalia, in 48 B.C., and the work was begun in the following year. The site chosen was a very crowded one, and the houses on it very valuable, owing to their neighbourhood to the great centre of Roman political and commercial life. Thus, in spite of the enormous sum spent in buying the ground, no less than 100 million sesterces,² the site is said to have been somewhat cramped on account of the great expense of buying the private property at that place; see Suet. *J. Caes.* 26; Cic. *Ep. ad Att.* iv. 16; and Pliny, *Hist. Nat.* xxxvi. 103.

*Temple of
Venus.*

The central Temple of *Venus Genetrix* was completed with wonderful rapidity, and consecrated at the time of Caesar's triumphal entry into Rome in 46 B.C., though the bronze statue of Venus in its *Cella* was not complete; this was the work of the Greek Arcesilaus; Dion Cass. xliii. 22; Plut. *Caes.* 60; and Pliny, *Hist. Nat.* xxxv. 156. Pliny here tells us that Arcesilaus' model (*proplasma*) for the bronze of Venus Genetrix was placed temporarily in the *Cella* before the actual statue was finished.

*Statue of
Venus.*

We probably possess a copy of the *Venus Genetrix* of Arcesilaus in the well-known marble statue of Venus in the Vatican. The figure is fully draped, but with thin, closely clinging folds, which do little to conceal the form. In her left hand Venus holds an apple, in the right hand, uplifted, she holds a corner of her *stola*. This statue is shown on the

¹ The Forum Julium and the other Imperial Fora are shown on the Plate opposite page 1.

² About a million sterling in modern value.

reverse of a denarius of Sabina, with the legend *VENERI GENETRICE*.

The Temple of *Venus Genetrix* is mentioned by Vitruvius (iii. 3) as an example of *pseudostyle* (close) intercolumniation, like



Fig. 49.

Plan of Fora of Julia, Augustus, and Nerva.

that built in honour of Divus Julius. It contained many works of art and other rich treasures; a breastplate covered with pearls from Britain, Pliny, *Hist. Nat.* ix. 116; and six *dactylithecae*, cabinets of rings set with engraved gems, *ib.* xxxvii. 11.

Treasures
and works
of art.

Greek
pictures.

Pliny (*ib.* vii. 126 and xxxv. 25 and 136) records that Julius Caesar bought for 80 talents two pictures of Medea and Ajax by Timomachus, and placed them in the Temple of Venus Genitrix; see also Cic. *In Verrem*, II. iv. 60. In the same temple Augustus dedicated the celebrated picture of Venus Anadyomene by Apelles, the lower part of which was injured by age: no living painter was skilful enough to restore it; see Pliny, *Hist. Nat.* xxxv. 26.

Statue of
Julius.

In front of the temple stood an equestrian statue of Julius Caesar, mounted on his favourite charger, which had strangely formed hoofs; see Pliny, *Hist. Nat.* viii. 155; and Suet. *J. Caes.* 61. This statue was of gilt-bronze; Stat. *Silv.* I. i. 84.

That the Forum itself, that is, probably, the rows of arches and columns which surrounded the area, was not finished during Caesar's life is shown by the passage from the Ancyrean inscription, quoted in vol. i. p. 385, where its completion by Augustus is recorded.

Scribes'
offices.

The *Forum Julium* was specially intended for legal business, and the few existing vaulted chambers, with which at least one side of the area was lined, were probably offices for scribes and advocates. The scanty existing remains of these which are now visible are to be seen in a small court which opens out of the west side of the Via Marmorelle, house No. 29, an alley which issues nearly opposite the *Mammertine* prison.

Existing
remains.

Remains of five arches exist above ground, each opening into a vaulted chamber, which is now mostly buried below the level of the ground; one or two of these have been excavated and can be explored. They are built of massive tufa blocks, with vaults of tufa concrete. On the outside there are a number of holes by which marble linings were attached over the whole wall and arches. Each archway is double, having a slightly cambered flat arch, and over it a semicircular "relieving arch." The springers and keystone of the flat arches are of travertine; the rest is of hard tufa, an interesting

example of the Roman use of mixed hard and soft materials, see fig. 50.

From below the old level of these rooms there are *Cloacas* *Cloacas.* large enough to walk through, which run towards the "Mamertine prison," and then on into the great *Cloaca*.¹ The large arches by which this row of rooms opened into the *Forum*

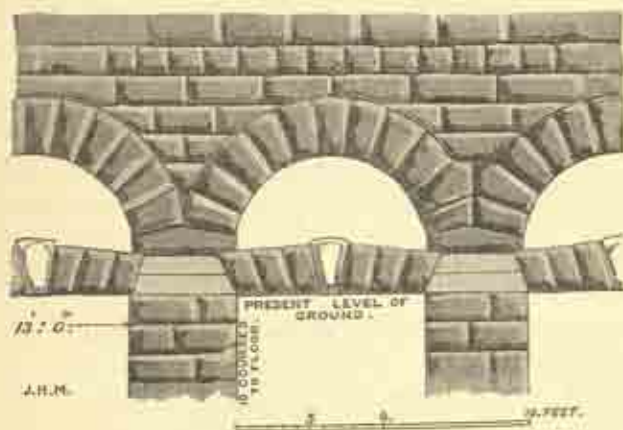


Fig. 50.

Part of the existing wall round the Forum Julium. The keystones and springers of the flat arches are travertine, the rest tufa.

Julium were probably once fitted with wooden doors and shutters, like those in the Forum of Trajan, see vol. ii. p. 33.

Palladio (*Architettura*, iv. cap. 31) gives a complete set of drawings of a very handsome temple, conjecturally restored by him on the evidence of a number of marble architectural fragments which were in his time found near this place, between

*Palladio's
drawings.*

¹ There is not the slightest ground for Mr. J. H. Parker's notion that these chambers were part of the "Mamertine prison." They are at a considerable distance from it, and have no connection with it except through drains. They are manifestly a row of shops or offices; each has a large open archway for the sake of publicity, and nothing less like the rooms of a prison can possibly be imagined.

*Temple of
Venus.*

the *Via del Marforio* and the *Forum of Augustus*. The marble frieze was enriched with reliefs of dolphins and tridents, very like those on part of the *Thermae of Agrippa*, behind the Pantheon, on account of which Palladio calls it a "*Temple of Neptune*." The plan of this building, according to Palladio, was a *peripteral, octastyle, pycnostyle* temple of the Corinthian order; and these facts, together with the position in which its remains were found, leave little doubt that it was the *Temple of Venus Genetrix* in the centre of the *Forum Julium*.

Rich details.

Its details, as shown by Palladio, appear to be exceptionally rich and well designed. The entablature is elaborately decorated with sculptured ornaments, and the *lacunaria* of the marble ceiling over the peristyle are most sumptuously ornamented with enriched mouldings and floral reliefs at the bottom of each "coffer." The whole building is evidently the work of a Greek architect, possibly the same Arcesilaus who executed in bronze the *cultus* statue of *Venus Genetrix* which stood in the *Cella*.

FORUM OF AUGUSTUS.

*Forum of
Augustus.*

The Forum built by Augustus, with its central *Temple to Mars Ultor*, was on the north-east side of the *Forum Julium*; in size it was about equal to the *Forum Romanum*. The temple and its surrounding area, enclosed with walls of immense height, were built in fulfilment of a vow made by Augustus in 42 B.C., before the battle of Philippi, which avenged the death of his adoptive father Julius; hence the dedication to Mars the Avenger; see *Suet. Aug.* 29, and *Ovid, Fast.* v. 569. The Ancyrean inscription records IN · PRIVATO · SOLO [EMP]TO · MARTIS · VLTORIS · TEMPLVM · FORVMQVE · AVGVSTVM EX · [MANV]BHS · FECL.

*Temple of
Mars.*

The *Temple of Mars* was dedicated in 2 B.C. (*Vell. Paterc.* ii. 100, 2); the surrounding Forum, like that of Julius, was mostly given up to legal business, and contained an important tribunal in which Augustus himself sometimes sat to hear causes;

Dion Cass. lxxviii. 10.¹ The plan of this Forum is rectangular (see vol. ii. p. 3), with two large curved projections; its wall was nearly 100 feet high, and the lower stages were wholly covered inside with marble linings.² *Plan of the Forum.*

A series of niches in the circuit wall, in several tiers, one above the other, contained an immense number of statues. One great series represented all the chief military leaders of the Romans, beginning with Aeneas and Romulus, down to the time of Augustus himself; a series specially intended to honour those Romans who had built up, extended, and consolidated the great Empire of Rome.

Pliny mentions a number of antique works of art, which were collected in this Forum; in the *Temple of Mars Ultor*, two of the four statues which once had supported Alexander the Great's tent, the other two being in the *Regia*; see *Hist. Nat.* xxxiv. 48. An ivory statue of Apollo, *ib.* vii. 183; some elaborately worked iron cups (*scyphi*), xxxiv. 141; two pictures representing *War* and the *Triumph of Alexander*, with Alexander in a chariot accompanied by Victory and Castor and Pollux, both painted by Apelles, xxxv. 93. *Works of art.*

Augustus, in the Ancyrean Inscription, mentions a quadriga which he dedicated in his Forum; see Mommsen, *Res Gestæ*, 1883, p. 113.

The *Temple of Mars Ultor* was specially appointed by Augustus as the place where the Senate were to meet to deliberate on the question, when it arose, of granting the honours of a triumph, in order that the crowd of statues of *Temple of Mars.*

¹ The dedication of the *Temple of Mars Ultor* was celebrated with various dramatic and other representations, including a Naumachia with thirty ships, the combatants being dressed to represent the Athenians and Persians at the battle of Salamis.

² Drawings of the Forum of Augustus and its Temple of Mars, including plans, elevations, and sections, are given by Palladio, *Arch.* iv. cap. 7; and still better in the earlier work of Labacco, *Libro appartenente a l'architettura*, 1557, Plates 9 to 15.

*Temple of
Mars.*

victorious Roman generals might warn them not to be too lavish of the honour. Triumphant generals were to deposit here any standards that had been recovered from an enemy, and to dedicate their wreaths or crowns. In the *Temple of Mars* the *toga virilis* was to be assumed by the sons of succeeding emperors; and a solemn farewell sacrifice was to be made to Mars Ultor by newly appointed governors of provinces, before setting out for their seat of office.

Like many other Roman temples, the *Temple of Mars* contained a treasury; see Juvenal, *Sat.* xiv. 261, where a robbery of the treasury seems to be referred to.

A road passed on each side of the *Temple of Mars* towards the *Forum Romanum*, and across these roads Tiberius erected triumphal arches in honour of the German victories of Germanicus and Drusus; Tac. *Ann.* ii. 64.

*Existing
remains.*

Existing Remains of the Forum of Augustus; see fig. 49 in vol. ii. p. 3. The existing remains of the great circuit wall of this Forum are among the most stately of the ruins of classical Rome, and are specially worthy of careful examination, as one of the finest existing examples of massive Roman masonry of the best period. The best view of this wall is to be had from the *Salita del Grillo* on the slope of the Quirinal near the foot of the *Marchione Tower*.

Lefty wall.

This enormous wall, about 86 feet high,¹ is divided into three stages by two simple string-courses of travertine. The utter absence of any ornament or even moulding on the outside of this great mass of masonry gives it an effect of much simple grandeur. It is built of *peperino*, in large blocks, roughly 2 Roman feet thick by 2 wide across the ends, and varying from 5 to nearly 7 feet in length.

The upper story is built of a softer greenish sort of *peperino* (*Lapis Albanus*), which has weathered badly; and the lower

¹ That is, measuring from the present ground level, but about 23 feet of the base of the wall are buried below the modern street, as has been shown by the excavation recently made in the interior of the Forum.

parts of the very hard grey peperino (*Lapis Gabinus*), which is now as fresh in surface as ever. The stones are left rough and bossy on the face, and are "draughted" with a smoothly worked band round the joints. No mortar is used, but the usual dovetail clamps fasten each block to the next; see *Vitr.* i. 5. 3. Flaminio Vacea, writing in the sixteenth century, records that when part of this wall was pulled down the wooden clamps were found in a perfect state of preservation, though no one could tell what wood they were made of.

Massive masonry.

Four well-jointed arched doorways are visible, though buried in the modern street nearly to the springing of each arch. A fifth archway has been destroyed by a modern door into the Church of the Annunziata, which is built on the site of the *Temple of Mars Ultor*.

Archways.

Fig. 49 shows the plan of the Forum of Augustus; the black indicates what still exists. The arched doorways above mentioned are shown on the plan by the words "*Tor de' Conti*." The plan of the portions of the temple and Forum which are now missing is taken from a drawing made about 1555 by Labacco; see note in vol. ii. p. 7.

Plan of the Forum.

At the east angle of the Forum the symmetry of the plan is spoilt by a piece of it being, as it were, cut off in a sloping direction. There must have been at this point a building which for some reason could not be pulled down and built over, as the circuit wall here makes a strange bend, and is built slightly curved inwards. Suetonius says, *Aug.* 56, *Forum augustius fecit, non ausus extorquere possessoribus domos.*

At this point, close by the *Temple of Mars*, an important thoroughfare entered the Forum in a slightly diagonal direction under a fine archway, which still exists, spanning the modern street *Via Bonella*, under the name of the *Arco de' Pantani*.¹ Its *coussoirs* are of immense blocks of *travertine*, tailing in with the *peperino* courses of the wall.

Entrance arch.

¹ This arch is called *de' Pantani*, because in the mediæval period the ground was marshy at this point.

This fine archway is shown at fig. 2, in vol. i. p. 43, as a characteristic specimen of Roman masonry of the Augustan Age. Great labour and much extra material have been expended in making parts of the *voussoirs* of the arch bond in with the level courses of the masonry of the adjoining wall.

A great part of the wall, over the arch, was stolen in the Middle Ages for building materials,¹ together with all the rest of the *peribolus*, with the exception of this one end, and a bit of the south-west side adjoining.

Marble
facing

The interior of the *Forum of Augustus* must have been a most striking contrast to the aspect of the outside. There, instead of roughly hewn blocks of dark grey peperino, all was lined with polished marble of dazzling whiteness, or with *opus albarium* decorated with brilliant painting, varied with columns of *paonazetto*, *giallo*, and other foreign marbles of rich colour and markings.

On the top of the circuit wall, projecting on the inside of the Forum, there is a massive and effective *travertine* cornice, 4 feet deep, with large simple consoles; the upper part of the *peperino* wall, on the inside, appears to have been covered with hard white stucco, while the lower was cased with coloured marbles and rows of monolithic columns.

Close by the Arco de' Pantani there are marks, on the inside of the Forum wall, of a lofty *porticus* with gabled roof, which abutted against it; holes for the wooden beams of this roof are cut in the *peperino* wall. This porticus, supported on long rows of columns, was carried round three sides of the enclosing wall of the Forum; see plan on p. 3.

Great
hemicycle

Next to this comes the wall of the great hemicycle which

¹ A simple but stately late sixteenth-century palace adjoined the remains of this great wall, a little farther to the south-east. Its façade was built wholly of blocks of *peperino* taken from the Forum of Augustus. In 1884 this palace, in its turn, was destroyed, and replaced by a "jerry building" covered with stucco, such as are now springing up by hundreds in Rome.

backed up against the *Forum of Nerva*: a great part of it with its rows of niches for statues still exists in a good state of preservation: each niche was flanked by a great monolithic column of coloured marble, supporting an entablature of solid blocks of white marble. The rest of the surface of the wall was covered with lining slabs of various coloured marbles. Considerable remains of these magnificent decorations were discovered in 1888, when excavations were being carried on within this hemicycle. The paving of the Forum was found to be about 23 feet below the modern street: it was formed of the most costly materials, green and red porphyries, with Numidian and other coloured marbles and white marble arranged in large slabs so as to form simple geometrical patterns, but most magnificent in effect from the variety of the materials used.

Marble paving.

Close by the Arco dei Pantani a considerable area of this pavement is now exposed to view. At this point, too, the stately circuit wall of the Forum can be seen to its full height of about 110 feet, so that it is now possible to judge how magnificent was the effect of the interior of the Forum of Augustus when it was complete.

Among the inscriptions recently found here the most interesting is the following: IMP · CAESARI · AVGUSTO · P · P · HISPANIA · VLTERIOR · BAETICA · QVOD · BENEFICIO · EIVS · ET PERPETVA · QVIA · PROVINCIA · PACATA · EST · · · AVRI · P · C. The Comm. Lanciani explains the latter part of this inscription as meaning that some object of gold, probably a vase, weighing 100 pounds, stood on the pedestal on which the inscription is cut. During recent excavation in the Forum of Augustus a great many valuable fragments of sculpture were found; see *Bull. Com. Arch.* 1890, p. 251.

Inscriptions.

Temple of Mars Ultor. The small part that still remains of the *Temple of Mars Ultor* gives some notion of what its complete beauty must have been. Three Corinthian columns are still standing, and a pilaster fitted against the *peperino* circuit wall, all of Luna marble, and of the finest workmanship. Over

Remains of Temple of Mars.

*Temple of
Mars.*

these columns the architrave still remains, and the coffered marble ceiling of the *peristyle* is here well preserved, with its richly moulded sunk coffers (*lacunaria*) and central rosette in each.

The *Cella* wall is of peperino lined with thin slabs of Greek marble, with intermediate bands of solid marble blocks, talling into the wall. The plinth is richly moulded, and the lower part of the *Cella* has a tall dado, with grooves sunk into the marble like sham joints, a device very successfully employed by the Romans to give increased appearance of size to their buildings.¹

The greater part of the existing wall on this side of the street and the site of the *Temple of Mars* cannot now be examined inside, owing to a nunnery being built against it, on the site of the Temple of Mars; it is therefore difficult to gain admittance to this part.

*Sixteenth
century
drawings.*

In the sixteenth century this Forum was very much more complete than it is now; drawings of its plan and section, with details of the temple, are published in Palladio's *Architettura*, 1570, lib. iv. cap. 7, as is mentioned above; and by Gamucci, *Ant. di Roma*. These show the Temple of Mars as being *octastyle*, with nine columns and a pilaster on the sides;² the end of the *Cella* is apsidal, like the Temple of Venus and Rome, and several others.³

¹ Nothing dwarfs a building more than its being faced with very large blocks, so additional false joints were added in order to restore its true scale. This is skilfully done in the fine travertine facing of the Tomb of Caecilia Metella, and in other buildings of a good period, such as the circular Temple in the *Forum Boarium*.

² The shortness of Roman temples in proportion to their width is one of the chief points in which they differed from those of pure Greek style; peripteral Hellenic temples had, as a rule, at least twice as many columns on the flanks as at the end.

³ On the Forum of Augustus see Lanciani, *R. Accademia dei Lincei*, 1882-83, vol. xi.; Jordan, *Topog. Stadt Rom*, vol. i. part ii. pp. 128, 129; and Borsari, *R. Accad. Lincei*, vol. xiii. 1884.

Labacco, *Architett.* 1557, shows the rich internal columns of the cella with very elaborate bases, resting on a low podium or dado like that in the Temple of Concord, on which statues were placed between each pair of columns.

Internal podium.

It should be observed that the common denarius of Augustus—with *rev.* a small circular temple with Corinthian columns and a domical roof; *legend* MART · VLT—refers to a smaller *edicula* which Augustus built in honour of Mars Ultor on the Capitoline Hill; see Dion Cass. liv, 8.

FORUM PACIS OF VESPASIAN.

The next in date was the *Forum Pacis*, built to enclose the large and magnificent *Temple of Peace* founded by Vespasian; Martial, I. ii. 8; Suet. *Vesp.* 9. It was on the south-east of the *Forum of Augustus*, but did not quite join it; a wide street from the *Subura* to the *Forum Romanum* being left between them. This strip of ground afterwards became the *Forum Transitorium* or *Palladium* of Nerva; see fig. 49, in vol. ii. p. 3.

Forum of Peace.

Nothing now remains of the *Temple of Peace*, mentioned by Pliny (*Hist. Nat.* xxxvi. 102) as being one of the four most magnificent buildings in Rome.¹

Temple of Peace.

The *Templum Pacis* was dedicated by Vespasian in 75 A.D., having been begun four years before, immediately after the taking of Jerusalem; Dion Cass. lxxvi. 15. Josephus (*Bell. Jud.* V, v. 5, and VII. vi. 5 to 7) gives a description of the splendours of the temple; in it were dedicated spoils from the Jewish Temple, including the gold candlestick, trumpets, and table of *prothesis*, which are represented in the relief on the Arch of Titus, which is described in vol. ii. p. 304; cf. Herodian, i. 14; and Amm. Marc. xvi. 10. This temple con-

Jewish spoils.

¹ The other buildings Pliny names in this passage as being the most remarkable in Rome for combined size and splendour are the *Circus Maximus*, the *Basilica Aemilia*, and the *Forum of Augustus*.

tained countless works of art and objects of archaeological interest, many of which are mentioned by Pliny.

*Picture by
Protagoras.*

Among them was a painting of the hero Ialysus,¹ by Protagoras, said to have been his masterpiece, during the execution of which the artist, according to Pliny, lived on steeped beans alone, so that a constant sense of hunger might render his feeling for beauty more keen; see Plut. *Demetr.* 22.

Other no less absurd stories are told by Pliny (*Hist. Nat.* xxxv. 102) about this wonderful picture, namely, that it was painted four coats thick in order to be more durable,² and that one of its chief beauties was the vivid representation of the froth on a dog's mouth, accidentally produced by the painter throwing his sponge at it in despair of getting the right effect.

*Statue of
the Nile.*

The celebrated Colossus of the Nile in the Vatican, surrounded by sixteen children, probably representing the greatest number of cubits that the river rises, is a fine and probably contemporary copy in marble of a group in the *Temple of Peace* sculptured in the hard iron-coloured Egyptian *basanites* (basalt); Pliny, *Hist. Nat.* xxxvi. 58. The Vatican group was found in the time of Leo X. about 1516, on the site of the *Scapæum*, near the Church of S. Maria sopra Minerva.

*Other works
of art.*

The *Temple of Peace* also contained a fine statue of the Argive Cheimon by Naucydes, a victorious Athlete, mentioned by Pausanias, vi. 9. 3; and a statue of Ganymede, which is named by Juvenal, *Sat.* ix. 22.³

¹ Ialysus was a hero worshipped from very early times in the island of Rhodes, where he was said to have founded the city which took its name from him.

² This statement may perhaps be based on some record of Protagoras' careful method of preparing his ground with many coats of priming. The white earth of Eretria in Euboea and another white earth from Egypt called *paraetonium* were commonly used by Greek painters for the "priming" of their panels or canvases; see Pliny, *Hist. Nat.* xxxiii. 2; and xxxv. 36-38.

³ According to Procopius (*Bell. Goth.* iv. 21), even in the sixth

A great part of the enormous collection of works of art, the spoils of Delphi and other Greek cities, which Nero placed in the state-rooms of his Golden House, were dedicated by Vespasian in and around the *Temple of Peace*; see Pliny, *Hist. Nat.* xxxiv. 84. Among the large collection of pictures in the *Temple of Peace*, Pliny (*Hist. Nat.* xxxv. 109) mentions one of Scylla by Nicomachus, and a noble painting of a Hero by Timanthes.¹ Pliny specially praises a small panel painting by Timanthes in the *Temple of Peace*, representing Cyclops asleep, and round him a number of Satyrs, some of them measuring the giant's thumb with a thyrsus; see *Hist. Nat.* xxxv. 74.

Greek
pictures.

A public library in this Forum is mentioned by A. Gellius, v. 21. 9; this appears to have been a meeting-place for literary discussions and criticism; see Treb. Pollio, *Hist. Aug. Tyr. Trig.* 31.

Library.

In the reign of Commodus, in 191 A.D., a fire broke out in the *Temple of Peace*, and swept across the *Forum Romanum* to the Palatine; Dion Cass. lxxii. 24.

Existing remains show that the *Forum of Peace* and the buildings it enclosed were restored soon after this, in the reign of Sept. Severus.

Existing Remains of the Forum Pacis. The chief portion of the original building of Vespasian which now exists is part of the circuit wall of his Forum, a lofty and very massive wall of mixed blocks of *peperino* and *tufa*, left rough outside like those of the *Forum of Augustus*; this is opposite the north-west end of Constantine's Basilica; see fig. 51, No. 1. In it is a fine square-headed doorway of travertine, with a flat arch, and a century, statues by Phidias, Lysippus, and Myron existed in the *Forum of Peace*.

Existing
remains.

¹ The ancient Greek paintings which were brought to Rome were not all easel pictures; even mural paintings on the fine hard marble-dust stucco were cut off their walls and fixed in wooden frames so as to be portable; see Pliny, *Hist. Nat.* xxxv. 154 and 173; and Vitruv. ii. 8. 9.

semicircular relieving arch over it; the *tympanum* being filled in with blocks of tufa; see vol. i. p. 41. The arches and quoins of this doorway are built of large blocks of travertine, in courses of irregular thickness, with which the tufa courses are made to range, the *pseudisodomon* of Vitruvius.

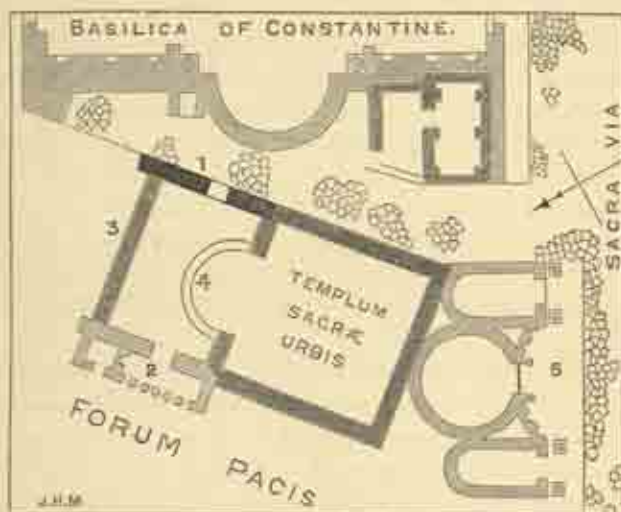


Fig. 51.

Group of Buildings by the Forum Pacis.

1. Existing wall of peperino and tufa, with travertine doorway, shown in fig. 1, vol. i. p. 41.
2. Walls and porch, destroyed by Urban VIII.
3. Brick-faced wall of the time of Severus, against which the marble plan of Rome was fixed.
4. Apse built by Pope Felix IV., when he converted the Templum Sacræ Urbis into the Church of SS. Cosmo e Damiano.
5. Temple of Romulus, built by his father Maxentius, made by Felix IV. into the porch of his church.

This entrance (now blocked up), which formerly led into one of the buildings of the *Forum Pacis*, is approached by a side road, leading out of the *Sacra Via*, close by the Temple of Romulus. This road was blocked up when Maxentius and

Constantine built their great Basilica, as is shown in the accompanying plan.

The researches of Prof. Jordan and the Comm. Lanciani have shown that this massive doorway opened into what was probably the *Templum Sacre Urbis*, on the confines of Vespasian's Forum,¹ a sort of Municipal Record office, which also contained a plan of the whole city of Rome, covering one of the walls, probably partly copied from the much earlier one made for Agrippa and placed about 7 B.C. on the walls of the *Porticus Pollus*, so called from Polla, the sister of Agrippa, who built it.

*Templum
Sacre
Urbis.*

*Plan of
Rome.*

The original plan of Rome in this building, made by order of Vespasian, was probably destroyed during the fire of Commodus' reign, which also ruined parts of the *Templum Urbis*.² This building was restored by Severus, not in *opus quadratum* of stone as before, but with concrete faced with brick. The two end walls of this rebuilding still exist; that which faces on the *Sacra Via* is visible above the later circular *Temple of Romulus*, with five large round-headed windows high up, near the pediment.

*Existing
remains.*

In the sixteenth century much more than now exists remained of the original stone masonry of the *Forum Pacis* as built by Vespasian. Parts now lost are shown by Du Perac, *Vestigi di Roma*, 1575, and in a MS. of Ligorio, rather earlier in date, which is in the Vatican library (*Cod. Vat.* 3439).

Sept. Severus also replaced the *Plan of Rome*, which had perished or been greatly injured in the fire.

¹ See Jordan, *Topogr. Rome*; Lanciani, *Bull. Comm. Arch. Rom.* for 1882; Tredelemburg, *Ann. Inst.* 1872, p. 66; and De Rossi, *Bull. Arch. Crist.* 1887, p. 62.

² It is possible that parts of the marble plan which still exist date from the time of Vespasian. The drawing on some of the fragments is much more carefully executed than that on other pieces. Moreover, slight differences in the scale of various parts support the notion that the whole was not executed at the same time.

Marble Plan.

Severus' Marble Plan.—On the other end wall (at 3 on fig. 51) was fixed the great plan, engraved on slabs of white marble, of which many fragments now exist, and are preserved on the stairs of the Capitoline Museum.¹ The pieces were mostly found at the foot of this wall, and the stumps of the metal clamps by which they were attached to it still exist in the face of the wall, showing the size and number of the complete marble slabs, which were fixed in nine tiers; the slabs averaged about 5 feet high by 3 feet 6 inches wide.

The whole have been published by Prof. Jordan, *Forma Urbis Romae*, Berlin, 1875-82, a very valuable work, which also gives a plan of the building where the plan was fixed, and a drawing showing the position of the engraved slabs upon the wall.²

The scale of the *Marble Plan* is about 1 to 300, but appears not to be quite uniform; the names of Severus and Caracalla, followed by the words AVGG·NN,³ show that it was made during their lifetime, probably at the same time as the restoration of the building, about 200 A.D.

Existing fragments.

Seventy-four of the 167 fragments found in the time of Pius IV. (1559-65) are now lost, but drawings of them by Bellori are preserved in the Vatican (*Cod. Vat.* 3439). These drawings have been copied in marble, and are let into the walls of the Capitoline Museum, together with the genuine pieces. The copies, which are distinguished by a star, are not

¹ The fragments which relate to the *Forum Romanum* are shown on the *Forum Plan*. One piece, that of part of the *Temple of Castor*, with the stairs leading up to the *Nona Via*, was not found where the others were, and possibly belongs to another similar plan. An account of the original discovery of the pieces is given by Vacca, writing in 1594; printed in Nardini, *Rom. Ant.* (ed. Nibby), 1829, vol. iv. p. 5.

² An interesting monograph on the *Marble Plan* was published in 1891 at Bonn by Prof. Ant. Elter, *De forma Urbis Romae disertatio*.

³ The phrase *Augustus noster* or *Domitianus noster* is only used in inscriptions after the name of a living emperor.

all very accurate. A few additional fragments have been discovered during recent excavations.

Though having no connection with the *Forum of Peace*, it may be well here to complete the description of this group of buildings.

Templum Sacrae Urbis and Templum Romuli; see fig. 51. *Templum Urbis.*
After the restoration by Severus, the *Templum Sacrae Urbis* appears to have been a large rectangular hall, with side walls of Vespasian's massive stone masonry, and end walls rebuilt in brick-faced concrete. The whole interior was panelled in the usual way with polished Oriental marbles. On the side towards the inner area of the *Forum Paris* was a projection like a porch, remains of which existed in the sixteenth century, as is shown by Du Perac, Palladio, and others; No. 2 on fig. 51.

At the end towards the *Forum Romanum*, the Emperor Maxentius added a circular temple to his deified son Romulus, who died in his infancy at the age of four. This temple has a door opening from the *Sacra Via*, flanked by two curved projections (like an apse) and on each side of these two cipollino columns, supporting a white marble entablature; see 5 on fig. 51. The walls were faced with marble, but this lining and the columns on one side have been removed; in other respects the building is in good preservation. *Temple of Romulus.*

The doorway is very handsome, being decorated with two red porphyry columns, supporting a very rich and beautiful carved entablature, taken from some earlier building; the surface enrichments on the mouldings of the cornice are remarkable for their beauty both of design and workmanship, though the whole is rather overloaded with ornament.

Bronze Doors. The double bronze doors, also taken from some earlier building, are very interesting as being important specimens of Roman metal work of a good period. The hollow framing of the *valves* is cast in long lengths, with the usual

Rich doorway.

Bronze doors.

Bronze
doors.

cyma recta moulding round the panels. A further enrichment—the ball and reel ornament—has been added to the moulding separately, and fixed very skilfully by small dovetailed projections. The framing is also studded with enriched bosses, now mostly missing.

In design this fine piece of Roman bronze work closely resembles the doors of the Pantheon—the only other example in Rome of bronze doors still *in situ*, and indeed the only ones that have always been in use in their original place; as the doors of the *Temple of Romulus* were refixed at a higher level in the end of the sixteenth century, and were only replaced in their old position a few years ago.¹

Coin of
Maxentius.

The dome of the *Temple of Romulus* is well preserved; it had originally, like the Pantheon, an opening (*hypæthrum*) in the centre, which is now covered by a seventeenth-century lantern. This temple is shown on a First Brass of Maxentius, struck in memory of his infant son, with the legend—*Obi. DIVO ROMULO; Rec. AETERNAE MEMORIAE*; the building is shown with unusual accuracy, and the existing bronze doors are clearly represented. The modern floor is far above the old pavement; it was raised when the whole church beyond was remodelled in the debased style of the seventeenth century. Like the other buildings of Maxentius, the *Temple of Romulus* was rededicated by Constantine, whose name, inscribed on the front, existed till the sixteenth century; see Ligorio's MS. *sup. cit.*

Christian
church.

Felix IV., who was Pope from 526 to 530, converted the *Templum Urbis* and the adjoining *Templum Divi Romuli* into a

¹ Other equally fine ancient bronze doors, and of richer design, are those at the end of the nave of the Lateran Basilica; see vol. i. p. 241; and one of the two bronze doors in the Lateran Baptistery, that given by Bishop Hilarius, appears to be ancient, but is of much later date and inferior workmanship; according to tradition it was taken from the Baths of Caracalla. The bronze doors of the Temple of Romulus and other examples of a similar kind are illustrated in *Mon. Inst. Cor. Arch.*, 1834, p. 108 seq.

Church dedicated to SS. Cosmas and Damian, as is recorded by Anastasius Bibliothecarius, *Vita S. Felicis IV.* "*Hic (Felix) fecit Basilicam SS. Cosmae et Damiani . . . in via sacra, juxta Templum Urbis Romae.*" This the Pope did by building a cross wall with an apse at the north-east end of the *Templum Urbis*, while the circular *Temple of Romulus* was converted into a sort of ante-church or porch, see fig. 51.

The mosaics with which Felix IV. decorated the apse are perhaps the best preserved early Christian mosaics in Rome. In the sixth century the walls of the *Templum Urbis* appear still to have been lined inside with the polished marbles of Severus' restoration, and these were made use of in the Pope's Church, but unhappily the whole interior, except the mosaics of the apse, has been completely modernised in the seventeenth century.

Mosaics.

FORUM OF NERVA.

The narrow strip which remained between the *Forum Pacis* of Vespasian and the *Forum of Augustus* was soon occupied by another Forum begun by Domitian, and completed by Nerva; Suet. *Dom.* 5; Mart. *Ep.* I. ii. 8. It contained a Temple to Minerva (Pallas), and hence was sometimes called the *Forum Palladium*.

Forum of Nerva.

A third name for it was the *Forum Transitorium*, on account of its being an important thoroughfare from the *Corinas* and the *Subura* to the *Forum Romanum*; see fig. 49, vol. ii. p. 3.

The *Temple of Minerva* and the *Forum Palladium* were dedicated by Nerva in 97 A.D.; but few references to either occur in classical writings. The temple appears to have had a *heustyle, prostyle* portico, as there was not width in the narrow space occupied by this Forum to allow of a *peristyle*. It had an apsidal-ended *Cella* like that of the *Temple of Mars Ultor*. A small piece of this apse, where it adjoins the outside of the wall of the *Forum of Augustus*, is the only part of this temple that still exists. It is built of similar massive

Temple of Minerva.

blocks of peperino, and the whole Forum was surrounded with a lofty wall, marble-lined on the inside.

*Destruction
of temple.*

A great part of the *Temple of Minerva* existed as late as the reign of Pope Paul V., who ruthlessly destroyed it in 1606, in order to use its materials, marble columns and linings, in the construction of the new Chapel of S. Paul in the Basilica of S. Maria Maggiore.

*Inscription
of 99 A.D.*

Du Perac in his *Vestigi*, and Palladio, *Arch.* iv. cap. 8, show this temple and the Forum as they were in the middle of the sixteenth century. Four fine fluted Corinthian columns of the front were standing, and part of the pediment, with an inscription, which (when complete) probably ran thus—IMP · NERVA CAESAR · AV[G · GERM ·] PONT · MAX · TRIB · POTEST · III · IMP II · [COS · II · P · P · AED · MI] NERVAE · FEXT.

*Circuit
wall.*

In the end wall of the Forum there was an archway, now destroyed, which was similar to the "*Arco de' Pantani*" of Augustus' Forum. One part, however, of the circuit wall of Nerva's Forum still exists to its full height, nearly 100 feet; this is the piece that adjoins the *Forum of Augustus*, with which it is built to correspond in height and appearance; see above, vol. ii. p. 8. On the side opposite the temple, another lower piece of the circuit wall exists, with its sumptuous architectural decorations, showing the great splendour with which the whole interior of the Forum was once lined.

*Existing
remains.*

Two Corinthian columns of Greek marble still exist, now buried to about half their height; they stand free from the wall, the entablature on which projects and returns round them.¹ Above this heavy entablature is a lofty attic with plinth and cornice of its own, and in the centre of the inter-columnar space is a good relief of Minerva, with helmet, aegis, spear, and shield, about life size. The attic also projects over the columns, following the return of the main cornice, and

¹ Breaking an entablature into projections over columns is a peculiarity of the somewhat debased taste of Roman architects, and never occurs in good Greek work.

these upper projections evidently formed pedestals for colossal statues.

A complete series of columns and entablature like those described once decorated the whole internal length of the side walls of the *Forum Nervæ*, as is indicated in fig. 49, vol. ii. p. 3.

*Row of
columns.*

The massive peperino wall of the Forum once rose high above these architectural decorations, but its upper part was probably not lined with marble, as the lower part was. The facing slabs under the entablature are now stripped off, leaving the closely jointed masonry visible.

Between the columns, but not exactly in the centre, is an archway which opened into the *Forum Pacis*. This opening has a square top with a flat arch, and above that a round relieving arch; the former is rather difficult to trace, as it is partly cut away by a modern door-opening.

The frieze of the Order is richly decorated with sculptured reliefs, well designed and, considering their date, of excellent workmanship; these represent the various handicrafts which were specially under the patronage of Minerva.¹ Female figures are spinning or weaving tapestry at an upright loom: others are dyeing, washing, fulling, and weighing out money in scales. Other graceful figures are drawing water; a reclining figure of a youth with an urn possibly represents the river Anio; while the arches indicate the Aqueduct which carried the *Anio Novus*.

*Sculptured
frieze.*

Temple of Janus Quadrifrons. A four-way arch, or a temple dedicated to *Janus Quadrifrons*, stood in the *Forum of Nerva*, at the intersection of the cross road from the *Forum Pacis* to the *Forum Augusti* with the road from the *Subura* to the *Forum Romanum*; see Servius, *Ad Aen.* vii. 607; and Martial, *Ep.* X. xxviii. 6.

*Temple of
Janus.*

A graceful square Tuscan temple, of which remains were found in the sixteenth century near the south-west end of the

¹ The Greeks honoured *Athena Ergane* as the patron of the lesser arts.

Forum Nernæ, is illustrated by Labacco, *Architettura*, Roma, 1558, Pl. 17; this may possibly be the Temple of Janus Quadrifrons.

The very beautiful existing fragments of this building are now lying in the Forum on the south-east side of the Temple of Castor; see vol. i. pp. 283 and 307.

*Statues of
Emperors.*

The Emperor Severus Alexander, about 230 A.D., set up in this Forum colossal bronze statues of those Roman Emperors who had received the posthumous title of *Diens*; and by each Emperor was a bronze column inscribed with his *res gestæ*; Lamprid. *Hist. Aug. Sev. Alex.* 28.

FORUM OF TRAJAN.

*Forum
Trajani.*

The Forum of Trajan consisted of three parts, each of great size, namely, the Forum proper or open area, secondly, the Basilica Ulpia, and thirdly, the Temple of Trajan within a large colonnaded *peribolus*; see fig. 52.

*Hill cut
away.*

In order to form a level area for this enormous group of buildings a large ridge of the tufa rock which united the Capitoline and Quirinal Hills was cut away and entirely removed, an engineering work of immense cost and expense of labour. What the original height of this great rocky spur of hill may have been it is now impossible to judge; the inscription on the pedestal of Trajan's column cannot be understood literally. According to it a mass of hill equal in height to the whole monument (i.e. 120 Roman feet) was cut away—the inscription is SENATVS · POPVLVSQVE · ROMANVS · IMP · CAESARI · DIVI · NERVAE · F · NERVAE · TRAIANO · AVG · GERM · DACICO · PONTIF · MAXIMO · TRIB · POT · XVII · IMP · VI · COS · VI · T · P · AD DECLARANDVM · QVANTAE · ALITVDINIS · MONS · ET · LOCVS TANT[IS] · OPER[IBVS] · SIT · EGESTVS.¹

*Inscription
of 114 A.D.*

Brocchi (*Scuola di Roma*, p. 133) has shown from geological

¹ Trajan received the *Tribunician power* for the seventeenth time in the year 114 A.D., which is the date of the dedication of his column.

Plan of
Forum.

The *Forum of Trajan* proper (see fig. 52) consisted of an enormous square *dipteral peristyle* or *porticus*, surrounded with a double row of columns. On the south-east side it was approached from the *Forum of Augustus* by a very magnificent triumphal arch, surmounted by a bronze statue of Trajan in a six-horse chariot and statues of six generals; this is shown on *aurei* and other coins of Trajan; see fig. 53, and cf. *Anl. Gell.* xiii. 25, 2, and *Amm. Marc.* xvi. 10, and *Dion Cass.* lxxviii. 29.



Fig. 53.

The Arch leading into the Forum of Trajan on the reverse of a gold aureus.

The finely-sculptured reliefs which Constantine built into his arch came, partly at least, from the Arch of Trajan and partly from other portions of Trajan's Forum.

Basilica
Ulpia.

Basilica Ulpia and its Bibliothecae. One side of the Forum, that on the north-west, was occupied by the *Basilica Ulpia*, surrounded, like the Forum, by a *dipteral peristyle*, two or more stories high, and probably roofed all over. It was similar in plan to the *Basilica Julia*, with the addition of a large Apse at each end, one of them cutting into the side of the Quirinal.

On the north-west side of the *Basilica Ulpia*¹ were two large libraries, and between them, in a court surrounded by columns, stood the *Columna cochlis*, with its rich series of spiral reliefs. The interior of the *Basilica* is shown in fig. 54.

Libraries.

The two libraries which formed part of the *Basilica* were divided, one for Greek, the other for Latin MSS., like the libraries of the Palatine Apollo; *Dion Cass.* lxxviii. 16.² They

¹ This *Basilica* is represented on coins of Trajan, with the legend *BASILICA · VLP · IA*, as a handsome building with many-columned facade.

² One of the libraries and the apsidal part of the *Basilica* are shown on the marble plan with the inscription *BASIL · · · VLP · IA*.

Under the Roman Empire books seem to have been neither rare nor costly. In late times Rome possessed as many as twenty-eight public libraries; see Preller, *Regien. Cat.* p. 219. Wealthy book-lovers in

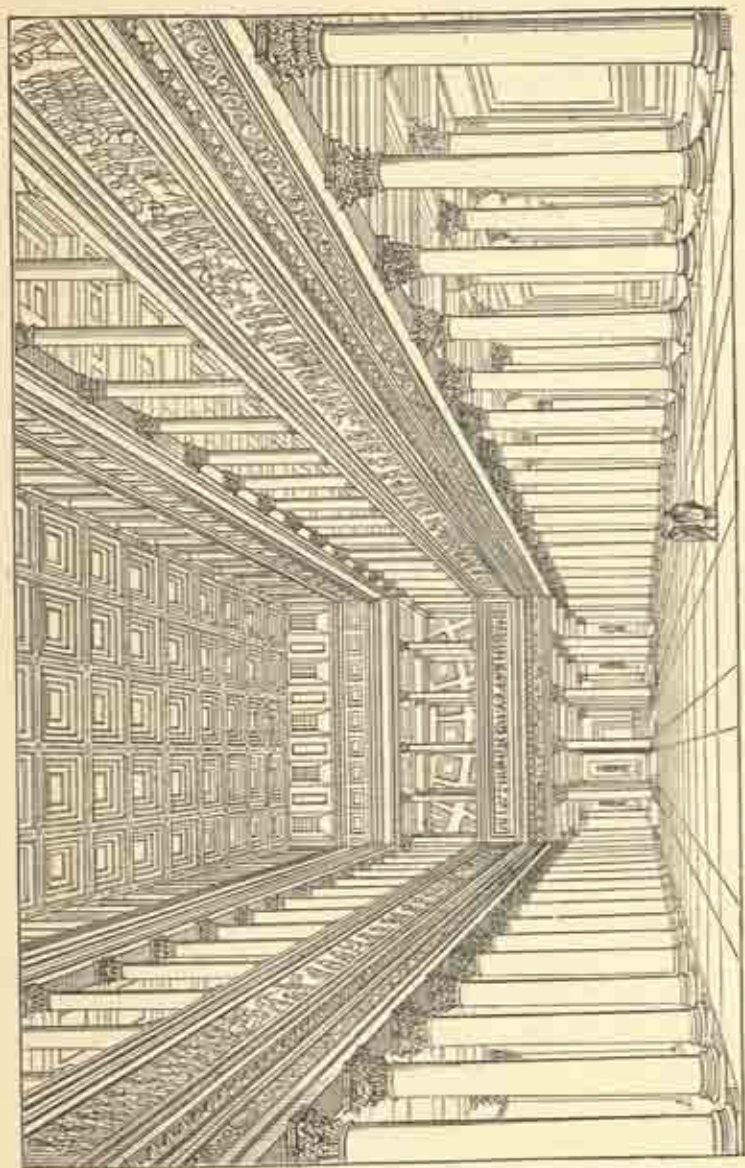


Fig. 54.

Interior view of Trajan's Basilica (*Basilica Ulpia*), as restored by Cauda.

appear from a statement of Vopiscus to have been rich in historical works. Edicts and State papers appear to have been preserved there; Aul. Gell. xi. 17. 1; and the two libraries continued in use as late as the latter part of the fifth century. Sidon. Apollinaris (*Ep.* ix. 16; *Carm.* 25) mentions his own statue being set in the court between the two libraries, where the *Columna cochlis* stands.

*Great
Lampadæ.*

The other two sides of the *Porticus* which surrounded the Forum had each an enormous apsidal projection, with rows of shops and offices, several stories high. That on the north-east side is set against the cliff of the Quirinal, which was cut away to receive it, so that its upper stories were entered from the top of the hill. These projecting parts of the *Porticus* were surmounted by gilt statues of horses and trophies of arms with the subscription EX · MANVBUS; Sidon. Apoll. *Carm.* viii. 8; Aul. Gell. xiii. 24.

Statues.

Other statues in great numbers stood all round the colonnades of the *Peristyle*; in the reign of M. Aurelius statues were added of the Roman officers who fell in the war with the *Marcomanni*.

Roman tiles.

The buildings of Trajan's Forum were all roofed with gilt bronze, according to Pausanias, V. xii. 6 and X. v. 11; and the columns both of the *Forum* and the *Basilica* were of Numidian *giallo*, Phrygian *pavonazetto*, and Egyptian red and grey granites; the rest of the building was of white Pentelic and Luna marbles.

The architect of these splendid buildings was the Greek

some cases owned 20,000 volumes, or even more, mostly, no doubt, produced by slave labour. Martial tells us that a new volume of his epigrams was published at about two shillings in modern value, while a well "bound" or encased copy cost about five shillings; see Mart. i. 117, and xiii. 3; cf. Statius, *Sile.* iv. 9, 9.

Nearly 1500 papyrus MSS. were found in one private library at Herculaneum. The owner does not appear to have been an exceptionally wealthy man; see Middleton, *Illuminated Manuscripts*, 1892, chap. ii.

Apollodorus of Damascus (Dion Cass. lxi. 4), who was also an able sculptor and engineer,¹ and designed many buildings for both Trajan and Hadrian.

Temple of Trajan. On the farther side of the Basilica stood a large octastyle temple dedicated to Trajan by Hadrian with a *peribolus* surrounded with columns; foundations of this building and some of its immense granite columns have been found at various times, while excavating for the walls or cellars of houses on the north-west of the modern piazza; it is shown on coins of Hadrian. The plan on fig. 52 shows the position of the *Temple of Trajan*.

Temple of Trajan.

The space excavated in the modern piazza includes part of the Basilica, with a small portion of one side of the Forum, the greater part of which is still buried under several adjoining blocks of houses. Most of what is visible has unhappily been much falsified by restoration: none of the stumps of the granite columns are *in situ*, and the whole result is thoroughly misleading.

Existing remains.

What, however, is genuine is a great extent of the paving of the Basilica, with fine slabs of white marble, raised about 3 feet above the level of the adjoining Forum, which was approached by a long flight of steps, leading down from the Basilica, with a row of statues on each side; some of the pedestals of these statues still exist.

A few fine Corinthian capitals of white marble, and other architectural fragments, are lying in the excavated area. There are also seven or eight much mutilated colossal statues of Dacian and other barbarian captives, similar to those which were taken hence and set on the Arch of Constantine.

The *Column of Trajan*, or *Columna cochlis*, so called from its winding stairs like the spiral of a shell, is built of great blocks of Greek marble; Dion Cass. lxxiii. 16. The shaft, base, and capital, not counting the pedestal, which measures 18 feet in

Trajan's column.

¹ In 103 A.D. Apollodorus built for Trajan the stone bridge over the Ister, near the modern town of Czernetz.

height, are exactly 100 Roman feet high ($97\frac{1}{2}$ modern English), hence this column and the similar one of Marcus Aurelius were sometimes called *Columnae Centenariae*. In diameter the shaft measures 12 feet at the bottom, diminishing to about 10 feet under the capital.

*Statue of
Trajan.*

Trajan's ashes, placed in a gold vase, are said to have been deposited in a chamber under the column; and on the top of the capital was a colossal gilt bronze statue of the emperor, nearly 20 feet high, holding an orb in one hand and a spear in the other.¹ The circular base of Trajan's statue still exists in its place on the top of the column, but a modern base has been added on that to receive the existing bronze statue of St. Peter which was placed there in 1588 by Pope Sixtus V.

Pedestal.

The tall pedestal on which the column is built is richly decorated with reliefs of armour and trophies taken from the Dacians. On one side is a tablet carried by two Victories, and on it the dedicatory inscription with the record of the cutting away of the hill.² At each angle of the *attic*, above the cornice of the pedestal, is an eagle supporting a garland of flowers. Under the tablet is the doorway to the spiral staircase, which is lighted by forty-two small slits.

The winding stairs consist of 184 steps round a central newel, all of solid marble.

The base of the shaft consists simply of a large *torus* carved with laurel leaves in relief, forming a colossal wreath. The capital is of no definite Order; but resembles a Doric capital, the *echinus* of which has been cut into egg and dart enrichments.³

¹ This statue and the whole column are represented on a *First Brass* of Trajan, dated by his sixth Consularship 112-113 A.D.

² This inscription is given above, see vol. ii. p. 24; it is dated 114 A.D.

³ The *echinus* of the Greek Doric capital was never carved, but was sometimes decorated with painted ornaments; varieties of the egg and dart were the usual patterns used for this purpose. The capitals of *ustae*

Winding round the shaft are spiral bands of reliefs, arranged in twenty-three tiers, including more than 2500 figures, and a great number of background accessories, worked with great minuteness.

*Spiral
reliefs.*

This spiral band of reliefs varies in depth from 3 feet at the bottom to nearly 4 feet at the top. The shaft is made of 23 courses of large blocks of marble.

The whole of the column was originally covered with gold and colour in a very gorgeous way; brilliant crimson, blue and yellow, were largely used both for the reliefs, the figures in which seem to have been coloured in a realistic way, and for the various members of the capital and pedestal.

*Gold and
colour.*

The sculptures represent the complete history of Trajan's two Dacian campaigns, with the defeat and death of King Decebalus, which is described at length by Dion Cassius, *lib.* lxxviii. Though wanting in grace and refinement, they are full of dramatic vigour, and form a sort of Encyclopædia of Roman costume, arms, and military engineering, and methods of advance and attack by land and river, in open field, and against walled cities, with the most wonderful fertility of design and careful attention to detail. It is impossible to study the original reliefs with any closeness of attention owing to their lofty position; casts, however, in the Villa de' Medici, Rome, are more available for close examination.

*Dacian
victories.*

When this column stood in a comparatively small *peristyle*, surrounded by lofty buildings several stories high, the sculptured subjects would not be so much wasted as they are now. But even making the utmost allowance for the former

*Position of
the column.*

or pilasters, on the other hand, were frequently both carved and painted by Greek architects of the best period, the fifth century B.C.

¹ Unfortunately the casts in the S. Kensington Museum are not put in a line near the eye, as they should be for purposes of study, but in two lengths, as if the column were broken in half, and thus they neither give the general effect of the whole nor allow the sculptures to be examined minutely.

Wasted
labour.

surroundings, and the loss of its gold and colour, it must be admitted that these spiral bas-reliefs can never have been very strong in decorative effect, and involved an amount of labour quite out of proportion to their artistic result.

This colossal shaft, encrusted with reliefs all gleaming with gold, ultramarine, and other brilliant pigments, must have produced an effect of somewhat barbaric splendour very far removed from the purer Greek styles of architectural decoration, and resembling much more closely the methods used in the temples of ancient Egypt two thousand years or more before the time of Trajan.

Statues on
columns.

The notion of placing statues on the summit of lofty columns appears to have been an invention of the Romans of the Empire. The Greeks, even at the best artistic periods, commonly used columnar pedestals both for votive statues of deities and for honorary portraits, but the column was not made of such size that the statue on it was practically out of sight.

Apparent
size.

A comparison of the column of Trajan with that of Marcus Aurelius is an instructive lesson on the effect that the size of the parts has on the apparent scale of the whole in architectural works. Both columns are exactly the same height (omitting the pedestals in both cases), but Trajan's is divided into twenty-three tiers of figures, while the column of M. Aurelius has larger figures in higher relief, and only twenty tiers of them. The result is that the column of Trajan looks very considerably the taller of the two.¹

¹ As a rule, the more horizontal subdivisions a structure has, the higher it will appear; hence the many false joints cut in stone and marble facings by the Romans; see vol. II. p. 12. Hence also the difficulty of realising the true height of the nave of S. Peter's, which is built in one gigantic order.

The great defect of *classical* as compared with *medieval* architecture is the fact that size, in the latter, is gained by *multiplying* parts, while in the classical style it is only done by *magnifying* a fixed number of parts.

Outer Enclosure of Trajan's Forum. The most interesting *Circuit wall.* part of Trajan's Forum, which is now visible, is about half of the great curved line of rooms three stories high which are set against the scarped side of the Quirinal Hill. A road, paved with the usual polygonal blocks of lava, follows the curve of this line of shops, which open on to it. Next to the bit of paving shown in fig. 30, vol. I, p. 251, this is the best preserved piece of Roman road still visible in the city; unlike the other lava roads existing in Rome, it does not appear to have been relaid during the period of decadence, but has the original paving of Trajan's time.¹

On to this curved road faces a row of small chambers, shops or offices, vaulted with concrete, covered inside with painted stucco, and paved with simple mosaic patterns in white and grey *tesse*; these open on to the street, with tall arches of concrete faced with brick. The lower part of these arches is filled up by a massive door-frame (or *architrave*) of great blocks of *travertine*, with a simple moulding round it, covered with stucco. The door-sill of each is a massive block of *travertine*, grooved to hold the wooden shop-front, and having a pivot-hole and a depression for the door to swing in; an arrangement like that in the Palace of Caligula and many other places;² see fig. 26, in vol. I, p. 193. The groove to receive the wood framing extends all the way up the massive travertine jambs of the opening, and the lintel is rebated for the same purpose.

Apical chambers.

Shops or offices.

Thus the *design* of a small Greek temple may be exactly the same as that of a large one. In the large Gothic Church, on the other hand, extra stories, chancel and triforium, are added over the ground-floor arcade, and larger windows are made by increasing the number of mullions rather than by adding to the width of the separate lights.

¹ The access to these interesting remains is from the Campo Carleo, through a door which is usually locked, but the key is kept close by.

² These interesting buildings used formerly to be called, quite without reason, "The Baths of Aemilius Paullus."

These little chambers extend in a uniform row all round the curve, except where the stairs lead to the upper stories higher up the face of the hill. At the foot of the stairs there were wooden doors, fastened with a long hinged bar, with a bolt at the end of it. The holes for these and the marks made by its use can be traced in the jambs of the doorway.

Upper story.

The first upper floor, about level with the modern ground line, has a series of open arches, and engaged columns supporting an entablature. The capitals and bases of these half-columns, and the moulded string-course below them, are of *tracertine* covered with hard stucco made of pounded marble; the rest is of concrete faced with brick. All of the brickwork is very neat and close jointed, even where it was covered with stucco, but at some places, such as the shafts of the engaged columns, it is of most remarkable beauty and neatness of jointing, numbering more than eight bricks to the foot.¹

Fine brickwork.

The upper space, at the level of this open arcade, is occupied by a passage over the ground-floor shops, and from it open a series of other chambers, with stairs at intervals leading to the second upper story, now mostly destroyed.

The *Forum of Trajan* and its surrounding buildings formed, during the Middle Ages, an almost inexhaustible quarry for marbles, used in countless churches and palaces of Rome; and, worse still, supplied materials for burning into lime for many centuries, during the most architecturally degraded period of Roman history.²

Existing sculpture.

Sculpture from Trajan's Forum. In addition to the reliefs

¹ The beauty of this brick facing is perhaps only surpassed by one existing example in Rome — namely, an archway between two half Corinthian columns, which is built into the line of the Aurelian wall not far from the *Porta Latina*; see vol. II. p. 380.

² During the ninth to the twelfth centuries, and even later, architectural skill in Rome had sunk to so low a pitch that the beautiful marbles stolen from ancient buildings were not even made use of in other buildings, but were burnt into lime or broken up to make concrete.

on the Arch of Constantine, very few fragments of sculpture have escaped destruction; among them are large half-length reliefs of Trajan and some senators, now in the Lateran Museum; two colossal horses' heads in a court near the Church of the SS. Apostoli, and in the porch of the same church a fine relief of an eagle with outspread wings, seated within a wreath bound by graceful flowing ribbons.

The reliefs on Constantine's Arch are, from their beauty and fine state of preservation, among the finest existing specimens of Græco-Roman decorative sculpture, and though as late as the beginning of the second century A.D., show but little signs of that rapid decadence which was so shortly to begin. The positions of the reliefs are shown in fig. 95 in vol. ii. p. 307. Many of these beautiful reliefs, especially the graceful sacrificial scenes arranged as circular medallions, show a strong revival of Hellenic skill and artistic taste, but little marred by any Roman influence. In this respect they are very superior to the reliefs on the great column, which are of a more purely Roman style, both in subject and treatment.

On each front of the arch there are four circular medallions, and, on the *attic*, four rectangular reliefs, each complete in itself. There are also parts of a long frieze, representing an attack of the Roman cavalry, led by Trajan against the Dacians and their king Decebalus; the figure of the emperor appears more than once—in the thick of the fight, and again crowned by Victory, with the Dacian chiefs making their submission to him. This fine frieze, with life-sized figures, taken probably from some long wall in the Forum or Temple of Trajan, has been broken up into short lengths and built into various parts of Constantine's Arch, regardless of the fact that it was carefully designed to form one continuous composition,¹ and of course is much injured by being separated for use in four

Reliefs on
Constantine's Arch.

Medallions
and panels.

Long frieze.

¹ This is shown by Bellori in his *Veteres Arces Augustorum*, 1690, pl. 42-45, a work of the seventeenth century, which is very valuable for its record of much that no longer exists; see also *Mon. Inst.* v. Tav. 30.

different panels. Two pieces are let into the *attic*, at the ends of the arch, and two are inserted in the jambe of the large central archway.

The subjects of the other reliefs on the Arch of Constantine are as follows :—

North Side (towards the Colosseum) Rectangular reliefs on the Attic, beginning from the spectator's left.

Subjects of reliefs.

No. 1. The Emperor Trajan is received at the gates of the city by a stately helmeted female figure, representing the goddess *Roma*. In the background is an arched gateway, hung with flower garlands, and by it a *tetra-style prostyle* temple. These are probably meant to represent the *Porta Capena* in the Servian wall and the *Temple of Mars*, which was just outside it, on the *Via Appia*.

Via Appia.

No. 2 appears to be a scene outside the same gateway; a half-nude figure of a youth holding a wheel reclines on the ground, by him the Emperor is standing looking down; behind is a man in civilian's dress, and on the right are armed men, one holding a horse.

This interesting relief records the construction or restoration of a paved road (*via munita* or *stipes strata*) through the Pontine marshes, in 110 A.D. The reclining figure with the wheel is the usual Roman way of symbolising a road; the same design occurs on *reverses* of several coins of Trajan with the legend *Via Appia*. The civilian behind the emperor is probably the engineer of the road, perhaps the Greek Apollodorus; see Dion Cass. *Xiph.* lxxviii. 15.

Trajan's charity.

No. 3. Trajan surrounded by attendants is seated on a throne, raised on a lofty *suggestum* or platform; below are various standing figures, whom the emperor is addressing; among them is a female with a child.¹

¹ Some such relief as this, or perhaps the common subject of Trajan raising a kneeling Province, was probably the origin of the beautiful story of Trajan and the widow quoted by Dante, *Purg.* x. 73 to 93.

This apparently represents the same scene as one of those on the reliefs in the Forum, the institution in 99 A.D. of the charity for children of the poor; see vol. i. p. 346. In the background is a building, the façade of which is decorated with a row of engaged columns, between which garlands are hung.

- No. 4. The Emperor enthroned on a *suggestum* receives the homage of a barbarian prince, probably Parthamasiris, King of Armenia, who was conquered in 115 A.D. Behind are a number of Roman soldiers bearing tall standards and eagles. Armenian victory.

Medallions on the North Side.

- No. 1. The Emperor and two attendants on horseback are hunting a boar. Hunting scene.
- No. 2. A very beautiful and gracefully composed relief, skilfully designed so as to fill its circular space. Trajan stands pouring a libation or grains of incense on to an altar in front of a statue of Apollo holding a tripod set on a tall pedestal; behind it a laurel tree with graceful spreading branches forms a background to the upper part of the relief. One attendant stands behind the Emperor, another on the right holds his horse.
- No. 3. The Emperor and a number of attendants stand by the body of a lion, killed in the chase. Lion hunt.
- No. 4. Trajan in sacrificial dress, with veiled head, pours a libation on to an altar; two attendants stand by him. In the sky among clouds is a figure of Jupiter, and by him a small statue of Minerva; the precise meaning of this scene is not clear. Sacrifice.

*South Side ; rectangular reliefs in the Attic.**Trajan's
victories.*

- No. 1. (from the spectator's left). Trajan enthroned on a platform, in front of an arched building, receives a barbarian king.
- No. 2. Trajan, enthroned in the same way, receives a number of Dacian captives with their king Decebalus, who are brought before him by Roman soldiers, some of whom carry tall standards.

Allocutio.

- No. 3. An *allocutio* or address to the army by Trajan, standing on a platform, a common subject on the large bronze coins of the Empire.
- No. 4. Trajan, surrounded by soldiers and standard-bearers, pours a libation on to a tripod altar. The three victims for the *Suovetaurilia*, a boar, a ram, and a bull, are being led forward to sacrifice.

*Medallions on the South Side.**Hunting
scenes.*

- No. 1. Trajan, about to start on the chase, stands by his horse among attendants, one of whom, a beautiful youth leading a horse, has much resemblance in face to Antinous, the deified favourite of the succeeding emperor, Hadrian.
- No. 2. The Emperor offers sacrifice at an altar under a tree, in front of a statue of Hercules.
- No. 3. Trajan and attendants on horseback pursue a brown bear.
- No. 4. The Emperor pours a libation on to an altar under a tree, in front of a statue of Diana, as a thank-offering for success in the chase.

SMALLER FORA.

In addition¹ to the *Forum Romanum*, the five *Imperial* *Other Fora*. *Fora*, and the *Forum Olitorium* and *Boarium* (oil and cattle markets), there were also smaller *Fora* or markets, namely, that for pigs, *Forum Suarium*; for bread, *Forum Pistorum*; and for fish, *Forum Piscatorium*; Livy, xxvi. 26, and xl. 51. These are all mentioned in the *Regionary Catalogues*, together with some others, which were not really *Fora*, though popularly called so.

¹ For further details on the *Forum* of *Trajan* see *Foa, Foro Trajano*, 1832; *Richter, Ristituto del Foro Trajano*, 1839. The reliefs on the column have frequently been engraved on copper in this and previous centuries; sets of these are sold at the *Calcografia Camerale (Regia)*; see *Fabretti, Columna Trajana*, 1683; *Bartoli, Col. Trajan*, 1704; *Pistoletti, Col. Traj.*, 1846; *De Rossi, Col. Traj. designata*; and *Froehner, La Colonne Trajane*, Paris, 1865; this last work has an excellent description of the reliefs and their subjects. For an account of the reliefs from *Trajan's Forum* moved to the *Arch of Constantine* see *Petersen in Bull. Inst. Cor. Rom.* vol. 1887-88.

CHAPTER II

THE CIRCI OF ROME.

Contests in
the *Fora*.

It was not till the closing years of the Republic that permanent buildings of stone, specially designed for scenic shows, races, or gladiatorial fights, were constructed in Rome. During the greater part of the Republican period the open spaces of the *Fora*, especially those of the *Forum Romanum* and *Forum Boarium*, were frequently used for gladiatorial fights and theatrical representations; temporary wooden screens and seats being erected for the occasion, and removed when the series of public amusements was over; see vol. i. p. 234.¹

CIRCUS MAXIMUS.

Great circus.

One part, however, of the city, the *Vallis Murcia*,² a long valley between the Palatine and Aventine Hills, appears from a very early period to have been reserved as a place for races and other public spectacles, for which its natural form rendered it specially suitable. This earliest of the Circa of Rome was called, from its great size, the *Circus Maximus*. It was first

¹ In a similar way, till the end of the last century, bull-fights in Spain, even in large cities like Madrid and Seville, were held in the public squares or *plazas*, round which wooden fences and seats were temporarily erected.

Also written late *Myrica*

² Its name was derived from an altar to the *Dea Murcia* (*Venus*), so called from the myrtle plants which grew there, according to Varro, *Ling. Lat.* v. 154; and Pliny, *Hist. Nat.* xv. 121; other derivations are given by other writers.

probably found in bull-circ. of mulier.

drained and fitted with rows of wooden seats by Tarquinius Priscus (Livy, i. 35 and 56, and Dionys. iii. 68), and these seats were frequently burnt and restored in the same material; restorations in 327 B.C. and 174 B.C. are mentioned by Livy, viii. 20, and xli. 27.

Wooden
seats.

The *carceres* or starting chambers of the circus were first built in 330 B.C.; see Livy, viii. 20. At an early period the entrances to the circus were decorated with triumphal arches surmounted by statues of gilt bronze; one erected by L. Stertinius in 196 B.C. is mentioned by Livy, xxxiii. 27.

Entrance
arches.

Arches of this kind, bearing quadrigae and other statues, formed part of the design of the circus in its most magnificent days, as is indicated on the coin shown below, p. 45.

Prehistoric altars. The valley of the *Circus Maximus* contained two altars of the most remote antiquity; one was the *Ara Maxima*, traditionally founded by Hercules or Evander. The other was the *Altar of Consus*, an Equestrian Neptune, in whose honour Romulus was fabled to have held here the *Consualia* or games at which the celebrated carrying off of the Sabine women took place; see Varro, *Ling. Lat.* vi. 20. Consus appears originally to have been a god of the crops, but in later times he was identified with the Greek *Poseidon Hippios*; his festival was held twice a year; after the sowing was over, on the 15th of December, and when the crops were gathered, on the 21st of August.

Early
altars.

ordinarily, mixed
with sacrifice

Consualia.

V. con - here
of Sn. - 4. sec.

The *Altar of Consus*, after the building of a permanent stone circus, stood on or in the *spina*; it was usually covered, but during the sports was exposed to the view of the people; see Plut. *Rom.* 14; and Tertull. *de Spect.* v. 8. Its position appears to have been at the opposite end of the *spina* from the *carceres* or starting-point; Tertullian speaks of it as being *ad primas metas*; and Tacitus mentions it as the first point after the *Ara Maxima* and the *Forum Boarium* in the line of the *Pomoerium* round *Roma Quadrata*.

Altar of
Consus.

The *Ara Maxima*, a still earlier altar, must have stood out-

*Ara
Maxima.*

side the *circus*, behind the *carceres*, near the apse end of the Church of S. Maria in Coamedin; see vol. i. p. 109.

Seats in
circus

Development of the Circus. Additions and improvements made in the circus in 174 B.C. are mentioned by Livy, xli. 27, but the passage is unfortunately in a very fragmentary state. Nothing but wooden seats were used throughout the Republican period, and it was not till the reign of Julius Caesar that any part of the ranges of seats were built of stone. Even then the upper tiers were again constructed of wood; see Suet. *J. Caesar*, 39. According to Livy (xxxiv. 54), till the year of the City 558 (196 B.C.), there was no distinction of classes in the occupation of the seats—plebeians and senators sat side by side.

Separation
of classes

Augustus fully developed the separation of classes in the *Circus Maximus*, and other places of public amusement; reserving the first tier for the senate, and special seats for soldiers, married plebeians, boys and their tutors,¹ women, and other classes; Suet. *Aug.* 43 to 45.

Till this separation, the fact that men and women sat together in the circus had been an exceptional thing in Roman places of amusement. Ovid often alludes to this; see *Art. Am.* i. 96, 163, etc.

The *Circus Maximus*, as described by Dionysius (iii. 68), is the place as it was after its rebuilding by Julius Caesar. Under the later emperors, especially Vespasian and Trajan, it was adorned with much greater magnificence.

Greek
stadium

The plan of this and other Roman *circi* was an adaptation of the Greek *stadium*, such as the one at Messene and that at Olympia, remains of which still exist. The Roman circus was, however, used for chariot and other horse races, while the Greek *stadium* was mainly intended for foot races and various kinds of athletic sports.²

¹ A fragment of an inscribed seat found in the Colosseum has on it . . .
VENO . . . probably part of "*paedagogia pVERorum*."

² A place called a Hippodrome was set apart by the Greeks for horse races in many of the principal Hellenic cities.

Fig. 55 shows the plan of the existing *Circus of Maxentius*; see below, p. 56. It will serve to illustrate the *Circus Maximus*, which was the prototype, in imitation of which all later Roman *circi* were constructed. Typical plan.

To continue the architectural history of the *Circus Maximus*; it was much injured (soon after its reconstruction by Julius Growth of the circus.

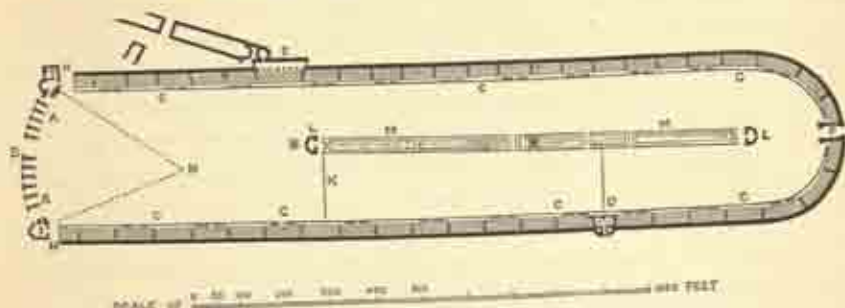


Fig. 55.

Plan of the Circus of Maxentius.

- AA. Carceres.
- B. Porta Pompae: central door for processions.
- CC. Lines of seats.
- D. Tribunal Judicum; umpires' seats.
- E. Porta triumphalis.
- HH. Side entrances by the carceres.
- I. Towers of the oppidum.
- K. Alba linea.
- LL. Metae.
- MM. Spina, set a little diagonally.
- N. Centre from which the curve of the carceres is struck.

Caesar) by a fire, which in 31 B.C. completely destroyed all the upper wooden seats; Dion Cass. l. 10. It was restored by Augustus, who built himself a fine marble *pulvinar*, and set the great obelisk, now in the Piazza del Popolo, on the centre of the *spina*; Suet. Aug. 43-45. Immense sums were spent by Augustus on shows and the slaughter of beasts in the *Circus Maximus*; no less than 3500 beasts were butchered there Butchery.

in the reign of Augustus alone, as is recorded in the Ancyrean inscription.

*Slaughter
of beasts.*

In the eighth book of the *Historia Naturalis* Pliny gives a great deal of curious information about the enormous number and the great variety of wild beasts of all kinds, from elephants to porcupines, that were at different times butchered in the circus and elsewhere in Rome. On some occasions from 200 to 300 lions were slaughtered in one day, and a proportionate number of smaller and less costly animals.

*Restored by
Claudius.*

In 38 A.D. another fire destroyed part of the upper tiers of seats, those on the side of the Aventine. The circus was then restored and enlarged by Claudius, who rebuilt the *carceres*, which were then of tufa, in marble, and gilded the *melæ*; Tac. *Ann.* vi. 45; Suet. *Claud.* 21.

After this restoration the circus held 250,000 spectators; Pliny, *Hist. Nat.* xxxvi. 102. In the time of Dionysius (iii. 68), after the rebuilding by Julius Caesar, it had only held 150,000, showing that great additions must have been made to the upper tiers of seats and galleries.

*Restored by
Domitian.*

In the reign of Domitian most of the remaining wooden seats were, after another fire, replaced by stone and marble, so that henceforth the building was less liable to suffer from fire. Additional splendour was added to the circus by Trajan, and in his time it must have been a structure of extraordinary size and magnificence, wholly covered inside and out with white marble, relieved with gold and painting, brilliant mosaics, columns of coloured Oriental marbles, and statues of white marble and gilt bronze; see Pliny, *Paneg.* 51.

*Splendour of
the circus.*

It must then, from its crowd of works of art, its immense size, and its splendour of material, have been on the whole the most magnificent building in the world.

Further size and splendour were added to the circus by Constantine; and Constantius his son set on the *spina* another enormous obelisk, brought from Heliopolis; see Aur. Vict.

Caesar, 40; and *Amm. Marc.* xvii. 4. This obelisk is now by the Lateran Basilica.

The circus, when complete, cannot have been less than 2000 feet long by more than 650 feet wide. Even in the time of Julius Caesar it was about 1860 feet in length and 620 in width; see *Pliny, Hist. Nat.* xxxvi. 24; and cf. *Juv.* xi. 192 to 201.

In its final state, in the fourth century, according to the *Notitia, Regio XI.* the Circus Maximus could hold the almost incredible number of 485,000 people.

DESCRIPTION OF THE CIRCUS MAXIMUS.¹

The outside of the circus, during its most magnificent period in the second century A.D., had three tiers of arches and engaged columns very like those of the Colosseum, except that they were of white marble instead of stone.

Large brass coins of Trajan and of Caracalla represent with much detail a view of the circus as seen from the Palatine Hill.

The exterior is shown with its row of arches, and at each end a lofty structure something like a triumphal arch crowned with *quadrigae* and other statues.

The *spina* is minutely represented with its group of *metae* at each end, the obelisk of Augustus in the centre, and midway the small *udiculus* bearing the dolphins and the eggs; see fig. 56.

A bronze medallion of Gordianus III. also shows the

¹ One of the fragments of the Marble Plan shows part of the Circus Maximus, the semicircular end towards the south-east; see Jordan, *Forma Urbis Romae*, Pl. viii.



Fig. 56.

The Circus Maximus shown on a First Brass of Trajan.

External
arcades.

Coin types.

interior of the circus with groups of gladiators fighting; see Grueber, *Roman Medallions*, xli. 4.¹

In the fifteenth century some of the external arches still existed; they are shown in the Mantuan view of Rome published by De Rossi in his *Piante di Roma*, 1879.

Circus.

The *cavea* of the Circus with its tiers of seats was divided into bands (*macniana* or *maeniani*) by the horizontal passages (*ambulacra* or *praecinctiones*). There were probably three of these divisions or *macniana* in the Circus Maximus, without counting the gallery at the top. The lowest of these divisions was called *Maenianus primus*, and the highest was called *summus*. Each of these bands of seats was also divided by flights of steps into *cunei* like a Greek theatre, which were numbered; each line of seats (*gradus*) in each *cuneus* was also numbered, and as there were no divisions except incised lines to separate one place from the next, each *gradus* was measured, and allotment was made to various classes of a fixed number of feet measured from one end.

Cunei.

A passage in Ovid (*Am.* III. ii. 19) alludes to the system of marking lines on the *gradus* to distinguish the space allowed for each person—"cogit nos linea jungi."²

The spectators' seats (*cavea*) sloped upwards, resting on raking vaults of concrete like those of the Colosseum; and tiers of columns at different levels supported ceilings over the people's heads.³

State boxes.

In addition to the *Cavea* proper and its *podium*, various State boxes were constructed of marble, with columns and arches to support the entablature and roof of each.

One series of these *cubacula* or *suggesti* was over the

¹ Another medallion of Gordianus III. representing chariot races in the circus is illustrated by Froehner, *Med. Rom.* p. 189.

² In several Greek theatres the seats have been found to be marked with lines at intervals of about 20 inches.

³ The fall of some of these pillars and roofing in the reign of Antoninus Pius killed over 1000 people; *Chron. Vet. Euseb.* vol. ii. col. 244.

carceres (see fig. 55, AA), and appears to have been occupied by the giver of the games (*editor spectaculorum*) and his friends.

Another elevated box (the *tribunal iudicum*, D) was placed at one side for the umpires who decided which chariot first crossed the line chalked on the *arena* in front of them: the phrase "ad cretam praesidebant" occurs in the celebrated inscription of 80 A.D., which was found among the ruins of the College of the *Fratres Aruales*, a little way outside the *Porta Portuensis*, Rome; see Henzen, *Act. Fr. Arv.* p. 37.

A separate *pulvinar* or state box of great size and magnificence was erected for the Imperial family on the Palatine side of the *Circus Maximus*; Suet. *Claud.* 4.

An interesting relief of the third century A.D., found at Foligno, represents the presiding Magistrate or *Editor* of the games, seated in his box over the *carceres*; he holds in his hand a bag of money, which he is about to give to the winning charioteer, who has driven up and is saluting him from below; see *Ann. Inst.* 1863, Tav. D; and 1870, Tav. LM; and cf. *ib.* for 1839, Tav. iv. Late relief

A similar scene is represented on several of the ivory consular diptychs of the fourth and fifth centuries; see Gori, *Thesour. vet. dipl.* Florence, 1759.

The chief of these is the celebrated leaf of a fourth century diptych in the Museo Quiriniano at Brescia. On this the presiding Consul sits in his *pulvinar*; in the *arena* below four quadrigae are racing round the *spina*, which, like that on the Lyons mosaic, is a long tank of water. The way in which the reins were looped round the body of the driver (*auriga*) is clearly shown: each holds in his hand what seems to be a combination of whip and goad; they all wear *fasciae* round their legs and bodies. The horses' legs are also closely bound round with thongs.

During recent excavations a short distance outside the *Porta Portese*, seven marble portrait busts of victorious *aurigae* were found. Leather thongs are represented wound

Umpire's box.

Ivory diptych.

Portraits of aurigae.

round the neck and shoulders of each. Each bust is set on a tall *cippus* or pedestal of coloured marble; they are well executed works of art, full of spirit and eiconic vigour; they probably date from the time of Hadrian. These busts are now placed in the cloister of the Museo delle Terme.

Glass bowl.

A glass bowl of the fourth century found at Treves has a very minute representation of a circus engraved in relief; the *spina* is shown with the usual ornaments, and each of the *metæ* stands on a lofty pedestal with a door opening into it; see Froehner, *La verrerie antique*, Paris, 1879, p. 96.

President of games.

On the ivories the consul or other president of the games is usually represented in the *pulvinar*, magnificently robed in the *toga picta* and rich *pallium*. In some cases he holds in his hand the *mappa* or napkin with which he gave the signal for the start. Under the later Empire proconsuls and governors of provinces usually celebrated the commencement of their office by providing circus games, and hence the frequent occurrence of these subjects on consular diptychs.

Carcera.

The starting end of the circus by the *Forum Boarium* was formed by a row of small vaulted chambers (*carceres*), each large enough to hold one chariot and its horses. At the time of its greatest splendour there appear to have been twelve *carceres* in the *Circus Maximus*, but a smaller number was more usual. Each *carcer* had two doors, one behind by which the chariot entered, and one in front opening into the *arena*.

This latter doorway was closed by folding doors with open grilles in the panels (*cancelli*); these were thrown open at the start by slaves, two to each doorway, who flung them open simultaneously at the given signal.

Each *carcer* received no light except what came in through the open grille of the doors; hence they are called *crypta* (Sidon. *Carin.* xxiii. 319) and *claustra* (Stat. *Theb.* vi. 399); their narrow openings are called *fauces*; Cassiod. *Var. Ep.* iii. 51.

Alta linea.

In early times the race apparently began from the *carceres*, but afterwards the actual start took place from a line marked

on the *arena* in white chalk or lime (*alba linea*), and hence sometimes called *creta* (Senec. *Ep.* 108) or *calx*; Cic. *de Am.* 27.

A similar white line for the finish was drawn across the *arena* opposite the judges' box (*tribunal iudicum*), at a point unequally distant from the two *metæ*. Thus Cicero (*Senect.* 23) uses the metaphor "quasi decurso spatio ad carceres a calce revocari;" and Horace (*Ep.* I. xvi. 79) speaks of "*mors ultima linea rerum*" see also Cassiod. *Var. Ep.* iii. 51. The starting-line was drawn opposite the *metæ* which were nearest to the *carceres*. It is difficult to understand how the white line for the finish could remain unobliterated by the rush and trampling of the horses and chariots in their seven laps. There is, however, no reason to think that a chalked rope was used, as has been suggested.

*Line
of finish.*

Lofty state-boxes above the *carceres* with their colonnades and arches towered to an imposing height, and the whole structure was known as the *oppidum*, from its resemblance to the gates and towers of a city; Varro, *Lin. Lat.* v. 153.

Oppidum.

It will be seen from the typical plan given above that the *carceres* (AA) are slightly curved on plan, and are constructed on a segmental line, the centre of which is struck from a point midway between the line of the *spina* and the side of the *cavea*; N on fig. 55.

This plan was adopted in order that the chariots in all the *carceres* might have as nearly as possible a position of equal advantage at the start. The special *carcer* occupied by each chariot was fixed on by drawing lots.

The *spina* was a long low wall, or rather platform of marble (MM), set in the middle of the *arena* to separate the going and returning course of the racers.

Spina.

The line of the *spina* is not parallel to that of the *cavea*, but is slightly inclined so as to leave a wider space at K than that near the semicircular end. The object of this seems to

have been that the chariots might have more space where they were crowded together at the start than at other points, where some would have begun to tail off.

Objects on
the spina.

Various mosaics and reliefs show the *spina*¹ covered with a series of statues and ornamental structures, such as obelisks, small *ædiculæ* or shrines, columns surmounted by statues, altars, trophies, and fountains. In addition to these were

Seven eggs.

Ovaria.

two sets of seven marble eggs (*ovaria*) at each end of the *spina*—each set mounted on a small *ædicula*, to which access was given by a ladder; Livy, xli. 27. One of these eggs was removed after each lap (*curriculum*) was run (Varro, *Re Rur.* I. II. 11, and Cassiod. *Var. Ep.* iii. 51), there being usually seven laps to each race (*missus*). According to Livy (xli. 27) these *ovaria* were first set on the *spina* by the Censors in 174 B.C.; but Dion Cassius (xlix. 43) attributes their introduction to Agrippa in the reign of Augustus. He is, however, probably confusing them with another series of ornaments—seven dolphins, which were set on a similar *ædicula* and served a similar purpose. These dolphins must have been too heavy to take down, and were probably merely moved in some way to indicate the number of laps.

Seven
dolphins.

Fountains.

In some ancient representations they form fountains—water spouting from the mouth of each fish.¹ The eggs had some sacred allusion to the Dioscuri, and the dolphins to Neptune (or Consus)—deities who were the patrons of horses and racing; Tert. *de Spect.* 8.

Mosaic at
Lyons.

An interesting mosaic found at Lyons, which no doubt represents the local circus, has what appears to have been a common form of *spina*, consisting of a long tank of water instead of the marble podium. Statues and other ornaments stand on pedestals in this water.

Marble
reliefs.

Two sarcophagi in the *Sala della Biga* in the Vatican have reliefs which represent a chariot race of Cupids in the Circus Maximus, and show clearly the *spina* and its ornaments, among

¹ This shows that they could not have been wholly removed.

which are statues of Apollo, Helios, Cybele, Victory, a quadriga and an obelisk, as well as the eggs and dolphins.¹

Each of the *metas*² consisted of three tall conical objects (Ovid, *Mét.* x. 106) on a semicircular plinth, placed at a short distance from each end of the *spina*. From the time of Claudius they were of gilt bronze decorated with bands in relief, as is shown in a relief in the British Museum. These formed the turning-points for the chariots. The *primae metas* are not, as might be expected, the ones nearest to the start, but those near the semicircular end of the circus, round which the chariots made their first turn.

Metas.

The primitive *Altar of Census* (*Tert. de Spec.* 8) was in the *spina*; it usually was covered up, and was only exposed to view during the progress of the games; see above, p. 41.

The *arena* or sandy floor of the circus, like that of the Colosseum, was on some occasions strewn with glittering particles of mica, red lead, or perfumes by the ostentatious extravagance of some of the emperors; see Suet. *Cal.* 18, and Pliny, *Hist. Nat.* xxxiii. 27; xxxvi. 45. That part of the *arena* which formed the course for the chariots was known as the *spatium*; Juv. vi. 582.³

Arena.

Before the construction of amphitheatres in Rome the Circus Maximus was used for gladiatorial fights with wild beasts and other scenes of butchery.⁴

In order to keep the beasts from reaching the spectators on the *cavea* Julius Caesar constructed a canal (*Euripus*) 10

Euripus.

¹ See also the above-mentioned medallion of Gordianus III.; Grueber, *Roman Medals* 1874, xli. 4.

² Any tall conical object was called a *meta*.

³ The space near the carceres was known as the *Circus primus*, while that on each side of the *spina* was the *Circus interior*; Varro, *Ling. Lat.* v. 154.

⁴ The Ancyran inscription records that Augustus had no less than 3500 wild beasts butchered in the circus, forum, and amphitheatre in twenty-six exhibitions.

Entrance. feet wide and 10 deep all round the *arena*; this was supplied by a stream which still runs through the site of the circus, near the modern Via de' Cerchi; Suet. *J. Caes.* 39.

After the erection of the Amphitheatre of Statilius Taurus in the reign of Augustus, the Circus Maximus appears to have been less often used for fights with beasts, and the *curipus* was therefore filled up by Nero; Pliny, *Hist. Nat.* viii. 20. It was, however, again introduced in later times; Lamprid. *Heliog.* 23.

Doorways. The principal doorway was at B (see plan), in the middle of the *carceres*; the procession before the games (*pompa*) entered through this door, which was therefore called the *Porta Pompae*. At the opposite end of the circus (F) was the *Porta Triumphalis*, through which the winning chariots left the *arena*.

This door in the curved end of the Circus Maximus, together with the "*primae viae*" and part of the *spina*, is shown on fragments of the Marble Plan of Rome; Jordan, *For. Urb. Rom.* pl. viii.

The position of the *Porta Libitinensis*, through which the bodies of the dead were carried out, is uncertain. It must have been one of the three side doors which exist in the Circus of Maxentius at HH and E; see Lamprid. *Comm.* 16.

Tombs of circus drivers. In 1887, in the devastated Ludovisi Gardens on an outlying part of the Pincian Hill, a *Columbarium* was found (and quickly destroyed) in which were buried a number of circus drivers and other members of the *Green Faction*; see *Bull. Com. Arch.* 1887, p. 263. The following is an example of the sepulchral inscriptions—

A · ANTONIVS · ALBANVS

CVRSOR · ET · SVFRA

CVRSORES

FACTIONIS · PRASINAE

TREBONIA · TERTVLLA

POSVIT

These inscriptions record a number of other classes who composed the *familia quadrigaria*.

In addition to the *aurigae*, *agitatores*, and *cursores*, we find the names *conditor*, *succonditor*, *morator*, *sellarius*, *spartor*, *sutor*, *tenor*, *medicus*, *cillicus*, and *viator*. *Officials of the circus.*

Several *stabula* of the Green Faction occupied this quarter of Rome.

An interesting mosaic found in a Roman villa near Bracciano represents *aurigae* of the four principal factions. Each *auriga* is represented standing by a horse; he wears a tunic of the colour of his faction. The four colours are green, blue, russet-red, and white, *prasinā, veneta, russata, and albata*: see Juv. xi. 196, and Tertull. *de Spect.* 9. This mosaic appears to date from the third century A.D. It is preserved in the cloister of the Museo delle Terme.

Four factions.

The chief training-stables for horses which ran in the circus were an extensive group of buildings in the *Campus Martius*, *Regio IX.*, near the *Circus Flaminius*; see Jordan, *Topog. der Stadt Rom*, ii. 554. They appear to have been the centre of intrigue and villainy of all kinds; the bribing of jockeys and the "hocussing" of horses and their drivers were familiar to the ancient Romans. Dion Cassius (lix. 5 and 14) describes how Caligula poisoned the cleverest chariot-drivers of his rivals. Immense sums of money were lost in betting on the races; see Juv. xi. 200, and Mart. *Ep.* XI. i. 15.

Training-stables.

Seven laps or circuits of the *spina* (*curricula*) appear to have been the usual number in each race (*missus*); see Varro quoted by Aul. Gell. iii. 10. On one occasion Domitian reduced the number to five laps so as to get a hundred races run in one day. In the time of Julius Caesar ten or twelve races was a usual number for one day, but Caligula increased the number to twenty, or even, occasionally, to twenty-four. In later times the races were so numerous that they lasted from sunrise to sunset, with intervals of acrobatic performances between groups of races. To amuse the populace, in addition

Method of racing.

*Variety
of sports.*

to the races, a great variety of entertainments were given in the circus, fights and slaughter of animals, and general butchery like that which went on in the amphitheatres.¹

The *Ludi Circenses* continued to be held in the *Circus Maximus* as late as the sixth century, as is described in the letters of *Cassiodorus*, the able minister of the Gothic kings Odoacer and Theodoric. Soon after then it fell into disuse, and for many centuries the ruined circus supplied enormous stores of marble to feed the limekilns of the degraded city.

*Remains of
the circus.*

In the sixteenth century some remains still existed of its external arcades, and a great part of the raking vaults of concrete, which had supported the marble seats along the side by the Palatine.² Now even these have disappeared; probably no great building of stone and marble has ever vanished from the face of the earth as completely as the *Circus Maximus* has done. A great part of its site is now made hideous with large gasworks, pouring forth volumes of black smoke. Some considerable remains of the *spina* were destroyed when these gasworks were built.

*Existing
remains.*

Existing Remains of the Circus. Partly under the Church of S. Anastasia (see No. 58 on fig. 22) excavations have exposed a series of very interesting buildings of many different dates,³ which appear to have skirted the edge of the *Circus Maximus* on the side towards the Palatine, and perhaps formed part of the circus itself. These are only partially exposed to

¹ The better class of Romans, even under the Empire, seem to have despised the brutal sports of the circus; see Pliny, *Ep.* ix. 6.

² See Du Perac's *Vestigi*. The great sixteenth-century oil-painting in the Museum of Mantua shows the end by the carceres very complete in three orders; the lower two having open arches, just like those of the Colosseum.

³ The remains under S. Anastasia are described in *Bull. Inst.* 1846-47. They can be visited under the guidance of the Sacristan of the Church; see plan in vol. i. p. 156, fig. 22.

sight, and the more ancient parts are so built over by later walls that it is impossible thoroughly to understand the existing remains.

Farther away from the circus, towards the Palatine, are a number of small square chambers, built of massive blocks of tufa, 3 to 4 feet long, and in courses (roughly) 2 Roman feet thick; the vaults of these rooms are of concrete made of tufa and pumice stone. Their floors are nearly 7 feet below those of the adjoining rooms of Imperial date, and the lava-paved road which skirts the circus; this road is about 22 feet below the present ground level. These very ancient tufa chambers seem to be built against an enormously thick tufa wall at the foot of the Palatine slopes; they probably once extended much higher up the hill. *Early chambers.*

Partly over these tufa chambers, and extending along and over the paved road, which runs along the side of the circus, is a large series of lofty concrete and brick chambers, passages, and staircases. A row of rooms, all of the same shape and size, faces on to the paved road, opening on to it with large double archways, both flat and semicircular. This series of archways appears to be a restoration under the Empire of an earlier Republican arcade, built of tufa, parts of which still exist, with capitals of travertine. The present arches, evidently restorations, are of brick-faced concrete of the first century A.D. *Later remains.*

Between two of these rooms a flight of travertine stairs leads up from the road to upper rooms in the direction of the Palatine. All these concrete brick-faced walls are of great strength and solidity, some as much as 7 feet thick; the facing is very neat, with seven bricks to the foot.

The long series of buildings, of which part is now visible, appears to have extended along the whole side of the circus, and it is probable that they formed part of the substructures under the upper rows of seats; without, however, more complete excavations it is impossible to be sure on this point. *Supports of the arena.*

All the above-mentioned remains are to be seen by descending from the Church of S. Anastasia.

Some remains of massive travertine walls outside the apse of S. Maria in Cosmedin have been thought to be part of the *carceres* end of the circus, but they are too far towards the river for that.

OTHER ROMAN CIRCUL

*Circus of
Maxentius.*

The *Circus of Maxentius* on the Via Appia, two miles from Rome, is sufficiently well preserved to show its original form, though it has been completely stripped of its marble seats and decorations. It is in many ways a building of very great interest, and on the whole is the most perfect example of a Roman circus which now exists. Its plan is shown in fig. 55, vol. ii. p. 43.

Till 1825 it was thought to be a circus built by Caracalla; but three inscriptions which were then found showed that it was dedicated by Maxentius in 311 A.D. in honour of his infant son Romulus, who died in 309 A.D. One of the inscriptions (with breaks supplied) runs thus—DIVO · ROMULO · N · M · V · COS · ORD · II · FILIO · D · N · MAXENTII · INVICT · VIRI ET · PERP · AVG · NIPOTI · T · DIVI · MAXIMIANI · SENIORIS · AC · BIS · AVGUSTI.

*Existing
remains.*

The greater part of the external wall is still standing; but the raking vaults on which the marble seats rested have mostly fallen in. The walls are of concrete, faced with "*opus mixtum*," of alternate courses of brick and small blocks of tufa. A number of large amphorae are embedded in the concrete of the vaulting and upper part of the walls; they were intended to diminish the weight of the vaults.¹ At the

¹ A notable instance of this method of constructing vaults exists at the *Tomb of S. Helena*, three miles outside the *Porta Labicana*; in its dome rings of pots (*pignatti*) are embedded in order to lighten the thrust on the haunches; hence it is popularly called the *Torre Pignattara*. The dome

starting end, the lofty wall above the *oppidum* and *carceres* is very perfect, and the core of the *spina* exists along its whole length, with the foundations of the *metæ* at each end. The obelisk which is now in the Piazza Navona once stood here in the centre of the *spina*.¹ Existing remains.

The building of this circus by Maxentius "*ad Catacumbas*" is recorded in an early chronicle published by Roucalli, *Chron.* vol. ii. col. 248. This name was given to the Circus on account of a large number of very extensive Catacombs which exist near it, namely, those of S. Sebastian, S. Calixtus and others.

Near the *carceres* of the Circus of Maxentius, on the side towards Rome, there are extensive remains of a large and lofty *porticus*, once surrounded with a row of columns which supported a vaulted cloister-like walk along all four sides of this great court. An upper gallery extended over the whole of the vaulted part. This *porticus* was probably used for what would now be called the saddling paddock, and possibly as a temporary stable for the race-horses. Large porticus.

Little or no visible remains now exist of the other great *Circi* of Rome. After the *Circus Maximus* the chief was the *Circus Flaminius*, which gave its name to the *Campus Flaminius*, an important and architecturally very splendid portion of the *Campus Martius*, towards the Capitoline Hill. Circus Flaminius.

The *Circus Flaminius* was founded in a part of the *Campus Martius* called the *Pratu Flaminiu* by the Censor C. Flaminius Nepos, who fell at the battle of Lake Trasimenus in 217 B.C.; Livy, xxii. 4 to 6. The same man had also in 220 B.C. constructed part of the great *Via Flaminia*, which skirted the *Campus Martius*, and passed out from Rome by the *Porta Flaminia* in the wall of Aurelian on the site of the modern of the Basilica of S. Vitale at Ravenna is a sixth-century example of a similar use of pottery.

¹ See Nibby, "*Circo di Caracalla*," 1825; and Canina, *Rom. Ant.* i. p. 447, Tav. 137.

Porta del Popolo; Livy, *Epit.* xx.¹ See also Livy, iii. 34; xxvii. 21; and xl. 52. The positions of this and the next-mentioned circus are shown on the *Map of Ancient Rome*.

Mediaeval records

In the sixteenth century considerable remains of this circus were found while digging foundations for the *Palazzo Mattei*, and the tower now called *Cilrangole* marks the position of the *metas* at one end of the *spina*; from this it was formerly known as the *Torre Metangole*. In the early mediaeval period the long open space of this circus was used as a rope-walk, a record of which is preserved in the name of the Church of *S. Caterina dei funari*. The descriptions of the remains of this circus given by Fulvio, *Antiquaria Urbis*, Venice, 1527; and Ligorio, *Effigies Antiquae Romae*, Rome, 1561, are quoted by Nardini, *Roma Ant.* (ed. Nibby, 1819), iii. p. 21. An *Allar of Neptune* in or near the *Circus Flaminius* is mentioned by Livy, xxviii. 11. Games in honour of Neptune had existed from prehistoric times; see Livy, i. 9.

The ancient *Ludi Apollinares* were held in the *Circus Flaminius* except when that part of the *Campus Martius* was flooded. Between the *Circus* and the *Porticus of Octavia* there was a temple of Apollo, which had been founded in 428 B.C. by Gn. Julius Mento (Pliny, xxxvi. 34); see below, p. 70.

Circus of Caligula

The *Circus of Caligula and Nero* was in the *Horti Agrippinae*, at the base of the Vatican Hill; Suet. *Claud.* 21; Pliny, *Hist. Nat.* xxxvi. 74; part of the Basilica of S. Peter, and especially the sacristy on the south side, now stand over its site.² The great obelisk, now in the Piazza of S. Peter, stood on its *spina*, and remained standing *in situ* till it was moved by the architect Fontana to its present position in the reign of Sixtus V. An interesting and well-illustrated description

Great obelisk

¹ Livy (xxiv. 43) records that *Ludi Saeculares* were first instituted in 214 B.C. by the Aedile Tuditana, who through his bravery had escaped from the slaughter at Cannae.

² The *Circus of Caligula and Nero* was the scene of the horrible tortures which Nero inflicted on the Christians; see Tac. *Hist.* xv. 44.

of the methods employed to move this enormous monolith was published by Fontana, *Trasportazione dell' obelisco Vaticano*, 1590. Of all the obelisks in Rome, this is the only one that has never been thrown down since it was first brought from Egypt.

The *Circus of Hadrian* lay to the north-west of his mausoleum in the *Campus Vaticanus*; nothing of it is now visible, but part of its remains were excavated in 1743; see *Atti della Pontif. Accad.* 1839. *Circus of Hadrian.*

The *Stadium of Domitian*. The modern *Piazza Navona* (a corruption of *Agonale*) marks by its line of houses the area of the *Stadium* built by Domitian (Suet. *Dom.* 5) and restored by Severus Alexander under the name of the *Stadium Alexandrinum* (*Hist. Aug. Sev. Alex.* 24). Remains of its substructures exist under all the houses round the *Piazza*, and especially below the Church of S. Agnese. The line of the curved end is still partly marked by the curve of the houses at the northern end. Those over the starting end also mark the ancient line; they are set square with the sides, not in a slightly diagonal line, as would be the case if the building had been a circus. *Stadium of Domitian.*

The *Circus of Sallust*, supposed to have existed in a valley between the Quirinal and Pincian Hills, is mentioned below, see vol. ii. p. 246. *Circus of Sallust.*

Naumachiae. Few remains exist of the various *Naumachiae*, which were great reservoirs, surrounded by seats like an amphitheatre, and were constructed for holding naval fights. That built by Augustus was in the *Nemus Caesarum*, on the transiberine side of the river;¹ traces of it have recently been found; see vol. i. p. 386. *Naval fights.*

¹ Augustus records in the Ancyran inscription—*Navalis proeli spectaculum populo dedi trans Tiberim in quo loco nunc nemus est Caesarum, curvato (solo in) longitudinem mille et octingentos pedes, in latitudinem (pedum mille et) ducentis quo) triginta rostratas naves, triremes (et quadrimas, plures autem minores inter se confixerunt. (In his) classibus pugnaverunt proster remiges millia (hominum tria) circiter.*

The position of the *Naumachia of Domitian* is unknown, as is also the reason of its being destroyed, apparently by Domitian himself, when its stone was used to restore the burnt wooden seats of the *Circus Maximus*; Suet. *Dom.* 5.

Naval fights were also held in the *Stagnus Neronis*, a great reservoir of water formed in Nero's *Golden House*, on the site now occupied by the Colosseum; see vol. ii. p. 78.¹

¹ Part of the description of the Roman Circi given above was originally written for the third edition of *Smith's Dictionary of Antiquities* (Art. "Circus"); I have to thank Mr. John Murray for permission to make use of it here.

CHAPTER III

THEATRES IN ROME.

THE Roman theatre was simply a slightly modified copy of the theatre of the Greeks.

The most important difference was that the flat space or pit (the orchestra) in front of the stage, which in the Greek theatre was occupied by the chorus, in the Roman theatre was devoted to the seats of the senators and other dignitaries. The differences in the plans of the Greek and Roman theatres are minutely described by Vitruvius (v. 7 and v. 6), who points out that in the latter the *orchestra* was exactly half a circle, while in the Greek theatre it occupied more than three-quarters of a circle. Recent excavations at Epidaurus, Megalopolis and elsewhere in Greece have shown, what Vitruvius probably did not know, namely, that in the earliest Greek theatres, built in the fifth and fourth centuries B.C., the *orchestra* was a complete circle. This space was gradually diminished by the extension forwards of the stage.

According to the theory of the very learned German archaeologist Dr. Dörpfeld, there was no raised stage in the Greek theatre of the best period, the principal actors playing their parts in the circular *orchestra* on the same level as the chorus. The evidence of existing remains in support of this theory is very strong.

Another important structural difference was that the Greeks always selected a hillside, out of which they could excavate the *cavea* of their theatres, and so avoid the massive

Greek and
Roman
theatres.

Greek
orchestra.

Excavated
cavea.

Lefty sub-
structures.

and costly substructures which were necessary for so many of the Roman theatres built on level ground.

This was especially the case in Rome, where almost all the theatres were erected in the perfectly flat *Campus Martius*.

The skilful Roman use of concrete made it possible to do without the aid of a natural slope. Close-set radiating walls supporting raking vaults of concrete were used by the Romans to carry the high tiers of seats, alike in their theatres, amphitheatres, and circi; see Vitr. v. 3. 3.

Wooden
theatres.

Till the middle of the first century B.C. no theatre in Rome was other than a temporary wooden building. During the Republican period a great prejudice existed against the construction of a theatre of stone, chiefly from a dread of introducing the luxurious habits of the Greeks. So strong was this feeling that Scipio Nasica induced the Senate to pull down and sell the stone of a half-finished theatre which had been begun by the Censor C. Cassius Longinus in 154 B.C.;¹ Livy, *Epit.* 48; Appian, *Bell. Civ.* i. 28. Even Pompey, who built the first stone theatre in 55 B.C., had to construct it, on the top of the *acra*, a Temple to *Venus Victrix* in such a way that the stone seats and steps formed the access to the temple, so that the fact of their not being of wood might be excused, by means of the figment that they were an essential part of the temple.

Stone
theatre.

The spirit though not the letter of this sumptuary law against Greek extravagance had been very completely ignored three years earlier than this by the Aedile Scaurus.

Theatre of
Scaurus.

Theatre of Scaurus. A temporary wooden theatre, built by M. Aemilius Scaurus, the stepson of Sulla, during his

¹ "*Tanquam inutile et nociturum publicis moribus*," were the words of the decree. The objection seems to have been not only to having stone seats, but having any seats at all, when it had hitherto been the custom for the spectators to stand. The decree, therefore, prohibits seats of any material, but stone ones were specially obnoxious to the stern Romans of the Republic.

Aedileship in 58 B.C., is described by Pliny (*Hist. Nat.* xxxvi. 5 and 113) as being a building of the greatest possible magnificence and costliness, containing seats for 80,000 spectators, an almost incredible number, only about 7000 less than the number which it has been calculated that the Colosseum could hold. According to Pliny it was the greatest work ever produced by human hands, and though only a temporary building, was constructed as if meant to last for ever.¹ Pliny refers to it again and again, as being on the whole the greatest marvel of skilful workmanship, extravagant cost, and human folly that the world had ever seen; see *Hist. Nat.* xxxiv. 36; xxxvi. 5; *ib.* 50; *ib.* 113 to 115; and *ib.* 189. *Theatre of Scaurus.*

The *scena* was divided into three stories or "orders," and had 360 marble columns; those of the lower order were monoliths, 38 feet high. The whole lower order of the *scena* was of marble or lined with marble, the second was *ex vitro*; by which Pliny means that the wall was covered with mosaics of glass *teserae*;² the third story was of gilt wood. No less than 3000 bronze statues were set between the columns.³ Pliny expresses his amazement that such splendour, and especially the 360 marble columns, should have been tolerated in a city which took it ill that one of the richest citizens of Rome (the orator Crassus) should adorn his atrium with six columns of Hymettian marble, only 12 feet high. The fact, however, that it was not a private house but a building for the use and amusement of the people would make a great difference in the eyes of the fellow-citizens of Scaurus and Crassus. *Rich scena.*

Marble columns.

¹ As Pliny cannot have seen this wonderful building some allowance for the exaggerations of hearsay evidence should perhaps be made.

² At *Hist. Nat.* xxxvi. 189, Pliny mentions more distinctly the glass mosaics on the *scena* of the Theatre of Scaurus.

³ This passage has been wrongly understood by Mr. J. H. Parker (*Colosseum*, p. 76) and others, who have taken the materials of the three orders of the *scena* to refer to the columns.

Scaurus also distinguished himself by providing a new form of butchery to please the Romans. Crocodiles and hippopotami were slaughtered in tanks of water made to imitate a river; see Pliny, *Hist. Nat.* viii. 96.

Wealth of
Scaurus.

Some notion of the wealth squandered on the temporary Theatre of Scaurus is given, Pliny says (*Hist. Nat.* xxxvi. 115), by the fact that when the mere superfluities of the building, easel pictures, cloth of gold (*attalica*), and stage dresses and ornaments, were burnt with Scaurus' Tusculan Villa, whither they had been removed, their value was estimated at 300 million sesterces, equal to about 3 millions sterling of modern money.

Double
theatre.

Amphitheatre of Curio. Another temporary wooden building, built by C. Scribonius Curio in 50 B.C., of even more astonishing character, is described by Pliny (*Hist. Nat.* xxxvi. 116 to 120). This consisted of two very large theatres, built of wood, and made to swing on pivots, so that dramatic representations were given in the morning in the two separate theatres; while for the afternoon performance the two theatres were swung round, so as to meet and form an amphitheatre, in which gladiatorial fights were held.

An interesting restoration of the amphitheatre of Curio, showing how its two halves revolved, has been worked out from Pliny's description by MM. Homolle and Nénot; see *Gazette Archéol.* 1889, pp. 11-16 and pl. iii. and iv.

The Theatres of Scaurus and Curio were both erected in some part of the *Campus Martius*, but their exact sites are not known.

Dangerous
structures.

It is not without reason that Pliny (*Hist. Nat.* xxxvi. 118 and 119) speaks with amazement of the folly of the Romans in trusting themselves in such a structure as that of Curio. Accidents on the most terrific scale not unfrequently happened through the breaking down of temporary wooden places of amusement. In the reign of Tiberius, according to Tacitus, no less than 50,000 people were killed or injured by the fall

of a wooden amphitheatre erected at Fidenæ, five or six miles from the *Porta Salaria* of Rome. Many similar accidents are recorded; see Tac. *Ann.* iv. 62; and cf. Suet. *Tib.* 40.

Buildings of Pompey. Near the *carceres* or square end of the *Circus Flaminius* there was a very large and magnificent group of buildings—the *Theatre*, *Porticus*, and *Curia of Pompey*; see *Map of Ancient Rome*.

*Pompeian
Museum.*

The *Theatre of Pompey* was opened in 55 B.C., but was not completed till 52 B.C.; see Dion Cass. xxxix 38, and Plut. *Pomp.* 52. It contained 40,000 people; the seats and inner architectural decorations were of marble, the outer arches being of travertine, the raking vaults supporting the *cunei* of concrete, and the radiating walls on which the vaults rested were built of travertine and peperino.

*Theatre of
Pompey.*

The *Theatre of Pompey* is mentioned by Vitruvius (iii. 3. 2) as "*the stone theatre*" (*theatrum lapideum*), *par excellence*, because it was the first one in Rome built of stone, and possibly the only one at the time when his work on architecture was written. In this passage Vitruvius mentions a *Temple of Equestrian Fortune*, in or by the theatre, and there were also near it *Temples of Honos and Virtus* and *Felicitas*.

*First stone
theatre.*

On the summit of the *cavea* there was a shrine of *Venus Victrix*, placed there for the reason mentioned above, in vol. ii. p. 62.

This theatre was gilt, Pliny tells us, by Nero, in one of his fits of extravagance; see *Hist. Nat.* xxxiii. 54, and Dion Cass. lxi. 6. Pliny (*Hist. Nat.* viii. 19) describes the great slaughter of beasts which celebrated the opening of Pompey's Theatre.

It is very characteristic of the brutal nature of the Romans that they frequently used a form of building designed by the more intellectual Greeks for purely literary pleasures, for the base purpose of wholesale butchery. The Ancyrean inscription records that, during the reign of Augustus, the *Theatre of Pompey* was used for fights between wild beasts and gladiators, in which no less than 500 lions and 20 elephants were

*Butchery in
theatre.*

slaughtered. How many of the less costly gladiators were killed is not mentioned.

- ★ The *Theatre of Pompey* is said to have resembled the Greek theatre at Mitylene; it was begun shortly after Pompey's visit to Mitylene on the occasion of his defeat of Mithradates; see *Plutar. Pomp.* 41 and 42.

Existing remains.

Considerable remains of this theatre still exist, but are almost wholly concealed by modern houses; the *Via de' Chiavari* follows the line of the *scena*, and a great part of the foundations and substructures of the *cavea* can be seen in many cellars in the houses in the *Via de' Giubbonari* and the *Via del Paradiso*, and especially under the *Palazzo Pio*.¹

Plan of theatre.

- The plan of the whole theatre is represented on one of the (now lost) fragments of the *Marble Plan*, and this shows that it cannot have been an exact copy of the Mitylene Theatre, as it presents the Roman peculiarity of having its *orchestra* confined within an exact semicircle, while in the Greek theatre, as is mentioned above, the *orchestra* occupied either a complete circle or, in late times, a segment which was considerably more than half a circle.²

The *scena* is shown on the plan to have had large recesses for statues and rows of closely set columns.

The outer arcade, in its lower story at least, resembled that of the existing *Theatre of Marcellus*, having arches under an entablature supported by engaged Tuscan columns; part of this was found during excavations made in 1837.

Like almost all the buildings of Rome, the Theatre of Pompey suffered frequently from fire. The *Ancyran Inscription* records that it was restored at a great cost by Augustus,

Restored by Augustus.

¹ The radiating walls under the *cavea* are partly of travertine and partly of peperino; the outside appears to have been wholly of travertine. The name of the Church *S. Maria in grotta pinta*, is derived from its being built over the substructions of Pompey's Theatre, which had painted decorations on their walls.

² See *Vitr.* v. 6 and 7.

without the addition of his name to that of Pompey's on the front; POMPEIVM · THEATRVM · . . . IMPENSA · GRANDI · REFECTIONE · VILLA · INSCRIPTIONE · NOMINIS · MEL.¹

Another fire did much injury to the theatre in the reign of Tiberius, who then rebuilt the *scena*, and left the rest to be restored by Caligula, who, not imitating the unselfish modesty of Augustus, put his own name in the place of Pompey's. The Emperor Claudius, however, soon afterwards obliterated Caligula's name, and restored that of Pompey in its original place; see Tac. *Ann.* iii. 72, and vi. 45; Suet. *Cal.* 21.

*Later
restoration.*

This theatre was again burnt in the great fire of 80 A.D., and restored by Titus; further injury was done to it by various fires during the reign of Philippus I., 249 A.D., and in that of Diocletian about 290 A.D. The building was restored after both these fires, and the theatre continued in use till the time of Theodoric, and even later in the sixth century A.D.

*Fires of
80 A.D.*

A great part of the outer wall was standing as late as the sixteenth century, and is described by Fauno, Fulvio, Gamucci, and other antiquaries of that century. Its existing remains are described by Canina; *Arch. Ant.* Sez. iii. Par. ii. p. 341.

Porticus Pompeiana; see Vitruv. v. 9. 1. Outside the theatre, at the back of the *scena*, was a very large and magnificent building supported by several parallel ranges of columns, forming a great *Porticus* or court, with an open area in the centre, planted with avenues of sycamore trees and decorated with fountains and rows of statues² in marble and gilt bronze.

*Porticus of
Pompey*

¹ The original inscription recorded that the theatre was completed in the third consulship of Pompey (52 B.C.), and the question arose whether it was more elegant to use the word TERTIVM or TERTIO; Cicero cautiously refused to commit himself to either opinion, and advised the contracted form TERT. to be used, so as to avoid the difficulty. The Emperor Claudius did not approve of the abbreviation and altered Tert. into III.; see Aul. Gell. X. i. 7 and 9. The form TERTIVM was adopted by Agrippa on the frieze of the Pantheon.

² Martial, ii. 14, 9, iii. 19; Ov. *Ars Am.* i. 67; Cic. *De Fato*, c. 4.

This *Porticus Pompeii* was also known as the *Hecontostylon* or "Hall of the hundred columns"; it is shown on three fragments of the Marble Plan, one of which is inscribed with the word [HECA]TOSTYLYM.

Curia of Pompey.

Curia Pompeiana. Adjoining the *Porticus* was the *Curia* of Pompey, an *exedra* or hall, with one side curved and furnished with tiers of seats. It was used for meetings of the Senate, and in it Caesar was murdered at the foot of a colossal statue of Pompey, which stood in the centre; Plut. *J. Caes.* 66, and *Brut.* 14; and Cic. *De Divin.* ii. 9, 23.¹ The *Curia* and *Porticus* also contained a number of fine Greek pictures, among them one by Pausias, representing a sacrifice of oxen, which was technically very remarkable for its skilful foreshortening and *chiaroscuro* (Pliny, *Hist. Nat.* xxxv. 126), and a painting of Cadmus and Europa by Antiphilos; *Hist. Nat.* xxxv. 114. Pliny also mentions a painting of Alexander by Nicias; *Hist. Nat.* xxxv. 132; see also *ib.* 59.

Works of art.

During the outburst of grief caused by the death of Julius Caesar the *Curia Pompeiana* was burnt, and the scene of the murder decreed by the Senate to be a *locus sceleratus*; Appian. *Bell. Civ.* ii. 147; Suet. *J. Caes.* 88. The statue of Pompey was saved from the fire, and was set by Augustus on a marble arch at the entrance to the *Porticus*; Suet. *Aug.* 31.

Pompey's house.

Pompey's private house was close by, a very modest and simple building (Plut. *Pom.* 40), contrasting strongly with the magnificence of the group of buildings which Pompey erected for the public use.

Pliny mentions (*Hist. Nat.* xxxiv. 57) a bronze statue of Hercules by the celebrated Myron of the fifth century B.C., which was in Pompey's house.

Existing statues.

A number of important statues have at different times

¹ The colossal statue in the *Palazzo Spada* was found in 1553, near the *Palazzo della Cancelleria*, and is supposed to be the one before which Caesar fell; but there is little ground for this belief. The original statue of Pompey was probably of bronze.

been found in the neighbourhood of the Theatre and Porticus of Pompey; among them is one of the finest Greek statues known, which was found in the reign of Julius II., about 1506 —the celebrated torso of Herakles in the Vatican, signed as the work of Apollonios of Athens,¹ the son of Nestor, ΑΠΟΛΛΩΝΙΟΣ ΝΕΣΤΟΡΟΣ ΑΘΗΝΑΙΟΣ ΕΠΟΙΕΙ.

Statue of Herakles.

In 1864 a colossal statue of Herakles, 15 feet high, in gilt bronze, was found carefully hidden in a small chamber underground near the theatre. It is chiefly remarkable for its great size and perfect preservation, not being of much merit as a work of art, and not earlier than the third century A.D. It was bought by Pius IX. for £2000, and is now in the round hall of the Vatican.

Like other buildings in Rome, the remains of the Theatre and Porticus of Pompey were for many centuries used to feed limekilns, and as a quarry for stone and marble. From it the famous architect Bramante of Urbino took the monolithic columns of grey and red Egyptian granite, nearly fifty in number, which he used for the arcades of the *cortile* and in other parts of the magnificent palace which he built for Cardinal Riario about the year 1498.² It is now called the Palazzo della Cancelleria; and is, on the whole, the noblest of the Roman palaces.

Granite columns.

¹ This wonderful fragment is apparently part of a group, with a nude seated figure of Herakles. The same motive is represented in a statuette published by Le Bas, *Voyage en Grèce*, etc., ed. Reinsch, vol. II. pl. 144. For its subtle knowledge of human anatomy this torso is perhaps unrivalled in the world. The late form of the ω (used instead of Ω) in the signature of Apollonios shows that the statue is probably not earlier in date than the first century A.C.

² Bramante did not take the granite columns direct from the ruins of the Porticus of Pompey, but he obtained them from the old Basilica of S. Lorenzo, which had previously been built with materials taken from Pompey's buildings. Bramante rebuilt the Basilica as part of Cardinal Riario's Palace, and used the ancient columns to support the two-storied arcade of the great court.

*Theatre of
Marcellus.*

The *Theatre of Marcellus* was begun by Julius Caesar and finished in 13 B.C. by Augustus, who dedicated it in the name of his nephew Marcellus the son of Octavia, as is recorded in the *Ancyran Inscription*—THEATRVM · AD · AEDEM · APOLLINIS IN · SOLO · MAGNA · EX · PARTE · A · [PRIVATIS] · EMPTO · FECI QVOD · SVB · NOMINE · M · MARCELLI · GENERI · [ME] · ESSET. See also Suet. *Aug.* 29.

*Temple of
Apollo.*

The *Temple of Apollo*, mentioned in this inscription, was one of the most highly venerated and ancient in Rome; it was dedicated to the Delphic Apollo by Gn. Julius Mento in 428 B.C.; Livy, iv. 28. It contained a very sacred statue of Apollo carved in cedar wood, presented by C. Sosius, Prefect of Syria, in about the year 34 B.C.; Pliny, *Hist. Nat.* xiii. 5. From this statue it is called by Pliny the *Temple of Apollo Sosianus* (*Hist. Nat.* xxxvi. 34), and he mentions that it contained a celebrated set of statues representing the slaughter of Niobe's children by Apollo and Diana, the authorship of which was due to either Scopas or Praxiteles, but to which had been forgotten.¹

*Line of
pompa.*

Livy (xxvii. 37) describes a *pompa* or religious procession carrying statues, which started from the *Temple of Apollo*, passing into the Servian city through the *Porta Carmentalis* and so along the *Vicus Jugurcius* into the *Forum Romanum*. Thence the *pompa* passed from the Forum by the *Vicus Tuscus*, through the *Velabrum*, and then through the *Forum Boarium* on to the *Clivus Publicus* and the *Temple of Juno* on the Aventine. Remains of the temple of the Delphic Apollo have been discovered near the Piazza Montanara, under an inn called the Albergo di Catena.

¹ Many ancient copies of these fine statues still exist; one almost complete set, which was found in Rome in 1583, is now in the Uffizi at Florence. The gradations in the heights of these statues indicate that they were originally designed to fill the triangular pediment of a temple. A very fine but mutilated statue of one of the daughters, which is in the *Museo Chiaramonti* of the Vatican, may possibly be one of the original set.

Pliny (*loc. cit.*) speaks of the temple as being *ad Octaviae Porticum*. Near the Temple of Apollo and the Circus Flaminius were two other temples of Bellona and Hercules *Custos*; the former was used as a "Senaculum" for meetings of the Senate outside the sacred *Pomerium*; see vol. i. p. 108. Another more important building was the Temple of Mars, to whom the whole *Compus Martius* was specially sacred. It was built, or rather rebuilt, by Junius Brutus Callaicus, who was consul in 138 B.C.; its designer was the Greek architect Hermodorus; see Pliny, *Hist. Nat.* xxxvi. 26.

Other temples.

The Theatre of Marcellus stands on the borders of the *Forum Olitorium*; this Forum was immediately outside the Servian wall, which separated it from the *Forum Boarium* inside the Servian city.¹

Theatre of Marcellus.

Fig. 57 shows the plan of the Theatre of Marcellus with its deep Roman stage, and a large hall or "green-room" for the performers on each side.

An earlier theatre, built by Aemilius Lepidus, existed on this site (Livy, xl. 51), but was probably pulled down by Julius Caesar when he founded the Theatre of Marcellus. The Temple of Pietas,² in the *Forum Olitorium*, was also pulled down to make room for it; Dionys. xliii. 49.

Earlier theatre.

The Theatre of Marcellus occupied a long time in building; though begun in the time of Julius Caesar it was not completed till 13 B.C., the date when it was opened by Augustus.

¹ A large extent of the travertine paving of the *Forum Olitorium*, between the Piazza Montanara and S. Niccolò in Carcere, was discovered during excavations in 1875; see *Bull. Com. Arch. Mus.* iii. 1875.

² This temple was founded, according to Pliny (*Hist. Nat.* vii. 121, and *Festus*, ed. Müller, p. 209), to commemorate the oft-told and frequently painted story of the starving mother in prison who was fed by milk from her daughter's breast. Another form of the story (Val. Max. ii. 5, 1) makes it the father who was fed by the daughter. The temple was built by M. Aemilius Glabrio, in 180 B.C., and contained the earliest gilt statue in Rome; Val. Max. ii. 5, 1.

It appears to have suffered in the fire which burnt the adjoining *Porticus Octaviae*, and it was then restored by Vespasian; Suet. *Vesp.* 19.

Size of the
theatre.

It is thus mentioned in the Regionary Catalogues, *Regio IX. Theatrum Marcelli; caput loca xxx mil.* Judging from the size of its existing remains, it appears hardly possible that it can have contained as many as 30,000 spectators. Its *scena* is

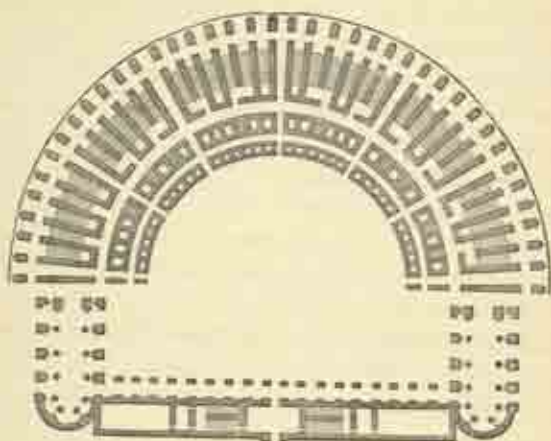


Fig. 57.

Plan (restored) of the Theatre of Marcellus: the front line of the stage is omitted in this cut, as the plan represents the substructures below the seats of the *cavea*.

shown on one of the fragments of the Marble Plan of Rome, with the inscription *THEATRVM · MARCELLI*.

In the Middle Ages the theatre was made into a fortified palace by Pietro Leone, in the year 1086, and in the following century it was partly destroyed and built upon by the Savelli family. Subsequently it became the property of the Orsini barons, who completed its disfigurement.

Existing
remains.

The existing remains of the *Theatre of Marcellus* are of great beauty and interest. Little of the *scena*, the side facing on the Tiber, now remains above ground; but a considerable

extent of the arcading, two stories high, of the curved exterior is still standing; the lower story is nearly half buried below the present ground level. The design consists of the usual arcades, with engaged columns supporting an entablature to each story. The lower order is Tuscan or Romanised Doric; the upper Ionic order is of very graceful proportion. X

It is all worked in travertine, once covered with hard white stucco made of pounded marble (*opus albarium*). The details are much more delicate and refined than those of the similar arcades in the Colosseum. The volutes and egg and dart moulding of the Ionic capitals are carefully worked, not left in the block as they are in the coarser Flavian arcading. Style of details.

A very noticeable feature of Roman architecture is the constant repetition, almost without variation, of this design with rows of arches between engaged columns. Even among the few existing (or till recently existing) remains, we find it over and over again—namely, in the arcade under the Campanile of SS. Giovanni e Paolo; in the *Theatre of Pompey*, in the *Amphitheatrum Castense*, in the *Basilica Julia*, in the front of the *Tabularium*; and (shown in the sixteenth-century picture of Rome at Mantua) on the façades of the *Circus Maximus*, and the back of the *Basilica of Constantine*. It is a design which, when skilfully treated, is capable of great beauty of effect, and formed the favourite motive for the splendid courts and façades of the pseudo-classic buildings of the sixteenth century; even at the present day its popularity seems to be almost as great as ever in all the principal countries of Europe. Favourite design.

This combination of the *arched* and the *trabeated* methods of construction appears to have been one of the very few architectural forms which was an invention of the Roman period. Even this, however, was probably devised by Græco-Roman, not Roman architects.

The *Theatre of Cornelius Balbus*, which was built in 13 B.C., stood a little to the north-west of the *Theatre of Marcellus*, and was placed with its curved façade close to the Tiber bank. It Theatre of Balbus.

appears to have been a building of great splendour, and, according to Pliny (*Hist. Nat.* xxxvi. 60), was adorned with four wonderful little columns of Arabian *Onyx*¹; cf. Dion Cass. liv. 25. It was surrounded with open arcading, like that of the other theatres and amphitheatres of Rome, and in other ways was very similar to the Theatre of Marcellus.

*Excavations
remains.*

Two of the Tuscan engaged columns of this arcade, with their entablature of travertine, still exist, built into a house in the Via di S. Maria in Cacaberis, No. 23; and other parts of the theatre and its *Porticus* are visible in the neighbouring houses. Foundations and substructures of the *cavea* exist below the Cenci Palace. At the back of the *scena* was a covered hall, or *crypto-porticus*, considerable remains of which existed in the sixteenth century, and were drawn by Serlio to illustrate his work on architecture, published at Venice in 1545.

According to Suetonius (*Aug.* 29) the *Theatre of Cornelius Balbus* was one of the many buildings erected in Rome by private persons owing to the influence and exhortations of the Emperor Augustus, who was, above all things, anxious to increase the architectural splendour of Rome. In his time the last remaining Republican prejudices against magnificence and richness of material, even as applied to private houses, completely passed away.

*Size of the
theatre.*

According to the *Regionary Catalogue* (*Reg.* ix.) the *Theatrum Balbi*, like the *Theatre of Marcellus*, contained seats for more than 30,000 people; the writer of this Catalogue erroneously says that it was dedicated by Caesar, and states that its name was derived from the adjacent *Crypta Balbi*; by this is evidently meant the *crypto-porticus* which formed part of the building, and was naturally called the *Porticus Balbi* from the name of the theatre to which it belonged.

*Colossal
Dracones.*

The colossal statues of Castor and Pollux holding their horses, now at the top of the Capitoline steps, were found in or near the Theatre of Balbus about the year 1556.

¹ A variety of hard alabaster, not the modern onyx; see vol. i. p. 21.

CHAPTER IV

THE AMPHITHEATRES OF ROME.

THE amphitheatre with its brutal scenes of butchery was unknown to the more refined and intellectual Greeks, and therefore this class of building cannot have been derived by the Romans from Hellenic sources, as was the case with their *Temples, Thermæ, Porticus, Basilicæ*, and most of their other buildings. The question then arises whether it was a Roman invention, or derived from the Etruscans, from whom the Romans learnt the custom of having gladiatorial fights, and the even more horrible one of propitiating the gods by burying human victims alive,¹ or by cutting the throats of prisoners of war and slaves to celebrate the funerals of important personages.²

*Origin of
amphi-
theatre.*

It is important to remember the religious origin of the gladiatorial combats of ancient Rome, which were first instituted as a form of human sacrifice to the *manes* of the

*Combats at
funerals.*

¹ Livy (xvii. 57) mentions that in 216 B.C. a Gaulish man and woman and a Greek man and woman were buried alive in a stone chamber in the *Forum Boarium*; similar acts of human sacrifice were repeated on several occasions down to the first century A.D. The punishment of unchaste Vestals, which was the last survival of this horrible custom, lasted till Christianity became the State religion of Rome.

² This latter form of human sacrifice is of frequent occurrence among the paintings on the walls of Etruscan tomb-chambers. Among the Greeks the sacrifice of human victims was given up at a very early period. It was exceptional even in the Homeric Age; see Pausanias, I. xvii. 6.

dead, and therefore, in early times, were always associated with the funeral of some wealthy citizen.

*Sutrium
amphi-
theatre.*

The existence of a fine stone amphitheatre in the ruins of the Etruscan city of Sutrium¹ has been supposed to be a proof of the Etruscan origin of this class of building. The seats, concentric corridors, and *vomitoria* of the Sutrium amphitheatre are to a large extent hewn in the solid rock, and this helps to give a look of great antiquity to the remains; but a careful examination of the details, and of the mouldings especially, shows that this is really a purely Roman building, and most probably but little earlier than the Colosseum of Rome.

*Roman
invention.*

There is really no evidence to show that amphitheatres were built by the Etruscans, and there can be little doubt that they were purely Roman inventions, developed out of the theatre of the Greeks, by the simple process of putting together the *arcus* of two theatres, omitting, of course, the *scenae* and *stages*.²

The fact is that the Roman amphitheatre is constructed on purely utilitarian principles, so that any architectural beauty it may have is, as it were, accidental, and was not specially aimed at by the designer. In the aesthetic part of architecture the Romans showed little or no talent, seldom attempting more than to imitate and adapt the graceful buildings of the immeasurably more artistic Hellenic race.

*Roman
talent.*

But as engineers and constructors of huge and complicated piles, perfectly and ingeniously adapted to their special uses, the Romans were quite unrivalled, showing a complete mastery of the most difficult problems of construction. No less remarkable was their skilful use of the most varied materials, their wonderful application of hydraulic laws, shown in the

¹ Sutrium is about thirty-three miles north of Rome, on the Via Cassia.

² The supposed origin of the amphitheatre, from the two wooden revolving theatres of C. Curio constructed in 50 B.C., has been mentioned above; see vol. II. p. 64.

complicated systems of lead pipes by which various parts and levels of buildings were supplied with water, and also in the complicated perfection of their arrangements for warming rooms and heating baths.

The peculiarities and merits which the Roman amphitheatre, considered as an elaborate architectural product, possesses, are precisely those of simple and straightforward provision for practical uses, which was the one strong point of the utilitarian Romans. No artistic invention was required; the decoration of the exterior with its series of colonnades, and the interior with its tiers of seats, were taken directly from the similar parts of the Graeco-Roman Theatre. What was purely Roman was the ingenious arrangement of passages and staircases by which a crowd of eighty or ninety thousand people could rapidly, and without confusion, pour out of the *Colosseum* of Capua or Rome,¹ and also the massive series of substructures which in the Roman theatres and amphitheatres commonly took the place of the natural hill-side which was necessary for the theatres of the Greeks.

Practical merits.

Amphitheatre of Taurus. Under the Roman Republic amphitheatres, like other places of amusement, were merely temporary structures built of wood.²

Amphitheatre of Taurus.

The first stone amphitheatre in Rome was that built by Statilius Taurus in the reign of Augustus, about 29 B.C.; Suet. *Aug.* 2; Dion Cass. ii. 23 and lxii. 18. No remains of it are now visible, and it is not named in the *Regionary Catalogues*;

¹ The two amphitheatres in Rome and at Capua are of about the same size; each was known in the Middle Ages by the name *Colosseum*, probably on account of its gigantic scale. It has been supposed that this name was given to the Roman Amphitheatre from its vicinity to the colossal statue of Nero, but this is hardly possible, as the bronze Colossus had been overthrown and melted long before the name *Colosseum* had been applied to the Flavian Amphitheatre. The word first occurs in the writings (eighth century) of the Venerable Bede, who uses the form *Colyseum*.

² Amphitheatres are not mentioned by Vitruvius; see note 1 in vol. II, p. 128.

*Amphi-
theatre of
Trajan.*

it appears to have been destroyed during the great fire in Nero's reign; its very site is uncertain. It probably stood in the *Campus Martius*, where the houses of modern Rome are the thickest; the elevation called *Monte Giordano* has been supposed to be caused by its ruins.¹

*Amphi-
theatre of
Nero.*

The *Amphitheatre of Nero*, erected in the *Campus Martius*, appears to have been a wooden structure. It was, however, decorated in the most costly and magnificent way: it had rich awnings of silk, and perfumes were sprinkled on the spectators from concealed pipes; see *Suet. Nero*, 12 and 31; *Tac. Ann.* xiii. 31; and *Pliny, Hist. Nat.* xxxvii. 45.

THE COLOSSEUM.

*Site of
Colosseum.*

The *Flavian Amphitheatre*, or *Colosseum*, was built by Vespasian and Titus in the lowest part of the valley between the Caelian and Esquiline Hills, which was then occupied by a large artificial pool for naval fights (*Naumachia*).² This reservoir was in the middle of the *Golden House* of Nero—that gigantic palace which had swallowed up a whole district of Rome, and extended from the Palatine Hill, near the present *Via di S. Bonaventura*, to a distant point on the Esquiline, covering the whole intermediate slopes and valleys; see vol. ii. p. 146. As Suetonius says (*Nero*, 31), *donum a Palatio Esquilus usque fecit*; see also *Pliny, Hist. Nat.* xxxvi. 111.

*Golden
House.*

Not even the horrible cruelties, or the mad pranks with which Nero degraded the purple, seem to have aroused the indignation of the people of Rome to the extent that was

¹ The same has been said of *Monte Citorio*, another slight elevation; but it is known now that this is over the remains of the Temple of *Marcus Aurelius*.

² ¹³ *Hæ ubi conspicui venerabilis amphitheatri
Erigitur moles, stagna Neronis erant.*

Martial, De Spec. Ep. ii. 5.

caused by his arrogant extravagance in building the *Golden House*, partly, no doubt, on account of the great inconvenience which must have been caused by the loss of many important public roads, which Nero's Palace covered and blocked up, including that part of the *Sacra Via* which now leads up to the *Arch of Titus* from the direction of the Colosseum.

Dinner arena.

The destruction of this gigantic palace, and the restoration to the Romans of its site in the form of public buildings, the *Thermae of Titus* and the great amphitheatre, were among the most politic acts of the first Flavian emperors.

The exact date of the commencement of the Colosseum is doubtful, but it was opened for use in 80 A.D.; *Suet. Vesp.* 9, and *Tit.* 7.¹ An examination of the interior shows clearly that it is of two distinct dates, with a considerable interval between.

Completion in 80 A.D.

To the first period, a great part, that is, of the reigns of Vespasian, Titus, and Domitian, belong the three orders of open arches on the façade, and the internal structures up to the level of the top of the arcades.²

Two dates.

The highest tiers of seats inside, and the fourth story with a wall relieved by pilasters, are not earlier than the time of *Severus Alexander* and *Gordianus III.*, in the first half of the third century. The junction of the work of these two periods can be clearly seen in the interior; see below, p. 100.

As built by the Flavian emperors the upper galleries (*maeniani*)³ were of wood, and these, as in the case of the

Wooden galleries.

¹ On the occasion of its opening 5000 wild beasts were brought into it to be slaughtered; so, at least, *Sextonius* states, *Tit.* 7.

² Who the architect of the Colosseum was is unknown; the sepulchral inscription which was found in the Catacomb of S. Agnese, which has been popularly supposed to show that a Christian named Gaudentius was its architect, does not refer to the Colosseum at all, and does not even say that Gaudentius was an architect. The inscription is now in *SS. Martina e Luca*; see *Nardini*, ed. *Nibby*, *Rom. Ant.* i. p. 400.

³ The older form of this word is *maeniana*.

Circus Maximus, on many occasions caught fire from lightning or from other causes, and did much damage to the stone-work of the building.

Coin types.

These two periods are recorded on the *reverses* of two groups of coins; the original building is shown on the *First Brasses* of Vespasian, Titus, and Domitian, the latter dated 94 A.D., with, on one side of it, the colonnade two orders high, which united the amphitheatre to the *Thermae of Titus* on the Esquiline; and on the other side the tall conical fountain popularly called the *Meta Sudans*.

Flavian period.

On these coins the three tiers of arches are represented as they now exist, with a statue under each of the arches in the two upper stories. Over the wider arch which formed the Imperial entrance, there is a figure standing in a Quadriga; the other arches contain single statues. Even on these earliest representations a fourth story is shown, with pilasters and windows or panels between them; but this probably represents an original wooden order, or possibly it also was of stone, but, being injured by the burning of the upper tiers of wooden seats and galleries within, had to be rebuilt in the third century A.D.

The amphitheatre is represented on these coins in perspective, by means of a sort of bird's-eye view, so as to show the interior with its top tiers of galleries, and the stairs sloping up, which divided the ranges of step-like seats of the *cavea* into *cunei* or wedge-shaped compartments. The emperor is represented in the centre, seated under an arched canopy.

Later period.

On no further coins is the Colosseum represented till we come to the second period, when its top story was rebuilt as it now exists, probably following the design of the original fourth story of the Flavian emperors. It then held, according to the *Notitia*, 87,000 spectators.

The *Colosseum* is represented both on *reverses* of First Brasses of Severus Alexander (222-235 A.D.), and on a large bronze medallion of Gordianus III. (238-244 A.D.), neither

of which, unfortunately, is dated by the number of the *Tribunicia potestas*. The legend on Gordian's medallion is MVNI-FICIENTIA-GORDIANI-AVG; see fig. 58. On it is also shown the colossal statue of Nero,¹ the so-called *Meta Sudans*, and, on the other side, another smaller statue under an arched *oedicala*. A statue is shown in each of the arches of the two upper tiers. Traces of the pedestals of these statues still exist. The blank upper story is clearly shown above the third tier of open arches.

Medal of
Gordian.



Fig. 58.

The Colosseum after the building of the top story in stone, on a Medallion of Gordianus III.

In the arena a fight is shown between an elephant with a rider on its back and a bull; see Pliny, *Hist. Nat.* viii. 19.

The important restoration of Severus Alexander was begun by Heliogabalus, after the upper wooden galleries had been destroyed by a fire caused by lightning, on the 3d of August 217 A.D., in the reign of Macrinus; Dion Cass. lxxviii. 25; *Hist. Aug. Heliog.* 17, and *Sev. Alex.* 24. A less important restoration had been carried out in the previous century by Antoninus Pius; *Hist. Aug. Ant. Pius*, 8.

Restoration
of Alex.
Severus.

A subterranean passage was added by Commodus to connect the amphitheatre with his palace, the *Domus Vectiliana* on the Caelian. Commodus was passionately fond of the wholesale butchery of men and beasts in the Colosseum, and used himself to assist, showing his courage by killing beasts in cages, or by shooting arrows from a safe place outside the arena. Dion Cassius, who was an eye-witness, has given a vivid

Under-
ground
passage.

¹ The colossus of Nero had been altered so as to represent Apollo Helios, and so on this medallion rays of light are indicated round the head of the statue.

account of these scenes; lxxii. 17-22; see also *Hist. Aug. Commod. ii.*

*Damage by
earthquake.*

In the reign of Theodosius II. and Valentinianus, 442 A.D., great damage was done by an earthquake, and in 445 A.D. important restorations were carried out in the arena, the podium, the entrances, and the seats. This is recorded on an inscription cut on a previously used block of Pentelic marble, which now lies near the entrance from the side towards the *Velia*. This inscription states that Lampadius, the Praefect of the city, restored HARENAM · AMPHITHEATHI · A · NOVO · VNA · CVM · PO[DIO · ET · PORTIS · POST]ICIS · SED · ET · REPARATIS · SPECTACVLII · GRADIBVS.¹ A very fragmentary inscription records a restoration by Messius Phoebus, between the years 467 and 472 A.D.

Another very interesting and perfect inscription, recording a restoration after an earthquake, was discovered during the excavations of 1813; it runs thus—DECIVS · MARIVS · VENANTIVS · BASILIUS · V · C · ET · INL · PRAEF · VRB · PATRICIVS · CONSVL · ORDINARIVS · ARENAM · ET · PODIVM · QVAE · ABOMINANDI · TERRAE MOTVS · RVIN · PROSTRAVIT · SVMPTV · PROPRIO · RESTITVIT. This Basilus is possibly the consul of that name in 486 A.D.

*Latest
period.*

The amphitheatre continued in use during the sixth century, though the brutal slaughter of gladiators and prisoners had been put a stop to in the year 403 A.D., by the heroic self-devotion of an Oriental monk named Telemachus, who came to Rome to protest against this cruel sport. Telemachus rushed into the midst of one of the scenes of

¹ In an amphitheatre the word *podium* has a special meaning, namely, the raised floor or platform which skirted the arena, and was reserved as a place for the seats of the emperor's family, the Vestal Virgins, and a few of the highest officials of Rome. A valuable collection of inscriptions found in the Colosseum has been published by the Count. Lanciani, *Iscrizioni dell' Anfiteatro Flavio*, Rome, 1880; for other works see below, p. 87, note 1.

butchery, and fell a victim to the rage of the people at having their favourite amusement interrupted. The moral effect of this noble act was, however, so strong, that henceforward human victims were no longer slaughtered in the arena; see Theodoretus, *Hist. Eccles.* v. 26.

ARRANGEMENT OF SEATS.

The tickets of admission to the Colosseum marked the exact seat the holder was to occupy, the number of the tier (*maculianus*), and the number of the *cuneus* or department of the *cavea*; so that there could be no mistake. And each external arch of the lower order was numbered, with the exception of the central arches towards the Caelian and Esquiline by which the emperor entered, so that each ticket-holder could go straight to the stairs which led to his place. *Tickets of admission.*

An existing ivory ticket for the amphitheatre of Frosinone has similar indications, namely, CVN · VI · IX · XVIII, that is, "the sixth cuneus, lowest row, seat No. 18"; see Mommsen in *Berl. Sachs. Gesell.* 1849, S. 286.

Certain fixed seats were reserved for the various officials, religious and political, and the different classes of the Roman people. On the *podium* were the thrones of the Emperor and his family, the Vestal Virgins, the Senators, the Pontifex Maximus, the Flamen Dialis, the chief *Fratres Arvales*, the Consuls, the Praetors, and a number of other officers of State. The disposition of seats in the Colosseum was the same as in other amphitheatres and theatres of Rome. A similar system had previously been adopted in the *Circi* of Rome as far as their rather different arrangements would allow. *Reserved seats.*

Suetonius (*Aug.* 44) mentions that Augustus made new and elaborate enactments as to the positions of various people in the places of amusement of Rome; see vol. ii. p. 42. The Vestals, though allowed to be present in the front rank at gladiatorial fights, were excluded from the contests of nude *Rules for admission.*

athletes, and other women were not only excluded by Augustus from the athletic sports, but were only allowed to sit in the top galleries of the amphitheatres while contests of gladiators were going on.

*Fratres
Arvales.*

Inscription of the Fratres Arvales. A very long and interesting inscription, which was found in 1699, in the Grove of the *Fratres Arvales*, outside the *Porta Portuensis*, is of special value, not only as showing the manner in which seats in the Colosseum were divided, numbered, and their compartments named, but also as proving that the building was carried to a great height as early as the year 80 A.D.; see *Cor. In. Lat.* vi. part i. p. 506; and Henzen, *Acta Frat. Arval.* Berlin, 1874.

This large inscribed slab, now in the Capitoline Museum, contains, among a number of other enactments, those made with regard to the seats of the inferior members of the *Collegium* of the *Fratres Arvales*.¹ The enactment was made in the *Temple of Concord*, in the presence of the *Fratres Arvales* and some of the secular officials of Rome.

*Arval
Inscription.*

The paragraph in question is headed *LOCA · ADSIGNATA · IN AMPHITHEATRO*. It is dated 80 A.D. by the names of the *Consules Suffecti* for that year, L. Aelius Plautius Lamia, and Q. Pactumeius Fronto. Names of other officials follow; and then comes the list of three groups of seats. The positions

¹ The twelve *Fratres Arvales* formed the most ancient and the most highly honoured priestly *Collegium* of Rome. Their special duty was to offer sacrifice on behalf of the fertility of the soil. The *Collegium* included a large number of priests of inferior grades, for whom the seats mentioned in the inscription were reserved. The twelve *Fratres* appear to have sat on the podium, on a level with the Emperor, who was frequently a member of this very sacred body of priests.

The Arval Grove, with its circular *Temple of the Dea Dia*, was five miles outside the *Porta Portuensis*. About one hundred inscribed slabs have been found at various times with records of the proceedings of the *Fratres* from 14 to 241 A.D. They have been published by Henzen; see vol. i. p. xxi.

and numbers of the seats reserved for the *Collegium* are described as follows:—

I. "In the first *maenianum* or band (that is, the group immediately above the *podium*) in the twelfth *cuneus* (or wedge-shaped division of the *cavea*) on marble seats, (parts of) eight *gradus* or tiers." The space is further defined by the mention of the number of feet which was reserved in these eight *gradus*; this detail was necessary, as there were no arms or side division to the seats above the *podium*. *Divisions of the cavea.*

II. The next assignment of places was in the second *maenianum*, also with marble seats; the number of the *cuneus*, the *gradus*, and the number of feet reserved in the *gradus* are all specified.

III. The third lot of seats were in *summo maenium in lignis*, in the highest division, the seats of which were not of marble like the lower two, but of wood. This shows that in the year 80 A.D., when the Colosseum was first opened, it had two bands of marble seats above the *podium*, one of which had at least as many as eight tiers in it, and above them a third story of wood.

The word *maenianum*, used here for the band of marble seats between two horizontal *præcinctiones*, and also for the upper wooden gallery in the amphitheatre, is also used for the projecting balconies of houses or public buildings. The word is thus explained by Festus (s. v.), *Maeniana appellata sunt a Maenio Censore, qui primus in Foro ultra columnas tigna projecit, quo ampliarentur superiora spectacula*. This was in the year 318 B.C., when C. Maenius was Censor; see also vol. i. p. 235. *Wooden galleries.*

The officials who had charge of the seats, to see that they were occupied by the right people, are mentioned by Martial, v. 8; and at v. 14 he describes the attempts of a certain pushing fellow to get into a better seat than his rank entitled him to.

Calpurnius (Ecl. vii.) gives an elaborate account of the

*Calpurnius
description.*

scenic effects, and the splendours of an amphitheatre in Rome; but the seventh eclogue was written in the reign of Nero, so Calpurnius must be describing an earlier amphitheatre than the *Colosseum*, probably the wooden amphitheatre which Nero built. His remarks, however, would probably apply equally well to the Flavian amphitheatre.

Calpurnius describes grand and complicated scenery, gardens, rocks and caverns, which seemed to rise out of the *arena*, and the sudden formation of a great lake. The marble colonnades were plated with gold, the gratings which defended the *podium* from the beasts were of gold (or gilt) wire;¹ the *zonae*, or walls which divided the tiers, were studded with mosaics of precious stones (that is, of the jewel-like glass *tesseste*); the awnings and cushions were of silk, and fountains poured forth jets of perfumed water;² cf. Suet. *Nero*, 31.

*Store-rooms
for scenery.*

A large amount of storage-room must have been required for the bulky scenery used at these shows; and it is interesting to find that the Greek architect, Apollodorus of Damascus, suggested that the great elevated *dylobate*, on which the Temple of Venus and Rome, designed by Hadrian, was to stand, should be formed with chambers in its concrete mass, in which the scenery for "the *Theatrum*"³ might be fitted together out of sight and rapidly brought into the *Arena*—καὶ ἐς τὸ κοῖλον τὰ μηχανήματα ἐκδέχοιτο, ὥστε καὶ ἀφανῶς

¹ Pliny mentions the use of gold wire for screens round the *Amphitheatre of Nero* in the Campus Martius. He also tells us that the metal screens were studded with bosses of amber (*succinum*); *Hist. Nat.* xxxvii. 45.

² It appears to have been the custom, under the Empire, for all theatres and other places of amusement to be provided with perfumed fountains and concealed jets for cooling the air with a fine spray of scented water; Lipsius, *De Amphit.* cap. xvi., gives a number of classical references to this custom.

³ The *Colosseum* was usually called *σάραρον* by the Greeks; *amphitheatrum* not being Greek either in fact or in name, although compounded of two Greek words.

συνπλήρυσθαι, καὶ ἐξ οὗ προειδότες εἰς τὸ θέατρον εἰσάγεσθαι; Apollodorus, quoted by Dion Cassius, lxi. 4.¹

The *Construction of the Colosseum*, in its skilful use of varied materials, each applied so as to get the utmost benefit from its special qualities, is perhaps the most remarkable existing instance of Roman utilitarian architecture. The materials used are three sorts of concrete,² brick-facing, massive blocks of tufa and travertine; and lastly, marble for columns, cornices, paving, seats, and other ornamental purposes. The whole of the exterior of the *Colosseum* is of massive travertine, in very large blocks, carefully jointed, set without mortar, and each clamped to the next with heavy iron clamps, run with lead.³ The paving on the ground-floor, except that of the inner ring round the *podium*, which is of thick slabs of white marble, is of blocks of travertine, and the columns of the lowest Order stand on a *stylobate* of three steps, which run all round outside the oval. The two top steps are cut in the solid out of a great travertine block 4 feet 6 inches wide. Some of the blocks in the piers are over 7 feet long.

Methods of
construction.

External
masonry.

The lowest Order of arches in the external façade is set under an entablature, supported by engaged columns.⁴ This

Lowest
arcade.

¹ On the Colosseum and its inscriptions see Lipsius, *De amphitheatro*, 1584; Maffei, *Degli anfiteatri*, 1728; Fontana, *L'anfiteatro Flavio*, 1725; Fea, *Osserv. sull' arena del anf.* 1813; Uggeri, *Delle linee dei sedili*, 1823; De Rossi, *Ann. Inst.* 1849, p. 336; Hübner, *Iscriz. sui sedili dei teatri*, *Ann. Inst.* 1856, p. 52; Gori, *Mem. storiche del anf. Flav.* 1874; and Tocco, *Naumachie e spettacoli*, 1875. See also note in vol. ii. p. 82.

² Concrete of lava for foundations; of tufa and brick-bats for walls; and of pumice-stones for vaults.

³ The numerous holes, which disfigure the arcades, were made during the early Middle Ages in attempts to extract the then valuable iron of the clamps; the amount of trouble taken in cutting through the hard travertine to extract each clamp shows that labour must then have been worth but very little, or iron very scarce.

⁴ The outer arches of the lowest tier had each a number over it, rang-

Order is debased Tuscan in style, the capitals are well moulded,

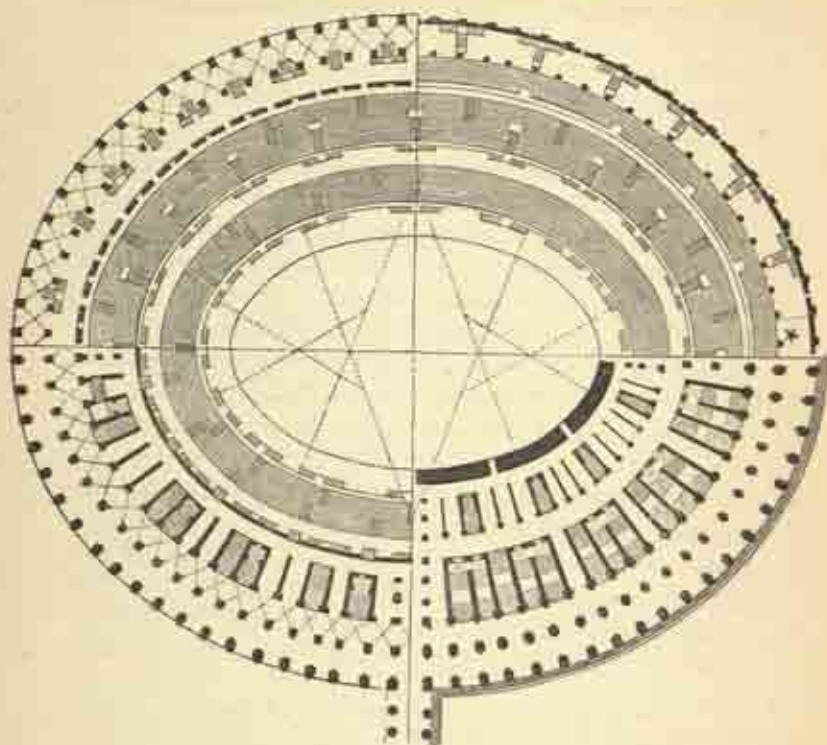


Fig. 59.

Plan of the Colosseum at four different levels.

The lower quarter on the right gives the plan at the ground level. The upper quarter on the right gives the plan at the top of the caen. The other two quarters give the plans at two intermediate points.

but the base mouldings are coarse and inelegant. In fact, throughout the building, little taste or refinement is shown

ing up to lxxx. There still remain arches numbered xxiii. to liii., and one unnumbered arch—the emperor's entrance from the Esquiline, where a covered passage or colonnade abutted against it; see fig. 60.

in the details. This is specially apparent in the coarse mouldings of the imposts¹ of the inner square piers, the slight pilasters of which do not project enough to stop the heavy impost capping, and hence these have to be cut off in a very awkward way.

In the middle of the side towards the Esquiline traces can be seen of the start of the long colonnade, which once joined the amphitheatre to the *Thermae of Titus*. At this point the arch is wider than the rest, and is unnumbered, being the private Imperial entrance. On each side of it the steps of the *stylobate* stop short, leaving a level surface on which stood the first marble columns of the arcade; a piece of one of these columns still exists. Under this colonnade a subterranean passage ran towards the *Thermae*; it is vaulted in concrete, but only its commencement has been cleared out.

Covered approach.

The next Order of the façade has similar rows of arches, but with engaged columns of Ionic style, unfuted, and with capitals only roughly blocked out.² The columns stand on pedestals, the die and mouldings of which return under the arches, forming a sort of *attic* over the main cornice of the Order below, which also served as a parapet to prevent people walking in the upper ambulatories from falling over.

Second story.

Each of the arches in the two upper tiers was filled in with this thin and low parapet wall. In the centre of each, on the outside of the parapet, was a projection which formed the pedestal for a statue—one in each archway, as is shown on the medallion of Gordianus III., fig. 58. Only one of these parapets is complete; it is in the top tier, opposite the Esquiline, and by it can be seen the dowel-holes for the (now missing) pedestal; see also fig. 60.

¹ The moulding on which the springing of an arch rests is called the *impost*.

² The whole external façade of travertine was once probably covered with *opus alabastrum* (stucco), and the more minute details and enrichments would be modelled in it, over the rougher stone.

Third story. The third Order is the same as the second, but with Corinthian capitals, also only roughly sketched out; the



Fig. 60.

Part of the outer façade of the Colosseum, restored.

The lowest story shows the Imperial entrance and the numbers over the arches. The second and third stories show the statues and their pedestals. The top story, added in the third century A.D., has the masts which supported the awning.

cornices of both are debased, or rather simplified forms of the orders they are intended to belong to.

The passages, which follow the outside of the oval inside the arcades, are vaulted with concrete made of pumice stone or soft tufa, with occasional rings of brick inserted. These vaults were cast in fluid concrete on wooden boarded centering, and are free from the lateral thrust that constructional arches would have. The whole of the barrel vaulting¹ throughout the building was covered with fine hard marble-stucco, moulded with panels containing foliage and figures in relief, all once decorated with painting and gold. In the sixteenth and even as late as the eighteenth century a great deal of this delicate stucco work still remained, but now all is gone except one bit under the arch nearest to the *podium* by the Imperial entrance from the Esquiline.

Outer passages.

These reliefs were especially used to decorate the raking vaults under the various staircases, and the vaults of the *ambulacra* and *vomeria*, concentric passages and exits. These fine coatings of *opus tectorium* have fallen off the vaults owing to the imperfect adhesion of the stucco to the cast concrete of which the vaults are made. On this concrete the impress of the boards of the centering is very visible; it has been pecked over to form a key for the stucco decoration, but this was not sufficient to give it a firm hold. The method of studding the surface with iron nails, always used and with greater success in the case of walls, was not applied by the Romans to their vaults.

Stucco vaults.

The construction of the inner walls is specially worthy of attention. These walls supporting the rows of vaults, which carried the *correa* with its sloping tiers of marble seats, radiate inwards towards the various centres from which the oval of the plan is struck, and are set rather close together; on them rest the raking vaults which support the seats and the stairs. Thus the nearer the wall is to the *arena*, the less it is in height, and the less need it has for very great strength.

Inner walls.

¹ Barrel vaulting means one of plain semicircular form, continuing without the intersection of other vaults.

Mixed
materials.

Of the three materials used for these walls, concrete is subjected to the least pressure, next comes *opus quadratum* of tufa, and thirdly, travertine, the strongest of the three. Thus the inner parts of the radiating walls, where the height is insignificant, are made of concrete of mixed broken bits of tufa and brick. The foundations, on which the weight is heavier, are of concrete made with the very hard lava (*siler*) used for the Roman roads; this is for extra strength. The vaults in many parts, but not all, are of concrete formed of pumice stone, for the sake of lightness.

Brick
facing.

At the ends of these low radiating concrete walls, travertine piers are built as points of special strength. Again concrete walls are used in other parts of the radiating walls, but higher up where they have no great weight resting on them. In all parts the concrete walls are faced with the usual skin of triangular bricks, with many arches introduced, apparently as relieving arches, but of no real constructional use. On arches in brick facing see vol. i. p. 58.

The brickwork of the facing to the concrete is of the neat regular kind, with rather thick bricks, which is peculiar to the Flavian period; it exactly resembles that in the *Palace of Domitian* on the Palatine, having bricks averaging $1\frac{1}{2}$ inch in thickness with $\frac{1}{2}$ -inch joints. Here and elsewhere the whole surface of the brick facing is studded with large iron nails driven in, when the mortar was soft, to form a key for the stucco, which in the Colosseum covered every inch of brick facing. The sham relieving arches are of the usual 2 feet tiles, mostly cut into three, with a few whole ones at intervals.

Stone piers.

The outer and lower parts of the radiating walls, where the pressure was great from the great height of wall above, are built of massive blocks of brown tufa, set with a thin skin of mortar in the joints. Strong as these massive tufa walls really were, when protected from weather, the cautious engineer who built the Colosseum was not satisfied without

adding additional points of strength, and so at intervals he built piers (as it were) of travertine, not projecting, but flush with the tufa walls, and tailing into them on each side.¹ On account of this the tufa blocks do not run in the usual 2 foot courses, but range with the irregular (pseudisodomous) courses of the travertine.

In fig. 61 is shown one of the points in the upper part of the radiating walls, where all three methods of construction are seen together—namely, the tufa wall, with its upright strip of travertine, and upon that the brick-faced concrete wall, with its sham relieving arches, upon which, finally, rests the raking concrete vault which carried the tiers of marble step-like seats. *Three materials.*

System of drains. A large drain runs all round the oval of the plan, passing under the radiating walls where they are highest, that is, nearest to the double ambulatory of the ground-floor. A large travertine keystone is inserted in the walls where this drain pierces them. Other smaller drains from the central *arena* communicate with this main one, radiating outwards to it. Their start may be seen in and by the sides of the recesses of the *podium*; they are roofed with two large tiles leaning together, and forming a triangular top—a very common way of roofing the smaller drains in Rome. The larger one, into which they all run, was roofed in parts with brick arches, and in other parts only by the large travertine slabs of the pavement.² *Cloaca.*

¹ Mr. Parker, in his work on the Colosseum, wrongly asserts that these travertine "piers" were later insertions; his failure to understand the objects of the Romans in using these different materials led him to think that each was the work of a different time, and has hence caused him to invent a complete imaginary history of this building, very far removed from the real one.

² Owing to the position of the Colosseum in the hollow once occupied by the *Stagnus* of Nero, a natural deep depression abounding with springs of water, its careful drainage was a very important matter, and was arranged with the greatest possible skill and accurate adjustment of

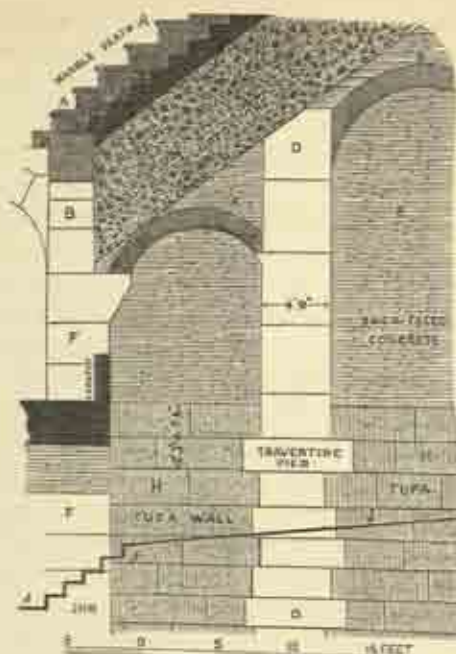


Fig. 61.

Example of construction in which many materials are used ; upper part of one of the inner radiating walls of the Colosseum.

AA. Marble seats on brick and concrete core, supported on vault made of pumice-stone concrete (C).

B. Travertine arch at end of raking vault (C).

D. One of the travertine piers built in flush with the tufa wall as a point of extra strength.

EE. Wall of tufa-concrete faced with triangular bricks.

F. Travertine pier at end of radiating wall.

G. Brick-faced arch of concrete to carry floor of passage.

HH. Tufa wall, opus quadratum.

JJJ. Line of steps in next bay.

KK. Surface arches of brick, too shallow to be of any constructional use, and not meant for ornament, as the whole was stuccoed.

levels, forming a complete network round and inside the building. The repair of this system of drainage is recorded in one of the inscriptions published by the Comm. Lanciani.

Main entrances. At the four *ares* of the oval there are entrances under travertine arches, two on the Esquiline and Caelian sides leading to the *podium*, where the emperor sat ; and two at the ends of the longer *ares*, leading into the *arena*. Through these latter archways entered the processions of gladiators who were about to fight. At these four points travertine is used along the whole depth of the entrance, from the outside to the *arena*; no tufa or concrete is introduced except for the vaulting. *Main approaches.*

The arena and the podium. The *arena* was originally smaller than it looks at present, owing to the destruction of the wall that fenced in the beasts, and prevented their reaching the *podium*. The position of this wall, which was of travertine, can be traced at one point on the Esquiline side. The narrow passage between it and the *podium* was paved with massive slabs of travertine. This wall was probably low, so as not to obstruct the view, and on it was fixed a metal screen, with network of gilt bronze, and a smooth top rail made to revolve, so that even the active panthers and other *felidae* could not climb over it; Calpurn. vii. 51-56; Pliny, *Hist. Nat.* viii. 20. *Arena and circuit wall.*

The *podium* is a long encircling *suggestum* or platform, about 12 feet high, built of brick-faced concrete. It was once covered with marble, with a moulded plinth and cornice, and probably a colonnade supporting a roof or canopy over the heads of the dignitaries who sat on it. It was provided, not with step-like grades of seats, but with rows of separate marble thrones, each inscribed with the titles of the official who occupied it. This system of inscribed marble thrones and their form were taken from the thrones in the front row of the theatres of the Greeks; many of them are still *in situ* in the great Dionysiac Theatre at Athens. Several fragments of these thrones have been found in the Colosseum. *Podium.*

¹ A large number of these marble seats were taken during the Middle Ages, and used as Episcopal thrones in the centres of church spaces: many of these still exist in the Roman churches. A few, those, for example, in

The Emperor's throne was raised above the top of the podium on a *suggestum* or *tribunal*. A canopy over his head was supported on columns, so that he sat in a raised shrine-like niche.

Approaches
to the
podium.

At the back of the podium a wide passage, handsomely paved and lined with slabs of marble, ran all round the oval; and from it a number of marble stairs gave access to the top of the podium. The start of these marble steps still exists at one point on the Caelian side; and in the second step from the bottom holes remain for the pivots and bolts of bronze gates which shut in each staircase at its foot. The massive marble paving of the passage, from which the podium stairs ascend, has a channel for rain-water on each side, slightly sunk in the marble, and the surface of the pavement is curved upwards in the middle, like the convex *dorsum* of a road, so as to throw the water into the channels at the sides. Some of the paving slabs are as much as 10 feet long, and each is fastened to the next with metal dowels or pins.

Dowels in
the podium.

Besides the stairs, of which there were eight in the whole circuit, there are two other sorts of breaks in the podium. On each side of the two main gladiators' entrances, at the ends of the oval, the podium is interrupted by approaches, 6 feet 9 inches wide, to the passage between it and the missing fence wall of the arena. This passage was probably filled with guards to prevent the beasts from reaching the dignitaries on the podium, in case a lion or some other fierce beast succeeded in climbing over the screen which fenced round the arena.

The approach to the passage is formed by two marble steps and a gently-inclined slope with massive slabs of white marble, which lead from the higher level of the passage behind the

the Churches of *S. Pietro in Vincoli*, and *S. Stefano Rotondo*, are of pure Greek workmanship and design, and were probably stolen by the Romans from the theatre of some Hellenic city, for use in the Colosseum or other place of amusement. Thus, these thrones have been, at three different periods, used for three quite different purposes.

podium to the lower level of the passage in front of it.¹ There were four of these approaches, one on each side of the two main entrances to the *arena*.

Another form of break in the *podium* is a sort of projecting balcony, 6 feet 9 inches wide, the marble pavement of which is level with that of the passage behind the *podium*, and juts out a little way into the passage between the *podium* and the fence wall, at a level of about 2 feet 9 inches above the lower paving of the passage round the fence wall. *Balconies.*

These balconies also were probably intended for officers on guard in case of accident or conspiracy.

One of these balconies, on the side by the Esquiline, is well preserved, with its massive projecting slab of white marble, channelled at the edges with rain-water gutters. In it are marks of its marble parapet, and at the edges the holes for fixing the thick marble lining of the *podium*. The projecting part of this marble floor rests on a large block of travertine. There were eight of these "balconies" in the whole circuit of the *podium*.

In the front face of the *podium* a number of nearly square recesses are formed, which opened into the sentinels' passage between it and the fence wall; they are about 6 feet high, 6 feet 6 inches wide, and 3 feet deep. From the bottom of these niches start most of the drains mentioned above, radiating to the main drain, which formed an oval ring round the whole building. Like the rest of the *podium*, these recesses were lined with marble, the cement backing of which, and many of the iron clamps, still remain. These recesses were twenty in number; probably they were intended as sentinels' boxes for the body of guards mentioned above. *Guards' recesses.*

The cavea. Behind and above the *podium* sloped up the *gradus* or step-like seats of the *cavea*, where the bulk of the *Cavea.*

¹ The best preserved example of this slope and the two steps is that by the main entrance from the *Sacra Via* end, on the left, as one enters into the *arena*.

Cavea. spectators sat. The lowest range, being nearer the *podium* of honour, was the more honourable. It consisted of about twenty tiers, and a great part of it was reserved for persons of Equestrian rank—*Equites*.¹

Above them, and separated by a *zons* or *præcinctio* (a low wall and passage) was a large block of seats for the mass of the wealthier Roman citizens. Along the top of this is a high brick-faced concrete wall, once, of course, lined with marble, pierced with a series of doors, windows, and recesses for
Upper story: statues. At this point Domitian's work ends, and the galleries above are of the third century A.D. These uppermost tiers were occupied by the women and by the lower classes of Rome; and to them admission was frequently free.

Marble colonnade. Along the highest tier ran a handsome marble colonnade of the Corinthian order; many fragments of the columns and their capitals still exist, and have rolled down the *cavea* to the bottom. The capitals are of more than one date; some have well-cut foliage, while others are only blocked out. Some are of late and fanciful design, with winged serpents and Medusa heads introduced among the acanthus leaves. All appear to be late in date, and probably belong to the restorations of Severus Alexander and Gordianus III., between 222 and 244 A.D.

Other fragments. One of the capitals is carved out of an immense marble frieze taken from some much earlier building. In it are sinkings for a bronze inscription; the *matrices* for the letters

¹ The rights of the Roman *Equites* to places of distinction in the various places of amusement were confirmed and increased by a law introduced in 87 B.C. by L. Roscius Otho, Tribune of the People; it was known as the *Lex Roscia Theatralis*. The *Scævus Equitum* are mentioned by Martial, v. 41. Till the third century A.D. no names of individuals were inscribed on the seats—only titles or words descriptive of classes; in the fourth and fifth centuries individual names were occasionally affixed. Many interesting inscribed fragments of the *gradus* are given in Lanciani's valuable work on the inscriptions of the Colosseum.

^A
^{IBV} still remain on the top of the capital.¹ The existing columns are of white Luna marble, Carystian *cipollino*, and Egyptian granites; all appear to have been monoliths. Other architectural fragments are of Pentelic white marble and Phrygian marble (*paronazetto*).

A large number of other marble blocks, also taken from *Inscriptions* some earlier building, have been used to cut a long inscription on; see Lanciani, *Iscriz. d. Anf. Flav.* These are the blocks of a very long moulded Corinthian plinth, the large *torus* moulding of which has been hacked away, and the blocks set on edge. The late inscription has then been cut on the upper bed of each block; it records a restoration of the Colosseum in the reign of Gratianus and Valentinianus, about 375 A.D.

On one of the inscribed fragments occurs the phrase (restored by Mommsen) *AQUIS DIMISSIS*. This refers to a restoration of the system of drainage, which, if it got blocked, would soon flood the lower levels of the amphitheatre with water, owing to its deeply sunk position in a natural basin, between the Esquiline and Caelian Hills.

A great many fragments of the marble seats (*gradus*) exist, some inscribed, but none are *in situ*; nearly every piece of marble having been stripped off the whole of this gigantic interior.²

Staircases. The start of the main staircases leading to the upper tiers is from arches in the second (inner) surrounding ambulatory. The steps are of travertine, with ten-inch treads and ten and a half inch risers; they have moulded nosings. Some of these stairs are very perfect on the side towards the

Stairs.

¹ Possibly part of *NEREO Trajano TRIBUN. potestatis*; this fragment may be from Trajan's Forum, possibly from the Arch which was destroyed by Constantine, in order to use its materials and reliefs for the construction of the existing Arch near the Colosseum.

² A number of small marble altars have been found in the Colosseum, cut in the shape of tripods; some of these are on the right near the main entrance.

stairs. Lateran, and show but little signs of wear. The whole system of stairs is rather complicated, and is arranged with the greatest ingenuity, so as to occupy the least space, and also to afford a complete set of separate approaches to each *cuneus* or division of the *cavea*.

Some of the smaller upper stairs are very steep; all rest on raking vaults of pumice stone or soft tufa, and each stone or marble step was bedded on square clay tiles. The stairs which ascended the *cavea*, up the slope of the seats, were all of marble, like the seats themselves, and were arranged (as in the Greek theatres) so as to have two steps ranging with each seat.

Upper tiers. *Upper part of the cavea.* About two-thirds up the *cavea* there is the marked division mentioned above as separating the plebeians' and women's seats from the wealthier classes below. A lofty wall runs all round the oval, forming a considerable break between the highest seats of the tiers below and the lowest of the tier above. Of course all except the top part of this enormously lofty wall is hidden by the sloping tiers of seats of the *cavea*. The lower hidden part is of travertine, but the upper part, pierced with doors, windows, and recesses, is of concrete lined with brick, and was once covered with marble, having, probably, a cornice resting on engaged marble columns. The recesses were made to contain statues.

The upper part of this wall is of the third century A.D. It marks the beginning of the addition or rebuilding of Severus Alexander.

Upper passage. Behind this wall, at the level where it ceases to be of travertine, a low vaulted passage runs the whole way round the oval plan; lighted partly by arches which led into the *cavea*, and partly by windows formed in the springing of the vault. From this encircling passage stairs at regular intervals ascend to the higher level, leading to the floor of the third Order on the exterior, that with Corinthian capitals. The

stairs project into the passage in short double flights of five steps, passing right and left.

In this passage a large open water-channel runs along the floor at one side, formed of hollow blocks of travertine, thickly lined with *opus signinum*. The use of this is not clear. It can hardly have been for rain-water, as there are pipes for that set in vertical channels, 13 inches wide, formed in the faces of the walls at various points, and apparently descending almost straight down to the ground. It was more probably to carry water brought from the Caelian Aqueduct to feed the various fountains and water-jets which cooled the air of the crowded amphitheatre.

Water-channel.

The doors in the upper part of the intercepting wall mentioned above open on to the level of the floor above this passage; and it is at this point that the Flavian work ends and that of the third century begins. This is clearly shown by the very different character of the two sorts of brick facing, which in the Flavian work has bricks $1\frac{1}{2}$ inch and joints $\frac{1}{2}$ -inch, and in the later wall, bricks scarcely 1 inch thick, and joints $\frac{3}{4}$ -inch to 1 inch. This later brick facing is as neat in appearance as the Flavian, and is really equally strong, though it looks less solid owing to the greater thickness of the joints. Passing towards the exterior of the building, the Flavian work reaches higher; the above-described brick-faced wall is level with the third (Corinthian) order of the exterior arcade, which, like the two below (Ionic and Tuscan), is of the Flavian period.

Junction of two dates.

But the fourth external order, that with the tall travertine wall broken by pilasters, is a third-century addition, or probably, judging from the above-mentioned representations on coins of Titus and Domitian, a rebuilding of an earlier story. The wall is of three materials, namely, an external facing of travertine 4 feet thick, an internal facing of brick, and an intermediate filling in (*forturo*) of concrete, 2 feet 3 inches thick. The brick facing is a very characteristic example of early

Work of third century.

third-century brickwork,¹ being exactly the same as that described above with 1 inch bricks and joints nearly the same.

Top story.

The concrete contains a great deal of marble, as is usually the case during a late period, and the travertine facing is partly built of numbers of blocks taken from some earlier building; among these are a quantity of drums of columns, pieces of cornices, friezes, and architraves, and other moulded details. These are allowed to project roughly into the concrete for the sake of forming a good bond, and this gives the wall the appearance of having been built roughly and in haste, but this is not really so. On the external face of the façade the stones are cut as truly, and jointed as neatly, as in any part of the building; and it would have been worse than useless to make the inner face regular and smooth, as it would not have tailed into and bonded with the concrete mass behind.

Two tiers of small windows in the top external order gave light to small vaulted passages, which encircled the whole building at different levels near the summit.

Awning.

Awning over the cavea. At the top of all, nearly 160 feet above the ground, there is a bold well-designed cornice, with deep projection on the outside of the wall, and this is pierced at intervals with square holes. About 14 feet below each hole a large travertine corbel projects from the face of the wall, and in this there is a square sinking corresponding to the hole above. This was an arrangement to hold the wooden poles that supported the awning over the heads of the spectators. A pole was dropped through each hole in the cornice, and its foot rested in the hole in the corbel below; the slightly

¹ From the time of Sept. Severus to Severus Alexander the appearance of brick facings was exactly the same—neat, regular, and set in very good hard mortar. Brick facing rapidly declined both in neatness and the goodness of its mortar after the middle of the third century A.D., and yet some of the brickwork of the wall of Aurelianus of about 275 A.D. is nearly as neat and regular as that of the Antonine period.

projecting frieze and architrave of the entablature were cut away to allow the mast to rest close against the wall. Other corbels on the inner face of the wall held a corresponding set of wooden uprights.

The upper parts of each pair of poles were about 6 feet 3 inches apart, being separated by the thickness of the wall; they were probably strutted and lashed together so as to form a stiff support, as the strain of the ropes of the awning must have been very great. The awning did not, as has sometimes been supposed, cover the whole amphitheatre; a thing which would have been practically impossible, owing to the enormous strain of so long a bearing, far beyond what any ropes could bear. It simply sloped down over the heads of the spectators in the *cavea*, leaving the whole central arena unshaded.

Pairs of
masts.

Extent
of *Velaria*.

Corbels to support the lowest masts exist in the outer wall of the substructures below the level of the *arena*; see GG on fig. 62. These poles rose out of the *arena* along the line of the fence wall that protected the *podium*. There must have been many intermediate points of support at intervals up the slope of the seats, but no indications exist of any of these owing to the complete removal of all the marble seats and linings.

A whole army of sailors were employed to extend and furl the awning; see Lampridius, *Comm.* 15. Throughout the period of the most luxurious extravagance in Rome the awning and its ropes were of silk; Dion Cass. xliii. 24.¹ During some of the scenic shows boys were hoisted up to this awning—
"Et pégma, et pueros inde ad velaria raptos," Juv. Sat. iv. 122.

Sailors to
manage the
awning.

¹ Pliny tells us that awnings were first introduced into theatres by Q. Catulus, who rebuilt part of the Capitoline *Tabularium* in 95 B.C.

Silk awnings, Pliny states, were first used by Lentulus Spinther at the Ludi Apollinares in the Campus Martius.

Julius Caesar spread silk awnings not only over the whole central area of the Forum, but also over the *Sacra Via* from his house, the *Domus Publica*, up to the *Clivus Capitolinus*; see Pliny, *Hist. Nat.* xix. 23.

Ropes for acrobats were stretched across the *arena*, probably supported by the lower poles of the awning.

*Gallery for
the sailors.*

Traces of a continuous wooden gallery for the sailors who managed the awning to work on exist on the interior, at the level of the top of the outer wall, and there are remains of the brick and concrete stairs which led to this, still visible on the internal brick facing. At one or two points these staircases crossed the upper windows between the Corinthian pilasters, and in these places the windows were built up, forming only sunk panels. Traces of other wooden galleries and stairs exist at a lower level than the sailors' gallery; the holes for their joists can be traced in the wall.

Colonnade.

The exact arrangement, however, of this top story with its wooden floors and seats cannot now be completely made out. Very near the top there appears to have been a gallery resting on a colonnade, some large fragments of which still exist on the ground below, and one or two small pieces of marble bases still remain at this high level. There was probably another colonnade along the *podium*; and midway there was the marble-covered wall with its doors and windows. It is now impossible to tell whether there were any other important breaks to the monotony of the sloping *cavea*. It appears probable that there were not.

Substructures.

Substructures below the arena. This is one of the most interesting parts of the *Colosseum*. A complicated system of walls and arches exists below the level of the *arena*; these were partly excavated by the French at the beginning of this century, but soon filled in, and not again cleared out till about the year 1872, under the supervision of Comm. Rosa.

The floor of this subterranean part is about 20 feet below that of the *arena*. The whole oval space is divided up into long narrow passages by a series of walls, some parallel to the major axis, and others following the curve of the oval. The floor of the *arena* must have been of wood, resting on the top of the closely set walls of the substructures. In it trap-doors

and grooves were arranged so that scenery and cages containing beasts (see below) could be hoisted up on to the *arena* floor.

These substructures are of many different dates, and show repeated mendings and patchings of earlier walls and arches. The greater part that now exists is of late date, probably of the fourth to the sixth century A.D., but among these later structures there are fragmentary remains of a series of walls and arches which are probably contemporary with the original Flavian building. These earlier remains consist of a series of tufa walls very neatly jointed, and built of blocks of great length and depth; some as much as 7 feet long.

Various
dates.

Inclined planes. In these tufa walls are remains of a number of massive arches, some flat, some semicircular, and others formed of a quarter of a circle, with over them a course of tufa blocks raking upwards at a gentle slope, which look as if they had been made to support inclined planes of wood on which to slide the heavy cages up to the *arena* level, before the invention of the lifts with counterpoise weights. The windlasses mentioned below were probably used in connection with these inclined planes. These fragmentary portions of massive tufa masonry are built up and supported in various ways by the later brickwork. It is impossible now to form a clear notion of what the form of these tufa substructions was when they were complete.

Sloping
walls.

The same may be said of the greater part of the later brick walls; evidently a great deal of wooden framing connected with the scenic machinery (*pegmata*) existed in these substructures, and the absence of this timber work leaves the greater part of the existing arrangements an almost insoluble mystery.

Lifts for cages. One point, however, seems clear, namely, that in the fifth or sixth century a number of rudely constructed lifts were added in four of the straight passages. These, there can be little doubt, were used to introduce wild animals suddenly through trap-doors in the wooden floor of

Lifts for
the cages.

Trap-doors

Lifts. the arena. In these square lifts grooves can be traced to guide the cages in their ascent, and pierced stone bearers (at the top) to hold the pulleys over which ran the ropes and counterpoising weights that hoisted up the cages.

A similar arrangement of machinery and lifts in some earlier place of amusement is described by Seneca (*Epis.* 88), who mentions the *machinatores* (scene-shifters) working the *pegmati* (lifts) and scenery (*tabulata*) rising up to a great height.

*Windlass
sockets.*

A large number of massive bronze sockets, with dovetailed flanges set in great blocks of travertine, exist in rows in various parts of the substructures, both under the arena, and also in the long vaulted rooms on each side of the subterranean passage, which runs towards the Lateran, on the major axis. These bear marks of circular wear, from revolving pivots, and must have been for windlasses to hoist up the heavy scenery from the lower spaces. Probably these windlasses were originally used to hoist the cages up the inclined planes mentioned above, before the lifts were introduced.

Beasts' dens.

Dens for beasts. The outermost oval ring of the space below the arena is contemporary with the original Flavian building; and still remains in a very perfect state; see fig. 62. It consists of a row of recesses, 8 feet wide and 5 feet 3 inches deep, made of brick-faced concrete; these little chambers appear to have been dens for wild animals. In the vaulted roof of each is an opening, immediately below a small window, which opens out of a space or passage (not cleared out) which ran all round behind the dens. Food pushed through this little window would fall through the hole in the vault of the den. In this way the fierce animals could be safely fed without the risk of opening the doors in the grated front of the dens. Between each pair of arched dens are the travertine corbels and grooves in the face of the wall to hold the lower masts of the awning mentioned above.

At present these dens have open arches in front, but originally were, no doubt, filled in with a metal grating.

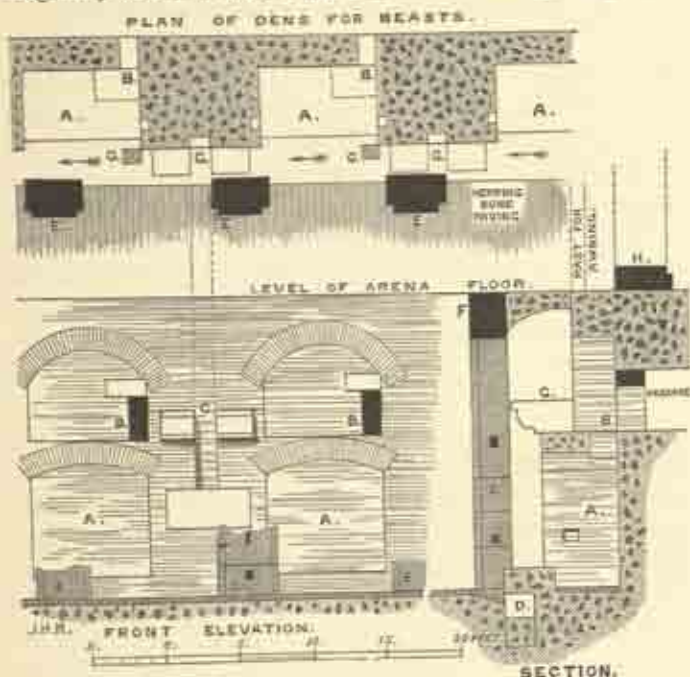


Fig. 62.

Colosseum: part of the substructures below the arena.

The plan is shown straight, but really it is on a curve, which varies at different parts of the oval plan.

- AA. Recesses to hold beasts, once closed by metal gratings.
- BB. Small windows and openings in the top of the dens, by which food could be supplied.
- CC. Openings in the top of the water-channel, for the beasts to drink.
- D. Water-channel shown in section.
- EEE. Tufa piers in front of the dens; in the elevation they are shown broken off.
- F. Flat arch of tufa on the top of the piers.
- GGG. Pairs of large travertine corbels to hold the lowest masts for the awning.
- H. Existing piece of fence wall round the arena to keep in the beasts.

Water-
channel.

In the floor in front of the dens, and forming a complete ring all round the oval, a drain or water-channel is formed, laid carefully to fall towards the end by the *Sacra Via*. In this a clear stream of pure water still runs. This stream is brought along a channel under the floor of the subterranean passage leading towards the Lateran. Opening at intervals along the whole circuit of this water-channel round the oval are small branch channels, leading from the brick herring-bone floor (*opus spicatum*) of the under-space, so that any water which got on to this floor would drain off into the stream along the oval ring. Other openings in the top of this water-channel look as if they were made to allow the animals in the dens all along its course to put their heads through to drink.

Row of
piers.

Close in front of these rows of dens are a series of tufa piers, with flat tufa arches at the top, much restored in parts with late brickwork. These piers are spaced out with no reference to the archways of the dens, and are evidently a later addition, but when they were made or with what object it is now impossible to tell. All the piers are full of holes for wooden framing of some sort, which appears to have been fixed against them.

Lower
passages.

Subterranean passages. Four long subterranean passages led from the space under the *arena* in different directions. One is on the minor axis towards the Baths of Titus on the Esquiline, below the long colonnade mentioned above; vol. ii. p. 89. Another in the opposite direction led to the Palace of Commodus on the Caelian Hill. This was partly cleared out in 1813-15, and was found to have mosaic pavement, marble wall-linings, and stucco reliefs on the vault. This passage was added by Commodus to unite his palace (originally the *Domus Vectiliana*) with the Colosseum, the scene of his favourite amusements. In it he narrowly escaped being stabbed by Claudius Pompeianus; see Dion Cass. lxxii. 4, 17; and Herodian. i. 15, 16. A third passage branches from that last named in a southward direction.

These three passages are not now accessible. A fourth subterranean passage, about one hundred yards of which is now cleared out, leads towards the Lateran Hill on the major axis. In this passage it is interesting to observe the massive travertine foundations of the Colosseum, built of enormous blocks, a few of which are taken from earlier buildings. The floor over the passage, made of thick travertine slabs, was supported on a series of huge flat arches, very neatly jointed, but not otherwise carefully worked. Some of the blocks are as much as 8 feet long. The floor of this passage is 4 feet 6 inches above the herring-bone pavement of the space under the *arena*, and under it runs the channel which brings the stream of water into the oval ring-channel mentioned above. Out of the passage leads a branch, communicating with the long vaulted room on each side, in the floor of which are the rows of bronze windlass sockets mentioned above.

Massive
founda-
tions.

By this branch, on each side, is a narrow winding stair, with very steep steps, ingeniously planned so as to fit in a very small space. These stairs lead up to the ground level in the central gladiators' entrance towards the Lateran. It is by this staircase that the visitor now descends to the substructures below the *arena*. A corresponding pair of staircases probably exist at the other end of the building, but that half of the substructures is not now cleared out. Two other square chambers, each with a bronze socket in its pavement, open out of the subterranean passage farther away from the *arena*.

Stairs up
to *arena*.

Colossus of Nero. The colossal gilt bronze statue of Nero, about 119 feet high, with its pedestal, originally stood in one of the courts of the *Golden House*;¹ Suet. *Nero*, 31. When Vespasian pulled down this enormous palace he moved the

Statue of
Nero.

¹ This statue, which was the work of a Greek called Zenodorus, appears to have been badly cast, as Pliny (*Hist. Nat.* xxxiv. 45 and 46) remarks that it showed that skill in bronze casting had ceased to exist, in spite of its being the work of a very able sculptor, who was liberally paid by Nero; see vol. ii. p. 147.

Colossus to the *Summa Sacra Via*, probably to the place afterwards occupied by the north-west end of the Temple of Venus and Rome. At the same time he is said to have removed Nero's head, and replaced it with that of *Apollo Helios*, surrounded with rays of light.¹

*Head of
Helios.*

According to Lampridius (*Hist.* 17), Commodus placed his own portrait head on the Colossus, but on the medallion of Gordianus III., shown in fig. 58, vol. ii. p. 81, the head of the Colossus is shown surrounded with rays.

When Hadrian built his Temple of Venus and Rome the Colossus was again moved, and set on the brick and concrete pedestal which still exists between the temple and the Colosseum; see Spartian. *Had.* 18.

It is shown in its final position near the Colosseum on the above-mentioned medallion of Gordianus III.

*Soldiers'
amphi-
theatre.*

The Amphitheatrum Castrense. This name has been given with much probability to a small amphitheatre, which is on the line of the Aurelian wall, near the Basilica of S. Croce in Gerusalemme. It can best be examined from the outside of the wall of Aurelian at a short distance to the left after passing out of the Lateran Gate; see below, vol. ii. p. 383. It is catalogued in the *Curiosum* in Reg. v. This amphitheatre was probably built for the amusement of the soldiers in the Praetorian camp. In plan it resembled the Colosseum, and was surrounded by open arches with engaged columns, two orders high, both Corinthian in style.

*Existing
remains.*

The foundations are of cast concrete made of lava, the walls are of tufa concrete faced with brick, and all the architectural details are of very neatly moulded brick or terra cotta, once covered completely with white stucco, on which coloured decorations were painted. The Corinthian capitals of the

¹ Like the three-quarter face of Apollo on the coins of Rhodes, which is probably similar to the head of the celebrated Rhodian Colossus of Helios.

engaged columns are of moulded terra cotta built in courses, ranging with the rest of the brick facing. Fragments of antefixae, delicately moulded friezes, and other terra-cotta ornaments, have been found in large quantities scattered round the building, but none of these minuter details are *in situ*. In a few places blocks of travertine were embedded in the concrete and brick wall to give points of extra strength. One large block is set under the base of each engaged column in the lower tier. And two small rectangular bits of travertine are built in on each side of the jambs of the lower arches. The use of these apparently was to fix metal screens in each archway.

Terra-cotta details.

The general character of the work appears to belong to the early part of the second century A.D. The brickwork is not Flavian in appearance, but resembles that of Trajan's reign. It may possibly, however, be earlier. The facing is very neat and regular; the bricks average 1 to $1\frac{1}{2}$ inch in thickness, with joints $\frac{1}{2}$ to $\frac{3}{4}$ inch. They are hard and well burnt, and are yellow and red, mixed at random. The facing bricks of the arches are the usual *tegulae bipedales*, tiles 2 Roman feet square, which have been cut into three pieces, and at rare intervals a whole tile built in, in the usual way for the facing of arches, as is shown in fig. 9 in vol. i. p. 59. The interior is now completely ruined, but was once richly ornamented with marbles; of which an immense number of fragments lie all round.

Style of brickwork.

The *Amphitheatrum Castrense* was included by Aurelian in the circuit of his wall, in such a way that about half the curved arcading of the exterior was visible outside the city. The open arches of the amphitheatre were then built up, so as to form a strong defence, like the wall on each side of it. The original level of the ground round this amphitheatre was several feet higher than it is now; and parts of its foundations are now exposed by the removal of the soil, both within and without the circuit of Aurelian. At one point only is any of

Wall of Aurelian.

the upper tier of arches still preserved; that is immediately outside the Aurelian wall, where it runs up to the amphitheatre, on the side nearest the *Porta Asinaria*. A very little more than now exists is shown by Du Perac in his *Vestigi di Roma*, 1575, pl. xxvi.



CHAPTER V

ROMAN BATHS.

TILL the time of the Empire the Baths of Rome (*Balnea* or *Balneæ*, from the Greek βαλανεία) were on a comparatively small scale, and were constructed without that architectural magnificence which made the later *Thermae* perhaps the most magnificent, and by far the largest, of all the public buildings of Rome.¹ *Balnea.*

One of the earliest baths mentioned by a Roman writer was that in the Villa of Scipio Africanus at Liternum, about 190 B.C., which Seneca (*Ep.* 86. 12) says consisted only of one small dark chamber, after the ancient fashion. In the middle of the first century B.C. there were many *Balneæ* in Rome; see Cicero, *Ep. ad Q. Frat.* iii. 1, and *Pro Coel.* 25, 26.

The system of heating by hypocausts is said to have been introduced into Rome about 100 B.C. by Sergius Orata; see Val. Max. ix. 50, and Pliny, *Hist. Nat.* ix. 168; in this passage Pliny calls baths heated with hypocausts *balneæ pensiles*. *Hypocausts.*

The large and very magnificent baths which occupied so extensive a part of the area of Rome under the later Empire were usually called *Thermae* (θερμαί). Not only the name but the institution itself and the customs connected with it were of Greek origin. The costly splendour and luxury of the *Thermae* would have been very repugnant to the stern Romans of the Republican period. The description of the Roman *balneæ* given by Vitruvius was probably written *Thermae.*

¹ With the exception, perhaps, of the *Circus Maximus*.

*Vitrucius
on baths.*

before the construction of the *Thermae* of Agrippa, which were the first built in Rome, and only refers to the smaller *balneae* which were then in use. He says that the baths for men and women should be in adjoining buildings, so that one set of furnaces and hot-water cisterns might be available for both.¹ This is the arrangement adopted in a small set of *balneae* at Pompeii, and also in a building shown on the *Marble Plan* of Rome, with the inscription *Balneum Coenaris*. In later times either both sexes bathed together or else the baths were reserved on certain days for women only, as is the modern custom in the East. Consequently the great *Thermae* have no separate sets of rooms for men and women.

*Admission
of baths.*

Edicts forbidding promiscuous bathing of both sexes were issued by Hadrian and Marcus Aurelius; Spartian. *Had.* 1, and Capitol. *M. Aur. Ant.* 23.

The public baths were originally under the supervision of the Aediles, and were guarded by *Balneatores*, who received the fee for admission (*balneaticum*), which was usually one *quadrans*, about a farthing. Children were admitted free; see Juv. ii. 152 and vi. 447, and Hor. *Sat.* iii. 137. In some cases strangers and foreigners had free admission to the baths, special endowments being made for this purpose. An inscription found in Rome in the sixteenth century gives an example of this—

L · OCTAVIO · L · F · CAM		RVFO · TRIB · MIL · . . .
QVI · LAVATIONEM · GRATVITAM · MVNICIVS		
INCOLIS		HOSPITIBVS · ET · ADVENTORIBVS · . . .

A somewhat similar inscription found near Naples is published in *Cor. In. Lat.* v. 376.

Bath places.

The principal classes of bath attendants were these: *janitor*, doorkeeper; *capsarius*, keeper of the bathers' clothes; *unctor*

¹ Varro (*Ling. Lat.* ix. 68) mentions separate baths for women built adjoining those of the men: *Bina conjuncta aedificia lavandi causa, unum ubi viri, alterum ubi mulieres lavantur.*

and *reunctor*, anointer with oil; *tonsor*, barber; *alipilus*, the slave who extracted superfluous hairs; *tractator*, shampooer; *formicator*, stoker of the furnaces; and *sebatiarii*, lamp-lighters. In the large *Thermae* there were some hundreds of slave attendants.

The various processes gone through in the bath are thus described by Lucilius, who died in about 102 B.C. (*Sat.* vii. frag. 9), "*rador, subvello, desquamor, pumicor, ornor, expolior, pingor.*"

The names of the various parts of the Roman *Thermae* were taken from the baths of the Greeks, which appear to have been usually built in connection with the *Palæstra* where athletes exercised.

Much interesting information about ancient baths is given by Lucian, *Ἱππίας ἡ Βαλανεῖον*, in which he describes the baths designed by his friend the architect Hippias; see also Pliny, *Epis.* ii. 17 and v. 6, where he gives a detailed account of his country villas at Laurentium and in Tuscany.

Another still more important source of information is Vitruvius' description (v. 11) of the baths which occupied one side of the typical Greek *Palæstra*. He enumerates the following rooms, all of which appear to have found a place in the later *Thermae* of the Romans. On each of three sides of the great open *peristyle* or *porticus* there was a semicircular recess (*cœdra*) with seats round it. On the fourth side a larger recess or apse was called the *aphebeum*. On each side of this, occupying the rest of the fourth side of the *porticus*, the rooms of the bath were arranged.

These were the *coryceum*, (from *κόρυκος*, a sack), a room for pugilists to practise by striking at hanging leather bags of sand;¹ the *conisterium*, where the bathing athletes rubbed themselves with sand; the cold bath-room (*frigida*

¹ One of the beautiful engravings on the "Ficoroman cista" in the Museo del Collegio Romano represents one of the Argonauts practising by hitting out at a hanging bag (*κόρυκος*).

Bath slaves.

Lucian.

*Greek
Palæstra.*

*Various
rooms.*



Fig. 63.

Plan of the smaller Baths at Pompeii, showing the double sets of rooms for men and women, with the heating apparatus between them, so that one furnace served for both, as is recommended by Vitruvius.

21a, 21b, 21c. Public entrances to the men's baths.

1. Entrance to the women's baths.

9. The common furnace and calidarium for both baths.

10 and 11. Store-room for fuel.

22. *Latrina* by entrance 21c.

20. Open court of men's baths.

8. Court of women's bath.

2. Stairs to upper floor.

3. *Apodyterium*.

4. *Tepidarium*.

5 and 6. *Calidarium*.

7. *Labrum*.

In women's baths.

- | | |
|---|--------------------------|
| 17. <i>Apodyterium</i> . | } In the men's
baths. |
| 18. Cold bath. | |
| 15. <i>Tepidarium</i> with benches, 16. | |
| 12. <i>Calidarium</i> , with hot bath at one end (13), and <i>labrum</i> at the other (14) as described by Vitruvius, v. 10. 4 and 5. | |

The hatching on this plan shows the rows of shops (*tabernae*) facing on the streets which surround the *insula*.

lavatio, or Greek λουτρον); and the *elaesthesium*, a room for *Use of oil.* anointing with oil and perfumes. The whole skin of the bathers was covered with olive oil, which was then scraped off with a sharp strigil; this was done for the wealthier classes in Rome by slaves called *aliphae* or *unctores*. The fine ancient copy of the celebrated *Apoxyomenos* by Lysippus, now in the Vatican, represents an athlete after his bath removing the oil with a strigil. This statue was in front of the *Thermae* of Agrippa; see Pliny, *Hist. Nat.* xxxiv. 62; and below, p. 141.

The furnaces which heated the hypocausts and hot water *Hot rooms.* baths were called *praepagae* (Greek πρὸ and πριγεύς). The *Laconicum* and the *concamerata sudatio* were the hottest chambers for sweating in, like a modern Turkish bath; next came the hot water bath (*calida lavatio*). The *frigida lavatio* or *frigidarium* was the cold room, which in the large Roman *Thermae* contained a cold swimming bath, which was called *Cold bath.* X a *piscina* or *baptisterium*; see Pliny, *Ep.* v. 6, 25.

In this list Vitruvius does not mention the *Apodyterium*, a room for undressing, which was provided in all except the smallest Roman baths; slaves, called *capsarii*, took charge of the bathers' clothes. In the previous chapter (v. 10) Vitruvius gives some interesting details about the *Laconicum* in the *Laconicum.* smaller *balneae*. It was an apsidal chamber, with a circular opening in the centre of the dome of the apse, which was closed or opened by a bronze valve, called *clipeus*, from its round shield-like form. This was arranged to move up and down by pulleys and chains, so as to regulate the inlet of cold air.

The small *Laconicum*,¹ which Vitruvius describes, had seats all round its walls, and in the centre there was a hot bath (*labrum*). In the great *Thermae* the *labrum* was frequently very large, and was cut out of one immense block of marble.²

Pompeian
baths.

In the baths at Pompeii exactly such a *Laconicum*³ as Vitruvius describes still exists, with its *labrum* and the circular opening in the dome above, all in a perfect state of preservation, except that the bronze valve is missing; see plan on fig. 63.

Hot water
supply.

With regard to the hot water supply Vitruvius (v. 10) advises the provision of three bronze cauldrons (*ahena*), which are to be fixed above a hypocaust, and arranged so as to overflow from the cold vessel into the tepid one, and finally into the hot water cistern. This method would, however, only be applicable to the small *balneae*. An example of these *ahena* still existing in their place is mentioned below, p. 186.⁴

In the great *Thermae* water was heated on a large scale by passing it through a series of concrete and brick chambers or *piscinae* (see fig. 76 in vol. ii. p. 160), each of them being heated by a hypocaust floor and by flue-tiles passing up the sides, as is shown in fig. 65, left hand side.

¹ The name *Laconicum* was given to the hottest room, as being a supposed Spartan invention; see Dion Cass. liii. 27.

² Some ancient labra are cut out of enormous blocks of porphyry, granite, or Oriental alabaster. Many magnificent examples in all these materials are preserved in the Vatican, especially round the Court of the Belvedere. In the round hall is an enormous circular *labrum* cut out of one block of porphyry. Two fine labra of Egyptian granite from the Baths of Caracalla are used as basins for fountains in the Piazza Farnese.

³ It should be noticed that one *Laconicum*-like room still exists in Rome in a perfect state of preservation, having been made into a church; see below, p. 180.

⁴ The drawing of a Roman bath, illustrated at p. 332 in *Ancient Rome in 1888*, was said to have been found in the Baths of Titus, but it really is a production of the sixteenth century, drawn by some one who was trying to depict a Roman bath from the description of Vitruvius.

Another name for the hot room of a bath was *calidarium*, *Calidarium*, usually applied to chambers the temperature of which was not quite so high as that of the *Laconicum*. The *tepidarium*, as its name implies, was midway between the hot and cold rooms in temperature.¹

All the existing examples of Roman baths appear to have had concrete vaults over each chamber, but in the time of Vitruvius (reign of Augustus) ceilings made with wooden joists were sometimes used. He gives an interesting description of the great care with which these were to be protected from the steam rising from the hot baths below. The whole under surface of the woodwork is to have a series of iron bars at intervals of less than 2 feet hung from it by iron hooks nailed to the ceiling joists. Tiles 2 feet square (*tegulae bipedales*) are to be laid on the rows of iron bars, thus covering the whole area of the ceiling; the whole under side of the tile ceiling was then to be covered with that very hard cement which was made of lime, pozzolana, and pounded potsherds—"opus lectorium e testis tunsis"—similar in character to the *opus signinum* used for the *specus* or channels of aqueducts. Over this was laid an ornamental coating of fine hard stucco made of pounded white marble—*opus albarium* or *caementum marmoreum*. This great care was considered necessary to prevent the condensed steam from the hot baths soaking through the plaster ceiling and causing the wooden joists to rot.

Concrete vaults

Tiled ceiling

Fig. 64 shows the tile ceiling as described by Vitruvius.

Vitruvius' description of the *hypocausts* or hollow floors *Hypocausts* used for heating the hot rooms (*Calidaria*) agrees closely with many existing examples; see fig. 65.

The lower floor was to be laid with 2-foot tiles (*tegulae*

¹ It should be observed that Vitruvius (v. 10. 1) gives the names *calidarium*, *tepidarium*, and *frigidarium* to the three bronze cauldrons of water, using the words *calda* and *frigida lavatio* for the hot and cold rooms.

hipocates), over a bed of concrete; on this, all over the area of

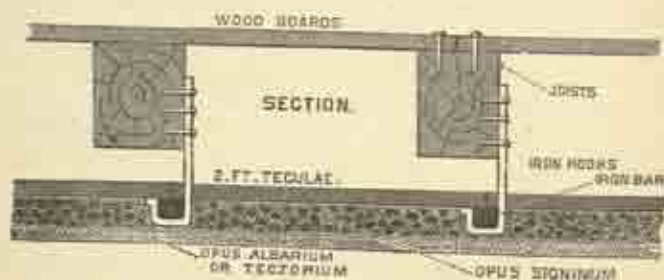
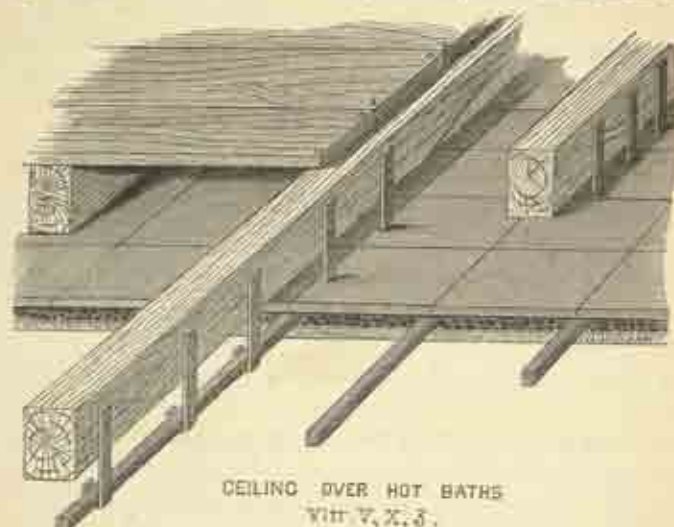


Fig. 64.

Perspective sketch and section to illustrate Vitruvius' system for protecting the wooden ceiling joists over the hot rooms of baths by an inner ceiling of tiles. The tiles rest on iron bars which are hung in hooks nailed to the sides of the joists above.

the room, rows of short pillars (*pilae*) were built to support the upper or "hanging floor" (*suspensura*). These *pilae*

were 2 feet high,¹ made of *tegulae bessales*, or tiles 8 inches

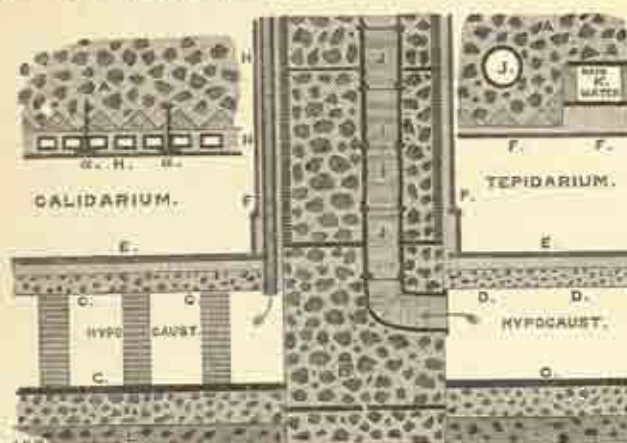


Fig. 65.

Baths of Caracalla; sections through the floors and walls showing the different methods of heating, the *Tepidarium* being heated by the hypocaust only and the *Calidarium* both by the hypocaust and by flue-tiles up the walls.

- AA. Concrete wall faced with brick.
- B. Lower part of wall with no brick facing.
- CC. *Suspensura* or upper floor of hypocaust supported by pillars.
- DD. Another floor with support only at the edges.
- EE. Marble flooring.
- FF. Marble plinth and wall-lining.
- GG. Underfloor of hypocaust paved with large tiles.
- HH. Horizontal and vertical sections of the flue-tiles which line the walls of the *Calidarium*.
- II. Iron holdfasts.
- JJ. Socket-jointed flue-pipe of *Tepidarium*.
- K. Rectangular rain-water pipe, used where there was a copious down-flow of water.
- LL. Vaults of crypt or basement made of pumice-stone concrete.

¹ In existing examples of later date the *pilae* are higher, leaving more space between the two floors, probably because extra space was needed to allow slaves to crawl in under the *suspensura* to clear away accumulations of soot and ashes from the furnaces.

Hypocaust. square, set, not in mortar, but with clay in the joints. In existing examples these clay joints have been baked into brick by the action of the fire, which played among the *pilae* all over the space below the *suspensura*.¹ The example of a hypocaust on the left hand side of fig. 65 agrees exactly with the description of Vitruvius. That on the right is a later variety. It was from these hollow or "hanging" floors that Roman baths were sometimes called *Balnea pensilia* or *Balneae pensiles*; see Val. Max. ix. 1, 1, and Pliny, *Hist. Nat.* ix. 168.

Balnea pensilia.

In later times, when the Roman architects had grown bolder in their use of concrete, the *pilae* were frequently omitted,² and the whole upper floor was supported only at its edges, as if it were one immense slab of stone; see DD in fig. 65.

Suspensura. The *suspensura* itself was usually about 18 inches thick, and was formed of four distinct layers—(i.) its main mass of rough concrete (*rudus*), usually of broken tufa; (ii.) a layer of *opus testaceum*, made of pounded brick and potsherds; (iii.) a thin bed of hard white marble cement (*caementum marmoreum*) or *nucleus*, in which were bedded (iv.) the marble *tesserae* or slabs which formed the upper surface of the floor.

Furnace. The furnace (*praefurnium* or *propigneum*) was at one side or below the *hypocaust* (*ὑποκαύειν*), and the heated air and smoke from it, after circulating between the two floors, escaped up a flue which was formed in the thickness of the concrete wall. This flue was usually formed of socket-jointed clay pipes, about 10 to 12 inches in diameter, round which the fluid concrete of the wall was poured.

Among the enormous collection of objects of all kinds in

¹ The hot rooms of Roman baths were occasionally used as means of putting people to death. An early example of this is mentioned by Livy, xxiii. 7.

² Several examples of this can be seen in the Baths of Severus' Palace on the Palatine; an even more astonishing use of unsupported concrete floor existed at the House of the Vestals; see vol. i. p. 317.

the Museo delle Terme there is a large roof-tile of terra cotta with a circular pipe about 8 inches in diameter projecting from its upper surface. This pipe appears to be a chimney-pot for the exit of the smoke from a flue bedded in the wall below. This shows the way in which the smoke was carried through the roof, without any risk of rain-water leaking in round the chimney-pot—a thing which so commonly happens in modern Italian houses.

Chimney-pot.

An additional method of heating, not mentioned by Vitruvius, was used under the Empire for the *Sudationes* or hottest rooms. This was done by lining the whole wall surface of the bath-room with upright lines of flue-pipes, rectangular in section (see HH in fig. 65, and fig. 66, next page). These flues communicated at the bottom with the space under the *suspensura*, and were carried up to the top of the building where the hot air and smoke escaped. Thus the whole wall surface, as well as the hollow floor, was strongly heated by this sort of jacket of hot air flues.¹

Wall-flues.

It is rather difficult to understand how the exits of a long row of flue-tiles into the open air were managed. Most probably a number of them were made to converge to one point before issuing through the roof. A very interesting mosaic picture of a large country villa of the fourth century A.D., found at Oued-Atmenia in Algeria, clearly shows the roof pierced by a number of chimney-stacks, exactly like those now in use. Even the chimney-pots or smoke-cowls are indicated in this curious mosaic picture, which is now, unfortunately, destroyed; it is illustrated in *Trans. Inst. Brit. Arch.* Vol. I. New Series, 1885, and in the *Proceedings of the Arch. Soc. of Constantine*, 1884.

Chimney stacks.

¹ These wall-flues can be best examined in the large round chamber of the Baths of Caracalla, in the upper part of the Palace of Severus, in the upper rooms of the House of the Vestals, in the so-called Bath of Helio-gabalus by the *Sacra Via*, and in the house at the extreme western angle of the Palatine beyond the *Scalae Caeli*.

Both these methods of heating were used under and around the hot water baths, which, in the great *Thermae*, are set in recesses of the *Calidaria*, as, for example, in the great domed hall of the Baths of Caracalla; and also in the Baths of the *Atrium Vestus*; see fig. 65.

Private
bath.

Fig. 66 shows an interesting example of the method of

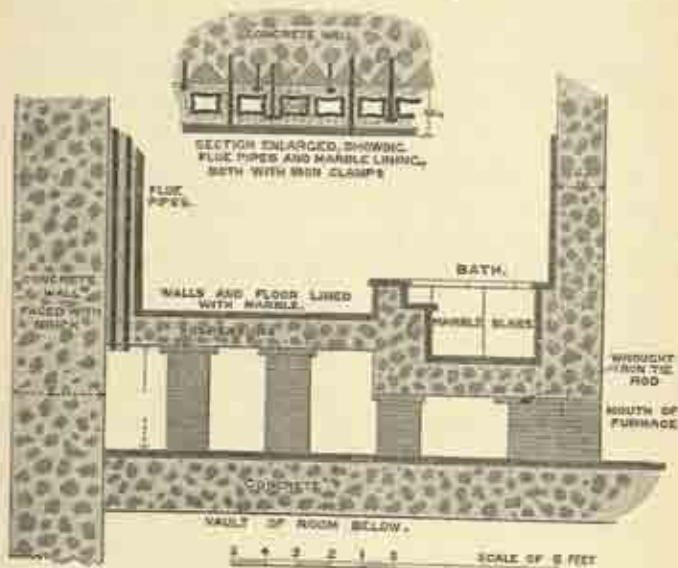


Fig. 66.

Section of one of the small bath-rooms in the upper floor of the *Atrium Vestus*, showing the methods of heating with hypocaust furnace and lining of flue-tiles up the walls.

heating a small private bath-room. The drawing gives a section through one of the series of bath-rooms on the upper floor of the House of the Vestals; see fig. 42, where this room is shown to a small scale, near the *Nova Fia*. It is described in vol. i. p. 316.

Hollow
floor.

The hollow *hypocaust* passes under the floor of the room, and also under the hot water bath, which is made of concrete,

faced with thin slabs of white marble. The mouth of the furnace is immediately under this bath, which is about 6 feet long, 3 feet 3 inches wide, and about 2 feet 4 inches deep. The *suspensura* and its *pilae* resemble those shown in fig. 65 vol. ii. p. 121. The *pilae* rest on the barrel vault of the room below, the *extrados* being filled in level with concrete, and then paved with the usual tiles on which the *pilae* rest.

Three of the four walls of each of these little rooms are covered with a hot air jacket in the form of the usual rectangular flue-tiles, which are bedded and covered with a thick mass of cement, against which the marble slabs rest, lining the whole surface of the walls. Flue-tiles.

The horizontal section at the top of fig. 66 shows these flue-tiles, the marble facing, and behind the tiles the usual facing of triangular bricks over the whole surface of the concrete wall.

It also shows the use of metal for three purposes—(i.) nails driven into the joints of the brick facing to form a “key” for the cement in which the flue-tiles are bedded; (ii.) T-shaped clamps used at a few places to hold the flue-tiles—quite needlessly, as the flues are completely bedded in a mass of the most solid cement; (iii.) long iron or bronze clamps to hold the marble slabs. One end of these clamps is driven deep into the concrete wall, the other end is turned down into the upper edge of the marble slab. Metal-work.

The portion of the *Atrium Vestae* which is illustrated here appears to date from the time of Severus, c. 200 A.D., when important alterations and repairs were carried out.

In both of Pliny the younger's country villas *hypocausta* were used, not only for the baths, but also to warm his bedroom. In the Laurentian Villa, near Ostia, there was some arrangement by which the admission of heat to the bedroom could be regulated by a door or valve: *Adplicatum est cubiculo hypocaustum percircum, quod angusta fenestra suppositum calorem, ut ratio exigit, aut effundit aut retinet*; *Epis.* ii. 18. 23; see also Pliny's villas.

Epis. v. 6. 25, in which Pliny describes another country house of his among the mountains of Tuscany: [culicula] cohaeret hypocausto, et si dies nubilus, inmisso vapore solis vicem supplet.

THE PANTHEON.

Pantheon. It has been for several centuries a disputed question whether the Pantheon ever formed part of Agrippa's baths, or was a separate building. The discoveries, however, which were made in 1882, by the removal of the block of houses at the back of the Pantheon, have made it practically certain that there was no connection whatever between the two buildings.¹

Isolated building.

Traces exist, not only of the marble wall-linings outside the back of the Pantheon, but also of its various cornices and string-courses at different levels. These cornices continued round the whole of the back of the drum, showing that originally the complete circuit was exposed to view. The existing walls which join the *Thermae* and the drum of the Pantheon are all considerably later in date than the time of Agrippa, being partly the work of Hadrian and partly of Sept. Severus. This is shown in figs. 67 and 71. Fig. 71 gives the plan of the *Thermae* before there were any walls uniting them to the Pantheon. Thus it is evident that the

*Not part of the
Thermae.*

* Pantheon when first built was a completely isolated structure, ¹ It is noticeable that the *Pantheon* is not mentioned by Vitruvius. So also *amphitheatres* are not mentioned in his treatise, in spite of the Amphitheatre of Taurus having been built about 29 B.C., while the wooden Amphitheatre of Curio was constructed about twenty years earlier.

Vitruvius might very reasonably, in writing about architecture, omit any description of temporary wooden structures, but he could hardly have failed to mention such important and massive buildings as the Amphitheatre of Taurus and the Pantheon if they had been in existence at the time he was writing. It seems reasonable, therefore, to conclude that Vitruvius' book was finished in the early part of the reign of Augustus, before about 30 B.C.

with an interval of about 20 feet at the narrowest part between it and the *Thermae*. And though in later times the *Thermae* were extended against, and even on both sides of

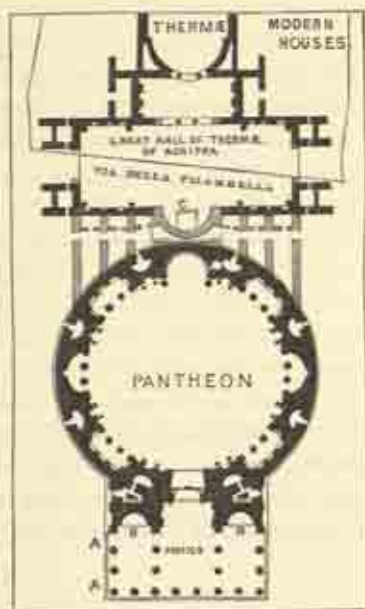


Fig. 67.

Plan of the Pantheon and part of the *Thermae* of Agrippa; the black shows the original work of Agrippa, 27 B.C.; the hatching shows additions of the time of Hadrian and Severus.

- A. Angle of portico, rebuilt in the seventeenth century.
- BB. Niches which contained colossal statues of Augustus and Agrippa.
- C. Pedestal for statue, and apse added by Hadrian.

the Pantheon, yet at no time was any entrance broken through to connect the one building with the other.

Moreover, if further proof were wanting to contradict the theory that the Pantheon was once the *Calidarium* or *Laconicum* of the baths, this is supplied by the fact that there is no trace of any *hypocaust* under the floor, but merely an ancient

No hypocaust.

drain to carry away the rain-water that fell through the opening in the dome. The Pantheon, too, is on the north side of the *Thermae*—a very improbable position for the *Laconicum* or hot room, which was usually placed on the sunny side of the buildings.

*Pantheon a
temple.*

*Completed
27 B.C.*

And lastly, it was consecrated as a Temple to Mars, Venus, and other mythical ancestors of the Gens Julia, out of compliment to Augustus, certainly very shortly after it was built, and probably immediately after its completion in 27 B.C.; see Dion Cass. (lxiii. 27), who states that Agrippa completed the Pantheon, and that it was so called, either because it was dedicated to the various deities above mentioned, or else because its domical vault resembled the curved canopy of heaven. It appears from the earliest times to have been called the Pantheon; see Dion Cass. liii. 27; lxvi. 24.

*Arval
Brothers.*

An inscription found in the sacred Grove of the XII *Fratres Arvales* in 1865, outside the Porta Portuensis, records that it was used by this important *Collegium*, or endowed body of priests, as a meeting-place, before they met in the Temple of Concord; see Henzen, *Acta Fratrum Arvalium*, 1874, inscrip. No. 71.

Caryatidæ.

Pliny, *Hist. Nat.* xxxvi. 38, mentions a row of Caryatidæ, probably round the upper part of the interior, the work of an Athenian sculptor called Diogenes, who also executed some statues which were placed on the top of the Pediment. Nothing is known of the sculptor Diogenes, who is mentioned only by Pliny in the passage referred to; see *Hist. Nat.* xxxvi. 38. There is in the Vatican a marble Caryatid figure which is copied with some modifications from those in the porch of the *Erechtheum* on the Athenian Acropolis.

It appears probable that this is one of the statues from the Pantheon by Diogenes, or an ancient copy of it; see Brunn, *Griech. Künstler*, i. pp. 548 and 568.

Pliny (*Hist. Nat.* ix. 120) tells us that one of an enormous pair of pearls which had belonged to Cleopatra was sawn in

half to make ear-rings for a statue of Venus in the Pantheon. The other pearl was said to have been dissolved in vinegar and drunk by Cleopatra on the occasion of her wager with Antony as to the sum she could expend on one feast. As pearls are not soluble in any drinkable fluid it is evident that some sleight of hand was employed in this feat.

In the tympanum of the pediment there was a large bronze relief representing the *Gigantomachia*, or defeat of the Titans by Jupiter and other deities;¹ the holes for fixing this relief are visible all over the *tympanum*. At *Hist. Nat.* xxxiv. 13, Pliny records that the capitals of the columns (of the interior) were of Syracusan bronze, a name given to a certain alloy of copper and tin, which was very highly prized.²

Pediment relief.

Bronze capitals.

The *Porticus of Octavius* is mentioned by Pliny in the same passage as another example of a Roman building with bronze capitals; see below, p. 200.

The Pantheon, with its great portico (see fig. 68), and magnificent cupola lighted only from the top, is even now, though stripped of a great part of its marble linings, one of the most stately and effective buildings in the world.

Grand effect.

¹ See Hirt, *Geschichte der Baukunst*, ii. p. 283.

² The dome of the Temple of Vesta in Pliny's time (*Hist. Nat.* xxxiv. 13) was also covered with this special variety of bronze; the bronze of the islands of Delos and Aegina appears to have been of equal celebrity with that of Syracuse. Another variety, Corinthian bronze, was highly prized from its golden colour; whence arose the story of its being mixed with gold and silver; see Pliny, *Hist. Nat.* xxxiv. 5 to 13, and xxxvii. 49. Among the early Greeks bronze made with silver instead of tin, and even with gold, was sometimes used. The metal of an archaic fibula was shown by analysis to be a mixture of 73 per cent of copper, 20 of silver, and 7 per cent of gold. As skill in metal-working increased it was discovered that "golden bronze" of the finest colour could be made by a mixture of tin and zinc with copper without using any gold. Compare also an interesting letter of Pliny the younger (*Epist.* iii. 6), in which he describes an ancient statuette of Corinthian bronze which he bought out of the proceeds of a legacy.

The internal appearance of the immense hemispherical dome, with its slanting flood of sunlight pouring in at the top, is imposing beyond all possible description. The effect of its central hypaethral opening, framing a patch of blue sky, across which white clouds are seen moving, makes it unlike any other building in the world. Moreover, the apparent size of the dome is not diminished by its being raised to a great height above the floor, and consequently it looks enor-

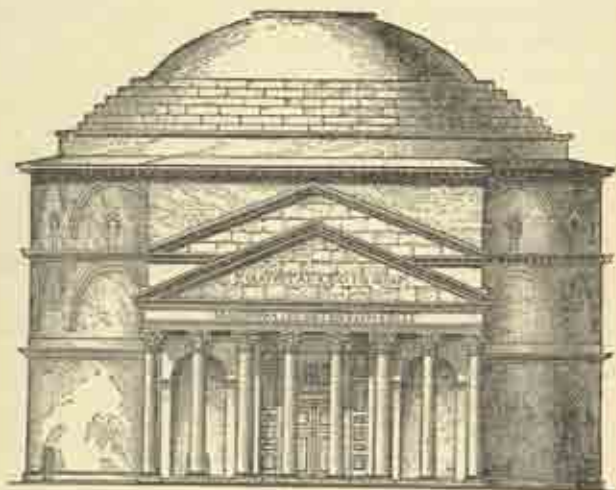


Fig. 68.

The front of the Pantheon.

The letters in the tympanum of the pediment are modern.

mously larger than the dome of St. Peter's, which measures almost the same in diameter.¹

*Span of
dome.*

The internal diameter of the dome of the Pantheon is 142 feet 6 inches, and its height from the pavement to the central opening is almost, if not exactly, the same. Thus the section of the whole interior might be represented by a circle, the upper half coinciding with the inner surface of the dome, and

¹ The internal span of the dome of St. Peter's is nearly 140 feet.

the lower extremity of the circle touching the line of the pavement; see fig. 69.

The construction of this enormous cupola is a remarkable instance of the extraordinarily skilful use of concrete by the Romans; it is cast in one solid mass, and is as free from lateral thrust as if it were cut out of one block of stone.

*Cast in
concrete.*

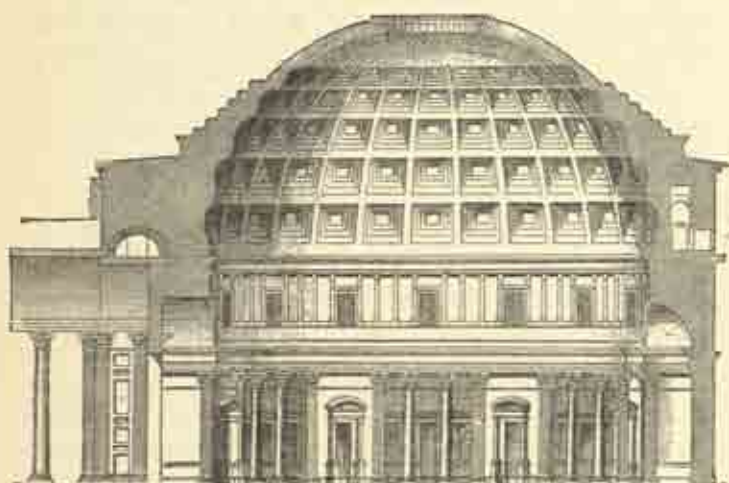


Fig. 69.

Section through the Pantheon.

Though having the arch form, it is in no way constructed on the principle of the arch.

It has occasionally been possible, while the present external covering of lead was being repaired, to examine some breaks in the upper surface of the dome. It then appeared that the complicated systems of brick arches, shown in Piranesi's drawings of the dome, are, like the other brick arches of Rome, only skin deep, and by no means of the constructional importance which Piranesi indicates. These fanciful drawings have been unfortunately copied by Violet-le-Duc in the article

Voute in his *Dictionnaire*, vol. ix. p. 478, and by many other writers on architecture.¹

Panelled
Roof

The inner surface of the dome is divided into a series of square coffers or deeply sunk panels (*lacunaria*), now quite devoid of ornament, but once decorated very richly with mouldings in stucco, painted and gilt, like those which still exist in parts of Hadrian's Palace on the Palatine; see fig. 13 in vol. i. p. 71. The outside of the dome is not an important feature in the external design of the building, as about half of it is, as it were, buried in the enormously thick walls it rests upon. In this respect it somewhat resembles the dome of Justinian's Church of S. Sophia in Constantinople.

tile.

Bronze
coffers

In its original state the dome of the Pantheon must have looked like a gigantic mound of shining gold, as it was covered with tiles of gilt bronze. One part only exists of this magnificent roofing, which not only covered the external surface of the dome, but was carried also round the rim of the central opening or *hypæthrum*. Round the opening a cornice or ring of enriched bronze mouldings still exists, the various members of which are delicately ornamented with egg and dart, acanthus leaves and fluting, finished with great care in spite of their being almost invisible at so great a height; see fig. 70.

The gilt, or rather gold-plated, tiles² on the dome were

¹ To a certain extent brick arches are used in most of the great vaults of the Roman buildings, such as the *Thermae of Caracalla* and of *Diocletian*. They are, however, only one ring deep, on the under surface of a great mass of concrete—a very insignificant part of the whole thickness, and so they can only have been of use during the formation of the vault. As soon as the mass of concrete had set, these superficial brick ribs and arches might have been cut away with very little injury to the strength of the vault.

² The gilding of the Greeks and Romans was not done with the immensely attenuated leaf of modern gilders, but the gold was laid on in plates of appreciable thickness. Each *πράσιον* or leaf of gold used for the gilding of the Athenian Erechtheum cost one drachma. The very durable mercury process was used for gilding metal both by the

stripped off in 663 A.D. by the Emperor Constans II.,¹ who was carrying them off to Constantinople when he was intercepted and killed by the Saracens at Syracuse, into whose hands these and other rich spoils from Rome fell. The inner ceiling of the porch was also of gilt bronze, supported by a very curious system of bronze tubular girders. These remained intact till the reign of Urban VIII., who, in 1626, removed

Ceiling of porch.

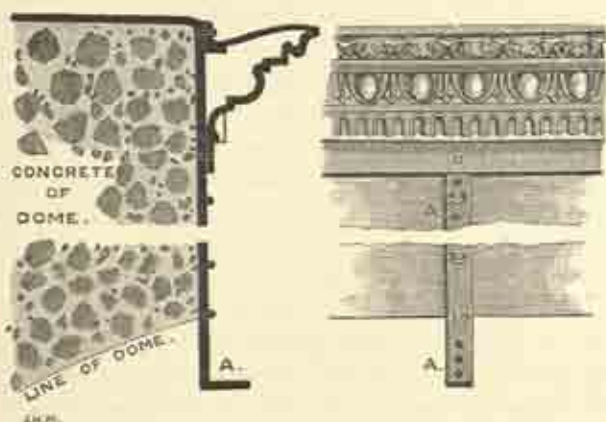


Fig. 70.

Existing bronze moulding round the central opening in the dome of the Pantheon.

AA are bronze bands to fix other parts of the lining now stripped off.

them, and used the bronze to make no less than 110 cannon, weighing about 400,000 pounds, for the Castle of S. Angelo, and also the great Baldacchino, with twisted columns, designed by Bernini for the high altar of S. Peter's. The metal thus stripped off is recorded to have weighed 450,250 pounds, and 9374 pounds obtained by melting down the bronze rivets. The form of the bronze girders is shown in some drawings made Greeks and Romans; see Vitruv. vii. 8. 4, and Pliny, *Hist. Nat.* xxxiii. 64.

Stripped
bronze.

¹ The present lead covering of the dome was put on by Nicholas V. in 1454; see Vasari, *Vite dei Pittori*, Milanese's ed. ii. p. 462, note.

by the architect Sallustio Peruzzi, who gives many other interesting details which no longer exist. These drawings are preserved in the Uffizi Collection at Florence.¹

Method of
constructing
the

Construction of the Pantheon. The walls of the great rotunda which supports the dome of the Pantheon are nearly 20 feet thick, cast in concrete, with the thin facing of brick which afterwards became so common. Examples of burnt brick used to face concrete in the time of Augustus are very rare, as the usual facing for concrete at that time was *opus reticulatum*, of which Vitruvius (ii. 8. 1) says, *quo nunc omnes utuntur*. The actual mass of concrete used is very much reduced by a series of recesses formed in the drum. Those which open on to the interior form large niches for statues and altars, and were enriched with marble columns and other decorations.

Cavities in
concrete
walls.

Other semicircular chambers, set at intervals in the thickness of the wall, between the internal niches, were probably formed to diminish the mass of concrete required, and also to admit the air into its interior, so as to hasten its setting. These chambers are lined with neat brickwork, and have external openings both at the ground level and high up.

Brick
facing.

The brick facing of the whole rotunda is very neat; the bricks are of the usual triangular form, 13 inches long, and $1\frac{1}{2}$ to $1\frac{3}{4}$ thick, with joints from $\frac{3}{8}$ to $\frac{1}{2}$ inch. All over the wall, in three tiers, there are series of what appear to be relieving arches, in one, two, and three rings of 2 feet tiles; but these, like the rest of the brick facing, merely enter the wall to a depth of a few inches, and are of no structural use.

¹ A paper by Comm. Lanciani, in the *Notizie degli Scavi*, 1882, p. 340, gives a list of mediæval drawings of the Pantheon and the adjoining Thermæ; these are by Jacobo Samovino, Baldassare and his son Sallustio Peruzzi, Raphael, and the younger Antonio Sangallo, in the Uffizi; and *Cod. Vat.* 3432. The Barberini Library (lib. xlix. 32) has other drawings by Antonio Sangallo and Giuliano di Francesco. See also Geymüller, *Documente inédits sur les Thermes d'Agrippa*, Lausanne, 1883.

Nor can they have been meant for ornament, as the whole of the brick facing was concealed from sight.

The drum or rotunda was divided into three stories by horizontal string-courses or cornices, partly of marble and partly of large tiles with projecting edges, covered with mouldings made of marble-dust stucco—once painted and gilt. The two upper stories of the exterior were coated with stucco, but the lowest story, which is the largest of the three, was faced with slabs of white marble, which have been completely stripped off the circular part of the Pantheon, but still exist on the square projection against which the portico stands; see plan in vol. ii. p. 127. This is the finest example which still remains in Rome of the use of marble as a wall lining, and is worthy of close examination. The pilasters all round the rotunda, which are now missing, are shown by Palladio, Du Perac, and Lafreri, 1546-70 A.D.

*Three
orders.*

The scheme of this marble facing is as follows: on each side the projection which joins the rotunda to the columns of the portico is divided vertically by fluted Corinthian pilasters, and horizontally by two sculptured bands or friezes, richly decorated with reliefs of garlands hanging between candelabra. Below is a richly moulded plinth, which is a continuation of the mouldings of the bases of the pilasters. The plain wall surface is covered with massive slabs of Pentelic marble, 5½ inches thick, some of which are 11 feet long by 3 feet 2 inches wide, very unlike the thin veneers of marble which were used to face the buildings of the later Empire—veneers which were often considerably less than an inch in thickness. A small door on each side, with moulded architrave, leads to a staircase formed in the thickness of the concrete wall. And six similar doors in the circular part lead into the semicircular recesses, mentioned above; see fig. 67. The other similar small chambers at higher levels have no apparent means of access, as their doors open high above the ground.

*Marble
facing.*

Against the rectangular projection is set the very noble

Great
portico.

portico, with eight columns on its front and three at the sides; they are unfuted monoliths of grey and red Egyptian granite, with Corinthian capitals of white Pentelic marble. This is the earliest existing example of the use of granite columns in Rome.¹ The anomaly of using unfuted columns with Corinthian capitals is an example of the want of taste of the Romans, which at first came almost necessarily from the use of such hard materials as granite and porphyry, and then, in later times, was in some cases extended without any practical excuse to columns made of the softer marbles. The columns at AA on the plan are restorations of the time of Urban VIII. and Alexander VII., and the arms of these Popes are introduced among the acanthus leaves of the restored capitals.

Inscribed
frieze.

The frieze of the entablature is plain, except for the inscription, which records the dedication of the Pantheon by Marcus Vipsanius Agrippa during his third Consulship, that is in 27 B.C.

The letters were inlaid in bronze, but only the sunk *matrices* now remain—

M · AGRIPPA · L · F · COS · TERTIVM · FECIT²

¹ The use of enormous monolithic columns is a peculiarity of the Romans. In the sixth century B.C. monolithic columns were occasionally used by the Greeks, as, for example, in the early Doric temple at Corinth. But during the best period of Greek architecture columns were always built up of many courses or drums. The use of monoliths had the serious practical objection that it involved the marble being set on end, not on its natural bed, and therefore was very liable to cause the column to split.

² Agrippa thus settled the question as to whether *tertium* or *tertius* was more correct, though Cicero had declined to do so in a similar case; see vol. ii. p. 67, note. There is a fine large bronze coin which was struck by Agrippa in the same year, 27 B.C.; with *obv.* a very noble portrait head of Agrippa wreathed; AGRIPPA · L · F · COS · III; and *rev.* a standing statue of Neptune holding a trident in one hand and a dolphin in the other; s. c. This coin commemorates Agrippa's naval victories.

It has sometimes been questioned whether the portico with Agrippa's inscription is of the same date as the *rotunda* behind it, but that they were built at the same time is shown by many constructional details at the junction of the two.

Another inscription in much smaller characters adled on the architrave of the portico records a restoration of the building by Severus and Caracalla in 202 A.D.¹ This inscription, which is now difficult to read, runs thus—IMP · CAES · L · SEPTIMIUS · SEVERVS · PIVS · PERTINAX · ARABICVS · ADIABENICVS PARTHICVS · MAXIMVS · PONTIF · MAX · TRIB · POTEST · X · IMP XI · COS · III · P · P · PROCOS · ET · IMP · CAES · M · AVRELIVS ANTONINVS · PIVS · FELIX · AVG · TRIB · POTEST · V · COS · PROCOS · PANTHEVM · VETVSTATE · CORRVPTVM · CUM · OMNI · CVLTV RESITVERVNT.

*Inscribed
architrave.*

The pediment over the Portico is much higher in proportion to its width than it would be in a Greek building; this may have been partly in order to give additional space for the bronze relief of the *Gigantomachia* in the tympanum.

Pediment.

It was, however, usual for Graeco-Roman architects to build their pediments with considerably steeper slopes than those of Greek temples.

On each side of the great doorway is a niche which originally contained a colossal statue—Agrippa on one side and Augustus on the other.²

Within the portico there were also two magnificent grey basalt lions from Egypt, which are now in the Egyptian Museum of the Vatican. They are fine examples of Graeco-

Basalt lions.

¹ The Pantheon had previously been restored by Domitian and Hadrian, who used it as a Court of Justice; see Roncalli, *Chron.* ii. col. 197, 243; Spartian, *Had.* 19, and Dion Cass. lxi. 7. Hadrian also built a Pantheon at Athens; see Pausanias, i. 18. 9.

² It is possible that the statue of Agrippa is that which now exists at Venice in the Museo Civico; it was found in Rome, and sent to Venice in 1505, by the Cardinal Domenico Grimani.

Egyptian art under the Ptolemies, and were probably brought to Rome in the reign of Augustus.

Flaminio Vacca¹ records that these colossal lions were found in the Portico of the Pantheon in the reign of Pope Eugenius IV., about 1435 A.D.; they were afterwards placed by the great fountain of the Acqua Felice, where they remained till they were transferred to the Vatican; see *Bull. Com. Arch.* Nov. 1890. In Du Perac's and Lafreri's drawings these lions are shown in front of the Pantheon.

At the same time portions of a colossal bronze quadriga were found, including part of a horse, the head of the driver, and a wheel; these fragments had vanished in Vacca's time.

Bronze
doors.

Strange to say, the massive bronze doors of the Pantheon escaped the thefts both of Eastern emperors and of mediæval popes, and are still well preserved—the noblest existing specimens of Roman bronze work on a large scale. On each side of the doors are bronze fluted pilasters with Tuscan capitals enriched with egg and dart moulding.

Grated
slabbing.

Over the doors is an open bronze grating of a simple design, which seems to have been commonly used both by the Greeks and Romans for many purposes, especially, as it is here, for closing windows. Though it is essentially a metal design, the same pattern was frequently used in Rome for marble *cancelli*. In late times window openings were closed with a slab of marble pierced with holes of the shape and arrangement of the apertures in this bronze grating. Each hole was, in some cases, filled in with a bit of glass. Examples of these window slabs are to be seen under the Church of S. Martino ai Monti, and in the great apse of the Quattro Santi Incononati near San Clemente in Rome.

Glass and
marble.

Bronze
doors.

The doors themselves are framed with large plates of cast bronze, having a *cyma recta* moulding round the panels; the *styles* and *rails* are decorated with rows of bosses enriched with foliage. The whole doors, in design and detail, resemble the

¹ See Nardini, *Roma Antica*, ed. Nibby, vol. iv. p. 17.

other ancient bronze doors in Rome—those of the Temple of Romulus, and those of the *Curia* now at the end of the Lateran Basilica; see vol. i. p. 241. Both the doors and the grating over them were once plated with gold.

The sill of the door is a colossal monolith of *Porta Santa* Threshold. marble. This must be contemporary with the building itself, not later, that is, than 27 B.C., and therefore a very early example of the use of foreign coloured marble in Rome, just as the columns are an exceptionally early example of the use of Egyptian granite.

The door-sill of the *Temple of Concord* by the *Forum Romanum* is equally remarkable as a colossal block of coloured marble, but more than half a century later in date than the Pantheon.

The Portico of the Pantheon is paved with large slabs and roundels of marble and Egyptian granite; a great part of this floor probably dates from the time of Agrippa.

The internal walls of the Pantheon were magnificently decorated with wall-linings of Oriental marbles and porphyry, and columns in two orders supporting entablatures. What now exists is of the ancient materials, but the design has been somewhat altered, and the marbles of the upper order have been stripped off and replaced with painted stucco.

*Marble
linings.*

The lost marble decorations of the upper part of the interior are shown in one of Piranesi's fine etched plates, and also in Palladio's drawing, published by him in 1570 in his *Libri dell' Architettura*, iv. p. 81. In the same work Palladio also gives the now missing marble linings and pilasters on the outside of the *rotunda*. In his section he shows the dome correctly as being a solid mass of concrete, not a brick vaulted structure.

Many large and magnificent fluted columns in front of the internal series of recesses still exist, made of the rich Numidian *giallo antico* and of *paronazetto*. The smaller columns by the modern altars are of granite, red porphyry, and *giallo*; all are monoliths. Many other richly-coloured marbles are used in

*Marble
columns.*

Wall
slabs.

the panelling of the walls, contrasting vividly with the white Pentelic marble of the capitals and entablature; the chief marble used for the wall slabs is the Phrygian *pavonazetto*. Gold and colour appear to have been applied in the usual fashion to all the capitals and other sculptured decorations in white marble.

Paving.

The floor is paved with large slabs and roundels of a great variety of materials, granite, porphyry, *perts santa*, *pavonazetto*, *giallo*, and *rosso antico*, and in this pavement the old design probably still survives. The whole surface of the pavement under the dome is slightly curved, with a fall from the centre towards the walls, thus giving the floor a convex contour.

In the pavement of the interior, under the hypæthral opening, there are holes communicating with the great *cloaca* with which Agrippa drained this part of the *Campus Martius*. This drain is still used, and in flood time the back water, forced up the *cloaca* from the Tiber, may occasionally be seen spouting like a fountain through these apertures in the Pantheon pavement.

Date of
marble
sculpture.

Little, if any, of the internal decorations are probably as early as the time of Agrippa, but may belong to the extensive restorations which were carried out by Hadrian and Severus, when the use of porphyry and coloured Oriental marbles was very common, while in the reign of Augustus these magnificent and costly materials were only beginning to come into use. The whole building, both the rotunda and its portico, was built on a raised podium of massive blocks of travertine lined with white marble, with a moulded cornice and plinth.¹ This podium is now buried below the modern level of the Piazza.

The preservation of this building is mainly due to the fact

¹ For further details about the Pantheon, see Hirt, *Das Pantheon*, Berlin, 1907; Adler, *Das Pantheon*, Berlin, 1871; Mues, *Il Pantheon*, Rome, 1881; Nispi-Landi, *Il Pantheon*, 1882; Geymüller, *Documenta inedita sur les Thermes d'Agrippa*, Lausanne, 1883; and *Notizie degli Scavi*, 1882.

that about the year 608 A.D. the tyrant Phocas presented it to Pope Boniface IV., who consecrated it as a church under the title of S. Maria ad Martyres.

THE THERMAE OF ROME.

Before going on to describe the *Thermae of Agrippa* it may be convenient to give a list of the seven principal *Thermae* of Rome.¹

1. *Thermae of Agrippa*, in the Campus Martius, 21 B.C.
2. *Thermae of Nero*, in the Campus Martius, c. 60 A.D.
Enlarged by *Severus Alexander*, and then called the *Thermae Alexandrinae*, 229 A.D.
3. *Thermae of Titus*, on the Esquiline, c. 80 A.D.
4. *Thermae of Trajan*, on the Esquiline, c. 110-115 A.D.
5. *Thermae of Caracalla*, beyond the Porta Capena, 206-217 A.D.
6. *Thermae of Diocletian*, on the Quirinal and Esquiline, 295-300 A.D.
7. *Thermae of Constantine*, on the Quirinal, c. 320 A.D.

*List of
Thermae.*

THERMAE OF AGRIPPA.

The *Thermae of Agrippa*, which were the first public *Thermae* of Rome, were opened in 21 B.C., and were of enormous extent and extreme splendour both in design and material. They were decorated with a great number of fine statues, among which Pliny (*Hist. Nat.* xxxiv. 62) specially mentions the bronze *Apocymenus*² of Lysippus, which was so enthusiastic-

*Thermae of
Agrippa.*

Apocymenus.

¹ In addition to the great *Thermae* there were numerous smaller public *balneae* in Rome. In the time of Constantine there were at least as many as 856; see Jordan, *Formae Urb. Rom.* p. 43. The *Regumary Catalogues* enumerates no less than 952. Many of these were worked by private enterprise.

² An athlete in the bath, scraping the oil from his arm with a strigil.

ally admired that when Tiberius removed it to his palace, substituting another statue, he was forced by indignant public opinion loudly expressed in the theatre to put it back in its place in front of the *Thermae*.

The *Thermae* were altered and largely restored after injury by fire in the reign of Domitian; then by Hadrian (Spartian. *Hadr.* 18); and again, after another fire, by Severus and Caracalla.

Aqua Virgo. These *Thermae* were copiously supplied by the pure cool water of the *Aqua Virgo*; the aqueduct of which was one of the most important of Agrippa's many benefactions to the City of Rome; see vol. ii. p. 342.

Palladio's plan. The plan of the *Thermae of Agrippa* has been recorded in a drawing made by Palladio about 1560 A.D., when most of this magnificent building was still standing; see fig. 71.

Peruzzi's plan. Another plan of the whole baths was made by Baldassare Peruzzi early in the sixteenth century for the Count of Piti-gliano, who purposed making the ruins into a magnificent palace.¹

By far the greater part of these *Thermae* has been destroyed since the time of Palladio and Peruzzi, and the little that still remains is mostly hidden by streets of modern houses.

Existing remains. The removal in 1881-82 of the row of houses which had been built against the back of the Pantheon brought to light remains of a grand hall, with fine fluted columns of Phrygian *paronasetto* and a rich entablature of Pentelic marble, with a sculptured frieze decorated with reliefs of dolphins and

A fine ancient copy in marble of the bronze of Lysippus is now in the *Braccio nuovo* of the Vatican.

¹ The plan given by Canina is very inaccurate and misleading; the existing remains are shown in the *Notizie degli Scavi*, 1882, p. 357 *seq.* Palladio's *Thermae dei Romani* was left by him in manuscript, and was not published till the eighteenth century; a good edition was printed at Vicenza in 1797, more complete than the first edition printed in London in 1730 at Lord Burlington's expense.

tridents, part of which has been refixed in its original position. This hall is shown in fig. 67, and at A on fig. 71. The whole walls of the hall were lined and the floor was paved with Oriental marbles. On the side towards the Pantheon an apsidal recess, with a pedestal for a large statue, was added

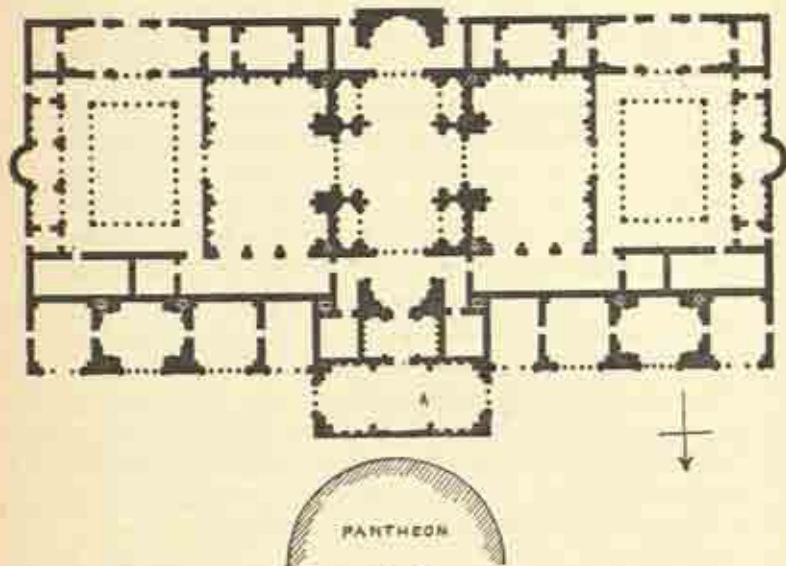


Fig. 71.

Plan of the Thermæ of Agrippa showing its position with regard to the Pantheon before the two buildings were joined in the way shown on fig. 67.

This plan, which is taken from Palladio, shows the whole of the Thermæ of Agrippa, but not the extensive additions on the south which were made by Severus. The large hall A is the one shown in fig. 67, with the apse added by Hadrian.

by Hadrian, who also appears to have enlarged the doorways at the ends of the hall.

Before the addition of this apse there was a considerable free space between the Thermæ and the Pantheon, as is shown in fig. 71.

Great hall. Remains of a vaulted roof were found, apparently of the time of Severus. In its original state it seems probable that the hall was open to the air. It possibly was a *agstus* or place for athletic exercises (see Vitr. v. 11. 3 and 4), or else part of the *frigidarium*.

The original *Thermae* of Agrippa extended southwards as far as the *Arco della Ciambella*, but did not include the circular hall, a portion of which still exists; this and the part beyond it were an addition by Severus.

Stamped bricks. Some of the bricks of the later part are stamped *OPVS DOLIAE · DE · PRAEDIS · AVGVSTI · NOSTRI · EX · FIOLENS · VET CAECILIA · AMANDA · DE · LIC*. The *Praedia Liciniana* (estates with clay pits) are known to have belonged to Sept. Severus.

Other additions by Severus extended on both sides of the Pantheon, and must have concealed the greater part of its rotunda; these were partly destroyed in the demolitions of 1881-82.

THERMAE OF NERO.

Baths of Nero and Sev. Alexander. *Thermae Neronianae* and *Alexandrinae*. Other very extensive *Thermae* stood near those of Agrippa, and extended over a large area towards the Stadium of Domitian (Piazza Navona).

These were originally built by Nero in a very sumptuous way under the name of the *Thermae Neronianae* (see Martial, ii. 48, vii. 34,¹ and xii. 84; and Statius, *Silv.* I. v. 62), but were restored and enlarged by Severus Alexander about the year 229 A.D. Their name was then changed to the *Thermae Alexandrinae*; *Hist. Aug. Sev. Alex.* 25; Aur. Victor, *Caes.* 24. What appear to be these *Thermae* are shown on the *rev.* of a coin of Sev. Alexander, which represents a very lofty and magnificent building. Extensive remains of these *Thermae* exist under the houses on the west side of the piazza of the Pantheon, and under the Palazzo Giustiniani, the Palazzo Madama, and the

Existing remains.

¹ *Quid Nerone pejus!*

Quid thermis melius Neronianis!

Church of *S. Salvatore in thermis*, so called from its position amid the ruins of these baths.

Baths of Nero.

One part only is now visible above ground, an apse in the stable of an inn in the Piazza Randanini. A complete plan of these *Thermae* is given by Palladio in his work on Roman

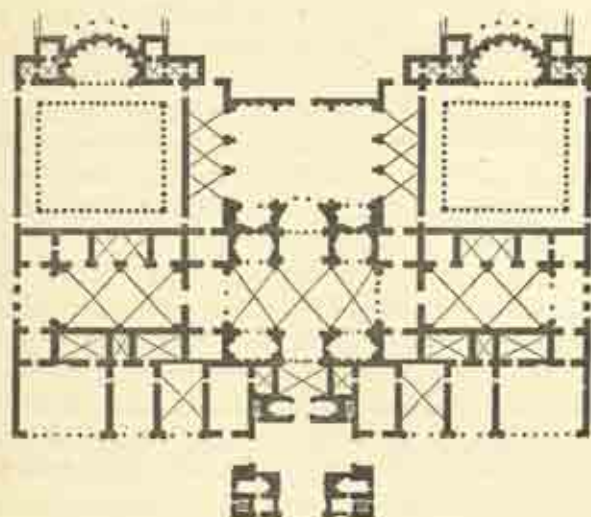


Fig. 72.

Plan of the *Thermae* of Nero, taken from Palladio.

Baths, but it is probable that part of this was a conjectural restoration; see fig. 72.

GOLDEN HOUSE AND THE THERMAE OF TITUS.

Owing to the chief remains of the *Golden House of Nero* being below the *Thermae of Titus*, it will be convenient to describe them together.¹

¹ Admission to these remains of the *Golden House* and to the substructions of the *Thermae of Titus* is given through a turnstile entered from a lane on the north-east of the Colosseum. The main buildings of the

Great fire.

In 65 A.D. occurred the great fire, lasting nine days,¹ which completely burnt three of the *Regiones* and parts of seven more, leaving only four untouched; Tac. *Ann.* xv. 39, 40.

Tiberian House.

The *Domus aurea*. In this fire the first Palace of Nero, called the *Domus transitoria*, was destroyed, and Nero immediately commenced to build a palace of such size and magnificence as probably has never either before or since been rivalled.

It is very difficult now to realise its actual extent, reaching as it did from the north-eastern part of the Palatine over the Velia, the whole valley of the Colosseum, and a large extent of the Esquiline, the whole of which district had been devastated by the fire.²

Extent and splendour.

The palace was a mile in length, and included large gardens, and parks stocked with deer and other animals, surrounded by triple colonnades. The interior was decorated in the most lavish way, with gold, precious stones, and ivory; see Pliny, *Hist. Nat.* xxxvi. 111, and Suet. *Nero*, 31. Some rooms, according to Suetonius, were entirely plated with gold and studded with pearls and jewels. The supper rooms had panelled ceilings (*laquearia*) overlaid with ivory, from openings in which flowers and perfumes were scattered on the guests. The walls of the chief banqueting-room, a circular hall (*Coenatio rotunda*), were made to revolve by means of machinery, in imitation of the movement of the heavens.

Palatine baths.

The baths of the palace were supplied with three kinds of

Thermae are on the higher part of the hill, and can only be visited by entering the private grounds of a farm.

¹ See vol. i. p. 30.

² It appears very probable that, as Tacitus and Suetonius assert, the fire was wilfully caused by Nero, who thus not only cleared a site for his palace, but also was enabled to lay out the new city with increased regularity and magnificence, and to bring into immediate effect the provisions of his Metropolitan Building Acts; see Tac. *Ann.* xv. 38 to 43; Suet. *Nero*, 33; and above, vol. i. p. 89.

water—that brought by the Claudian Aqueduct, which Nero extended to the Caelian and Palatine Hills; secondly, the *Aqua Albula*, from a warm mineral spring on the road to Tivoli; and thirdly, sea-water brought from Ostia. In order to pay for these extravagances Nero did not hesitate to strip many of the temples in Rome of their rich offerings and statues of gold and silver, and resorted to other equally disgraceful ways of raising money; see *Sust. Nero*, 32.

Palace
baths.

The *Golden House* was not completed at the time of Nero's death, and one of the first acts of Otho during his brief reign in 69 A.D. was to order 50 million sesterces to be spent on the completion of the *Domus aurea*.

An enormous number of works of art were collected from countless cities in Greece, Asia Minor, Egypt, and other countries, or were specially made for the *Golden House*. The most conspicuous of these was the bronze colossus of Nero, decorated with gilding, the work of the Greek sculptor Zenodorus, which, according to Pliny (*Hist. Nat.* xxxiv. 45), was 119 feet high; see vol. ii. p. 109.

Works of
art.

This enormous statue appears to have been in point of technique a failure; Pliny describes it as an example of the degenerate state of the bronze-founder's art. Pliny mentions another colossal bronze statue representing Mars which was made by the same sculptor, Zenodorus.

Colossus
of Nero.

At *Hist. Nat.* xxxiv. 47, Pliny tells us that Zenodorus was a skilful imitator of the works of earlier Greek artists; he made copies of two embossed metal cups (*pecula caelata*) by the famous Kalamis, an Athenian sculptor of the first half of the fifth century B.C.

Nero also had a portrait of himself painted on canvas, 120 feet high, which was placed in the *Domus aurea*, and was afterwards destroyed by lightning; Pliny, *Hist. Nat.* xxxv. 51.

The *Golden House* contained so many pictures by the famous painter Fabullus, that Pliny calls it "the prison of his art"—*carcer ejus artis domus aurea fuit*; *Hist. Nat.* xxxv. 120.

Aedes Seia. A Temple to Fortune, called the *Aedes Seia*, founded by Servius Tullius, existed within one of the great enclosures of the *Golden House*, and this Nero rebuilt with a brilliant translucent stone, then recently discovered in Cappadocia, which from its shining qualities was called *Phengites*: Pliny, *Hist. Nat.* xxxvi. 163.¹

According to Pliny this wonderful shrine was lighted by the light shining through its translucent walls; possibly the fact really was that it had windows filled in with slabs of some transparent crystal. Examples of this beautiful way of admitting light have been found in more than one ancient Roman building.²

Existing remains.

Remains of the *Golden House*, in addition to those described below as being under the *Thermae of Titus*, exist along that part of the Palatine which faces on the *Sacra Via* in its course from near the *Meta Sudans* up to the Arch of Titus. These remains consist of a long series of vaulted rooms, three and four stories high, which stand against the cliff of the Palatine.

Other similar rows of rooms exist on the other side of the *Velia*, facing on the Temple of Venus and Rome. Ligorio's plan of this part of the *Golden House*, where the *Basilica of Constantine* is built up against it and over part of its site, is shown in fig. 87, in vol. ii. p. 227. These buildings are of concrete, faced with very neat and regular brickwork, and are set on very massive foundations of concrete made of lava, part of which has been cut away, evidently with great difficulty, when the baths, attributed to Heliogabalus, were built along the *Sacra Via*.

¹ Suetonius records that Domitian lined the walls of the porticus where he used to walk with *phengites*, so that its mirror-like reflexions might enable him to see if any one was approaching from behind with hostile intent.

² Mediaeval examples even now exist of the use of translucent marble for windows; e.g. at the east end of the Church of San Miniato at Florence, and, much restored, in the nave of the cathedral at Orvieto.

The Thermae of Titus. A large portion of the Esquiline called the *Mons Oppius*, which had been occupied by part of Nero's gigantic *Golden House*, was restored to public use by the construction on it of the *Thermae of Titus*; Suet. *Titus*, 7; and Mart. *De Spec.* 2. The main part of the *Thermae* was on the summit of the Esquiline, but its enormous *peribolus*, or outer enclosure, extends far over the lower slopes of the hill, and is raised to the level of the rest by a series of parallel rows of lofty walls, set near together, forming substructions on which the great platform of the *peribolus* rests. On one side of the enclosure of the baths was a large theatre-like structure, forming a semicircular projection far above the level of the ground. The substructions of this "theatre" consist of a series of long and lofty vaulted chambers, running in two directions, the walls of which cut through Nero's Palace, rendering its rooms dark and useless, but at the same time saving them from complete destruction; see fig. 73 and No. 6 on fig. 74, in vol. ii. p. 154.

*Baths of
Titus.*

*Golden
House.*

The comparatively small portion of the *Golden House* which is thus preserved consists of part of a large *peristyle* or open quadrangle, with a colonnade round three sides, on to which a series of rooms opened;¹ 8, 8, 9, 9 on fig. 73.

Those on the west side (4, 4 on fig. 73) are small, with very simple decorations painted on the stucco, and show signs of having been built rather hastily, without much regard for neatness or finish.

Construction. The walls are of concrete faced with mixed brick and *opus reticulatum*; the latter is very rudely cut, and the brick facing is unlike any other example in classical Rome, having bricks of extraordinary thickness mixed with others of the common sizes in a very irregular way. Some

*Concrete
walls.*

¹ These interesting remains of Nero's Palace and the substructions under the Theatre of the *Thermae* have been cleared of rubbish, and are now accessible; see note in vol. ii. p. 145.

bricks of the unusual thickness of $2\frac{1}{2}$ inches are set in the same course with others of $1\frac{1}{2}$ inch thick.¹

Stairs.

Traces of a number of wooden staircases and upper floors exist along this line of rooms; the positions of these are shown by the holes in the walls for the wooden joists or raking bearers of the stairs, and also by the profile of the wooden steps being marked on the stucco of the wall.

*Key for
stucco.*

These walls, and all the others which belong to the *Golden House*, have their surface thickly studded with marble plugs and iron nails to hold the stucco or cement backing for the marble slabs; and are easily distinguishable from those of the substructures of the *Thermae*, which were left bare of any covering, and therefore have no plugs inserted in the brick facing.

*Marbles and
reliefs.*

The rooms on the south side of the *peristyle* (10, 10 on fig. 73) were much more handsomely ornamented, both with pavements and wall-linings of polished Oriental marbles, of which pieces still remain *in situ*, some even preserving their original high polish. The vaults and upper parts of the walls were very richly decorated with stucco reliefs, picked out with gold and colours, and among them well-executed paintings, both figure subjects and graceful arabesques, treated with wonderful invention and spirit.²

*Mural
paintings.*

Very few of these now remain, and they are rapidly

¹ In other cases the brick facing of Nero's time was of remarkable neatness and beauty; especially in his extension of the Claudian Aqueduct, in which the surface was not hidden by stucco. This immense diversity of work during the same reign shows that great care must be taken in judging the dates of Roman buildings from the appearance of their brickwork.

² A number of paintings, now lost, are illustrated by Mirri and Carletti, *Terme di Tito*, 1776, and De Romanis, *Terme di Tito*, 1822.

It should be observed that the paintings described in these and in other works as belonging to the Baths of Titus really were on the walls of the *Golden House*, which were formerly mistaken for part of the *Thermae*.

perishing from combined damp and exposure to air. It was the discovery of similar paintings among these and other ruins

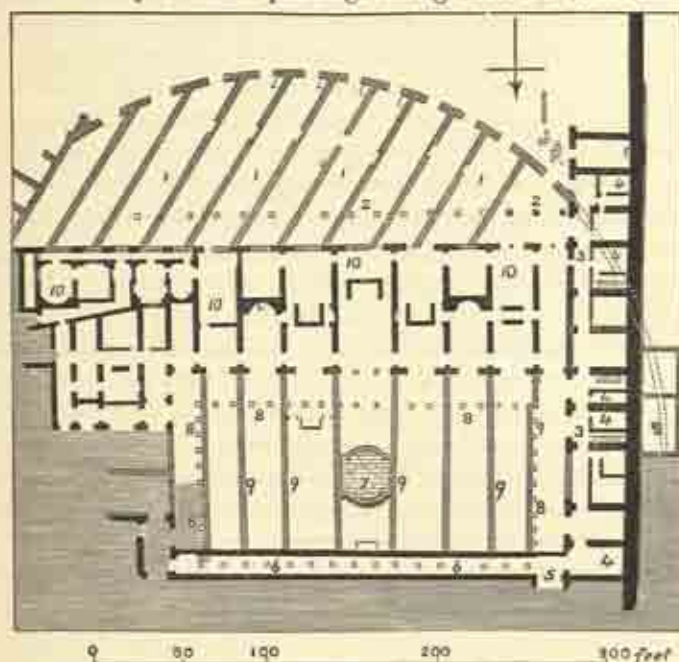


Fig. 73.

Part of the Golden House of Nero, and the substructures of the Baths of Titus, which cut through it.

The black shows Nero's work, the shading that of Titus.

- 1, 1, 1. Long parallel walls built by Titus to support the theatre above ; see No. 6 on fig. 74.
- 2, 2. Existing remains of the peristyle of Nero's house.
- 3, 3. Passage.
- 4, 4. Slaves' rooms in Nero's Palace.
5. Remains of a mosaic floor earlier than Nero's time.
6. Long passage behind Nero's peristyle.
7. Fountain in the middle of the peristyle.
8. Second row of columns of do.
- 9, 9. Walls added by Titus to support the building above ; these cut up the Palace of Nero into long dark strips.
- 10, 10. Handsomely decorated halls in Nero's Palace.

of ancient Rome which, in the reign of Julius II., gave a strong impetus to the classical revival, and supplied Raphael and his pupils with new motives for mural decoration, with combined colour and relief, such as those in the loggie of the Vatican and the even more splendid Villa Madama.¹

Fig. 73 shows how the *peristyle* of Nero's *Golden House* is now cut up into narrow strips by the long vaulted chambers of Titus' substructions.

Peristyle.

In the centre of the *peristyle* a large *psocina* or marble-lined fountain still exists (No. 7 on fig. 73), and beyond it is the pedestal for a statue. At one point, at the north-west angle of the existing remains (No. 5 on fig. 73), at a level below the floor of the *Golden House*, is part of some mosaic pavements belonging to one of the many houses which Nero destroyed to clear a site for his palace. It is a characteristic specimen of early mosaic with simple patterns in white and grey, formed with small and very closely fitted *tesserae*; very like the mosaics in the Temple of Castor and in the "House of Livia" both in design and execution.

*Earlier
mosaic.*

The whole of that part of the *Golden House* which exists below the *Thermae* of Titus is set at quite a different angle from the latter, as can easily be seen by comparing the direction of the parallel walls which fill up the curve with those of the palace; see fig. 73.

*Mixed
facing.*

Construction. The walls of the substructions of the *Thermae* are of concrete faced with very neat and regular brickwork, mixed in parts with *opus reticulatum*, which is used sparingly

¹ The Villa Madama, on the slopes of Monte Mario, about two miles outside the Porta Angelica, was designed by Raphael for Giul. de' Medici (afterwards Pope Clement VII.), and was decorated by Giulio Romano, Franco Piumi, and other pupils of Raphael, after their master's death, with the most gorgeous series of delicate reliefs in stucco, covering both walls and vaults with a profusion of elaborate designs far exceeding in splendour the loggie of the Vatican. This wonderful but unfinished palace is now empty, and is rapidly falling into decay; it is the property of the ex-king of Naples.

in large panels 6 feet high, and about 16 feet long. The *brickwork* bricks average in thickness rather more than $1\frac{1}{2}$ inch, with joints barely $\frac{1}{2}$ inch; the extreme beauty and evenness of this brickwork is a great contrast to that in the adjoining walls of Nero's Palace.

The *opus reticulatum* is also cut and set with perfect regularity. The walls, where they come over Nero's peristyle, were not stuccoed, and consequently they have no marble or iron plugs, but the long vaulted chambers in the projecting part of the curve were stuccoed, and are thickly studded with iron.

These various chambers below the theatre were not a public part of the *Thermae*, but were merely substructures below a portion of the surrounding *peribolus*, the main block of the Baths of Titus being a separate building on the higher level of the Esquiline. These lower rooms were probably used only as store-rooms, or possibly for the numerous slaves who were attendants in the baths. Many of these chambers have no means of lighting, and are perfectly dark. *Lower chambers.*

We now leave the substructions of the *Thermae* of Titus and the remains of the Golden House, and pass to the higher level of the Esquiline where the remains of the main block of the *Thermae* stand among the cultivated fields of a large farm in the possession of a private owner.

This building has not yet been excavated down to its ground-floor level; it is still buried to a height of ten or twelve feet in accumulated earth and rubbish.

Fig. 74 shows the plan of the *Thermae of Titus*, at the higher level above the substructions. *Baths of Titus.*

Only the part shown black is now visible: the rest of the plan is taken from Palladio's book on the Roman *Thermae*; very much more remained fairly perfect in his time (middle of the sixteenth century), and even as late as the last century many fine rooms existed which have now completely disappeared.¹

¹ See Du Perac's and Piranesi's etchings.

It is, however, probable that excavations will some day bring

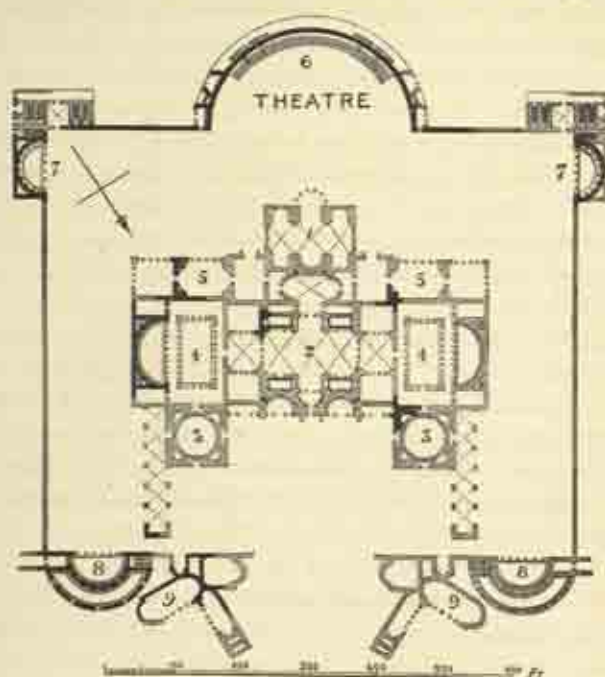


Fig. 74.

Plan of the Baths of Titus, at the higher level; the ground falls rapidly from the main block to the south-west.

1. Frigidarium.
2. Tepidarium.
- 3, 3. Two circular domed halls.
- 4, 4. Open peristyles.
- 5, 5. Dressing and anointing rooms.
6. Theatre; this is over the structures shown in fig. 73.
- 7, 7 and 8, 8. Exedrae.
9. Remains of Trajan's Thermae set at a different angle from the baths, or possibly part of Nero's Golden House.

to light the whole plan of the *Thermae*, and possibly many fine mosaic pavements and pieces of sculpture. The whole

ground over the buried parts, now cultivated as vineyards, is thickly strewn with fragments of all sorts of marbles, granites, and porphyry, with countless *tesserae* in glass and marble, and other fragments of rich decoration, all of which show that the *Thermae* must have been a building of extreme magnificence.

The arrangement of the rooms in these *Thermae* is very similar to that in the Baths of Caracalla, except that the latter had one immense circular domed hall, and the Baths of Titus had two of smaller size; see 3, 3 on fig. 74.

In both cases there is a large open *peristyle* (4) on each side, and a grand central hall (2); this latter was probably the *Tepidarium*, and the row of rooms which occupy the opposite side the *Frigidarium*, *Apodyterium* or dressing-room, and *Elaeothesia*, the chambers where bathers were anointed and perfumed.¹

The oval chamber which opens out of the central hall on the south-west appears to have been the *Laconicum* or hottest room.

The main block of the *Thermae* of Titus stands in the centre of a large *peribolus* or enclosure, on one side of which was the theatre, resting on the vaults of the substructions described above. This so-called theatre appears to have been a place for spectators to watch athletic exercises, not a building for dramatic representations. At the corners of the same side were stairs leading up from the lower level of the slope; and by them two *exedrae*, or apsidal recesses, with tiers of seats for loungers or literary discussions, reading of new poems, and the like. Similar but larger *exedrae* opened on the opposite side of the *peribolus*, and one of these is still in good preservation; behind it is a passage concentric with the apse, and

Plan of
baths.

Outer
enclosure.

¹ The use of perfumes was carried so far by the Romans that they not only scented the water in the baths and poured perfumes on the bathers, but they even rubbed scented oil on the walls of the building; see Suet. *Cal.* 37, and Pliny, *Hist. Nat.* xiii. 22 — "*audimus spargi perides balnearum unguento.*"

a staircase leading up to a higher story. Other existing portions are indicated on the plan.

Water
reservoir.

The *Sette Sale*, so called. On the higher part of the Esquiline, at some distance to the north-east, is a large *Castellum* or reservoir, built originally to supply the *Golden House*, and used afterwards by Titus for his *Therma*. It is a large concrete and brick structure divided by parallel walls into nine long vaulted chambers; it is two stories high, though at present the lower one is choked up with rubbish. In each wall there are four openings like doorways, arranged so as not to be opposite to each other, in order that the water in its course from the first chamber to the last might have to run in as devious a course as possible, and thus deposit any sediment it contained before it passed out of the last chamber in the lower story, having in turn run through the whole eighteen subdivisions of the cistern.

Opus
signinum.

The internal walls are covered with waterproof stucco made of pounded brick and potsherds (*opus signinum*), and over this the water, in course of several centuries, has deposited a succession of thin layers of carbonate of lime, which is always seen where the water supplied to Rome was stored or conveyed. The front of this *Castellum aquarum* was magnificently decorated with rows of columns flanking semicircular niches lined with marble. Another building, perhaps an open *porticus*, now destroyed, appears to have adjoined this reservoir, as there are remains of a mosaic pavement extending in front of it.¹

Statues.

The *Therma* of Titus appear to have been adorned with an enormous number of statues. Excavations in 1886, near the *Sette Sale*, brought to light a number of pedestals inscribed with the names of various sculptors from Aphrodisias in Asia Minor, where in the second century A.D. there appears to have been

¹ Ficoroni in his *Vestigi di Roma* describes the lower story. This reservoir is commonly known as the *Sette Sale*, in spite of its consisting of nine not seven chambers.

a large and flourishing school of sculpture. Among them are the following names: *Flavius Zeno*, *Flavius Chryseros*, *Polineikes*, and *Flavius Andronicus*; see *Bull. Com. Arch.* Sept. 1886.

The celebrated group of *Laocoon* and his sons, now in the Vatican, was found here during excavations made in 1506. Pliny (*Hist. Nat.* xxxvi. 37) mentions this group as being in *domo Titi*, which probably adjoined the *Thermae*. He says that it was the work of three Rhodian sculptors called *Agessander*, *Polydorus*, and *Athenodorus*, and that the whole group was cut

Laocoon.

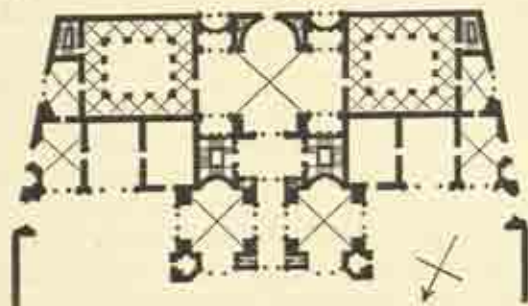


Fig. 75.

Plan of the *Thermae* of Trajan, taken from Palladio.

out of one block of marble. This is not the case; it is really made of three blocks very skilfully united.

THERMAE OF TRAJAN.

The *Thermae* of Trajan appear to have stood adjoining the *Thermae* of Titus, at the northern side of the *peribolus*. They are mentioned in a long inscription printed by Orelli, *Inscr.* 2, 591; by the *Curiosum Reg.* III.; and by Anastasius Bibl. *Vita Pont. Symmachi*. The latter writer mentions them as being by the Church of S. Martino ai Monti.

*Trajan's
Baths.*

These *Thermae*, of which little or no remains are now visible,¹

¹ The remains of some classical building below the level of the present Church of S. Martino are later in date than the time of Trajan.

were much smaller than those of Titus, and were intended for women only, for whom there appears to have been no provision in the larger ones; see Roncalli, *Chron.* vol. ii. col. 243.

A plan of the *Thermae of Trajan* is given by Palladio under the name of the *Baths of Vespasian*; see fig. 75.

THERMAE OF CARACALLA.

*Caracalla's
Baths.*

The *Baths of Caracalla* are shown by some of the stamps on the bricks, dated 206 A.D., to have been begun during the lifetime of Severus,¹ but were mainly built by his son Caracalla (see *Hist. Aug. Carac.* 9), completed by Heliogabalus and Severus Alexander, 218 to 235 A.D. (see Lamprid. *Hel.* 17, and *Alex.* 25), and restored by Theodoric² about 500-510 A.D. In size and state of preservation combined, few if any Roman buildings surpass these great *Thermae*.³ The building is also of great value as affording many interesting varieties and details of methods of Roman construction. Unfortunately, it is impossible to identify the uses of many of the chambers, and but little help is afforded by Vitruvius, as his description of Roman baths refers rather to the older and smaller class of *Balnea* than to the more extensive *Thermae* of which Agrippa built the first example.

Peribolus.

The whole building, including its great *peribolus* or outer

¹ Sept. Severus also built a less magnificent set of baths, for the use of the Transtiberine inhabitants of Rome, by the *Porta Septimiana*; and the same emperor made a large addition to the *Thermae of Agrippa*.

² The brick-stamps of Severus and Caracalla usually have *OP · DOL · EX · FRAT · DOM · N · N · AVG* (or, after the death of Severus, *DOMINI · N · AVG*), with, in addition, names of the potters. Those of Theodoric have *REG · D · N · THEODERICO · DONO · ROME*, *Regnante Domino Nostro Theoderico bono, Romae*; on inscriptions on bricks see vol. i. p. 13. Theodoric's name is also spelt with an *o*, *Theodoricus*.

³ According to Olympiodorus these *Thermae* contained marble seats for 1600 bathers; *Olymp. ap. Phot. Bibl.* 80, p. 63, Bekker.

enclosure, is constructed on a vast platform raised on massive substructures about 20 feet above the natural ground-level. This platform consists of a great number of vaulted chambers, which extend under the whole of the main floor of the baths. These were partly excavated between 1850 and 1870, but unfortunately were filled in again with rubbish, and are not now accessible.

Buried Villa. A small villa of the time of Hadrian was partly destroyed by Severus, and buried under the south-eastern part of the *peribolus*; a portion of this house is now exposed. Its pavement is about 20 feet below that of the *Thermae*, showing what an immense artificial platform was constructed as a base for the *Thermae* and its pleasure-grounds.

The villa has a small atrium, surrounded by rooms once two stories high; one of these is a well-preserved example of a *Lavarium* or private chapel, with a pedestal for statues of the Lares. The columns of the atrium are of concrete, faced with moulded bricks and covered with painted stucco. The walls are decorated with paintings of architectural scenes which are now rapidly perishing. The position of this interesting house is indicated on fig. 76, No. 20.

The very numerous vaulted rooms which were constructed as a basement below the ground-floor of the *Thermae* of Caracalla were probably used by the crowd of slaves who attended on the bathers, and also for storage of fuel and oil, and for various other purposes connected with the working of the baths. This crypt contained also the furnaces (*præfurnia* or *propugnæ*) for heating the water and hot rooms above. Two staircases down to this lower level are still accessible; one of these is a very narrow stair formed in the thickness of one of the piers which supported the great dome of the *Laconicum*;¹ it descends to the furnaces of the *hypocaust* under the dome, and also appears to have gone up to the top of the building. Near it a broad

*Earlier
house.*

*in MS.
Caracalla*

*Basement
rooms*

¹ See below, p. 165, for the reasons for doubting whether this great dome was ever actually completed.

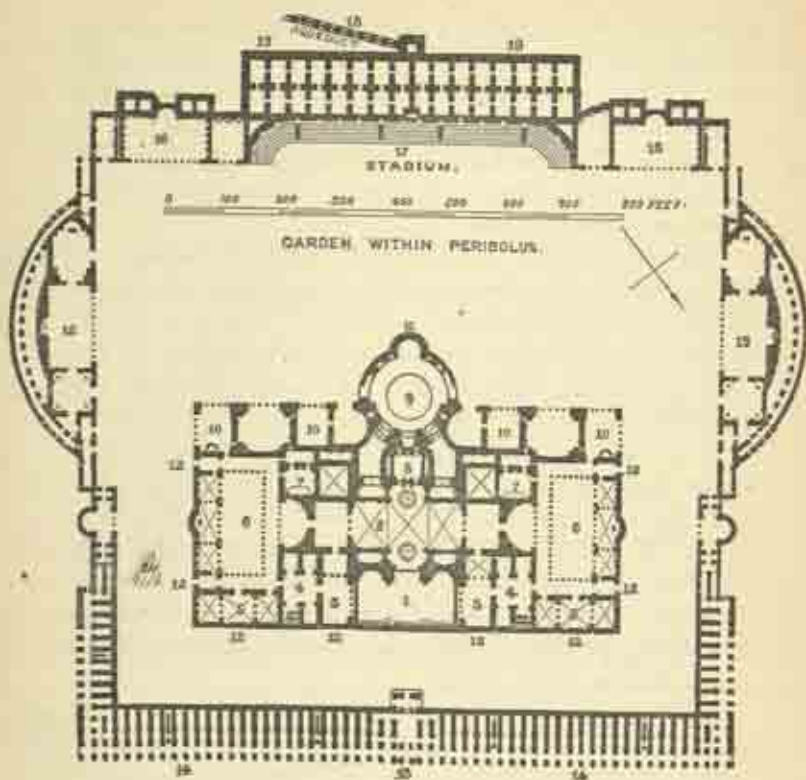


Fig. 76.

Plan of Baths of Caracalla.

1. Frigidarium and swimming bath, *cella solitaria*.
2. Tepidarium.
- 3, 3. Anterooms to do.
- 4, 4. Passage-rooms, *Apodyteria*, and two grand staircases.
- 5, 5. Large entrance halls.
- 6, 6. Large open peristyles.
- 7, 7. Rooms with hot baths.
8. Antechamber to the Calidarium.
9. Great circular hall—Calidarium.
- 10, 10. Row of rooms on each side of do., some with warm baths.
11. Apsæ of Calidarium.

- 12, 12. Entrances to the baths.
13. Entrance to the outer peribolus.
- 14, 14. Rows of small chambers and long porticus.
- 15, 15. Large halls, lecture-rooms, libraries, and xysti for exercise.
- 16, 16. Similar halls on the south side.
17. The stadium.
18. Aqueduct.
- 19, 19. Reservoir.
20. Site of a villa of Hadrian's time which is buried in the great artificial platform on which Caracalla's Baths stand.

staircase descends to another part of the lower chambers, close by one of the apses which adjoin the round hall.

Other stairs, lined with marble and porphyry, existed on each side near the entrance by the great swimming bath; and at the side of the two apses of the swimming bath steep narrow stairs, formed in the thickness of the wall, ascend to the summit of the building, which was once very lofty. The smaller rooms appear to have been from two to three stories high, but the three great central halls probably occupied the whole height of the building, and had no floor over them, thus cutting the upper floor into two parts.

In order, therefore, to give access from one half to the other a number of narrow passages are formed high above the ground in the thickness of the walls, probably only for the use of the attendant slaves.

This system of connecting passages is rather complicated, as the upper floors were at different levels. In some cases these passages issued from the face of the wall, and were continued in an upward direction by wooden stairs supported on stone corbels against the face of the wall; at the top of this projecting stair the passage again entered the thickness of the wall. Unfortunately none of these upper floors still exist, though large masses of the vaulting of the lower rooms with the mosaic pavement which formed the floor of the upper chambers on the top of it are scattered about the building. The under sides of the vaulting were decorated in various

*Upper
stories.*

*Upper
passages.*

*Upper
mosaic
floors.*

*Rich
vaulting.*

ways; some of it was covered with moulded stucco in panels, decorated with figure subjects or arabesques in relief, all painted and gilt; other parts of the vaulting had brilliant glass mosaics or painting on the flat. The flat bronze panelled ceiling of the frigidarium is described below.

Mosaic on
the main
floor.

The floors were mostly of mosaic, with coarse figures of athletes, gladiators fighting with beasts, or tritons and dolphins, all rudely executed with large *tesserae*, and usually drawn in the most clumsy and inartistic way possible. Some few of the simple patterns which framed these figure subjects are graceful and more delicate in style. The materials used for these mosaics on the ground-floor are very rich and various; *tesserae* of green and red porphyry and a great number of different foreign marbles are used with much ingenuity, so as to produce realistic pictures with great variety of colouring.

The mosaics on the upper floor are of much simpler character in white and grey only, and appear to have mostly had large figures of marine subjects—tritons, fish, and the like—worked in grey *tesserae* made of lava on a white marble ground.

Opus sectile.

Some of the ground-floor mosaics were of a very elaborate sort of *opus sectile*, with patterns formed, not of small square *tesserae*, but of thin slices of porphyry and marble, shaped into patterns, with flowing lines and leaf-shaped ornaments, each piece fitted with great accuracy to the next, a much more expensive and elaborate method of mosaic work than the *opus tessellatum*.

Glass
mosaics.

An immense number of *tesserae*, made of glass of very brilliant colours, almost jewel-like in appearance, are strewn about the building. These glass mosaics were used for the walls or vaults, not as a rule for pavements.

Wall-
linings.

The greater part of the walls were lined with thin slabs of porphyry and coloured marbles in great variety; nearly all the kinds mentioned in chap. i. were used in this magnificent building.

Columns.

The columns were mostly monoliths of red porphyry, grey

and red granite, or coloured marbles. A piece of a large column still exists in the building, made of the magnificent Egyptian alabaster, the *onyx* of Pliny, which in his time was rare and extremely valuable.¹


The uses of the chief rooms have been to some extent determined by the excavations of recent years.

*Uses of
rooms.*

In the centre of the north-east side is a large hall, the *frigidarium* (No. 1 on fig. 76), the floor of which was mostly occupied by an immense cold swimming bath (*natatio*) of marble about 4 feet deep, with a long flight of marble steps at each end.

*Frigid-
arium.*

A row of columns separated the main part of the *frigidarium* from a vaulted vestibule at each end, in which were two entrances from the outer court.

This magnificent hall appears to have been what Spartianus calls the *cella soliaris*, the ceiling of which he says, was formed of interlaced bars of gilt bronze. When the excavations in this hall were being carried on an immense quantity, amounting to many tons, of fragments of iron girders was found. These were compound girders, formed of two bars riveted together thus , and then cased in bronze. A sort of lattice-work ceiling had been formed with these bronze-cased girders, the panels being probably filled in with concrete made of light pumice stone coated with fine stucco reliefs, painted and gilt. The discovery at this place of so remarkable a ceiling, which agrees so well with Spartianus' description, makes it fairly certain this hall was the *cella soliaris*.² It seems probable that this ceiling did not cover the whole area of the hall; the central part over the swimming bath may have been left open for the admission of

*Cella
soliaria.*

*Iron-
girders.*

¹ This fragment is now placed in a room on the north-east side of the peristyle which is farthest from the turnstile where visitors enter the *Thermae*.

² I owe these facts about the metal ceiling to my friends the Comm. Lanciani and Prof. Aitchison, A.R.A.

light. In the upper part of the walls deep sinkings to receive the ends of the great girders which supported the ceiling are clearly visible.

Tepidarium.

Adjoining the *frigidarium*,¹ in the centre of the building, is the *tepidarium*, a very large and once magnificent hall, groined in concrete, with three bays of quadripartite vaulting resting on eight columns; see No. 2 on fig. 76.

Four large recesses in the sides of the hall contain each a marble-lined bath, and other vaulted recesses open, one into the *frigidarium* and the other into part of the *sudarium*; at each end is a large vestibule, separated by columns and screens from the main *tepidarium*.

Fig. 77 shows this hall, which is 170 feet long by 82 wide, with its groined roof springing from immense columns of granite and porphyry, each surmounted by a short piece of entablature, which merely returns round the capital of the column in the debased fashion of the second and third centuries A.D. The smaller columns on each side were set in front of the recesses containing the warm baths.

Granite columns.

The last of the great columns shown in fig. 77 was removed in 1563, and, at an enormous cost, was taken to Florence and erected in 1570 in the Piazza S. Trinità. It is of Egyptian grey granite, and measures about 5 feet in diameter.

The next room southwards (No. 8) forms a sort of vestibule to the great circular hall, and contains two marble-lined baths for hot water; it is part of the *sudarium* or sweating-room, and could be raised to a very high temperature, as it has a hypocaust floor and its walls were lined with flue-tiles.

Laconicum.

The "*Laconicum*" (No. 9) comes next; it is an immense circular hall, 116 feet in diameter, with half of its circumference projecting on the south-west side of the main block. It was heated with a hypocaust floor and with a wall-lining of flue-tiles. This is the least perfect part of the whole

¹ The *frigidarium* is placed on the north-east side and the *calidarium* on the south-west, as Vitruvius recommends.

building; and from the thinness of the wall of the half which is most destroyed it is very difficult to understand how the weight can have been supported of such an enormous dome *Great dome.*



Fig. 77.

Interior of Tepidarium in the Baths of Caracalla, restored from existing indications.

as that which is supposed to have spanned this great area, 116 feet across.

The fact is, the existing remains very strongly suggest that in the original building of Caracalla the dome and the complete rotunda were not built, but only half of the rotunda, forming an apse with a semi-domical ceiling, like that in a similar position in the Baths of Diocletian. In later times, it

Circular
hall.

appears, the rotunda (with small apsidal recesses) was completed, but it is very doubtful whether the whole circular space was ever roofed with a dome. This being so, the original *Thermae* must have been a simple rectangle on plan, without any semicircular projection on the side, but merely with an immensely lofty apse, forming a great recess in the façade. In any case, it must be admitted that the part of the rotunda which projects beyond the main rectangular block is of considerably later date than the reign of Caracalla.

A number of recesses round this circular hall contained hot baths, each with a *hypocaust* furnace under it, like the bath shown in fig. 66, vol. ii. p. 124.

On the side away from the main building was an apsidal recess (No. 11 on fig. 76), as in the Pantheon, to which this *Laconicum* had some resemblance, at least in its plan. One pier only of the *Laconicum* exists as high as the springing of the vault,¹ and the thinner walls of the side with the small apse or recess are almost destroyed down to the ground-level.

Aps.

The remains of the recess and the walls near it have only been recently discovered, and consequently Palladio's and subsequent plans are incorrect in this part, as they show the projecting part of the great rotunda as if it were merely a repetition of the opposite side. Whereas there was the above-mentioned apse projecting from the rotunda on the side away from the main block, and the walls are very much thinner than those of the other half of the rotunda; see No. 11 on fig. 76. In the massive pier which still exists to a considerable height next to the hot room (No. 8 on fig. 76) there is a well-preserved staircase which formerly led up to

¹ Near this pier and in other places are remains of walls which belong to more than one late restoration. The building appears to have suffered seriously from earthquakes, and was probably much injured by the one which, in the reign of Macrinus, did considerable injury to the Colosseum; see vol. ii. p. 82.

the top of the building and also descended into the now inaccessible basement.

The pavement of this hall is a rude restoration, probably of the time of Theodoric, with large roundels of granite, and a number of incongruous pieces of marble carelessly fitted together. A large number of fluted pilasters, taken from some earlier building, have been used during this restoration; they were laid with their faces downwards, and the print of the fluting is clearly visible on many parts of the cement in which the marble was bedded in places where the marble itself has been removed.

Later
paving.

On each side of the circular hall are four handsome and lofty chambers, of which the two angle rooms contain semi-circular marble-lined baths.

Other
rooms.

These rooms appear to have been open on one or more sides to the surrounding gardens; their precise use is uncertain, they cannot have been part of the *Calidarium*, as they are too open to the air, and not sufficiently heated.

It has been suggested that these suites of rooms composed two sets of private baths, but that is not very probable, as people who wished to bathe in private would hardly come to these great public *Thermae*, when there were some hundreds of smaller and more private baths in Rome, without counting those in almost every private house.

Other rooms with *hypocausts*, wall-flues, and hot baths, exist between the great apses of the *peristyles* and the last-mentioned rows of rooms.

The two great *peristyles* (No. 6, 6 on fig. 76) are very large and handsome, with ranges of columns all round, supporting a vaulted aisle or gallery.

Great
peristyles.

Fig. 78 gives a section through the *peristyle*, showing its concrete vault, with a mosaic paved gallery above it. The construction of the wall is noticeable; the lower part, below the level of the main floor, is a mass of concrete without any facing. Above the floor-level the concrete is faced first with

Details of
peristyle.

brick and then with marble slabs. Over the doorway is an interesting example of one of the numerous sham "relieving arches." The upper part of this arch, behind the marble

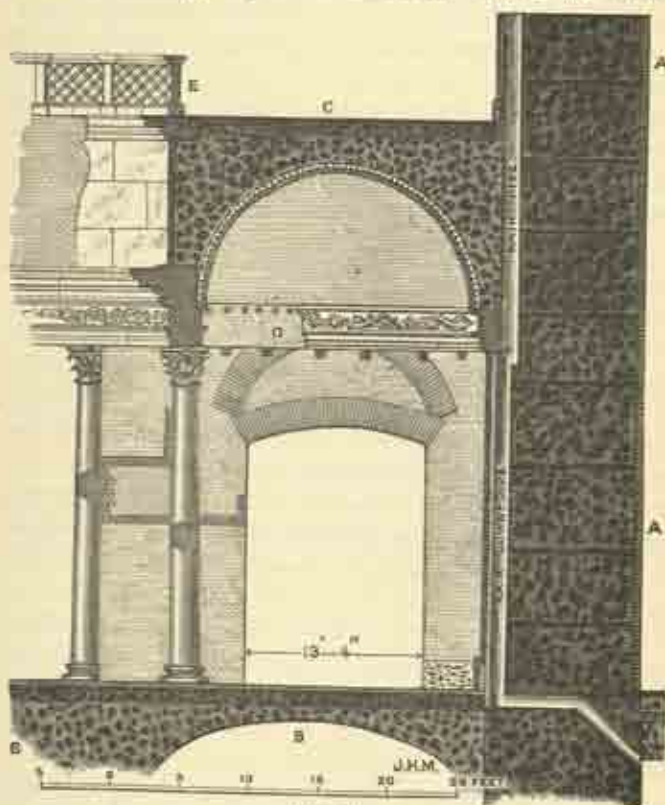


Fig. 78.

Baths of Caracalla: section through the peristyle.

- A. Brick facing. B. Vault of Crypt. C. Upper gallery.
D. Marble frieze. E. Marble balustrade.

frieze, was omitted, and only the lower part ever was constructed—for no useful or ornamental purpose, since it was wholly concealed by the slabs of marble with which the whole

wall surface was covered. The omission of the upper part of this arch shows that the builders had no delusions as to its being of any constructional use.

The same curious anomaly is shown in fig. 6, vol. i. p. 55.

Each *peristyle* has a small porch at two of its angles, with an entrance from the outer *peribolus*; and at its north end a large and very handsome vestibule, vaulted in three compartments, with other entrances from the north. In all, there are eight doorways into the *Thermae*, without counting the possible entrances between the columns of the eight southern rooms, and in this way a good deal of space is sacrificed in making large vestibules. On two sides of the *peristyles* are apsidal recesses, the larger of which has niches for statues. Vestibules.

The whole *peristyle* pavement was of tessellated mosaic; simple in design in the central open space and along three sides, and with figure subjects of athletes and gladiators in the large apses.¹ It appears probable that the central open spaces of these courts were used for gymnastic exercises; the upper gallery would hold a large number of spectators, as well as the lower passage round the aisles. Open area.

Although it is possible to identify the uses of the chief parts of these *Thermae*, a number of rooms remain which cannot be appropriated to any certain use. These were probably dressing-rooms (*Apodyteria*), and anointing-rooms (*Eleuthesia*). Apodyteria. The *Apodyteria* were specially magnificent and full of works of art. This is illustrated by the following inscription (*Cor. In. Lat.* viii. 828), APODYTERIVM · NOVVM · IN · DEXTERA CELLIS · EXEUNTIBVS · CONSTRVXIT · SCALAS · NOVAS · PECIT CETERA · RESTAVRAVIT · ET · STATVIS · MARMORIEVS · TABVLIS PICTIS · COLVMNIS · ALVIBVS · CELLARVM · CATHEDREBVS ORNAVIT.

In addition to the main block of buildings which contained the actual baths there were long lines of very magnificent

¹ A large extent of this mosaic is preserved in the Lateran Museum. The figures of gladiators are very clumsy in design and coarse in execution.

buildings surrounding the immense enclosure, like a great park, in the centre of which the main block was erected. As is mentioned above, this great *peribolus* is raised to a considerable height above the natural level of the ground, forming an artificial platform of gigantic size.

Garden enclosure.

This outer enclosure, which was nearly 1200 feet square,¹ was laid out with flowers, shrubs, and avenues of trees. It was surrounded by long lines of buildings, mostly the work of Heliogabalus and Severus Alexander.

Room of chambers.

The whole of the north-east side of the great platform is occupied by a row of small vaulted chambers, forty in all, two stories high, with several staircases at intervals; see No. 14, 14 on fig. 76. In front of the row was a long covered *porticus*; and in the centre was the main entrance to the *Thermae* from the Via Appia, apparently the only one by which the public were admitted.

The use of these small rooms is doubtful; it is most probable that they were shops; another suggestion is that they were rooms for the attendant slaves; but they probably lived in the main block, in part of the extensive basement.

Outer buildings.

On the north-west and south-east sides of the *peribolus* are two sets of three halls, with a semicircular colonnade or *porticus* behind, arranged in a very curious way; No. 15, 15 on fig. 76. Other spacious rooms exist on the south-west side; No. 16, 16. One of these halls, on each side of the *peribolus*, contained a large swimming bath supplied by a water-channel which recent excavations have exposed to view.

Domed hall.

The best preserved of the rooms is a lofty hall, square on the outside and octagonal inside, with a large semicircular recess at the four angles. It was roofed by a dome with pendentives fitting into each angle of the octagon. This structure appears to date from the time of Severus Alexander, about 230 A.D.; it is therefore an exceptionally early example

¹ The central block alone covers a larger area than the English Houses of Parliament together with Westminster Hall.

of the construction of a dome on pendentives. This hall and the large bath on the south-east side can easily be examined, but the corresponding buildings on the north-west side of the peribolus are on private land, and are shut off from the main portion of the *Thermae*.

Outer circuit.

The larger halls have on one side an open colonnade; they were handsomely decorated with marbles and porphyry, and had many niches for statues; in some cases there are tiers of seats against the walls. These were probably intended for the purposes mentioned by Vitruvius (v. 11), namely, halls with seats for philosophers, rhetoricians, and other literary men and their pupils. Others again were rooms for exercise and games, such as ball-play, which were called by Greek names, *Ephebea*, *Conisteria*, *Sphaeristeria*, and *Xysti*. Vitruvius in his description of the Greek *Palæstra* also mentions a *stadium* where spectators might sit to watch the athletic sports.

This, in the *Thermae* of Caracalla, occupies part of the north-west side; it had tiers of marble seats, with stairs at intervals, like an ordinary *stadium*, except that one half was omitted; No. 17 on fig. 76. The corresponding structure in the *Thermae* of Titus is shaped like the *cavea* of a Greek theatre; see No. 6 on fig. 74, vol. ii. p. 154.

Stadium.

Reservoir of Water. Behind the *stadium* is the great reservoir for the water supply of the baths, consisting of sixty-four vaulted chambers, arranged in two rows two stories high, through which the water flowed, depositing its sediment and becoming heated in its course from chamber to chamber; see 19, 19 on fig. 76.

Placina for hot water.

Each of these cistern-chambers measured about 50 feet long by 28 feet wide and 30 feet high.

In the lower tier of thirty-two chambers the water for the baths was heated by a complete system of furnaces, hypocaust floors, and flue-tiles, like those shown in fig. 65, passing upwards over the whole wall surface of the tanks (see above,

Mode of heating.

vol. ii. p. 121). Thence to the main block, a distance of about 500 feet, the hot water was carried in large pipes of massive lead. All these tanks were lined in the usual way with *opus signinum* made with pounded pottery.

Aqueduct.

This reservoir was supplied by an aqueduct, which enters it in the middle, in a diagonal direction; see 18 on fig. 76. It crosses the Via Appia, over the so-called *Arch of Drusus*,¹ which appears to be simply one of the arches built by Caracalla in a more ornamental way than the rest, as was commonly done where an aqueduct happened to cross a road.²

Erecting arch.

This archway is of travertine lined with thin slabs of white marble, and is decorated with columns of Numidian marble with *Composite* capitals placed on pedestals; it had an entablature surmounted by a pediment on each side. The details are all coarse and clumsy, and evidently much later than the time of Drusus. The aqueduct was built by Caracalla to supply his *Thermae*; it was merely a branch from one of the earlier aqueducts—from the *Aqua Marcia*, according to the Einsiedlen MS.

Methods of construction.

Walls.

Methods of Construction. The foundations of the whole *Thermae of Caracalla* are of concrete made of broken lava, lime, and *pozzolana*, cast in the usual way between wooden framing. Up to the level of the main floor these concrete walls have no brick or other facing. The upper parts of the walls are of tufa concrete, with the usual thin facing of triangular bricks, and single courses of large 2-foot tiles built in about every 4 feet, and passing through the whole thickness of the wall, as is shown above on fig. 78, vol. ii. p. 168.

¹ This arch has been so called for no better reason than the fact that the *Notitia* catalogues an *Arch of Drusus* in Regio i. or *Porta Capena*, which included this part of Rome.

² The aqueduct arches, used as doors in the Aurelian Wall, and now called the *Porta Maggiore*, and the *Porta San Lorenzo*, are examples of this; the former built by Claudius, the latter by Augustus; see vol. ii. pp. 383 and 340.

The construction of the various arches and vaults affords many interesting examples of the Roman method of using the arched form without the principle of the arch. They were in all cases cast in one solid mass and had no lateral thrust. Some of the great vaults could not have stood for a moment if they had been built with true arches, as the thrust of such wide spans would have inevitably pushed out the lofty walls on which they rest.

Arches and vaults.

The material used for the concrete of these immense vaults, as is the case in many other Roman buildings, was pumice stone, selected for the sake of its lightness. The top or *extrados* of the vaulting appears to have been filled in level with the crown, so that the suspended mass of material is in places enormously thick; even at the thinnest place the larger vaults were nearly 6 feet thick. The many fragments of these great vaults which are now scattered about the area of the baths afford an excellent opportunity of examining their construction. Any brickwork which exists in these vaults can here be seen to be of a purely superficial nature.

Pumice concrete.

The mosaic pavements of the upper rooms, which rest upon these vaults, were formed thus—first, over the pumice stone concrete of the vault was laid a layer, 1 foot thick, of very hard concrete made of broken brick; on that another layer was placed from 2 to 3 inches thick, of similar concrete, differing only in the brick being finely pounded like the *opus signinum* used for aqueducts; last, come the *teserae* of the mosaic, bedded in fine white cement (*nucleus*) made of pounded marble (*caementum marmoreum*). These various processes are described by Vitruvius, vii. 1. 3 to 4. All these different layers can easily be distinguished in the many large pieces of the vaulting which now lie scattered about the building.

Mosaic floors.

The *suspensurae* or hanging floors of the hypocaust are also formed with three layers of concrete; the lowest about 10 inches thick, the next 5 inches, and then the marble *teserae*. The supporting *pilae* are built of 8-inch square tiles bedded

Hypocaust floors.

in clay, and usually 2 feet 6 inches to 2 feet 9 inches high. The heat of the furnace passing under the hypocausts has baked this clay bedding till it is as hard as the fired bricks themselves. The under floor is formed of large tiles, *tegulae bipedales*, laid on a thick bed of concrete; see fig. 65, vol. ii. p. 121.

Smoke-flues

In addition to the square fine-tiles which line the hot rooms, circular socket-jointed pipes, bedded in the thickness of the concrete wall, are used to carry off the smoke from some of the hypocausts.

Rain-water pipes.

Rain-water down pipes are constructed at close intervals all through the concrete walls from top to bottom; these are about 12 inches square, carefully lined with tiles; they were hidden by the marble wall-linings and their cement. These rectangular down pipes are shown above at K in fig. 65, vol. ii. p. 121.

Marble facings.

The marble slabs which lined the walls were usually thin, varying only from 1 to 2 inches in thickness. They are all backed with a thick bed of cement, 4 to 6 inches thick, and this cement backing is studded with fragments of older marble slabs, often arranged roughly in squares, stars, and crosses. These were possibly inserted to give a number of plane surfaces for the men, who applied the cement wall coating, to work to, in order to get a perfectly even surface against which to fit the marble linings.¹

Stucco work.

Vitruvius (vii. 3. 5) describes the method of laying stucco

¹ Modern plasterers in covering a wall with stucco form first of all a number of these plaster strips or *seccals*, the faces of which are worked quite true and even; they then fill in between these strips, using them to level the intermediate spaces. The Roman plasterers worked with a large sort of wooden trowel, exactly like the modern plasterer's *float*, and also with a long *regula* or *norma* extending along a wide piece of the wall, which was one form of the *karôw* of the Greek builders. A scene with plasterers working with the *float* is represented on a painted wall found at Pompeii; see plates in *Ann. Inst.* for 1881.

on a wall, by first working a series of strips, *directiōnes arenati*;¹ modern "screeds," to a true level, and then filling in between them, using a long strip of wood (*regula*) reaching from screed to screed, and so working the intermediate space to the same level.

The face of the brick lining is studded with marble and iron plugs to hold the cement backing, and the marble slabs were in many cases fastened by long iron or bronze clamps. Strong T-shaped holdfasts of iron are used to fix the square flue-tiles where they line the walls; see fig. 66 in vol. ii. p. 124.

Metal fastenings.

Very little now remains of the marble, porphyry, and granite which once lined the *Thermae* with wonderful variety of rich colours forming a brilliant contrast to the white marble which was used for the decorative sculpture. A few Corinthian and Composite capitals still exist, and some pieces of the sculptured frieze which ran all round the two *peristyles*.

Marble sculpture.

This frieze is carved in high relief with foliated scroll-work, among which animals and Cupids are playing, very decorative in effect, especially when seen from a distance, but not executed with any refinement of detail. The sculpture is largely executed with the help of the bow and drill (*torvus*), and no trouble is taken to conceal this. The utmost effect was produced with the least possible labour, a remarkable contrast to the exquisite finish and minute detail of the sculptured decorations of the first century of the Empire, and even later, as is exemplified in the beautiful cornices of the Temples of Concord and Vespasian; see vol. i. pp. 335 and 340.

Use of the drill.

A great part of the marble decorations and numerous columns of these baths existed in their place as late as the sixteenth century, and many churches and palaces, both in Naples and Rome, were enriched with the spoils of this magnificent building. Enormous quantities of sculpture, with

Statues

¹ "Arenati" implies the rougher under-coats of stucco which were made with sand, instead of the finely-powdered marble which was used for the finishing coats.

many engraved gems and other works of art, were found in these *Thermae*. Among them are the huge statue of Hercules, signed by the Athenian Glycon, a fine colossus restored as Flora, and the celebrated group of Dirce being fastened to the wild bull by her stepsons Amphion and Zethus, the work of Apollonios and Tauriskos, two sculptors of the Rhodian school; see Pliny, *Hist. Nat.* xxxvi. 34. These are now in the museum at Naples.

Labra.

Many gigantic *labra*, or baths cut out of a solid block of porphyry or granite, were found here. One is now in the Vatican, one at Naples, and two in front of the Farnese Palace.

Mosaics.

Some of the mosaics of the pavement have been taken up and placed in the Vatican and in the Lateran Museum. In the latter is one very large mosaic, representing gladiators and athletes, of colossal size, coarse execution, and the most ungraceful drawing; a most striking example of the very rapid *decadence* in taste which had taken place in Rome since the reign of Hadrian, who died in 138 A.D.

*Removal
of brick
facing.*

Great injury was done to the *Thermae* about the year 1534, by the Farnese Pope, Paul III., who not only took away its marble and columns, but even had the greater part of its brick facing laboriously picked off from the concrete walls that the broken bits of brick might be used to make concrete for the Palazzo Farnese.¹ The removal of this thin facing of brick shows, in a very striking way, how unimportant a part of the walls the skin of brickwork really is.

Stripped of its brickwork, relieving arches and all, each massive concrete wall remains with hardly any perceptible diminution of its strength. The only bricks which remain in this part of the walls are the single courses of *tegulae bipedales*, tiles 2 feet square, which are laid in the concrete walls at intervals of about 4 feet, as shown in fig. 78.

The building is well illustrated with plans, sections, and

¹ The stone used in the Farnese Palace was obtained by breaking down part of the external screening of the Colosseum.

elevations by Blouet, *Thermes de Caracalla*, Paris, 1828, but his plan is in some few respects incorrect, as the whole area had not then been excavated.

Blouet's
plan.

THERMAE OF DIOCLETIAN.

The *Thermae of Diocletian* were built on the Quirinal Hill, close up to the inner side of part of the Agger and wall of Servius Tullius, occupying nearly all the space from the *Porta Viminalis* to the *Porta Collina*.¹ In the sixteenth century they were very well preserved, and their plan is recorded by Palladio in his *Thermae dei Romani*; see fig. 79.

Site.

In general arrangement these baths much resembled those of Caracalla, having on one side a large *frigidarium* and swimming bath (*natatio*), on the other a circular *laconicum* or hot room, and between them the *tepidarium*. At each end of the block was a large *peristyle*, open in the centre, and on the side by the domed *laconicum* there was a row of rooms of uncertain use. All these are similar to corresponding rooms in the *Thermae* of Caracalla, not only in position, but in shape and proportion, except that the circular *laconicum* appears to have been much smaller in the Baths of Diocletian.²

Plan.

These enormous *Thermae*, which accommodated 3200 bathers—about double the number provided for in the Baths of Caracalla—were begun by Maximianus in the year 302 A.D., in honour of his absent brother Diocletian,³ and were dedicated in 305 A.D. under the Emperors Constantius Chlorus and Galerius Maximianus.

Date
302-5 A.D.

¹ The new *Museo delle Terme* is formed in the monastic buildings which occupy part of the site of Diocletian's Baths.

² Smaller, that is, than the great circular chamber which appears not to have been completed till many years after the reign of Caracalla, as is explained above at p. 166.

³ Diocletian was but a short while in Rome; he had reigned twenty years before he paid his first visit to the ancient metropolis of his Empire.

According to tradition a large number of Christians, who were afterwards martyred, were forced to work at the construction of these baths.¹

The Latin and Greek libraries from the *Basilica Ulpia* of Trajan were moved to these baths (*Hist. Aug. Prob.* 2), and, like the other *Thermae*, they contained an immense number of

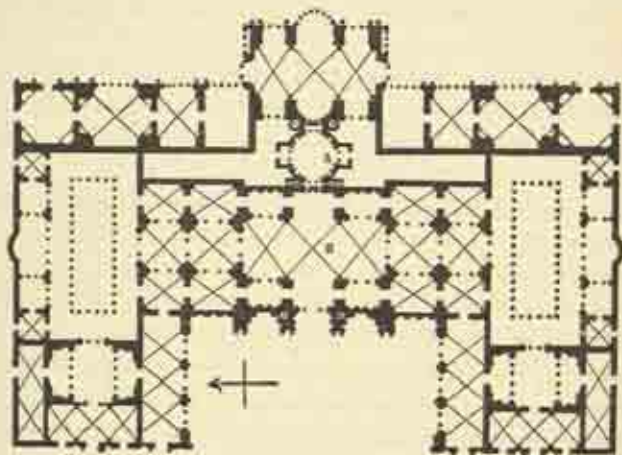


Fig. 79.

Plan of the Thermæ of Diocletian, from Palladio, showing only the main central block.

The circular chamber A is still perfect, and forms the vestibule to the Church of S. Maria dei Angeli, the nave of which has been formed out of the great hall B.

statues and busts, some of which are now in the Museum of Naples.

Marble ornaments.

Like the Baths of Caracalla, these *Thermae* still retained much of their magnificent marble linings, columns, and pavements as late as the sixteenth century. Much that is now destroyed is shown by Du Perac in his *Vestigi di Roma* as existing till 1575. The state of the *Thermae of Diocletian* in

¹ There is no truth in the story that the bricks used in the walls are marked with a cross.

the earlier part of the sixteenth century is described by Fulvio (*Antiquaria Urbis*, Venice, 1527), who gives a vivid account of their magnificence. A great part of the *Thermae* was destroyed, and the rest stripped of its marbles, by Sixtus V. towards the close of the same century. Before then even the rooms of the extensive substructions, now wholly buried, were richly decorated with marble linings and pavements.

The existing Hall. The great hall which formed the *tepidarium* was made by Michelangelo into the nave of the Carthusian Church of S. Maria degli Angeli, during the reign of Pius IV. (1559-66); see B on fig. 79.

Central hall.

In 1740 alterations and additions were made, all in the worst possible taste. Even now the *tepidarium* forms one of the most imposing interiors in the world; it is about 200 feet long by about 80 feet wide, vaulted in three bays with simple quadripartite groining, which springs from eight monolithic columns of Egyptian granite about 50 feet high and 5 feet in diameter. These have fine Composite and Corinthian capitals supporting a rich entablature, all of white marble, but now restored with stucco, and covered with whitening so as to hide their material.

The real bases of the columns are now buried about 7 feet below the modern pavement, which was raised by Michelangelo to its present level above the old floor; the apparent bases simply encircle the granite shafts like a ring.

Though the walls are stripped of their rich marbles, and the vault has lost its elaborate stucco reliefs brilliant with gold and colour, and though the interior is disfigured with gaudy painting and clumsy figures, yet the noble size and well-designed proportions of this immense hall, and the wonderful span of its simple but graceful vaulting, produce an effect of the utmost grandeur. One part only of its original decoration exists on the vault, namely, a number of gilt bronze rosettes arranged regularly in each compartment; these were

Grandeur of effect.

probably intended as points of support for clusters of hanging lamps.¹

*Domed
hall.*

One of the hot rooms or *laconica* is also well preserved, and is now used as the vestibule to the church; see A on fig. 79. This is a circular domed hall, which originally had a circular opening in the crown of the dome like the Pantheon; and adjoining it the start of a large recess or apse still exists on the outside of the building, very similar to that which appears to have existed on the south-west side of the Baths of Caracalla before it was converted into a circular hall by adding the projecting half of the rotunda.

As in the Baths of Titus and Caracalla, the central block of Diocletian's *Thermae* stands in the centre of a great *peribolus*, part of which still exists.

Theatre.

On the side opposite the hot chambers was a large theatre-like semicircle like that in the enclosure round the *Thermae* of Titus. This now forms part of the boundary of the modern Piazza de' Termini. The tiers of marble seats and their supporting vaults are now wholly gone, and only the outer semicircular wall of the "theatre" with rows of niches for statues still exists.

*Domed hall
at angles.*

At each angle of this side of the *peribolus* was a circular domed hall like a miniature Pantheon, the cupola of which is decorated with sunk coffers (*lacunaria*).

One of these is now perfectly preserved, though stripped of its marble linings, and is used as the Church of San Bernardo. It was turned to this purpose in 1598, and was given to the Cistercian Monastery,² which was built among the ruins of the *peribolus*.

¹ The choir which projects from one side of the *tepidarium*, and the chapel at each end, are eighteenth-century additions. The nave of the church, which is formed by the great hall, is set crossways instead of lengthways, on account of the long axis of the *tepidarium* running nearly north and south.

² This afterwards became a Carthusian Monastery. Some of the rooms are now used as a museum for sculpture and other antiquities found in Rome.

As is the case with the domed *laconicum* of the main block, the central aperture or *hypæthrum*, formerly open to the air except when closed by its bronze valve, is now covered by a modern lantern.

Hypæthrum.

About half the corresponding circular hall at the opposite side of the *peribolus* still stands, built in among some modern constructions.

Other parts of the enclosure still exist, and among them five semicircular apses or *exedrae* for lectures or philosophical discussions. Palladio shows a number of other rooms now destroyed, which were probably used for the same purposes as those round the *peribolus* of the *Thermae* of Caracalla.

Remains of peribolus.

The methods of construction employed in the Baths of Diocletian are very similar to those of Caracalla's Baths.

Construction.

In the same way the enormous vault, 80 feet in span, over the *tepidarium* is not a true arch, but is simply cast in one solid mass of concrete.

Concrete vault.

The brick facings, and especially the skin-deep brick arches, are much less neat than those in Caracalla's *Thermae*; the bricks vary in thickness from $1\frac{1}{4}$ to $1\frac{3}{4}$ inch, and the joints from half an inch to an inch.

Brick facings.

The concrete of the walls is mostly made of broken bricks, and the vaults are of tufa concrete.

The external cornices are mainly formed with projecting courses of tiles, supported at close intervals by travertine or marble corbels, and the whole was once covered with enriched mouldings worked in hard white cement, and decorated with gold and colours.

Cornices.

In 1548 a large bronze bell was found in the Baths of Diocletian, inscribed *FIRMI · BALNEATORIS*. This is noticeable as being an example of the *Aes Thermarum* (Mart. xiv. 163), a bell which was rung every day to announce that the water was hot and the baths ready.¹

Bronze bell.

¹ The discovery of this bell is recorded in the supplement to Ciacconi's *De triclinio*.

Reservoir.

Till quite recently remains existed of an extensive *piscina* or reservoir to contain the water supply for the *Thermae*.¹ This stood outside the *peribolus*, at the fork of two roads which converged and met before passing out of the *Porta Viminalis* in the Servian Agger. Owing to the confined nature of its site the *piscina* was not rectangular in plan. The vaulted roof of this curious building was supported on rows of square piers standing in the water, like the large Roman reservoir which still exists in Constantinople.

Ligorio's drawing.

Fig. 80 from Ligorio's Bodleian MS. shows the plan of this enormous cistern, which was 306 Roman feet in length.

THERMAE OF CONSTANTINE.

see.

The enormous baths built by Constantine only a few years after those of Diocletian have now almost wholly disappeared. Extensive remains of these splendid *Thermae* existed till the sixteenth century; see Palladio, *Thermae dei Romani*, and Du Perac, *Vestigi di Roma*. The remains which then existed were mostly destroyed to clear sites for the Quirinal,² the Rospigliosi, and the Bentivoglio Palaces.

The central block, of which Palladio gives a plan (see fig. 81), in some respects resembled the older *Thermae*, and had a huge central domed *laconicum* like that in the Baths of Caracalla. The Palazzo Rospigliosi occupies part of the site of

¹ These interesting remains, together with the greater part of the Servian Agger, have been destroyed by the enlargement of the railway station and other so-called improvements; see a paper by the present author in *Archæologia*, vol. II. 1888, p. 502.

A very handsomely illustrated work on the *Thermae of Diocletian* was published in Paris in 1891. The drawings, which gave the existing remains and also a conjectural restoration of the whole, were executed by one of the "Prix de Rome" students.

² An inscription, recording the restoration of these *Thermae* by Petronius Perpetua, in the year 443, was found during the building of the Quirinal Palace.

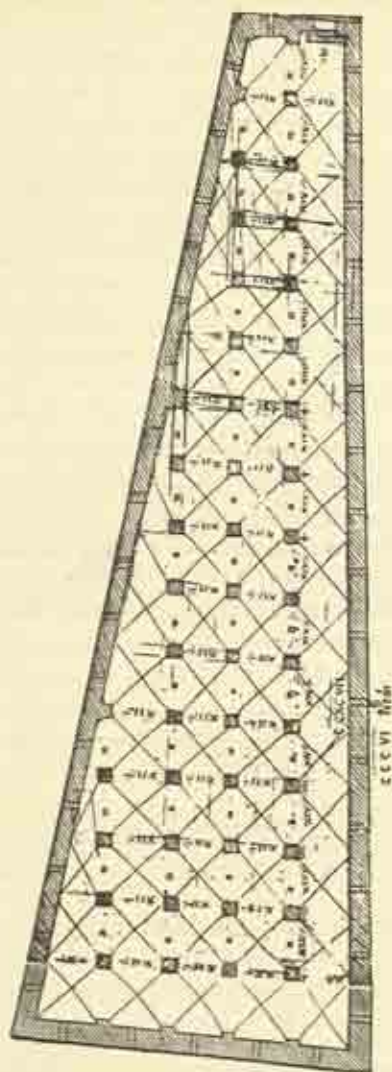


Fig. 80.

Ligorio's plan of the *Palatium* of the Baths of Diocletian, measuring 306 feet long.

this main block, and the whole enclosure extended over nearly the whole width of the Quirinal Hill, verging on its slope, which is now partly occupied by the gardens of the Colonna Palace. The enormous fragments of a white marble Corinthian entablature which still are visible in these gardens probably belonged to the main western entrance of the *peribolus*.¹

*Existing
fragments.*

One of these fragments is a piece of frieze, nearly 18 feet long, richly sculptured with Cupids and birds among foliated scroll-work, decorative in effect, but very coarsely executed.

*"Pediment
of Nero."*

The so-called "Pediment of Nero," which is illustrated by Palladio, Du Perac, Donatus, and other archaeologists of the sixteenth and seventeenth centuries, appears to have been part of the *peribolus* of these baths; its entablature and sculptured frieze resembled the fragments in the Colonna gardens.

Statues.

The colossal statue of Constantine, now at the end of the Narthex of the Lateran Basilica, was found among the ruins of these *Thermae*, and also two other portrait statues of Constantine and his son Constans which now stand at the top of the Capitoline steps.

*"Horse-
tamers."*

The two colossal figures of nude heroes holding their horses, which gave the name to Monte Cavallo on the Quirinal, once stood in some part of Constantine's Baths. They are, like the bronze equestrian portrait of Marcus Aurelius, among the very few statues in Rome which have never been thrown down and buried. They are shown in most of the mediaeval views of Rome.

These magnificent groups are probably copies executed in Rome during the first or second century A.D., from bronze

¹ These fragments are thought by some archaeologists to have belonged to the great Temple of the Sun built by Aurelianus about 271 A.D.; but it appears more probable that this temple stood in the Campus Martius, not far from the Pantheon. The *Curiosum* and *Notitia* have the following entry—*Regio VII. Via Lata continet . . . Campus Agrippae, Templum Solis et Caesaris*. Canina's supposed restoration of the *Templum Solis* is a remarkable example of his highly imaginative method of archaeology.

originals, the work of Lysippus or his school in the reign of Alexander the Great. The treatment of the hair and the

School of Lysippus.

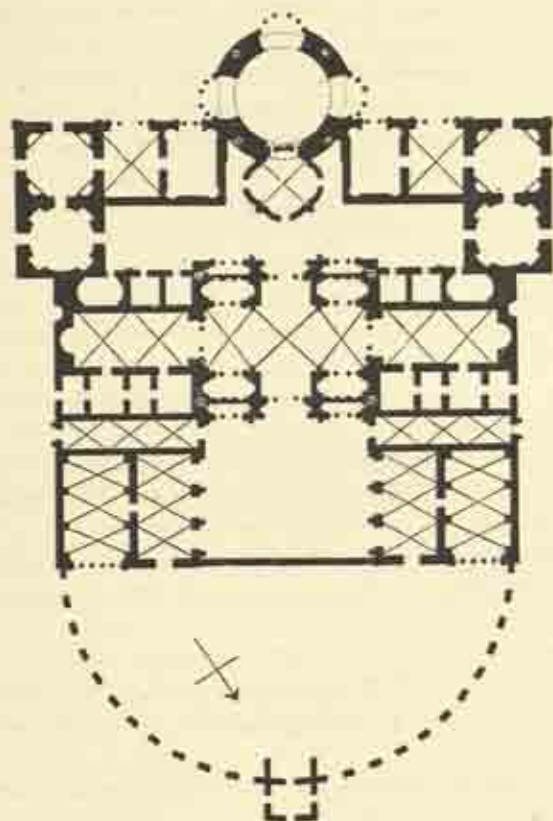


Fig. 81.

Plan of the Thermas of Constantine, taken from Palladio. Only the central block is given.

sharp-cut lips of the heroes, more suitable for metal than marble, shows clearly that these statues were originally designed in bronze.¹

¹ In front of the *Porticus Metelli*, afterwards rebuilt as the *Porticus*

*Interdicted
baths.*

They are usually called Castor and Pollux, but without much reason. The names of Phidias and Praxiteles on the pedestals were placed there during a period of utter ignorance of the archaeology of art.¹

The present inscriptions on the pedestals seem to be copies of older ones, which existed before the year 1409, dating probably from the time of the late Empire; see *Cor. In. Lat.* vi. 55, and p. 15.

PRIVATE BATHS.

*S. Cecilia's
Bath.*

A small *Calidarium*, part of the baths of a private house, is now made into a chapel in the Church of S. Cecilia in Trastevere; according to tradition this is said to have been the house where the Saint lived. The clay flue-pipes all round the walls are well preserved, as are also some of the lead pipes that supplied the water. A bronze cauldron for heating water (*alenum*) still exists *in situ*, built into the floor over the hypocaust in the way Vitruvius describes, v. 10. The mediæval pavement is nearly 3 feet above the original floor.

*Other
baths.*

Remains of other private baths exist below the Churches of S. Pudenziana, S. Martino ai Monti, and at many other places in Rome.

The most interesting and perfect examples of private baths which still exist in Rome are those in the upper story of the House of the Vestals; see vol. i. p. 316, and fig. 66, in vol. ii. p. 124.

*Use of
hypocausts.*

It should be observed that the presence of a hypocaust *Octaviae*, in the *Cirpus Martius* (see vol. ii. p. 200), were set bronze statues of Alexander and twenty-four horsemen, the work of Lysippus; it is possible that the groups by the Quirinal Palace are copies from two of these; see Pliny, *Hist. Nat.* xxxiv. 64.

¹ According to one form of the mediæval legend, Phidias and Praxiteles were brothers, who lived in the reign of Alexander the Great. Like Aristotle and Virgil, they were powerful magicians, who produced wonderfully realistic statues by the simple process of turning living men into marble.

alone does not by any means necessarily indicate the existence of a bath, as in the time of the later Empire, in the second century A.D., most of the rooms in rich men's houses and in Imperial palaces appear to have been heated in this very effectual way. A complete wall-lining of flue-tiles, on the other hand, would not be used in a living room, but only for the *calidarium* or *sudatio* of a bath.¹

¹ A very interesting and well-illustrated course of lectures on the *Thermae of the Romans* was given in 1889 at the Royal Academy by Prof. Aitchison, A.R.A. They are published in *The Builder*, February 1889; see also a paper by the same author in *Proceedings Roy. Inst. Brit. Arch.* for 1889, vol. v. p. 106 *seq.*

CHAPTER VI

THE FORUM BOARIUM AND THE CAMPUS MARTIUS.

THE *Forum Boarium*, or cattle-market, lay between the *Vela-*
brum and the Tiber; on its northern side it was bounded by
 the Servian wall where there were three gates very near
 together, the *Porta Flumentana*, *Triumphalis*, and *Carmentalis*;
 see vol. i. p. 126; and *Plan of Ancient Rome*.

Three
 Servian
 gates.

Ovid (*Fast.* vi. 477) describes the *Forum Boarium* thus—

[*Pontibus et magna juncta est celererrima Circo*
Arca, quæ parvo de bove nomen habet.

Bridges.

The bridges referred to in this passage are probably the
Pons Sublicius and the *Pons Æmilius*. The *carceres* of the
Circus Maximus bordered on the *Forum Boarium*; and the ox
 mentioned by Ovid was the celebrated work of the Greek
 sculptor Myron, a statue of an ox made of Aeginetan bronze,
 which was one of the most famous statues in Rome;¹ see
 Pliny, *Hist. Nat.* xxxiv. 10.

Ox of
 Myron.

Roman
 butchery.

In early times the *Forum Boarium* was frequently used for
 scenes of gladiatorial butchery, and we also read of the most
 hideous form of human sacrifices being performed in it, namely,
 the burial alive of men and women; see Pliny, *Hist. Nat.* xxviii.
 12; Livy, xxii. 57; and vol. ii. p. 75.

Remains
 of Arc.

Excavations in 1887 in part of the *Forum Boarium* exposed
 a stratum of burnt materials at a level lower than that of the

¹ An immense number of epigrams were written about the ox of Myron;
 some still exist in the Greek *Anthologia*.

Forum during the Imperial period, showing that a great fire must have devastated this part of Rome in Republican times. This conflagration was probably the *foedum incendium* which Livy (xxiv. 47) records as having occurred in 214 B.C., raging for a day and two nights, and causing immense destruction.

Temple of Fortuna. In the *Forum Boarium*, near the Pons Aemilius (modern Ponte rotto), is one of the best preserved buildings of ancient Rome, and one of special interest from its early date.

Existing temple.

It is popularly called the Temple of *Fortuna Virilis*, which is probably a blundered form of the title *Fors Fortuna*. The mistake appears to have arisen thus: Dionysius (iv. 27) translated the phrase *Templum Fortis Fortunae*, i.e. "the Temple of Fors Fortuna," into *ναὸς Τύχης ἀνδρείας*, as if "*Fortis*" were the adjective meaning "manly," instead of the genitive of *Fors*. The same mistake is made by Plutarch, *De Fortuna Rom.* 5; see also Livy, x. 46, and xxvii. 11.

"Fors Fortuna."

It is more probable that this is the *Temple of Fortuna*, dedicated by Servius without any affix, since the one about which Dionysius made the above mistake was not in the *Forum Boarium*, but on the other side of the river, some distance lower down, Dionys. iv. 27, and Varro, *Lan. Lat.* vi. 17; the latter writer speaks of it as being *extra urbem*. See Bunsen, *Besch. Roms*, III. i. 665, and Livy, xxxiii. 27.

Servius' temple.

The statue of Fortuna in the temple built by Servius was robed in a woollen *topa praetexta*, which, according to Pliny (*Hist. Nat.* viii. 194), lasted without decay from the time of Servius to that of Tiberius; cf. Ovid, *Fast.* vi. 569.

Draped statue.

In front of the *Aedes Fortunae* was the Arch of L. Stertinius; Livy, xxxiii. 27.

Servius also founded a Temple to *Mater Matula* in the *Forum Boarium*, which was rebuilt in 396 B.C., by the Dictator M. Furius Camillus as a thank-offering after the capture of Veii; Livy, v. 19 and 23. It is quite possible that this may

Mater Matula.

be the existing temple, though perhaps dating from a later reconstruction.

Existing
temple.

What the real date of this very interesting building may be it is impossible to guess, except that it is probably earlier than the middle of the first century B.C. Its early date is indicated by its pure Hellenic style, free from any Roman modifications (except perhaps the form of its elevated *podium*),¹ by the absence of any marble, and by its being mainly built of tufa, travertine being used in a very sparing way, though much care and labour have evidently been spent on the con-

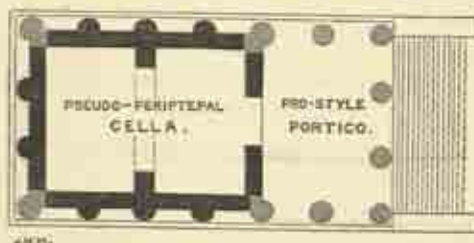


Fig. 82.

So-called Temple of Fortuna Virilis.

The black shows tufa, the shading travertine.

struction and decoration of the building. It is an Ionic, *tetrastyle, prostyle* temple, with seven columns on the sides, five of which are *engaged*, the other two forming the portico; see fig. 82.

Various
materials.

The temple stands on a travertine *podium*, about 8 feet high, with well-moulded plinth and cornice. The *cella* with its engaged columns is of tufa, except the angle columns, which are of travertine, as are also the free columns of the portico. Travertine is also used for the bases of the tufa columns. This use of the harder and stronger material at points of special pressure is very common in Roman buildings, especially those of an early period.

¹ The use of engaged columns along the cella wall is not necessarily a Roman peculiarity; see vol. I. p. 30, note.

The frieze was decorated with graceful reliefs of garlands hanging from candelabra, and ox-skulls, all modelled in hard white stucco. The *cymatium* of the cornice was also enriched with foliated ornament, and had pierced lions' heads at intervals to discharge the rain water from the roof. The whole building was covered externally with *opus albarium*, or hard stucco, once decorated with painting, so that originally the contrast between the white travertine and the dark brown tufa was not visible. It is now used as the Church of S. Maria Egiziaca, and the open columns of the portico are built up by a modern wall.

*Mosaic-frieze
cornice.*

Circular Temple. Another existing temple in the *Forum Boarium* is the circular building which was once thought to be the *Temple of Vesta*; see vol. i. p. 297. This may possibly be the round *Temple of Hercules*, mentioned by Livy, x. 23; who says that the *Sacellum Pudicitiae Patriciae* stood in *Foro Boario ad aedem rotundam Herculis*; see Piale, *Tempio di Vesta*, 1817. Becker wished to identify the temple shown in fig. 82 with this shrine of Pudicitia, but it seems too important a building to be called a *Sacellum*.

*Existing
temple.*

The Temple of Hercules in the *Forum Boarium* is mentioned by Macrobius, *Saturn.* iii. 6, and Solinus, i. 11; and also by Festus (ed. Müller, p. 242), who speaks of it as the *Aemiliana*¹ *aedes Herculis*, possibly so called on account of its proximity to the Aemilian bridge.

*Temple of
Hercules.*

Pliny mentions (*Hist. Nat.* xxxiv. 33) a very ancient bronze statue of Hercules in the *Forum Boarium*, which was called *Hercules triumphalis*. It was of prehistoric date, fabled to have been dedicated by Evander.

This graceful little temple appears to date from a rebuilding during the reign of Augustus. In design it closely resembles the real Temple of Vesta in the Forum, being a circular Corinthian building, surrounded by twenty columns, one of

*Style of
design.*

¹ The word *Aemiliana* is, however, a conjectural emendation made by Scaliger.

which is now missing, together with all the entablature, and the upper part of the *cella* wall. The whole was built of solid blocks of white marble except the circular *podium*, which is of tufa, with a block of travertine used as a footing-stone under each column.

*Solid
marble.*

This use of marble, not in thin facing slabs but in solid blocks, is rare among the existing remains of Rome. The *Regia* was another example of this substantial method of construction; see vol. i. p. 307.

*Tufa
podium.*

The tufa of the *podium* was completely hidden by the marble paving of the circular *peristyle*, and by a flight of eight marble steps which surrounded the whole. An open gutter for rain water, 10 inches wide, cut in blocks of peperino, surrounded the lowest marble step in a complete ring; this was probably covered with marble cement like the similar gutter in the House of the Pontifex near the *Regia*.

*False
joints.*

The blocks of white marble of which the *cella* is built are made to appear smaller than they really are by having false joints cut in them, so as, by multiplying the apparent number of courses, to give a greater appearance of size to the building than it really possesses.¹

*Circular
cella.*

The wall of the circular *cella* is surrounded with a dado about 9 feet high, with a well-moulded plinth and cornice. There was one central door and a window on each side; the former has a moulded architrave. The temple was probably roofed either with a marble *tholus* or with a wooden dome

¹ The Greeks and, in imitation of them, the Romans very frequently gave increased scale to their buildings by this system of introducing false joints. A wall built, for example, with twenty courses of masonry, each 2 feet deep, will look considerably higher than one which consists of ten courses of blocks 4 feet deep. And a column with many flutes seems thicker, as Vitruvius says (iv. 4. 2), than one of the same diameter with fewer flutes. In the same way the thin brick facing of the Romans gives much greater scale and dignity to the walls than is produced by our modern bricks of about double the thickness.

covered with bronze tiles, but this is now lost. In the Middle Ages this temple was consecrated as the Church of S. Stefano delle Carozze; so named from an ancient marble chariot which was found near it. Its dedication was afterwards changed to S. Maria del Sole from a miraculous shining picture of the Virgin which was found floating in the river hard by.

Temple of Ceres ad Circum Maximum. Near this circular temple remains of a large peripteral temple exist built up into the walls of the very interesting Church of S. Maria in Cosmedin. This is probably the Temple of Ceres, Liber and Libera,¹ which was originally dedicated by the Consul Spurius Cassius in 494 B.C., in fulfilment of a vow made by the Dictator Aulus Postumius three years before; Dionys. vi. 17 and 94.

Existing
remains.

Triple
dedication.

The position of this temple is indicated by Dionysius (*loc. cit.*), Vitruvius (iii. 3. 5), Pliny (*Hist. Nat.* xxxv. 154), and Tacitus (*Ann.* ii. 46), who describe it as being by the *Circus Maximus*, close outside the *carceres*, in the *Forum Boarium*.

According to Vitruvius it was of the *Tuscan* or *Etruscan* style, with widely spaced (*araucostyle*) columns; its pediment was adorned with statues of terra cotta and gilt bronze. Pliny (*loc. cit.*), quoting Varro, mentions this temple as the first in Rome which was adorned with works of art by Greek artists, not by Etruscans, as had up to that time been the custom. It contained mural paintings by Damophilus and Gorgasus, which, when the temple was rebuilt, were cut off the walls and fixed in wooden frames; at the same time the statues of the pediment were taken elsewhere and dispersed.

Etruscan
style.

Mural
paintings.

Pliny (*Hist. Nat.* xxxv. 24) mentions another very cele-

Essex
picture.

¹ Bacchus and Proserpine were identified by the Romans with Liber and Libera. Their worship, in connection with that of Ceres, was probably taken from the Greek cult of Dionysos, Demeter, and Kore, in their character of Chthonian Deities. The Greek colony of Tarentum was one of the chief centres of this Chthonian cult.

brated picture in this temple representing *Liber Pater* (Bacchus), by the Greek painter *Aristides*, which was carried off by Lucius Mummius about 146 B.C. with countless other spoils from Greece. It was put up to auction with other works of art by Mummius, who did not suspect its value; but when King Attalus of Pergamus bid sixteen talents for it (about £4440), Mummius began to appreciate its value, and so withdrew it from the sale and sent it to Rome in spite of the king's remonstrances.¹

*History of
the temple.*

This temple, which was usually called *Templum Cereis ad Circum Maximum*, was burnt in 31 B.C., and partly rebuilt by Augustus; the new temple was finished and dedicated by Tiberius in 17 A.D.; Tac. *Ann.* ii. 49. The existing columns probably belong to a still later rebuilding, of which no record appears to exist. This temple was one of great splendour and importance, and was used as the *aerarium* and *tabularium* of the aediles of the people. In 197 B.C. Livy tells us (xxxiii. 25) the aediles dedicated in it three bronze statues of *Ceres*, *Liber*, and *Libera* out of the fines which had been paid to them.

*Existing
columns.*

Ten of the columns of the *peristyle* are still standing *in situ*; four of them built up in the wall of the north aisle of S. Maria in Cosmedin and six in the west wall. Their capitals, which are *Composite* in style,² are well sculptured; they can be closely examined in the room over the Narthex and in the western organ-gallery. The columns are widely spaced (*araeostyle*), as, according to Vitruvius (iii. 3. 5), was the case with the original temple.

There are also some remains of the *cella* wall, built of large blocks of peperino, once faced with marble.

Drain slab.

In the atrium of this very interesting church there is

¹ The magnificent collection of works of art of all kinds made by King Attalus was bequeathed by him to the Roman people.

² These *Composite* capitals are evidence that the building is later than the time of Tiberius. The *Arch of Titus* has the earliest examples of *Composite* capitals the date of which is known.

preserved a great circular slab of marble 5 feet in diameter, sculptured in low relief with the face of a bearded river-god. This was called in the Middle Ages *La bocca della Verità*.¹ It appears to have been originally part of the paving of an open court, made to communicate with a drain to carry off the surface rain water, which passed away through the open mouth and eyes of the great face.

Outside the Church of S. Maria in Cosmedin, at the east end, are remains of some extensive building with walls and arches of peperino and travertine, and later additions in brick-faced concrete. These are evidently no part of the temple, and may be portions of the outbuildings belonging to the *carceres* of the Circus Maximus.

*Other
remains.*

The above-mentioned buildings are all within the *Forum Boarium* and inside the limits of the Servian wall, which separated the *Forum Boarium* from the *Forum Olitorium* and the rest of the great Campus Martius.

THE CAMPUS MARTIUS.

The *Campus Martius*² or *Campus Tiberinus* was originally a great grassy and marshy plain bordered by a loop of the Tiber, outside the Servian wall, to the north-west of the Capitoline Hill. On the north-east it was bounded, roughly speaking, by the Pincian and Quirinal Hills; on the south by the Capitoline Hill and by the Tiber; and on the west by the Tiber. Being outside the Servian line of wall, and for long being marshy and exposed to floods, it remained unencumbered with private houses, and so, in later times, when a complete

*Marshy
Campus.*

¹ It was called the "mouth of truth" on account of the mediæval superstition that the mouth would close if any one swore a false oath while standing with his hand in the open mouth of the mask.

² In the appendix to this chapter is given a list of references to the many passages in which Pliny mentions the buildings and works of art throughout the *Campus Martius*.

system of *cloacae* had got rid of its marshes, its great area was free for the erection of the most extensive and magnificent groups of public buildings in Rome.

*Splendour
of the
Campus.*

Under the Empire almost the whole of this great plain, measuring roughly about one mile by three-quarters of a mile, was covered with a succession of sumptuous buildings, temples, theatres, *circi*, porticus, and *thermae*, forming one uninterrupted group of stately public buildings. In the Imperial period four or five bridges connected the *Campus Martius* with the opposite bank of the Tiber.

*Three
Regiones.*

The southern portion of the *Campus*, which formed the 9th *Regio* of Augustus, was called after the *Circus Flaminius*. The northern part was called the *Campus Martius* proper; and the eastern part took its name from the *Via Lata*.

*Early use
of the
Campus.*

In the time of the mythical Kings of Rome the *Campus Martius* was a place of meeting for general assemblies of the citizens, for reviews of the army, and for various sacred games and festivals, such as the *Equiria*, which was fabled to have been instituted by Romulus in honour of Mars, to whom the whole *Campus* was dedicated. The *Ludi Saeculares* and the *Ludi Apollinares* were held there.

Altars.

The *Campus* also contained altars to *Mars* and to the Chthonian deities *Dis* and *Proserpina*. A great part of its area consisted of arable land and pasture, which the Tarquins are said to have treated as their private property.

*Field of the
Tarquins.*

Hence the older name of the *Campus Martius*, before it was consecrated to Mars, is said to have been *Ager Tarquiniorum*. Livy (ii. 5), writing of the time soon after the expulsion of the Tarquins, says, *Ager Tarquiniorum qui inter Urbem ac Tiberim fuit, consecratus Marti Martius deinde Campus fuit*; ¹ see also Livy, i. 44, and vi. 20.

Under the Republic the *Campus* was almost wholly treated

¹ Another area sacred to Mars, the *Campus Martialis* on the Caelian Hill, was used for festivals and games at times when the *Campus Martius* was flooded.

as public ground,¹ and was used as a military and athletic exercising place, and for meetings of the *Comitia Centuriata* which were at first held in the open air, and afterwards in a great roofed hall built by Julius Caesar (the *Septa Julia*). Public use.

Among the buildings in the *Campus Martius*, the theatres, such as those of Balbus, Marcellus, Pompey, and others, are described in chap. iii. The *Thermae* of Agrippa and of Nero are described in chap. v. Among the rest of the buildings in the *Campus*, the following are the most important:—

BUILDINGS IN THE FORUM OLITORIUM.

The *Forum Olitorium* or oil-market occupied the southern extremity of the *Campus Martius*; the wall of Servius separated the *Forum Boarium* from the *Forum Olitorium*. Access from one Forum to the other was given by the Servian Porta Flumentana, close by the modern "Ponte rotto," *Pons Aemilius*; near this gate, within the enclosure of the *Forum Olitorium*, stood a group of three temples set close together side by side. Three temples. Remains of these still exist built into the walls of the Church of S. Niccolo in Carcere. Fig. 83 shows their plan, with indications of the parts which still exist. Parts of the three are shown on a fragment of the *Marble Plan* of Severus, as is shown by the line on the annexed figure. Marble Plan. The central and largest temple is Ionic, *hexastyle* and *peripteral*; one side of its *cella* wall still partly exists, built of large blocks of travertine, of which the four existing columns also are constructed.

The next in size also is Ionic, *hexastyle*, and *peripteral* except at the back; seven of its columns exist. The third and smallest is Tuscan, *hexastyle*, and *peripteral*; five columns are still stand-

¹ Pliny (*Hist. Nat.* xxiv. 25) tells us that a plot of land in the *Campus*, which was the private property of one of the Vestals, was given by her to the Roman people. A statue was erected in her honour, with the inscription, *Quod Campus Tiberinum gratificata esset ex populo*; see also Aul. Gell. vi. 7. In the main, however, the *Campus* was public property.

ing. The latter two temples are built partly of travertine and partly of peperino, and the whole group dates probably from the early years of the Empire.

*Spes and
Fama.*

Pietas.

It is probable that two of these temples were dedicated to *Spes* and to *Juno Sospita*,¹ the dedication of the third is unknown.² It has been supposed to be the *Temple of Pietas*, but wrongly, as that was destroyed to make room for the Theatre of Marcellus. The *Temple of Juno Sospita* was built in 197 B.C., by C. Cornelius Cethegus, in fulfilment of a vow made before battle; Livy, xxxii. 30.

Another temple dedicated to *Juno Matuta* is mentioned by Livy (xxiv. 53) as having been built in the *Forum Olitorium* in 194 B.C.

*Temple of
Spes.*

The *Temple of Spes* was founded by M. Atilius Calatinus. Livy (xxiv. 47) speaks of it as being outside the *Porta Carmentalis*, and mentions its destruction by fire in 214 B.C. It was rebuilt the next year by a decree of the Senate; see Livy, xxv. 7. It was again rebuilt after a fire in the year 17 A.D.; see Tac. Ann. ii. 49; in this passage Tacitus mentions a *Temple of Janus* in the *Forum Olitorium*, but temples to this deity were usually of a form different from the three of which remains still exist in S. Niccolo.

*Temple of
Janus.*

A considerable part of the porticoes of these three temples

¹ An early Latin or Etruscan form of Juno, worshipped specially at Lanuvium, where a large temple and grove were dedicated to her; in the latter was preserved a sacred snake. Juno Sospita or Sispita is represented as a warlike goddess, armed with spear and shield, and wearing a goat's skin over her head. In the British Museum an early Graeco-Etruscan amphora has a representation of a contest between Hercules and Juno Sospita; the same subject is repeated on a vase in the Fitzwilliam Museum at Cambridge. A very noble colossal statue of Juno Sospita which was found at Lanuvium is preserved in the round hall of the Vatican.

² Buru, in his valuable work, *Rome and the Campagna* (p. 306, note 1.), suggests that the third temple may have been that to *Apollo Medicus*, mentioned by Livy (xl. 51), as being "post Spei ad Tiberim."

was standing in the sixteenth century, projecting into the modern street; they are shown in one of the drawings in Du Perac's *Vestigi di Roma*; see also Labacco, *Architettura*, 1557; *Ann. Inst.* 1850, p. 347; and *Mon. Inst.* v. 24.

A large extent of the travertine paving of the *Forum Olitorium* was discovered near this group of temples in 1875; see *Bull. Comm. Arch. Rom.* 1875, p. 165 *seq.*

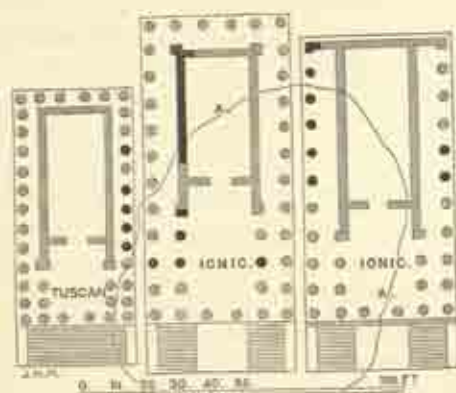


Fig. 55.

Plan of the three Temples on the site of S. Niccolo in Carcere.

The part within the line AA is that shown on a fragment of the Marble Plan. The black shows what still exists.

PORTICUS OCTAVIAE AND ADJOINING BUILDINGS.

The *Porticus Octaviae* and the temples it enclosed formed one of the most magnificent groups of buildings in the *Regio* which took its name from the *Circus Flaminius*, and occupied an extensive area in the *Campus Martius*. It stood near the *Theatre of Marcellus*, and its site till the recent demolitions was occupied by some of the most squalid streets of the Ghetto, which are now destroyed. The existing remains, still partly hidden by modern buildings, with the help of a fragment of

Porticus Octaviae.

the *Marble Plan*, enable the arrangement of the whole group to be fairly well made out.

The *Porticus Octaviae* was built by Augustus on the site of the *Porticus Metelli*, founded in 146 B.C. by the Proprætor Q. Metellus Macedonicus; Suet. *Aug.* 29. It must not be confounded with the neighbouring *Porticus Octavia*.

Porticus Octaviae.

The *Porticus Octavia* or *Octaviæ* was built by Cn. Octavius, the conqueror of King Perseus of Macedonia in 168 B.C. (Livy, xlv. 6 and 42), and was rebuilt by Augustus under the same name, as is recorded in the Ancyrean inscription—PORTICVM AD · CIRCVM · FLAMINIVM · QVAM · SVM · APPELLARI · PASSVS EX · NOMINE · EIVS · QVI · PRIOREM · EODEM · IN · SOLO · FECE- RAT · OCTAVIAM. The *Porticus Octavia* was close to the Theatre of Pompey, but no remains of it are known to exist. It must have been an exceptionally magnificent building. Pliny describes it as being a double *porticus*, with doors and thresh-olds of fine Greek bronze. The capitals of its Corinthian columns were also of bronze. From these capitals the building was sometimes called the *Porticus Corinthia*; see *Hist. Nat.* xxxiv. 13.¹

Use of bronze.

Porticus Octaviae.

To return to the other group of buildings, the *Porticus Octaviae* consisted of a very large cloister-like quadrangle with an open colonnade all round it and on one side a central porch with pedimental roof. Within this enclosure stood two temples, dedicated to *Jupiter Stator* and *Juno Regina*, both of which were founded in the second century B.C. but were probably completely rebuilt by Augustus. The *Temple of Juno* was first built and dedicated by M. Aemilius Lepidus in 179 B.C. as a thank-offering for his victories over the Ligurians, and the *Temple of Jupiter Stator* was consecrated at the same time; see Livy, xxxix. 2, and xl. 52.

Jupiter Stator and Juno Regina.

Statues in the wrong temples.

According to Pliny (*Hist. Nat.* xxxvi. 43) the statues of Juno and Jupiter were each carried by mistake into the wrong

¹ The Pantheon was another example of the use of bronze capitals; see vol. ii. p. 129.

temple, and were allowed to remain there because it thus appeared that each deity had in this way specially chosen a resting-place.

On this account, he says, the paintings and ornaments appropriate to Juno were in the *Temple of Jupiter* and *vice versa*. Pliny also says (*ib.* 42) that the architects of the two temples, when they were rebuilt by Augustus, were two Laconian Greeks called *Sauras* and *Batrachos*, whose names mean "lizard" and "frog," and that when they were forbidden to inscribe their names upon the temples they introduced lizards and frogs among the ornaments of the bases (*epiræ*), to serve as artists' signatures.

*Spartan
architects.*

Reliefs of both these reptiles are very skilfully introduced into the eyes of the volutes of the Ionic capital of a fine ancient column which now exists in the nave of S. Lorenzo fuori le mura. It is very probable that this is one of the columns mentioned by Pliny, in spite of the reptiles being among the ornaments of the *capital* instead of the *base*. There is no place in the base of a column where such reliefs could well be introduced, and it is probable either that the word *epiris* is a corrupt reading, or that Pliny was mistaken in this detail. Winckelmann is certainly right (*Œuvres*, ii. p. 589) in attributing this well sculptured column to the Augustan age; it is of exceptionally fine workmanship.

*Sculptured
frog and
lizard.*

Opera Octaviæ. Several other handsome buildings which adjoined the *Porticus Octaviæ* appear to have been arranged round the great quadrangle. These consisted of a hall for meetings of the Senate and other public bodies, two libraries, and a set of notaries' offices, called respectively the *Curia*, *Bibliothecæ*, and *Schola Octaviæ*; see Plutarch, *Marc.* 30; Dion Cass. xlix. 43; lxi. 24. The *Bibliotheca Octaviæ*, founded by Augustus, appears to have been the second public library in Rome. The first had been instituted in 37 B.C. by Asinius Pollio, both for Greek and Latin books.¹ Pliny (*Hist. Nat.*

*Buildings
of Octavia.*

*Public
libraries.*

¹ The third was the Palatine library; see vol. i. p. 156. A fourth, the

xxxv. 10) speaks of Pollio's library as being decorated with portraits. This appears to have been usual in Roman libraries; statues, busts, and medallion reliefs of famous authors were frequently ranged round the walls; see vol. ii. p. 254.

*Opera
Octaviae.*

The whole group, including these buildings and the *Porticus*, was known as the *Opera Octaviae*; see Pliny, *Hist. Nat.* xxxvi. 15. Pliny mentions a number of fine works of art by distinguished Greek sculptors which adorned various parts of this magnificent group of buildings.¹

*Numerous
statues.*

Statues of Aesculapius and Diana, by Cephisodotus the son of Praxiteles, stood in the Temple of Juno. The statues of Juno and Jupiter in their respective temples were by Dionysius and Polycles.

Pliny's list.

In the Temple of Juno was also a statue of Venus by Philiscus, and several statues by Praxiteles. In the Temple of Jupiter (*Hist. Nat.* xxxvi. 34) was a group of the struggle between Pan and Olympus, the work of Heliodorus; a Venus at the bath by Daedalus, and another statue of Venus by Polycharmus. Pliny also says (*ib.* 22) that in the *Schola* was the much-admired Thespian Cupid by Praxiteles; see also Cicero, *In Verrem*, II. iv. 2, 3 and 60.

*Statue by
Pheidias.*

In some part of the *porticus* was a statue of Aphrodite by Pheidias, which Pliny says (*Hist. Nat.* xxxvi. 15) was of extraordinary beauty. In the *Curia* was a statue of Cupid holding a thunderbolt, but by what sculptor had been forgotten. Pliny mentions this (*Hist. Nat.* xxxvi. 28) as one of the instances of Roman indifference in artistic matters.

*Paintings
and statues.*

In the *Schola Octavianae* were also fine paintings of Hesione and Philip of Macedon, Alexander the Great and Minerva, the work of Antiphilus (*Hist. Nat.* xxxv. 114); and many fine

Bibliotheca Tiberiana, was formed by Tiberius in his palace on the Palatine. The fifth and sixth State libraries were those in Vespasian's *Forum Pacis*, and the largest of all in Trajan's Forum; see vol. ii. p. 26.

¹ See *Hist. Nat.* xxxvi. 22, 29, 34, 35, 42, etc. A complete list is given in the appendix to this chapter.

statues by unknown sculptors, namely, four satyrs, one bearing on his shoulders *Liber Pater* (Bacchus) veiled with a *palla*, another carrying *Libera* (Proserpine), a third bearing a weeping child, and a fourth giving another figure drink out of a cup. There were also two statues of *Auræ*, female figures representing the Winds, veiling themselves with their robes; *Hist. Nat.* xxxvi. 29.

In some part of the *Opera Octaviae* were a number of fine pictures by Artemon, the death and ascent into heaven of Herakles, the bargain made by Laomedon with Herakles and Poseidon as to the rebuilding of the walls of Troy, and others; see Pliny, *Hist. Nat.* xxxv. 139.

*Pictures by
Artemon.*

In front of the original *Porticus Metelli*, which had occupied part of the site of the *Porticus Octaviae*, had been placed bronze statues of Alexander the Great and twenty-four of his friends, represented as horsemen, the work of Lysippus, made in commemoration of the death of many of Alexander's officers at the battle of Granicus. These twenty-five equestrian statues were brought to Rome by Metellus in 146 B.C., from their original position at Dium, and after the destruction of the *Porticus Metelli* they were set in the *Porticus Octaviae*; see Pliny, *Hist. Nat.* xxxiv. 64; Vell. Pat. i. 11, 3; Arrian, *Anab.* I. xvi. 4.

*Porticus
Metelli.*

*Equestrian
statues.*

of Alexander etc.

Pliny (*Hist. Nat.* xxxvi. 35) mentions Dionysius, with Timarchides his father, and Polycles his uncle, as having been fellow-workers on the sculpture which adorned the *Porticus of Metellus*. These names occur on the base of a statue of Roman date found at Delos; see Homolle, *Bull. Cor. Hell.* 1881, v. p. 390 and pl. xii.; and *Jour. Hell. Stud.* vii. p. 245.

*Greek
sculptors.*

Another famous statue which was placed in the *Porticus Octaviae* was a seated figure of Cornelia, the mother of the Gracchi; see Pliny, *Hist. Nat.* xxxiv. 31. Here too was probably placed the celebrated ivory statue of Jupiter by Pasiteles, a Graeco-Roman sculptor of the early part of the first century B.C.; see Pliny, *Hist. Nat.* xxxvi. 40.

*Ivory
statue.*

Other works of art among these richly decorated buildings are mentioned by various authors.

*Meetings of
the Senate.*

The *Curia Octaviae* was frequently used for meetings of the Senate, as, for example, when they assembled to do honour to Vespasian and Titus after the taking of Jerusalem; see Josephus, *Bell. Jud.* vii. 5. 4.

*Rebuilding
in 203 A.D.*

In the reign of Vespasian the whole group of buildings was destroyed by fire (Dion Cass. lxxvi. 24), and not rebuilt till the time of Severus in 203 A.D., as is recorded in the existing inscription over the porch, which led into the enclosed area of the porticus.

*Existing
porch.*

Existing remains. This porch, which formed the principal entrance into the *Porticus Octaviae*, is still fairly well preserved; it stood close by the old *Pescaria*, the fishmarket of the Ghetto, which is now destroyed.

*Many
repairs.*

It is built of brick-faced concrete, once faced with thin slabs of marble, and has Corinthian columns, pediments, and entablatures of solid marble.¹ In its original form the porch was like the front of a hexastyle temple, repeated twice with a roofed space between; but in the fifth century some of the Corinthian columns were replaced by brick and concrete arches and piers, probably after damage done by an earthquake in 442 A.D.

*Recent
discoveries.*

The demolition of the Jewish Quarter or Ghetto, with its picturesque fishmarket, has exposed part of the colonnade of the *Porticus Octaviae*. One portion consists of four monolithic marble columns, with fragments of the entablature, adjoining the main existing entrance to the porticus. The capitals, which are of the Corinthian order, are so much broken that it is difficult to judge of their style, but they appear too poor in workmanship to belong to the original porticus as it was built

*Corinthian
colonnade.*

¹ Some of the pedimental sculpture existed in the last century, and is shown by Piranesi in his etching of this porticus. In the centre is a winged figure, apparently a Victory, with another female figure on each side, with rays of light round their heads.

by Augustus; see *Notiz. d. Scavi*, vol. for 1887. On the whole, the destruction of this mediæval part of Rome has brought to light comparatively little that is of value, though it has done much to diminish the picturesque beauty and historical interest of the city.

*Recent
discoveries.*

Other columns of the Porticus of Octavia exist, built into various houses, and into the walls of the Church of S. Angelo in Pescaria.

Some portions also exist of the Temples of Jupiter and Juno, which stood in the centre of the enclosure.

Contiglozzi, in his *Portici di Ottavia*, 1861, the *Ann. Inst.* 1868, p. 108, and the *Notiz. d. Scavi* for 1887, give the results of excavations which have determined the extent of the whole porticus. The south-west side of the enclosure ran along the line of the Via della Catena di Pescheria, and had at each angle a four-way entrance, like the existing arch of *Janus Quadrifrons* in the *Velabrum*.

*Extent of
the porticus.*

The north-west side crossed the Church of S. Ambrogio, and passed along the line of the Palazzo Righetti to a point near S. Caterina de' Funari, where the north-east side began, extending as far as to the Palazzo Capizucchi.

The south-east side runs past the monastery of the Madre di Dio. Remains of the *Temple of Juno*, consisting of three marble columns with *Composite* capitals, which formed the western angle of the temple, exist in No. 11 Via di Sant' Angelo.

*Site of the
temple.*

In the Church of S. Maria in Portico¹ are built up some remains of the *Temple of Jupiter Stator*, and the space between the two temples is marked by the width of the Via della Tribuna. Near the middle of this street remains were discovered of the *Schola Octaviae*, which stood at the back of the temples.

Behind the *Schola* were the libraries, one for Latin and the other for Greek books, with the *Curia Octaviae* between them.

¹ So called from its position within the *Porticus Octaviae*.

*Hercules
Musarum.*

Temple of Hercules Musarum. The fragment of the *Marble Plan* which shows the *Porticus Octaviae* shows also on its north-west side the enclosure round the Temple of *Hercules Musarum* (the Greek *Hercules Musagetes*), only separated from the porticus by a street. This temple was built by M. Fulvius Nobilior, the friend of the poet Ennius, probably out of the rich spoils taken by him from the Aetolians in 187 B.C.; Livy (xxxix. 5) gives a list of the immense treasures which formed this spoil. In this temple were placed statues of Hercules playing the lyre, surrounded by the nine Muses, hence the epithet *Musagetes*; these statues were modelled in terra cotta (*fiatino opera*) by the celebrated painter Zeuxis; see Pliny, *Hist. Nat.* xxxvi. 66, and Mart. *Ep.* v. 49, 2.

*Works of
art.*

*Porticus
of Philip.*

Porticus Philippa. The above-mentioned fragment of the *marble plan* which is inscribed AETDIS · HERCVLIS · MVSAR(VM) does not show the temple itself, but only a part of its surrounding porticus or quadrangular colonnade, which was added by L. Marcius Philippus, the stepfather of Augustus, who also rebuilt the temple itself; see Suet. *Aug.* 29; Martial, v. 49, 12; and Ovid, *Fast.* vi. 799. Pliny (*Hist. Nat.* xxxv. 114) calls this enclosure the *Porticus Philippi*, and says that in it were three pictures by the Graeco-Egyptian painter Antiphilus—Liber Pater, Alexander the Great as a boy, and the death of Hippolytus when his horses were frightened by the bull sent by Poseidon.

Pictures.

Very little remains of these buildings are now visible, but some portions of the walls were discovered during the demolition of the old street to the north-west of the *Porticus Octaviae*.

The Temple of Apollo *ad Octavianae Porticum* is mentioned above; see vol. ii. p. 70.

OTHER BUILDINGS IN THE CAMPUS.

*Porticus of
Neptuno.*

The *Porticus Neptuni* or *Possidonium* was a handsome *Porticus* built by Agrippa to commemorate his naval victories. On

its walls were paintings of the adventures of Jason and the Argonauts, whence it was also called the *Porticus Argonautarum*; see Dion Cass. liii. 27, and lxvi. 24; Martial, iii. 20; and Spartan. *Hindr.* 19.

Pliny (*Hist. Nat.* xxxvi. 26) mentions a *Temple of Neptune* in the *Regio Circus Flaminius*, which was built by Cn. Domitius; see also Gruter, *Inscr.* 318, 5. It seems probable that the *Porticus Neptuni* was built by Agrippa as an enclosure round the *Temple of Neptune*.

Temple of Neptune.

The existing remains of a temple enclosed in the walls of the old *Dogana di terra* in the Piazza di Pietra may with much probability be identified with the *Temple of Neptune*, especially since it has been discovered that a large *porticus* existed round this building. Fig. 84 shows the existing remains of the temple and its court.

The *Poseidonium* stood not far from the Pantheon, and the existing remains in the *Dogana vecchia* agree very well with its probable site. The parts of the temple which still exist are eleven fine Corinthian columns of Luna marble with their entablature, a long piece of the side wall of the *cella*, and a short bit of one of the end walls; these are built of long blocks of peperino once cased with marble. The *podium* on which the temple stands is now buried below the modern ground-level.

Existing remains.

The ceiling of the *peristyle*, instead of having the usual marble slabs with moulded coffers (*lacunaria*), is formed by a concrete barrel vault, once decorated with painted stucco reliefs. This and the second-rate style of the Corinthian capitals and enriched cornice with its *puleinated* or swelling frieze show that the building is considerably later than the time of Augustus, which, however, is not conclusive against its being the *Temple of Neptune*, for that was much injured in the fire of 80 A.D., and may have been mostly rebuilt.

Late in style.

Palladio (*Arch. lib.* iv.) gives a plan and elevation of this temple which show it in a complete state, a very valuable

Palladio's drawings.

record now that it is in a very different condition. Palladio's figured measurements show that he is not giving an imaginary restoration. He makes it *hexastyle* with fifteen columns on the flanks.

The existing piece of the *cella* wall has recently been

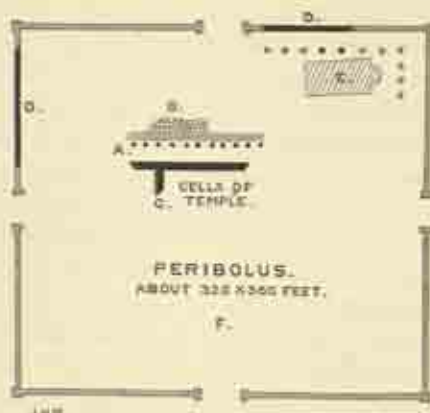


Fig. 84.

Remains of the "Temple of Neptune," showing the probable extent of the recently discovered *porticus* round it.

- A. Existing Corinthian columns.
- B. Part of the paving of the peribolus.
- C. End wall of the cella.
- D. Existing part of the porticus, buried under the modern houses.
- E. Church of S. Stefano.
- F. Piazza di S. Ignazio.

exposed to view by the removal of the modern wall which blocked up the eleven columns.

Remains
of porticus.

In 1878 excavations made under the surrounding houses exposed remains of an extensive *peribolus*, forming a court or porticus nearly 330 feet square, which is probably the above-mentioned *Porticus Neptuni* or *Porticus Argonautarum*. The remains of the temple are in the centre of this court; see fig. 84.

Marble
columns.

The outer wall of the *porticus* was of peperino faced with

marble, and within were rows of columns forming a covered walk all round, like a cathedral cloister. The columns which flanked the four entrances were of *pavonazetto*, the rest were of white marble; see *Bull. Comm. Arch. Mun. Rom.* vi. Tav. iv.

Another supposition, but a far less probable one, about this building is that it was the *Temple of Hadrian*, mentioned in the *Mirabilia Romae* as being near this site; see Ulrichs, *Coles topogr.* p. 107.

Temple and Column of M. Aurelius. Near these remains in the Dogana is a slight elevation called Monte Citorio, on which stands the modern Palace of the Deputies or Parliament House.

Monte
Citorio.

It is very probable that this mound is formed by remains of the once large and magnificent temple of Marcus Aurelius, whose sculptured column stands near. Parts of a very massive travertine wall and arcade are visible in the walls of several modern palaces by and on Monte Citorio.

Temple
of M.
Aurelius.

The existing column of M. Aurelius, which is described below, at p. 312, stood in front of the temple which was dedicated to him, and the whole was surrounded by an extensive *peribolus* forming a sort of Forum not unlike that of Trajan, though on a less magnificent scale; see *Ann. Inst.* 1852, p. 338, and *Mon. Inst.* v. Tav. 40.

The Diribitorium. No remains now exist of the immense hall called the *Diribitorium*, which was built by Agrippa as a place for scrutiny of the votes given by the *Comitia* in the adjacent *Septa Julia*. The *Diribitores* were the officials who divided and counted the votes when taken out of the ballot boxes (*cistae*) to determine the majority. The word is a compound of *dis* and *habere*, implying separation. The Diribitorium was remarkable for the enormous span of its wooden roof, which Pliny (*Hist. Nat.* xxxvi. 102) mentions as one of the wonders of Rome, and which, according to Dion Cassius (lv. 8), exceeded that of any other roof in the world. It was used under the later Empire for theatrical shows; Suet.

Hall of
scrutiny.

Cal. 18. In the reign of Severus it was pulled down on account of the roof having become unsafe; Dion Cass. *loc. cit.*

Hall for
voting.

The *Septa* or *Saepta Julia* appears to have been an immensely long covered *porticus* or rectangular building supported by rows of piers, forming seven parallel lines of aisles. It was begun by Julius Caesar (Cicero, *Ad Att.* iv. 16) and completed by Agrippa in the same year when the Pantheon was consecrated, 27 B.C.; Dion Cass. liii. 23. It was called the *Septa Julia* in honour of its deified founder Julius Caesar.

The *Septa Julia* was intended as a voting place for the *Comitia Centuriata*, who originally had met in an open space in the *Campus Martius* divided into compartments (*ovilia*), one for each *Century*, by stakes and ropes stretched across. Juvenal (*Sat.* vi. 529) speaks of the *Septa Julia* as the *ovile* or "sheep-fold," from its pen-like divisions for the voters.

Works of
art.

The *Septa Julia* was very magnificently decorated with marble linings and rows of statues, among which Pliny (*Hist. Nat.* xxxvi. 29) mentions statues of Olympus, Pan, and Chiron with his pupil Achilles, the authorship of which in his time had been forgotten. It also contained *Rostra* for orations, and sometimes was even used for gladiatorial fights; see Dion Cass. lvi. 1, and lv. 8; and Suet. *Aug.* 43. In later times the *Septa* appears to have become a great bazaar or exchange; see Martial, ii. 14, 15, and x. 80, 4.

Existing
remains.

Fragments of the *Marble Plan* represent this building as it was in the time of Severus; the plan, which is inscribed SAEPTA JULIA, agrees with the existing remains under the Church of S. Maria in Via Lata, the Palazzo Doria, and adjacent buildings.

Eight rows of travertine piers, 3 feet 4 inches square, are still visible; five rows under the church, each consisting of five piers, and three rows under the Doria Palace, each with eight or nine piers. The travertine appears to have been covered with painted stucco or marble casing.

The position of the *Septa Julia* was on the verge of the *Campus Martius*, along the side of the *Via Lata*, just before it ran into its continuation—the *Via Flaminia* (modern Corso).

The *Villa Publica* was another large hall near the *Septa Julia*, on the east side of the *Campus Martius*; it was built in 431 B.C.; see Livy, iv. 22, xxxiv. 44, and Varro, *Re Rust.* iii. 2. In 82 B.C., after the defeat of the Samnites and the Democrats at the Porta Collina, Sulla massacred from three to four thousand prisoners in the *Villa Publica*.¹ Their shrieks were heard by the Senate, who were then assembled in the neighbouring Temple of Bellona; see above, vol. ii. p. 71.

*Villa
Publica.*

No remains of this building are now visible, but it is represented on a denarius of the first century B.C., struck by a *monetarius* of the Gens Didia, as a lofty building in two stories, with an arcade below and a trabeated colonnade above; the accompanying legend is T · DIDI · IMP · VII · PVB.

Coin type.

We now return to the part of the *Campus Martius* near the Pantheon.

The *Temple of Minerva (Chalcidica)* stood on the site of the Dominican Church of S. Maria sopra Minerva, as the name of the church records. It was founded by Pompey the Great about 60 B.C., according to Pliny, *Hist. Nat.* vii. 97; and its dedication is recorded in an inscription now lost, which was copied by Marilano, and is quoted by Nardini, *Roma Antica*, ed. Nibby, 1820, iii. p. 130.

*Temple of
Minerva.*

It is, however, possible that it was another temple to Minerva which Pompey built out of his Oriental spoils, as Dion Cassius attributes to Augustus the founding of the "*Temple of Minerva, which was called Chalcidicum.*" Dion Cassius (lxvi. 24) also records that the *Temple of Minerva*

¹ According to Plutarch (*Sulla*, 30) six thousand prisoners were murdered. He mentions the *Circus Flaminius* as being the scene of this horrible deed. The Circus was close by the *Villa Publica*.

*Minerva
Chalcidica*

Chalcidica was restored by Domitian after the very destructive fire in 80 A.D., together with the adjoining *Isaeum* and *Serapaeum*.

Fulvio and Marliano describe extensive remains of the temple as existing in the sixteenth century, adjoining the Dominican Church of S. Maria sopra Minerva, but at the present day all traces have vanished of this once magnificent temple.

The Isaeum and Serapaeum. In the second and third centuries A.D. the worship of Egyptian deities became more than ever popular in Rome, especially under Commodus, Caracalla, and Severus Alexander.

*Isis and
Serapis*

Temples dedicated to *Isis* and *Serapis* were built close by the Temple of Minerva, and appear to have been decorated with numerous statues and obelisks imported from Egypt. Juvenal (*Sat.* vi. 529) mentions the *Temple of Isis* as being near the *Septa Julia*.

*Egyptian
sculpture.*

A large number of Egyptian pieces of sculpture have been at different times found under and near the Church of S. Stefano del Cacco. Among them are three small obelisks, one of which stands in the Piazza of the Pantheon, another in the Piazza di S. Maria sopra Minerva,¹ and a third, discovered in 1882, inscribed with the name of Rhamses II., has been erected in front of the railway station in honour of the soldiers killed at Dagola in Africa in January 1887. With the last-mentioned obelisk was discovered a very curious grey granite column, round which are carved reliefs of Egyptian deities, resembling in style sculpture of the late Egypto-Roman period. This column and a piece of another similar one are now in the courtyard of the Capitoline Museum;

¹ This little obelisk, 17 feet high, was set in its present position on the back of a marble elephant by Bernini in 1667. It is interesting to note that the design of this monument, an elephant bearing an obelisk, was copied by Bernini from one of the very beautiful woodcuts in Colonna's *Poliphili Hymerotomachia*, Aldus, Venice, 1499.

see *Le scoperte dell' Iseo Campense* in *Bull. Comm. Arch. Rom.* for 1883; *Ann. Inst.* for 1853; and Fea, *Miscell. ccliv.* 112.

On this site were found the two Egyptian lions in granite, which have recently been moved into the Capitoline Museum from their former site at the foot of the great flight of steps leading up to the Capitol; their places are now occupied by modern copies. The statue of Isis in the "hall of the dying gladiator" in the Capitol, and the colossal figure of the Nile surrounded by boys (see vol. ii. p. 14) in the Vatican, were also found here. The statue of Minerva, which is near that of the Nile, according to one account was also found on the site of the Temple of Minerva.

Granite
lions.

The three temples to *Minerva Chalcidica*, *Isis*, and *Serapis*, are catalogued in the *Curiosum* under *Regio IX.*; see Ulrichs, *Codex topogr.* p. 14. Part of the *Serapeum* or Temple of *Serapis* is shown on one of the fragments of the *Marble Plan*, on which are inscribed the words *ISAEVM · ET · SERAPAEVM*; see Jordan, *Forma urbis Romae*.

Marble
Plan.

A large extent of the *Campus Martius* to the north and west of the Pantheon was occupied by the *stagnum*, *euripus*, and *Horti* of Agrippa; the latter contained a great number of fine Greek statues. In this part of the *Campus Agrippa* also constructed a temple and a great *porticus* of *Bonus Eventus*; see Ovid, *Pont.* i. 8. 38; and Amm. Marcell. xxix. 6. 17. Some immensely large Corinthian capitals of marble, which belonged to this *porticus Boni Eventus*, have been found at various places, showing that the extent of the porticus was very great.

The Horti
of
Agrippa.

Their discovery, and the evidence for the attribution of these capitals, is discussed in a valuable paper by the Comm. Lanciani in *Bull. Comm. Arch. Rom.* 1891, p. 224 seq.

In September 1890 a discovery of very great interest was made in the *Campus Martius*, on the left bank of the Tiber, between the Bridge of S. Angelo and the Church of S. Giovanni de' Fiorentini. Many fragments were found of two

Ludi
Saculares.

*Ludi
Saeculares.*

inscribed marble columns, which had been set up to commemorate the celebration of the *Ludi Saeculares* at two different periods.

*Carmen
Saeculare.*

The earlier of the two gives a list of the various sacrifices, feasts, processions, games, dramatic performances, and the like, which took place when Augustus, in 17 B.C., celebrated the *Ludi Saeculares* with unusual zeal and magnificence, and when Horace, as Court poet, wrote his famous *Carmen Saeculare*; in the words of the inscription CARMEN · COMPOSUIT · Q · HORATIVS · FLACCVS. It is recorded on the column that the *Carmen* was sung twice by a choir of twenty-seven boys and twenty-seven girls, with a sacred orchestral accompaniment; once when the grand procession was on its way from the temple of Apollo Palatinus to the Capitoline Hill, and again when the *Pompa* was on its way back.

The column on which this most interesting inscription is cut appears to have been, when complete, about 13 feet high and 3 feet 8 inches in diameter.

*Record of
204 A.D.*

The other column, found at the same place, is inscribed with the record of the celebration of the *Ludi Saeculares* in the year 204 A.D., during the reign of Sept. Severus and his sons. It is interesting to note that two of the officiating Vestals, who stood by the side of the Empress Julia Domna, were Terentia Flavola and Numisia Maximilla, the inscribed bases of whose statues are mentioned as having been discovered in the House of the Vestals; see vol. i. pp. 323, 324.

The inscriptions on these two pillars have been edited by Mommsen, *Reale Accad. de' Lincei, Mon. Ant.* vol. i. part iii. 1891. A short but valuable account of the columns was published by Comm. Lanciani in the *Athenaeum*, 14th November 1891. They are now placed in the Museo delle Terme.

APPENDIX TO CHAPTER VI

THE following list gives the references to Pliny's descriptions of the buildings in the *Campus Martius* and the works of art they contained:—

References to Pliny, *Historia Naturalis*.

- xxxiv. 13. *Porticus* built by Cneius Octavius after triumph over King Perseus (Livy, xlv. 42) in 168 B.C.; called "Corinthian" from its bronze Corinthian capitals. The *Pantheon* also had capitals (inside) of *Syracusan bronze*.
31. Seated *Statue of Cornelia*, mother of the Gracchi, daughter of the elder Scipio Africanus, formerly in the *Porticus Metelli*, now in the *Porticus Octaviae*.
40. *Colossal Statue of Jupiter* (probably of bronze) in the Campus, dedicated by Claudius; it looked small from being near the great *Theatre of Pompey*.
62. Bronze *Apoxyomenos* by Lysippus; set by Agrippa in front of his *Thermae*; removed by Tiberius, and replaced owing to popular clamour. [Marble copy in the Vatican.]
64. In the *Porticus Metelli*, twenty-four equestrian statues by Lysippus of generals of Alexander who fell at Granicus, brought by Metellus from Dium, 146 B.C., and afterwards placed in the *Porticus Octaviae*.
- xxxv. 26. In his *Thermae* Agrippa placed some small pictures (*tabellae*) framed in marble, in the hottest room, removed a short while ago (Pliny says) during restoration.
59. In the *Porticus of Pompey* a picture (*tabula*) by Polygnotus, which was in front of the *Curia of Pompey*.
66. In the *Porticus of Philippus* a picture of Helen by

Zeuxis. Clay figures of the Muses (and Hercules Musagetes) by Zeuxis were placed by M. Fulv. Nobilior in his *Temple of Hercules* (near the *Porticus Octaviae*) in the middle of the *Porticus Philippi*.

xxxv. 114. In *schola in Octaviae porticus* were paintings of Hestione,

X and Alexander and Philip with Minerva by Antiphilus. In the *Porticus Philippi* a picture of Liber Pater, Alexander as a boy, and Hippolytus with the bull frightening his horses, by Antiphilus. In the *Porticus of Pompey* Cadmus and Europa, also painted by Antiphilus.

X 126. In the *Porticus of Pompey* a picture by Pausias of Sicyon of a Sacrifice of Oxen: now removed. Remarkable for its violent foreshortening, and strong effect of light and shade—dark on light ground.

132. In the *Porticus of Pompey* a picture of Alexander (and others ?) by Antidotus, the master of Nicias.

139. In the *Porticus of Octavia* ("in Octaviae operibus") a painting of Hercules ascending to heaven from his pyre on Mt. Oeta in Doris; and another of Laomedon bargaining with Heracles and Neptune [for rebuilding the walls of Troy].

144. In the *Porticus of Pompey* a series of pictures of the Trojan War by Theorus (*cur. tec. Theodorus*).

xxvi. 15. In *Octaviae operibus* a marble Aphrodite by Pheidias, of very great beauty.

22. In *Octaviae Scholis* an Eros by Praxiteles of marble, dedicated at Thespiae in Boeotia [by Phryne].

24. In the *Temple of Juno*, within the *Porticus of Octavia*, marble statues of Aesculapius and Diana by Cephisodotus, son of Praxiteles.

26. In the *Temple [of Neptune]* built by Cneius Domitius Ahenobarbus by the *Circus Flaminius*, a marble group by Scopas, the most esteemed of all his works, of Neptune, Thetis, Achilles, Nereids on dolphins, whales, sea-horses, the train of Phorcus and other sea-monsters—wonderful even if all Scopas' life had been spent on them. And in the *Temple [of Mars]* by the *Circus Flaminius*, built by Brutus Callaecus [conqueror of Callaecia], a colossal Mars also by Scopas, and in the same place a nude Venus.

28. In the *Temple of Apollo Sosianus* [cedar statue of Apollo originally brought from Selencia by C. Sosina, the

Quæstor of M. Lepidus; Livy, xxvii. 37] the *Dying Children of Niobe* [copies in Uffizi, and one in Vatican, which is perhaps an original statue], doubtful whether by Scopas or Praxiteles. There is the same doubt (Pliny says) about a statue of Cupid holding a thunderbolt which is in the *Curia of Octavia*.

- xxxvi. 29. "In eadem schola," fine statues of unknown authorship, of four Satyrs, one bearing Liber Pater robed in the *palla*, another bearing Libera [Persephone not Ariadne as Ovid, *Fast.* iii. 512]. A third Satyr quiets a child, a fourth gives drink to a child. Also two Zephyrs with wind-blown drapery.

In the *Sæpta Julia* statues of Olympus, Pan, Chiron and Achilles by unknown hands.

34. In the *Porticus of Octavia* in the *Temple of Apollo*, a statue of Apollo called Sosianus by Philiscus of Rhodes. This is the cedar-wood statue mentioned by Pliny, *Hist. Nat.* xxxvi. 28. Near it were statues of Latona and Diana, the nine Muses, and another Apollo, nude.

In the same temple Apollo with lyre, by Timarchides.

In the *Temple of Juno* in the *Porticus Octaviarum*, two statues of Juno by Dionysius and Polycles, and some statues by Praxiteles.

In the adjoining *Temple of Jupiter* a statue of Jupiter by the above-named Polycles and Dionysius the son of Timarchides; and group of Pan and Olympus wrestling, by Heliodorus.

Also Venus at the Bath by Daedalus, and a standing Venus by Polycharnus.

40. On the way to the *Campus Martius* ("qua Campus petitur"), in the temple built by Metellus [Macedonicus], an ivory statue of Jupiter by Pasteles; he was sculptor of (bronze) Venus Genetrix in *Foro Julii*; cf. *Hist. Nat.* xxxv. 156, 156.
41. Round the *Porticus of Pompey* fourteen statues of *Nations* by Coponius (quoting Varro).
42. The temples in the *Porticus of Octavia*, dedicated to *Jupiter Stator* and *Juno Regina*, were built by Sauras and Batrachus of Sparta. Their emblems, a lizard and a frog, are cut on the *spiræ* of the columns.
- 71 and 72. Obelisk erected in the *Campus Martius* by Augustus. It serves as the gnomon of a great sun-dial, the lines

for the hours being marked with lines of bronze inlaid in the stone pavement. A gilt ball was placed on the apex of the obelisk. For thirty years (Pliny says) the sun-dial has been wrong, either from derangement of the sun's course, or from the earth having moved, or else from earthquake or settlement moving the paving.

CHAPTER VII

VARIOUS TEMPLES AND OTHER BUILDINGS

WE pass now to another quarter of Rome, returning to the neighbourhood of the Forum, a few hundred feet from its eastern end, where there are considerable remains of one of the most magnificent temples which was ever built by the Romans.

The Temple of *Venus and Rome*, the largest of all the temples in Rome, was designed by the Emperor Hadrian, and criticised by the distinguished Greek architect and engineer Apollodorus of Damascus, who designed the magnificent group of buildings which composed the *Forum of Trajan*; Spartian. *Hadr.* 19, and Dion Cass. lxi. 4; see vol. ii. p. 28.

*Temple of
Venus and
Rome.*

Apollodorus remarked that the temple should be raised on a high *stylobate*, so as to command the *Sacra Via*, and that the space under it should be utilised to contain scenery and machinery for use in the neighbouring amphitheatre, that is, the Colosseum. It appears from the existing remains that Hadrian adopted these suggestions; and there is probably no truth in Dion Cassius' statement that Apollodorus was put to death by Hadrian in revenge for his criticism—an act which would have been at variance with what is known about Hadrian's character.

*Criticism of
Apollodorus.*

This temple, which consists of two *cellae* set back to back, was dedicated to *Venus Felix* and *Roma Aeterna*; it was left unfinished by Hadrian, and completed by Antoninus Pius. In the reign of Maxentius it was much injured by fire, and its

*Double
cella.*

restoration was begun by him, and carried out by Constantine; Amm. Marcell. xvi. 10. It was a *decastyle, pseudo-dipteral* building, having, that is, ten columns at each end, and those at the side set at a considerable distance from the

*Decastyle
fronts.*

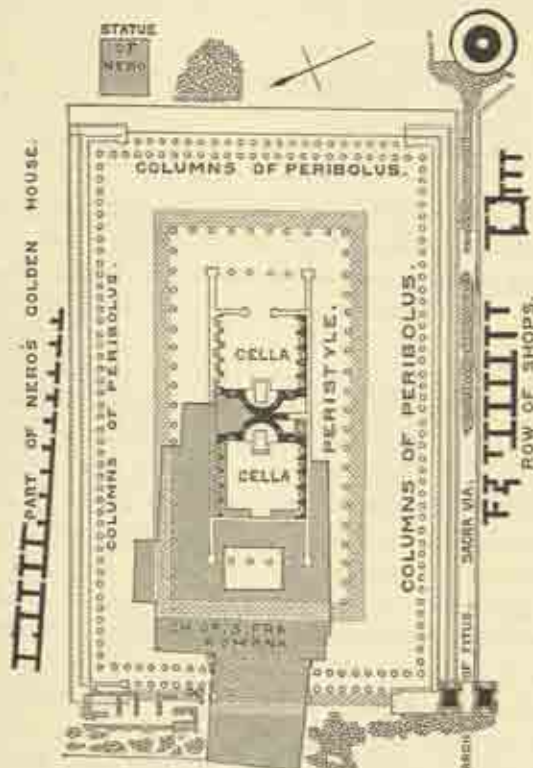


Fig. 85.

Plan of the Temple of Venus and Rome.

cella wall; see fig. 85. These columns were of white Athenian marble of the Corinthian order. Being dedicated to two deities the *cella* was made double, thus forming two nearly square halls with large apses at one end of each. Externally the double character of the temple did not appear,

as the two *cellae* were treated as one, being surrounded with one continuous *peristyle*.

In the apses were colossal statues of Venus and Rome, the pedestals for which still partly exist.¹

The side walls of the *cellae* were surrounded on the interior with rows of monolithic porphyry and granite columns, set between niches containing statues. The vaults of the *cellae* were of barrel or semicircular form, enriched with deeply sunk coffers decorated with stucco mouldings and rosettes, all richly gilt and painted.² The vaults over the two apses are still well preserved, and retain some of their rich ornaments modelled in *cementum marmoreum*. Rich decorations.

They are perhaps the finest existing examples of the kind in Rome. The best preserved portion can only be seen from the garden of the Monastery of S. Francesca Romana, which is partly built over the western of the two *cellae*; see plan in fig. 85. Existing remains.



Fig. 85A.

Temple of Venus and Rome, as shown on the reverse of a *First Brass* of Hadrian.

The walls are of brick-faced concrete, once wholly lined both inside and out with slabs of marble; restorations after the fire in the reign of Maxentius can be traced among the existing walls of the *cellae*; in which brick-stamps exist both of the time of Hadrian and of Maxentius and Constantine.

The pediment was decorated with sculpture, as is shown on several *First Brasses* of Hadrian, with the legend ROMAE AETERNAE or VENERI · FELICI; see fig. 85A. Coin types.

A fragment of a bas-relief shows the sculpture in the

¹ Silver statues to Marcus Aurelius and his wife Faustina were placed here by the Senate, and in front of them an altar, at which sacrifice was commonly offered by newly married people; Dion Cass. lxxi. 31.

² Similar *lacunaria* are illustrated in fig. 13, vol. i. p. 71.

tympanum of one of the pediments representing Mars and Rhea Sylvia, the wolf and the twins with Faustus standing by, and other figures.

*Bronze
roofing.*

The roof of the temple was covered with bronze tiles plated with gold, which remained in their place till they were stripped off by Pope Honorius I (625-40) and used to cover the Basilica of S. Peter; see Anastasius *Biblio. Vita Honor.* I. ed. Bianchini, 1718. These bronze tiles were stolen by the Saracens during their invasion of the Leonine City in 846 A.D.

The floor of the temple was in rich *opus sectile* mosaic of coloured marbles and red and green porphyry; many loose fragments of this have been found.

*Great
peribolus.*

This enormous temple stood in an outer *peribolus* or *porticus* with a colonnade of about 180 gigantic columns in red and grey Egyptian granite and red porphyry, forming a vast sort of cloister enclosing rows of statues; a few pieces of granite columns still remain scattered about the *peribolus*.

The temple and its whole *peribolus* stood on an immense platform, formed at the end towards the Forum by cutting away the tufa rock of a ridge which once connected the Palatine and the Esquiline Hills, probably the ancient Velia; see vol. i. p. 220.¹

*Marsian
podium.*

At the other end the platform extends beyond the slope of the hill into the valley of the Colosseum, and here its level is raised by an enormous bulk of concrete poured in a fluid mass and set as hard as a rock. The concrete which came under the walls or columns of the temple is made of broken

¹ Hadrian also completed a temple of more than equal size and magnificence at Athens — that dedicated to Olympian Zeus, which had been founded but not completed many centuries before. Fifteen of the columns of its *dyspter* peristyle are still standing. The Athenian temple was, however, not *decostyle* but *octastyle*, as Mr. Peacock's recent excavations have proved, thus confirming the statement of Vitruvius, iii. 2. 8, the accuracy of which had previously been questioned.

bits of lava, while the main mass is of the softer tufa concrete, used wherever it had little weight to bear.

The probable use of the chambers formed in the concrete mass of the platform is mentioned at vol. ii. p. 86. These are chambers purposely constructed, and not merely voids left by the removal of blocks of stone, as has been asserted.

*Chambers
in the
podium.*

Similar chambers appear to have been constructed under all the temples of Rome which were set on lofty *podia*, as, for example, in the Temples of Concord, Saturn, Castor, and Divus Julius; see vol. i. chap. v.

Owing to the almost complete disappearance of this once immense *peribolus* colonnade, it is very difficult now to realise the stupendous effect of grandeur which must have been produced by this stately *porticus* and the magnificent temple within its area.

It extended, as is shown on fig. 85, along the whole rise of the *Sacra Via*, and reached across to the edge of the Esquiline Hill, where it was bordered by some remains of Nero's *Golden House* which had escaped the demolition of Vespasian and Titus; see vol. ii. p. 227. Near the Church of S. Francesca Romana some marble steps still exist, which mark its limit at the end which faced towards the *Forum Romanum*.

*Extent of
temple.*

At the other end, where the platform rises high above the level of the valley, access was given by a flight of steps winding up at each angle; the concrete core of these stairs alone remains.

The extreme scantiness of even fragments of marble and granite, of which this temple once possessed so enormous a quantity, is accounted for by the fact that for centuries its ruins were used as a quarry; and finally, during the most architecturally degraded period of the history of Rome, the ninth to the twelfth centuries, all that remained of its marble columns, cornices, and other decorations, were burnt into lime in a number of kilns which were constructed in the area of the building out of the fireproof porphyry columns with which

*Medieval
spoliation.*

the external *porticus* and the interior of the two *cellae* were decorated.

X The identification of these remains with the *Temple of Venus and Rome* admits of no doubt; its brickwork contains stamps dated 123 and 134 A.D. in the reign of Hadrian. Spartianus describes it as standing on the former site of the Colossus of Nero, and Apollodorus' criticism shows that it was near the *Sacra Via* and the Colosseum. Moreover, no other double temple of anything approaching the size of this one existed in Rome. Bianchini, *Palazzo dei Cesari*, 1738, pl. xvi., gives a plan of the Temple of Venus and Rome which shows that a great deal more of the two *cellae* existed in his time than is to be seen now. He omits, however, the whole of the great double *peristyle* which had been destroyed long before the eighteenth century.

Site of
temple

It need hardly be said that Mr. Parker's theory, set forth in *Archæologia* and elsewhere, as to the Temple of Venus and Rome being the *Porticus Liviae* is quite without foundation. An existing fragment of the *Marble Plan* shows that the *Porticus Liviae* had no resemblance to these remains; and the *Porticus Liviae* is recorded to have been in the third *Regio*, while this building is in the fourth, the one in which the Temple of Venus and Rome is catalogued; see *Notitia*, Ulrichs, *Codex topog.* pp. 5-7.

Marble
Plan

Moreover, Prof. Lanciani has pointed out that the fragment of the *Marble Plan* which contains part of the *Porticus Liviae* fits on to another fragment with a portion of the *Thermae of Titus*, thus definitely fixing the position of the *Porticus Liviae* a little distance to the north of the *Thermae*, between the modern *Via Cavour* and the *Via delle sette sale*; see *Bull. Rom. Com. Arch.* 1886, p. 270.

BASILICA OF CONSTANTINE

The *Basilica of Constantine* was begun by Maxentius, but

left unfinished at his death in 312 A.D., and completed soon afterwards by Constantine; Aur. Victor, *Cæs.* 40, 26.

*Late
Basilica.*

In the *Notitia, Regio IV.*, it is catalogued as the *Basilica Constantiniana*, and comes in order between the *Sacra Via* and the *Templum Faustinae*; in the *Curiosum* it is called the *Basilica Nova*, being probably quite new when the catalogue was made; Urlichs, *Cod. top.* pp. 6 and 7.¹

Little of this once magnificent building exists except the three vaulted chambers, 68 feet in span, which opened out of the great central hall on the north-east side; see fig. 86, and Ligorio's plan given below in fig. 87, p. 227. The central one

*Existing
remains.*



Fig. 86.

Section of the Basilica of Maxentius and Constantine.

of these recesses has an apsidal end, containing the pedestal for a colossal statue, and four niches for other statues on each side of it.

The floors of these niches are formed by a massive marble shelf like a cornice, partly supported by marble corbels between the niches, each rudely carved with figures of Victory and coarse foliage.

A marble seat and steps run all round the apse, which appears to have been a sort of tribunal for the emperor or other presiding judge. This tribunal was separated from the rest of the hall by two columns and bronze screens, the marks of which still exist on the large marble slabs of the pavement.

Tribunal.

¹ The mediaeval antiquaries mistook the *Basilica of Constantine* for *Vespasian's Templum Pacis*.

The other halls at the sides of this have no apses; all three are covered with magnificent barrel vaults in concrete, decorated with sunk coffers and enriched stucco mouldings once richly decorated with gold and colour.

*Central
hall.*

The great central hall must have been a most magnificent chamber. It was more than 80 feet wide, and was vaulted in three bays with quadripartite groining, also decorated with sunk panels, like many others of the great concrete vaults of ancient Rome. The proportion and whole design of Constantine's hall are very similar to the central hall in the *Thermae* of Caracalla, which is shown in vol. ii. p. 165.

*Concrete
vault.*

Three bits of the springing of this vault alone remain in place, and one of these is a very striking example of the strength of the Roman concrete, and the fact that these great vaults were cast in one mass and were not built as arches with lateral thrust.

This piece of the springing of the vault was originally designed to rest on a great Corinthian column, from which it appeared to spring, as the vault does in fig. 77; the column, however, has been removed, and yet this great piece of vaulting still stands though it has no support under it, and is merely kept up by its adherence at the back to the wall behind. Some fine fragments of the fallen vault now lie on the floor below. The real construction of the vault, with its absence of any arch principle, can be very clearly seen in one of the large pieces of the fallen vault of the main hall.

*Granite
columns.*

The last of the columns, which was removed by Paul V. at the beginning of the seventeenth century, now stands in the piazza opposite the main entrance to S. Maria Maggiore: all the rest have perished or exist unrecognised in some church of Rome.

The end of the Basilica towards the Colosseum is occupied by a long hall forming an antechamber. This is possibly what

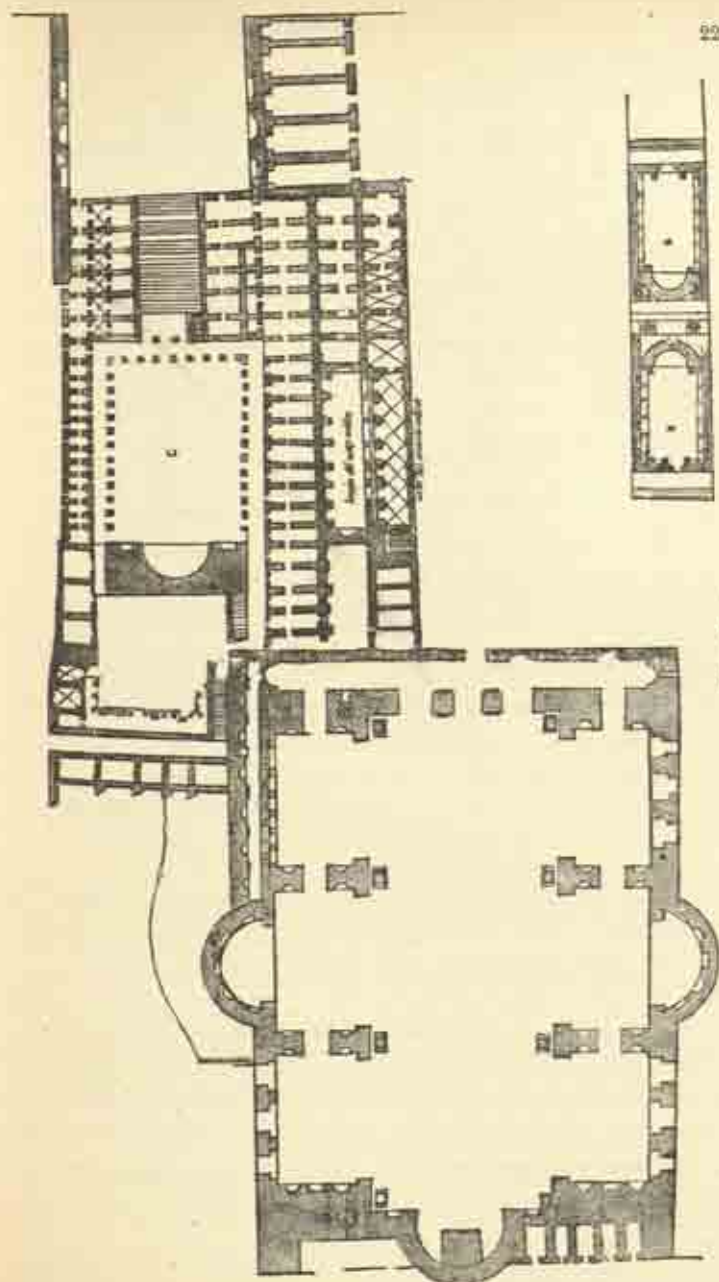


Fig. 57.

Ligorio's plan of the Basilica of Constantine and (C) part of the Golden House of Nero. The twin cellae of the Temple of Venus and Roma are shown below, but are not drawn to scale, BB.

Chalcidicum.

Vitruvius (v. 1 and 2) calls the *Chalcidicum*,¹ a hall which he says may be added if there is room for it at the end of a Basilica. In these chapters Vitruvius gives many interesting details with regard to the arrangement of *Fora* and *Basilicae*.

Reynolds.

The back of the existing part of the building was decorated with two orders of engaged columns, and arches supporting marble entablatures, which are shown in several sixteenth-century drawings, especially in the great oil-painting of Rome in the museum at Mantua, published by De Rossi, *Piante di Roma anteriori al sec. xvi.* 1879, folding plate.

Ligorio's plan.

Fig. 87, from a sketch in Ligorio's Bodleian Manuscript, shows the complete plan of the *Basilica of Constantine*, and also, adjoining it, part of the enormous *Golden House of Nero*, with a grand flight of steps leading up to an open court. Part of the Golden House shown in this plan still exists, and can be seen bordering the road that leads from the *Basilica* towards the Colosseum, on the north-east side of the *Temple of Venus and Roma*.

Front on Sacra Via.

The front of the Basilica towards the *Sacra Via* was probably even more magnificent than the rest, having red porphyry columns set off by their background of white marble, and a long flight of marble steps leading up from the road to the level of the main floor of the Basilica. The existing fragments of porphyry columns probably belonged to this front, but are not now in their right position.

The whole interior of the building was richly decorated with various coloured marbles, granites, and porphyries, except the vault which was covered with moulded stucco once painted and gilt.

Main cornice.

The external cornice at the top of the building on the end towards the Colosseum is not of solid marble, but is formed by marble corbels or *consoles* which support courses of large tiles; these tiles were covered with hard stucco worked in

¹ Said to have been so called from its being an invention of an architect of Chalcidice.

mouldings with enriched members, and then decorated by painting.

This method of forming cornices, which were too high to be examined closely, was a very common one in Rome, especially under the late Empire. Examples exist round the exterior of the Pantheon, at the *Thermae* of Diocletian, and also on the front of the *Curia* (now the Church of S. Adriano) which Diocletian rebuilt. It is possible that the Pantheon cornice is not of Agrippa's time, but dates from the restoration of Severus in 202 A.D.

Late
cornices.

REMAINS ON THE CAELIAN HILL.

That part of the Caelian Hill which immediately faces upon the Colosseum is covered with very extensive remains of a building partly constructed of massive blocks of travertine and partly of brick-faced concrete. Of the latter is built the enormous *peribolus* wall which surrounded the whole of this spur of the hill; a great part of it is still very well preserved, though stripped of its marble columns and linings. Its brickwork is of the Flavian period. The external face of this massive and lofty wall is decorated with a series of tall apsidal recesses and niches, apparently meant to contain colossal statues. Remains of mosaic pavements show that this great building once extended over and beyond the new road, called the Via Claudia, which now leads from the Colosseum to S. Stefano Rotondo.

Building of
doubtful
use.

Under the Campanile and Passionist Monastery of SS. Giovanni e Paolo, within this great *peribolus*, there still exists part of a massive travertine arcade, with engaged columns very like that of the Colosseum, and equally coarse in detail.¹

Stone
arcade.

That part on which the Campanile² rests is very well

¹ The garden of this monastery occupies most of the space enclosed by the *peribolus* wall.

² The Campanile itself, which stands a few feet distant from the

preserved, and is a fine specimen of massive, well cut masonry.

A long length of this arcade existed in the sixteenth century, and is shown in several drawings of that period, but the greater part has been removed for building material. What this extensive building was remains at present doubtful, and will be so till further excavations are made.

*Palace of
Commodus.*

According to one theory it is the *Temple of Claudius*, built by Vespasian (Suet. *Vesp.* 9); but Bunsen's suggestion (*Beschr.* iii. p. 476) is much more probable, namely, that it was the house of Vectilius (*Domus Vectiliana*), bought and probably enlarged by Commodus, *Hist. Aug. Comm.* 16, and connected with the Colosseum by a subterranean passage or *Cryptoporticus*.

*Long
passage.*

Such a passage actually exists and has been partially cleared out; see vol. ii. p. 108. It was in this passage that the unsuccessful attempt to stab Commodus was made; he was murdered shortly after in the *Domus Vectiliana*. He is said to have taken up his abode in this house because he could get no sleep on the Palatine; and also, partly, in order to be near the amphitheatre and its scenes of butchery, in which he took such keen delight.

Nero's continuation of the Claudian aqueduct passes close by this building, and a branch aqueduct diverges as if to supply it and the Colosseum below with water.

*Rock-cut
chambers.*

A large number of chambers and extensive passages exist under the great *peribolus*, excavated in the rock; these are merely cavities left by quarrying the tufa, and there is no foundation for the popular notion that they were *visaria*, dens for beasts ready for use in the Colosseum. As was so often

entrance façade of the Church of SS. Giovanni e Paolo, is one of the finest Roman examples of these beautiful thirteenth-century bell-towers. It is ornamented with the brilliantly coloured *ciotole*, discs or plates of enamelled pottery, which are usually said to be of Oriental origin, and were the prototypes of the later *maiolica* ware of Italy.

the case with old quarries, some of these chambers appear to have been used in later times as cisterns for storing water.¹

Christian House. Some very interesting remains of a Roman house of the fourth century A.D. have been discovered under the Church of SS. Giovanni e Paolo. These remains consist of a row of brick-faced vaulted chambers, each with a wide archway opening on to a lava-paved street. Behind these is another series of inner rooms, some with coarse mosaic floors. Some of the painted decorations in these chambers are well preserved; especially one room which has its barrel vault covered with scroll-work of vines, among which are sportive genii, animals, and birds. Below the vault is a deep frieze painted with nude male figures standing and supporting festoons of flowers. Between them are peacocks, cranes, and other large birds. Other parts of these interesting remains have wall-paintings of the ninth century, with scenes of Christ's passion. At a higher level are some very decorative frescoes *a secco* of the thirteenth century.

Martyrs' house.

Some of the oldest paintings on the walls clearly represent Biblical and Christian subjects, such as hitherto have only been found in Catacombs, never on the walls of a private house in Rome of as early a date as the fourth century A.D.

Christian paintings.

According to ecclesiastical tradition this house was the dwelling of the two martyrs, under the persecution of Julian, to whom the church is dedicated, and also was the scene of their martyrdom. Its remains have now been made accessible from the interior of the church. There are no less than fifteen rooms, mostly well preserved, and others still remain unexcavated.

When the present church was remodelled in the twelfth century² the room in this house where the martyrs' tombs had

¹ Compare the rock-cut cisterns under the *Temple of Jupiter Victor* (so called) on the Palatine; see vol. I. p. 164.

² Part of the church is much older than the twelfth century, but it

Confessio been deposited was made into the *Confessio*, under the high altar of the upper church. A paper on the house, with a plan by Padre Germano, is published in the *American Jour. Arch.* 1890, p. 261; see also *Bull. Com. Arch.* 1887, pp. 151 and 321, and *Bull. Arch. Crist.* 1888-89, pp. 68 and 89.

Temple of Minerva as called. "*Temple of Minerva Medica*" (so called) on the Esquiline, near the Porta S. Lorenzo. This title is a misnomer, which partly originated in the supposed discovery of a statue of Minerva, which is now in the Vatican, among the ruins of the building, and also from the fact that a Temple to *Minerva Medica* is catalogued in the *Notitia, Regio v.* It appears, however, that the statue of Minerva really was found by the Temple of Minerva Chalcidica (S. Maria sopra Minerva); see vol. ii. p. 211.

Existing remains. The building appears to be a *Nymphæum*, or a part of some baths of about the time of Gallienus, 263-268 A.D. In the Middle Ages it was known as the *Terme di Galluccio*, a name for which it is difficult to account. It is a very curiously planned building, having a central decagonal hall, with a skilfully constructed domical vault, originally surrounded with a number of rooms radiating from it. It was once richly decorated with marble and porphyry, and contained a large quantity of statues, many of which have been disinterred at different times, among them statues of Hercules, Adonis, Venus, Pomona, Aesculapius, and others.

Minerva Medica. The site of the real *Temple of Minerva Medica* was discovered in 1887 between the new Via Macchiavelli and the Via Buonarroti, about 7 feet below the present ground level. Remains of an early *cella* built of blocks of tufa were discovered, and in and round it an immense number of votive thank-offerings for health restored in terra cotta and bronze. One fragment of a vase has incised in archaic letters the dedication [M]ENERVÆ · DONO · DE[DET]; see *Notiz. d. Scavi*, 1887, p. 179. was much altered by the English Pope Nicholas Brakespear, Hadrian IV., who reigned from 1154 to 1159.

Votive offerings.

This inscription has the common form II for E. *Minerva Medica* was resorted to in all sorts of bodily complaints and defects. Gruter, 1067, 4, gives the following, *Minervæ memori Tulli A. Superiana restitutione facta sibi capillorum*; this is the inscription on the thank-offering of a lady whose hair grew again after falling off.

Sessorium (supposed). Somewhat similar ruins to those of the *Nymphæum* mentioned above, by the neighbouring Basilica of S. Croce in Gerusalemme, have been supposed to be part of a *Nymphæum* of Severus Alexander, 222-235, also mentioned in the *Notitia*, under *Regio V.*; but a more probable suggestion is that of Becker (*Handbuch*, pp. 547, 548), who thinks that they are part of the *Sessorium*, a Court of Justice, which is mentioned by the Scholiast on Horace (*Schol. Crug. ad Hor. Epod.* v. 100), and by other late writers. The building was so called from the *sestorum* or throne of the presiding judge. *Sessorium.*

PRAETORIAN CAMP.

The Praetorian Guard, who afterwards became so powerful and unscrupulous in the making and dethroning of the emperors of Rome,¹ were first established in a permanent camp by Tiberius, outside the limits of the city, as they existed at that time; Suet. *Tib.* 37. A considerable part of Tiberius' enclosure wall still exists, and is among the most interesting of the existing remains of Rome.² *Praetorian Guard.*

The *Praetorian Camp* is represented (see fig. 88) on a curious *aureus* of Claudius, with the words *IMPERATORE RECEPIT* on the long, low external wall. Within the camp some *Coin type.*

¹ In 6 A.D., when the *Aerarium Militare* was instituted, there were nine cohorts of Praetorians, including about 10,000 men; the rest of the army then contained twenty-five legions, composed of Roman citizens, as well as a large number of foreign auxiliaries.

² It can best be examined from the outside of the city, by going out of the modern *Porta Pia*.

*Praetorian
Guard.*

loftier buildings are shown, including an *oedicle* containing a statue of *Roma* (1) and a military standard.



Fig. 88.

The Praetorian
Camp shown
on a gold coin
of Claudius.

Within the walls of the camp the Empire was put up to auction by the Praetorians, after the murder of Pertinax in 193 A.D., and knocked down to Didius Julianus at the cost of a bribe of about £300 to each member of the Guard; see Herodian. ii. 6. and Spartian. *Julian*, i.; see also Tac. *Ann.* iv. 1, and *Hist.* i. 40, and ii. 94.

The Praetorians were finally disbanded by Constantine, who demolished the inner wall of the camp on the side towards the city. The other walls were spared, because they had been included by Aurelianus in his great circuit wall all round Rome, and so formed part of the defences of the city. In this way the camp forms a large projection at the north-east angle of the city, about 500 yards long; see *plans of Rome*.

*Remains
of camp.*

When the wall of Aurelian was built (about 270 to 275 A.D.) the walls of the Praetorian Camp were raised to more than three times their original height, the upper part of the gate towers was demolished, and the entrances were blocked up; but it is still possible to trace a long piece of the original wall of Tiberius' time, and the positions of the *Porta Decumana* and the *Porta Principalis dextra*. The plan of the camp and the arrangement of its gates was like that of any other Roman camp in an enemy's country.¹

The annexed figure shows the best preserved part of Tiberius' Camp with the later walls of Aurelian, Honorius, and of mediaeval times added on the top of the comparatively low wall of the original camp. It requires a close examination to distinguish the limits of Tiberius' wall, with its battlements, which are embedded in the later wall of Aurelian. The original wall of the camp, about 10 feet high, still exists to

¹ An interesting account of the usual plan and arrangement of Roman camps is given by Josephus, *Bell. Jud.* iii. 5.

its full height at this part, but the upper portion of the towers which flanked the entrance is lost.

Made of
concrete-
tion.

It is built of massive concrete, with a very neat facing of brickwork, quite unlike the additions and rebuilding of Aurelian's time and later. It had small square battlements, about 2 feet 6 inches wide, with moulded capping, at rare intervals, about 20 feet being left between them. A little way below is a simple string-course of moulded bricks (A on fig. 89).

Windows.

The central gate on the north side, shown on fig. 89, is the best preserved. Its opening is decorated with tall brick pilasters, with moulded terra-cotta bases (B on fig. 89), and on each side are two small windows, 10 inches wide (C on fig. 89), with arched heads formed in one slab of terra cotta; other slabs, with moulded edges built in sideways, form the label-mould.

D on fig. 89 shows the section of the arch of this curious little window. Though the whole head of the window is formed with one slab of *terra cotta*, an arch is marked upon it with incised lines, so as to look as if it were built with minute brick *voussoirs*.

Brick
facing.

The brick facing of the pilasters, 1 foot 11 inches wide, which flank the central opening, the *Porta Principalis dextra*, is especially neat and close jointed, with bricks $1\frac{1}{4}$ inch thick, and joints barely $\frac{1}{2}$ inch, of fine, hard, red clay; in other places the joints are slightly thicker, but the whole surface is very neat and regular, and was not covered with stucco; it is a very fine example of the most beautiful kind of brick facing.

The modern road outside the Aurelian walls has been excavated down to a level several feet lower than the old one, and thus has exposed the foundations of the camp, except where they are hidden by a bank of earth.

Extent of
wall.

This wall of Tiberius' time can be traced all along the north side, and along a great part of the east side. Built against the inside of the wall, along its whole length, is a row

of small vaulted chambers, probably rooms for some of the Praetorian guard.

In some places, owing to the fall of the ground, the wall of the camp is much higher than the part shown in fig. 89, reaching to from 20 to 25 feet in height. Some remains still exist of the other entrances into the camp; they are similar in design and detail, but the moulded brick bases of the pilasters have all perished since the drawing in fig. 89 was made.

*Height
of walls.*

When the camp was included in the line of the Aurelian wall, its south wall was rebuilt on a new line, and the rest of the wall was greatly increased in height all along the three sides which project beyond the main line of the city. This addition is shown on fig. 89. This upper and later wall is of several different dates, partly of Aurelian's time and partly of the time of Honorius, with many later restorations and clumsy patchings.

*Changes
in 275.*

Some of the internal buildings of the Praetorian Camp were decorated in the usual Roman way with marble wall-linings and mosaic pavements. A large piece of mosaic found there has recently been placed in the Museo delle Terme; it represents a tame tiger led by two men, coarsely executed, and probably dating from the time of Sept. Severus.

*Mosaic
floor.*

PRIVATE HOUSES.

Examples of private houses, in a good state of preservation, are comparatively rare, but the recent laying out of new quarters on the Esquiline, Viminal, and Quirinal Hills, and the formation of the Tiber embankment, have brought to light a large number of houses, both the *domus* of the rich, and the crowded *insulae* or blocks, which contained one or more families on each flat, as is the modern custom in Rome and other Italian cities.¹

*Roman
houses.*

¹ The remarks of Vitruvius (vi. 3) refer to the isolated house or *domus*. The absence of originality in Roman domestic as in religious architecture

Unhappily, in most cases the discovery of these most interesting remains has been immediately followed by their destruction, so that the transference to Rome of the Capital of Italy has had, from an archaeological point of view, the most disastrous effects.

Marble Plan.

A large number of interesting plans of Roman houses, though of unknown ownership, are shown on various fragments of the *Marble Plan*.

With regard to the general plan and arrangement of Roman houses it should be noted that both in the city and in the country the Romans usually built their houses many stories high, and some of the best and most important rooms appear to have been on an upper floor.

Mosaic picture.

That interesting mosaic picture of a country villa which was found in Algeria (see vol. ii. p. 123) shows a very extensive mansion with four and five stories of rooms, designed very much like a modern Roman *palazzo*, that is to say, the ground story has only a few windows with heavy iron gratings, probably storerooms and offices. The first floor, on the other hand, is well lighted with numerous large, arched windows, which evidently open into the principal rooms of the house.

Use of many stories.

It is a common mistake in examining the existing remains of Roman houses, of which, as a rule, only the lowest story remains, to expect to find on this one ground-floor all the chief rooms of the house including reception-rooms and bedrooms. In those rare cases in which one or more upper floors of a Roman house exist we see from their decoration, lighting, and other points that they were, at least in some respects, the best rooms in the house. As examples of this we may note the Palatine Palace of Severus, the Atrium Vestae and the specially interesting but now almost wholly

is shown by the fact that nearly all the names for the different parts of the house are Greek, e.g. *Tridinium*, *Accus*, *Peristylum*, *Exedra*, *Hypæthrum*, etc.

destroyed House of Sallust which is described in the following pages.

On the whole, the most complete private house in Rome, and a very good typical example of a rich man's dwelling before the Christian era, is that on the Palatine Hill, known as the *House of Livia or Germanicus*; its plan is given in fig. 25, vol. i. p. 177.

Typical
house.

Another fine private house, supposed to be the Villa of Maecenas, was discovered in 1874, on the line of the Servian wall and Agger, not far from S. Maria Maggiore. It is built of concrete faced with fine *opus reticulatum* unmixed with any brickwork, and probably dates from the time of Augustus. In construction it closely resembles the Palatine house.

"Villa of
Maecenas."

One room only has been preserved; this is a rectangular hall with apsidal end. All round the walls are tiers of high steps looking something like seats, and on account of these the hall has been called the *Auditorium of Maecenas*, and has been supposed to be the place where poets and other writers read their works to an assembly of Maecenas and his friends.

Prof. Mohr (*Bull. Inst.* 1875) has, however, shown that it really is a greenhouse, and that the apparent seats are stages on which rows of flower-pots were set. The Romans were fond of the cultivation of flowers and shrubs in this way; see also *Bull. Arch. Comm. Rom.* 1874.

Roman
greenhouse.

On each side of the hall are six recesses, very gracefully decorated with paintings of garden scenes, with flowers and fountains treated in a very realistic way, as if the back of each niche were a window opening on to a garden. The whole walls and vault were covered with similar paintings of trees and flowers very skilfully executed, and apparently contemporary with the building. The hall was covered with a barrel vault in which openings were formed to admit light, there being no windows in the wall.

Pliny (*Hist. Nat.* xxxv. 116) describes this style of wall decoration; he mentions an artist named *Tullius*, who lived in

Painted
gardens.

Garden
mosaic.

the reign of Augustus and was famous for this style of painting. Some MSS. read *Lulius* as the artist's name, but *Tadius* seems the more probable reading. Unfortunately the passage is corrupt and doubtful in other places.

These fine paintings have sadly perished since they were discovered, both by the fading of the colours and from the crumbling away of the stucco.

This once very extensive villa extended over the Servian wall, a long piece of which had been removed to make room for it. The construction of the villa and gardens of Maecenas over the site of the once squalid pauper cemetery is mentioned in vol. i. p. 133.

Mosaic
pavements.

The pavements of Roman houses were specially remarkable for the frequent elaboration of their designs in mosaic. The earlier houses, till the time of Augustus, had mosaics of a very simple character, with merely geometrical patterns formed of gray and white *tesserae* only. Under the Empire the mosaics gradually became more pictorial in character, and great varieties of coloured marbles, imported from all over the Roman Empire, were used to give realistic effects to the picture-like designs which the bad taste of the Romans made so popular. In some cases large river scenes, especially views on the Nile, were represented. Other rooms had the floor covered with various sorts of fishes, most cleverly treated with great spirit and realism. A common mosaic in *triclinia* represented an unswept floor after a feast, with scraps of all sorts—nut-shells, fish-bones, and the like—scattered all over the surface; this pattern is called *avorolon* by Pliny, *Hist. Nat.* xxxvi. 184. Examples of this are to be seen in the Lateran Museum. One very grim mosaic is preserved, among many others, in the Museo delle Terme. This represents a skeleton, in black on a white ground, under which are the words ΓΝΩΘΙ CAYTON, *know thyself*, one of the phrases inscribed by the Wise Men on the front of the Temple of Apollo at Delphi.

Pictorial
style.

Another very curious mosaic from a house on the Esquiline Hill has a representation of the ground-plan of a large and elaborate house drawn to a large scale, with the figured dimensions of each room (in feet) inserted in large numerals. Baths and fountains are indicated by covering the area of each with blue *tesserae*. The whole effect is strange rather than decorative. This mosaic is now in the Palazzo dei Conservatori.

*Plan of
a house.*

The houses of wealthy Romans, especially during the second and third centuries A.D., not unfrequently had their walls covered with very elaborate mosaics of pictorial style, minutely executed with very small *tesserae* of brilliantly coloured paste and glass. Even vaults were sometimes decorated with glass mosaics, as, for example, the now destroyed vault of the crypto-porticus in Caligula's palace; see vol. i. p. 197.

*Wall
mosaic.*

A whole volume might be written to describe the countless varieties of subject and style which were used in the mosaics of Roman houses, alike for floors, walls, and ceilings. On the technique of the mosaics see vol. i. p. 80.

HORTI SALLUSTIANI.

The *House of Sallust* stood in the Barberini estate, afterwards called the Spithoever Gardens, now destroyed, like the neighbouring Ludovisi Gardens, to make room for a series of new streets. This villa, with its extensive gardens in the valley between the Quirinal and Pincian Hills near the *Porta Collina*, was originally built by the historian Sallust, with the wealth which he acquired during his administration of the Roman Province of Numidia. After the historian's death it passed to his heir Sallustius Crispus; and when he died in the reign of Tiberius the whole estate became the property of the Crown, and was used by many of the emperors as a favourite residence till as late as the fourth century A.D. It

*Estate of
Sallust.*

was probably burnt by Alaric, together with the rest of this part of Rome, in 410; Procop. *Bell. Vand.* i. 2.

*Sallust's
house.*

The site of this house is indicated by Tacitus, *Ann.* xiii. 47, and by Procopius (*loc. cit.*); Tacitus mentions that the house was occupied by Nero. Vespasian, Nerva, Severus Alexander, Aurelianus, and other emperors resided there; Dion Cass. lvi. 10; Hist. Aug. *Aurel.* 49. During excavations made in 1876, lead pipes were found in the existing remains of the villa, inscribed with the capacity of the pipe, the name of the estate, the Imperial owner, and the plumber who made it, thus—

*Inscribed
pipe.*

XIII. ORTORVM · SALLVSTIANOR { NAEVIVS · MANES · FECIT.¹
IMP · SEV · ALEXANDRI · AVG ·

During recent excavations many fine pieces of sculpture and architectural decorations were discovered, and a number of fine rooms, in parts four stories high, were exposed.

*House
situated on
cliff.*

The house occupies an unusual position; it is built partly in the valley at the foot of the cliff of the Quirinal, where its upper edge was skirted by the wall of Servius. Part of this wall had been removed and the upper stories of the house extended over the higher level of the hill, so that the third floor of the part of the house which stood in the valley was level with the ground floor on the top of the hill. Some of the existing walls are over 70 feet in height. The rooms on the higher level are mostly destroyed, though scattered lengths of wall show how wide the extent of the house once was. These walls are of concrete faced with mixed brick and *opus reticulatum*, and evidently belong to the first century A.D.

*Concrete
walls.*

At a little distance there were some immensely thick and lofty walls formed of cast concrete without any facing, dating probably from the second century A.D. The print of the boards and the upright timbers of the framing in which the fluid concrete was poured, were very clear and sharp. These

¹ Lanciani, *Coment. di Frontino*, 1880, p. 224.

rock-like walls were blown up with gunpowder in 1884, and broken into lumps to use in the foundations of the new boulevards, which are being built here.

The same fate has attended the valuable remains of the wall of Servius near this site, except that it was much easier to demolish than the solid concrete walls of the Empire. The great blocks of tufa were removed one by one, and broken up to make the rubble walls of the new "jerry-built" houses. Still further devastations are being committed, and the whole aspect of this once lovely quarter of Rome is now completely changed.

*Recent
destruction.*

The valley which contained the Villa and Gardens of Sallust is now being rapidly filled up to a level with the top of the cliff, thus obliterating the contours of both the Quirinal and Pincian Hills on this side. This is only a part of a wholesale scheme called the *Piano regolatore*, the object of which is, as much as possible to get rid of the hills and valleys of Rome, and lay out a new city resembling a Parisian suburb.

*Valley
levelled.*

That part of the *House of Sallust* which stands at the foot of the Quirinal cliff was till recently well preserved; see fig. 90. The central room is a large circular hall covered with a lofty dome, on to which other rooms open. This hall is a nobly designed room of good proportions, once lined with rich marble, and decorated with statues in semicircular niches. A wide and handsome staircase leads out of a square vaulted room which is separated from the circular hall by an antechamber. On the side towards the cliff is an open court, with four or five stories of rooms on two sides of it.

*Now
ruined.*

The cliff itself is masked by a brick-faced concrete wall with stepped offsets, set against it as a retaining wall to prevent the tufa rock crumbling away. Round three sides of this open court, at a great height from the ground, a projecting gallery ran, supported by brick-faced arches resting on large travertine corbels, all decorated richly with stucco reliefs, in much the same way as the so-called "bridge" in Caligula's

*Retaining
wall.*

Palace on the Palatine. A similar balcony-like gallery was continued round the upper part of the front of the circular hall.

Staircase.

From the last-mentioned court a staircase starts, planned

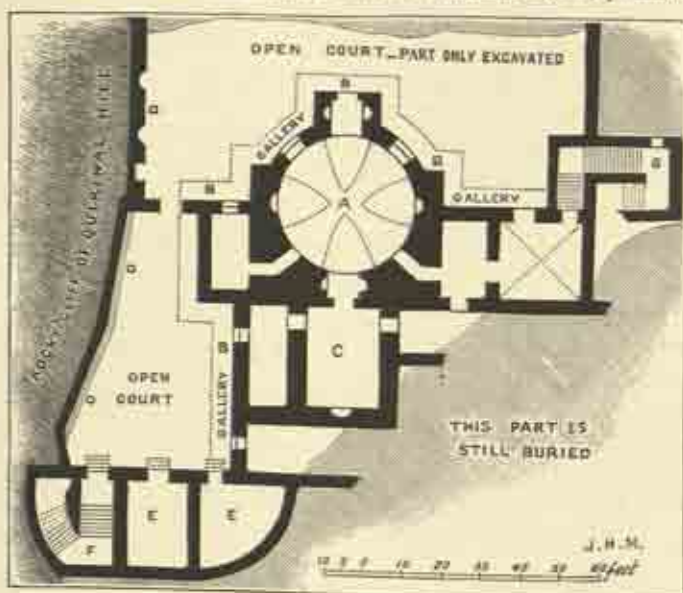


Fig. 90.

Part of Sallust's Villa set against the cliff of the Quirinal.

- A. Lefty domed hall; the dotted lines show the contour of the vault.
- BBB. Concrete gallery running round the outside of the main building, supported on corbels, about 40 feet above the ground.
- C. Fine vaulted room three stories high.
- DD. Retaining wall against the cliff.
- EE. Rooms four or five stories high, some with wooden floors.
- F. Winding stairs, with marble steps and mosaic landings, leading to the top of the house and the rooms on the higher level of the hill; at this part the building is still about 70 feet high.
- G. Another marble-lined staircase.

in a curious winding way so as to occupy little space. It led from the lowest level up to one floor after another till it

reached the top of the cliff, and thus to the rest of the house at the higher level. The steps and dado of the stairs are of marble, and the landings of simple mosaic patterns, while the upper part of the walls and the raking vault over the stairs are covered with paintings on stucco. The whole effect of this lofty house is very stately, and many most interesting details are well preserved.

The upper floors were in some cases of concrete; others had wooden joists supported on rows of travertine corbels. Examples still exist here of concrete floors formed without any curve or arch, but simply flat slabs about a foot thick, treated exactly as if the concrete were a solid piece of stone, like that in the *House of the Vestals*, shown in vol. i. p. 308.

Upper
floors.

The facing of the concrete walls in this lower part of the house is of brick only, no *opus reticulatum* is used as it is in the stories above the top of the hill. This brickwork is very neat and regular, with hard well-burnt red bricks $1\frac{1}{2}$ to $1\frac{1}{4}$ inch thick and 12 inches long, with joints $\frac{1}{4}$ to $\frac{3}{8}$ inch thick. This facing is studded with marble plugs and metal nails to form the key for the cement.

Brick
facing.

Part of the wall of the open court is covered with the usual fine hard stucco made of pounded marble (the *caementum marmoreum* of Vitruvius) with a highly polished surface, which once must have looked almost exactly like real marble, and was nearly as hard and durable. In order to increase the imitative effect the stucco was divided by a series of sunk lines into sham blocks of marble with draughted edges, such as were often cut in real marble to make the blocks seem smaller than they really were, and so increase the apparent size of the building; see vol. ii. p. 12. In spite of its deeply sunk position the house appears to have been kept perfectly dry by the massive retaining wall against the cliff, and by a complicated system of large *cloacae* which run under the lowest floor of the building.

Opus
albarium.

Supposed Circus of Sallust. The form of part of the valley

"Sallust's
Circus."

*Sallust's
Circus.*

(now almost filled up) in which the house stands seems to indicate that a circus existed in it. This also appears probable from the discovery, in the supposed site of this "Circus of Sallust," of the obelisk which now stands at the top of the Trinità de' Monti stairs; obelisks being very commonly set on the *spinae* of the *Circi* of Rome.

*Sallust's
Porticus.*

The *Porticus*, a thousand yards long, in which Aurelianus is said to have been in the habit of riding, and which is mentioned as being part of the estate of Sallust, very probably was round the circus; *Vopisc. Aurel.* 49. The statement (*Livy*, xxx. 38) that it was once proposed to hold the games in honour of Apollo by the Temple of Venus Erycina, which stood in these gardens, has been supposed to indicate that a circus existed here in the time of *Livy*, who died in 17 A.D.

*Imperial
estate.*

The name of this estate, which it retained for more than three centuries after it had become Imperial property, was the *Gardens of Sallust* (*Horti Sallustiani*); though the actual house, built by the historian at the end of the reign of Julius Caesar, probably disappeared very soon under the Imperial additions and reconstructions. Nothing is now visible which appears to be earlier than the Christian era.¹

*Venus
Erycina.*

The Temple of *Venus Erycina*,² which was built by the *Dumvir* L. Porcius Licinus in the year 181 B.C. (*Livy*, xl. 34), stood within the limits of what was afterwards the *Horti Sallustiani*, close outside the Servian *Porta Collina*. *Ovid* (*Fast.* iv. 871) speaks of this temple as *Collinae precina portus*; see also *Gruter*, *Inscrp.* xxxix. 4, and cii. 1, and *Livy*, xxx. 38. This shows that these beautiful gardens must have extended beyond the modern Via Ventì Settembre, and the Ministero delle Finanze, under which was the site of the Colline gate.

¹ This description was written in 1884, when these most interesting remains were still untouched by the devastating hand of the speculating builder.

² So called from the early Phœnician sanctuary of the Oriental Aphrodite on the Acropolis of *Eryx* in the north of Sicily.

Some enormously massive concrete foundations, which the Comm. Lanciani thought were the substructions of the Temple of Venus Erycina, were exposed during the construction of the Ministero delle Finanze and then destroyed. The Comm. Lanciani has also suggested that a very magnificent oval or circular structure which was discovered at this place in the sixteenth century was the *Temple of Venus Erycina* itself. Flaminio Vaca, writing in 1594,¹ describes the building as a richly decorated oval hall surrounded with a peristyle of Corinthian columns, monoliths of Numidian *giello*, 12 feet long. This chamber had four entrances with descending marble steps, and by each doorway were two columns of translucent alabaster. It had rich marble pavements, and beneath was a large *clouca*. The *giello* columns were cut up and partly used to make the altar-rails for the Church of S. Pietro in Montorio; the alabaster columns have disappeared.

Concrete foundations.

Vaca's description.

What has been supposed to be part of the marble throne of the *cultus* statue of Venus Erycina was discovered in these gardens in 1887. The reliefs on this curiously shaped block of Parian marble are of great beauty and purely Hellenic style, treated with a certain amount of archaistic severity, except in the case of a realistically treated nude seated figure of a girl musician on one of the sides; see *Bull. Comm. Arch. Mun. Rom.* vol. xv. pl. xv. and xvi. The head of the *cultus* statue of Venus is thought to exist among the sculpture in the Palazzo Ludovisi.

Marble throne.

Not far from the *Temple of Venus Erycina*, on the outside of the *Porta Collina*, was the *Campus Scleratus* with a mound of earth (*agger*) containing the subterranean tomb-chamber in which Vestals who had broken their vow of chastity were buried alive in the presence of the Pontifex Maximus; see Dionys. ii. 67, and iii. 67; Livy, viii. 15; and Plutarch, *Numa*, 10.

Campus Scleratus.

¹ See *Memorie di Flaminio Vaca*, pp. 24 to 26, in Nardini, *Rom. Ant.* ed. Nibby, vol. iv.

During the construction of the foundations of the hideous new streets which now occupy the site of the beautiful Ludovisi Gardens an inscription was found which is of interest from the way in which it distinguishes between the words

*Aedes and
templum.*

aedes and *templum*; *aedes* (*vaos*) being used for the actual shrine or *cella* of the deity, while *templum* (*ἱερόν*) includes the whole enclosed area round the temple.¹

NVMINI · DOM · AVG
T · MARIVS · PROCESSVS
SIGNVM · DEI · SILVANI
[two lines cut out]
AEDM · IPSIVS · MAR
MORATAM · A · SOLO · SV
A · PECVNIA · FECIT · ET
TEMPLVM · MARMORIS
STRAVIT · IDEMQ · DEDIC

RIVER-SIDE HOUSES

*Private
houses.*

During the removal of a great piece of the right bank of the Tiber in preparation for the new embankment, several fine private houses were found, facing close on to the river. These were richly decorated in the usual Roman way with marble columns and wall-linings over the brick-faced walls of concrete, and had many fine mosaic pavements. Some of the rooms, especially those in a house in that part of the Villa Farnesina Gardens which has been cut away, were magnificently decorated with paintings and stucco reliefs, probably the finest that have yet been found in any Roman house, and evidently dating from the early part of the first century A.D. In many cases not only the walls but also the barrel vaults of the

¹ See *Bull. Com. Arch.* 1887, p. 223. So also in the *Lex Collegii Aesculapii* (*Cor. In. Lat.* vi. 10234) the same distinction is made in the phrase *aedes Divi Titi in templo Divorum*.

rooms were completely covered with reliefs in *caementum aurumacrum*.

The wall-paintings were executed by the same methods as those of Pompeii and the house on the Palatine (see vol. i. p. 97),¹ but a few were of unusual style, simpler in treatment than the common Roman types, and of a much more refined and truly decorative style, almost pure Greek in design, and having much resemblance to the beautiful though sketchy paintings on the white funeral vases (*lecythi*), so many of which have been found in the tombs of Attica and Euboea, dating mostly from the first half of the fourth century B.C.

*Mural
paintings.*

In these the painting is kept very flat, the design being mostly expressed by firm painted outlines, as on most Greek vases. One very beautiful figure, thoroughly Greek in style, represents a young lady clad in a *stola* with very graceful and simple folds, and with a veil over her head; she is seated, and pours perfume from a small *aryballos* into an *alabastos*; see fig. 91.

*Greek
style.*

One of the paintings in this villa in the Farnesina Gardens which was discovered and then destroyed was signed by its artist with the Greek name *SSeleukos*.

A very fine collection of these wall-paintings is now preserved in the Museo delle Terme. Some of the small panels, about six inches square, have figure subjects painted with wonderful delicacy and minuteness, almost equal to that of a mediaeval illuminated MS. Others, rather larger in scale, which recall the style of the Attic *lecythi*, are painted on a white ground with pale, delicate tints of yellow, blue, and violet. In these much of the design is done with lines, rather than with broad touches of pigment, and not only the design but even the technique is thoroughly Greek in style.

Stucco reliefs. Some of the stucco reliefs with figure sub-

*Opus
alabastrum.*

¹ The painting of Argus, Hermes, and Io, in the "House of Livia," though probably by a Greek artist, belongs to that debased form of Greek art which passes for Roman.

*Stucco
reliefs.*

jects, which are arranged in panels with moulded framing and scroll foliage round them, are of extraordinary beauty, both for modelling and composition, in some respects even finer



Fig. 91.

Wall-painting, from a house by the Tiber, now destroyed.

than the wonderful tomb on the Via Latina, which has reliefs of subjects from Homer's *Iliad*; see vol. ii. p. 265.

*Method of
modelling.*

Those in the house by the Tiber are of earlier date—early in the first century A.D., and are modelled with marvellous spirit and refined taste, executed rapidly by the artist in the

quick-setting wet stucco, made of marble dust and *gypsum*,¹ which he applied in lumps on to the already hard ground of the panel; then, quickly, before the stucco had time to harden, he moulded the figures into shape with his fingers and thumb, assisted by a few simple wooden tools.

The decision and rapid skill with which every touch on the wet stucco was applied are most admirable, and the result is that an amount of vigour and life appears in these hastily executed reliefs such as it would have been impossible quite to equal by the slow process of chiselling a hard substance. Apparently the only guide which the sculptor had to help him was a mere sketch in outline, incised before beginning on the flat surface of the panel. It would be difficult to find any other examples equal to these in the perfection of combined training of hand and eye.

Rapid execution.

Many of the scenes represented are Dionysiac—fauns playing on the double pipes, nymphs with timbrels and other musical instruments, sportive genii bearing the *thyraux* or bunches of grapes, and Silenus reeling under the influence of wine.

Subjects of reliefs.

Some figures of winged Victories are marvels of delicate grace in their pose, lightly poised on their large wings, with the flowing curves of their drapery gently floating behind them to indicate their forward movement. These especially are of pure Hellenic style, and resemble the beautiful *reverse* on a Syracusan tetradrachm of Agathocles, about 308 B.C., which has a standing figure of Victory fixing armour to a trophy.

Some draped figures of Bacchanals are remarkable for their dignity of movement and for their simply designed drapery, slightly indicating the form beneath. The modelling of the nude, especially in some of the faun-musicians, shows very complete knowledge of the human form; the play of the muscles under the supple skin is rendered with perfect taste,

Fine Greek style.

¹ See above, vol. I. p. 75, and Vitr. vii. 3. 3. Pliny, *Hist. Nat.* xxxv. 153, mentions the use of gypsum by Greek sculptors.

Greek style. quite free from the anatomical exaggerations of the late Athenian school. The sculptors of these reliefs probably aimed at no originality, but had the good taste to select the most excellent models from among the countless works of Greek art of all periods with which Rome was then crowded to an almost inconceivable degree.

The reliefs are arranged in panels of various shapes and sizes, each being framed in a delicate moulding ornamented with the egg and dart enrichment. These mouldings are not modelled by hand, but are impressed from stamps or moulds in long lengths, and the junctions are afterwards completed with a modelling tool.

*Gold and
silver.*

As appears to have been always the case, these exquisite reliefs are tinted with colour to increase their decorative effect; in some cases very slightly, the figures themselves being left white and merely the ground of the panel coloured. The enriched mouldings which formed frames round the panel subjects were more freely coloured, and in many places gold was introduced, especially among the egg and dart enrichments, of which the Romans were specially fond.

*Fragments
preserved.*

Though the houses which were so sumptuously decorated have been completely destroyed by the widening of the river, some of the paintings and reliefs were cut off the walls and have been preserved, though in a sadly damaged condition. They are now in the museum which has been formed in the Monastery of S. Maria degli Angeli, in part of Diocletian's Baths. Apart from this they have suffered greatly by removal, as a great part of their beauty depended on their perfect adaptation to their architectural surroundings and the unity of the whole wall design of which each picture or relief formed an essential part; they are illustrated in *Mon. Inst. Arch. Rom. Suppl.* 1891, pl. 32 to 36.

For a description of the houses found in the Farnesina Gardens see Lanciani, *Not. d. Scavi*, 1880, p. 138 *seq.*

*Moulded
reliefs.*

In addition to the wall-reliefs of this kind modelled by

hand in soft stucco, the Roman houses and temples were very largely decorated with reliefs in plaster or clay (*terra cotta*) made by casting or pressing in moulds; these were called *typi* or *sigilla*.

Cicero (*ad Att. i. 10*) writes, *Præterea typos tibi mando, quos in tectorio* (in the wall plaster) *atrioli possim includere*.¹ Pliny (*Hist. Nat. xxxv. 151*) thus describes the process of making *terra-cotta* reliefs, *inpressa argilla typum fecit et cum ceteris fictilibus induratum igni proposuit*. Other architectural decorations, made by pressing soft clay into moulds, Pliny (*ib. 152*) calls *prostyga*, *ectypa*, and *plustae*.

*Typi and
ectypæ.*

Even statues in the round were often made of cast gypsum, exactly like modern plaster casts, and were then decorated by colouring, just as if they had been marble statues; see Pliny, *Hist. Nat. xxxv. 153*.

*Plaster
statues.*

Portrait casts in plaster, either from life or from the dead face, were also made; see Pliny, *Hist. Nat. xxxv. 153*. The Central Museum in Athens possesses a very striking cast from the face of a young man which was found in a tomb of the Roman period in the Outer Cerameicus. It appears to have been taken after death.

As in modern times, plaster casts, from the original clay model or *protylasma*, were used by sculptors to work from; see Pliny, *Hist. Nat. xxxv. 153-157*.

OTHER HOUSES.

In 1884, near the Porta S. Lorenzo, during the excavations made for the construction of the new road and gateway in the Aurelian wall, which is now cut by the side of the ancient gateway of Augustus' time (Porta San Lorenzo), extensive remains were exposed of a long street of houses, against the back of which the wall of Aurelian had been built.

*Remains of
street.*

¹ An interesting example of plaster portrait reliefs of famous authors used to decorate a Roman library is described below at p. 254.

Some of these houses were faced with neat *opus reticulatum* of the first century B.C.; others, which had the finest and most closely jointed brick facings, dated from the first century of the Empire; they were richly decorated with marbles and mosaic. Many of these houses had been built against the piers of the aqueduct which conducted the *Aquæ Julia, Tepula*, and *Marcia*, one arch of which, rebuilt by Augustus, forms the Porta S. Lorenzo; see vol. ii. p. 340.

Remains of
aqueduct.

A number of the piers of this aqueduct, built of massive blocks of tufa and peperino, existed at this place as high as the springing of the arches, and had evidently been partly hidden by this long row of houses. The whole of these interesting remains and the piers of the aqueduct have been destroyed since 1884.

House on
Quirinal.

In June of 1884 a fine house of the end of the first century A.D., with walls covered with painted decoration, was discovered in digging foundations on the slope of the Quirinal near the Colonna Gardens, and shared the fate of countless other fine buildings that have been found during the recent laying out of new lines of boulevards.

Roman
library.

In December 1883 remains of an interesting Roman house were exposed while digging foundations in the modern *Via dello Statuto*.¹ One of the rooms afforded a good typical example of the usual Roman way of fitting up and decorating a library. The lower part of the wall, to a height of about 3 feet 6 inches, was quite plain, because against it was fitted a series of cupboards (*armaria*) to hold the manuscript books.

Portraits of
authors.

Above the *armaria* the wall was decorated with panels divided, at intervals of 5 feet, by shallow fluted pilasters supporting a frieze, and in each space there had been a medallion relief 2 feet in diameter, with the bust of an author, all worked in fine hard stucco.

The names of the authors represented were inscribed on

¹ See Lanciani, *Ancient Rome*, p. 191.

the frames of the bust. On the best preserved of the medallions was the name APOLONIVS (*sic*) THYANEVS. As the Comm. Lanciani points out, the ancient arrangement of libraries still survives in the large room of the Vatican library, where all the books are hidden in a series of low presses.

BARRACKS OF THE VIGILES.

The Roman *Vigiles* in Imperial times¹ were a very large and important body, under military discipline, who performed the various duties of police, firemen, and lamplighters. After a serious fire in 6 B.C. Augustus increased their number; see Suet. *Aug.* 30. The *Vigiles* were divided then into seven Cohorts, each commanded by three officers of rank, a Praefect, a Sub-Praefect, and a Tribune, with seven Centurions as subordinates. The full strength of a Cohort in the time of Caracalla appears to have been about 1000 men, including a considerable proportion of horsemen. These seven Cohorts had seven *stationes* or headquarters, and in addition fourteen smaller barracks (*excubitoria*), one in each *Regio* of the city; some of these barracks have been recently discovered in Rome.

Firemen.

Officers of
Vigiles.

The *Praefectus Vigilum* acted as a Metropolitan Magistrate, inquired into the causes of any fires that occurred, and had a certain control over the supply of water in Rome.

Those of the *Vigiles* who acted as firemen were commonly called *Spartei*, possibly from the *funci spartei* or ropes of *esparto* grass which formed an important part of their equipment; see Cato, *De Re Rus.* xi. These ropes with hooks at the end were of use in pulling down the woodwork of burning houses. The firemen also were provided with axes, saws, and pickaxes for the same purpose, with ladders and with buckets to carry water.

Spartei.

¹ Under the Republic three magistrates called *Triumviri nocturni* were responsible for the safety and order of the streets at night, and also were in command of a body of *servi publici* who acted as firemen.

Some of these firemen were called *Aquarii* and *Siphonarii*, the *siphon* being a kind of force-pump.¹

Lower-lighters.

Others of the *Vigiles* who had charge of the lighting of the city were called *Sebaciarii* (cf. *sebum*, *sebacus*). From the time of Caracalla, who did much (c. 210 to 215 A.D.) to enlarge and organise the body of *Vigiles*, the streets of Rome appear to have been lighted with torches which were set in sockets fixed obliquely to the walls.

Bronze torches.

Examples of these torches which have been found in some of the *excubitoria* are of bronze, 4 feet long, formed hollow to hold sponges soaked in naphtha (see Pliny, *Hist. Nat.* xxxv. 179) or some combustible resinous substance; the pierced top where the flame issued forth is shaped like a fir cone.

In earlier times the streets of Rome do not appear to have been lighted at all; torches or lanterns were carried by passengers or by their slaves² (*servi praeuocantes* and *laternarii*); see Suet. *Aug.* 29, and Cic. *Pis.* 9, 20.

The great *Thermae* were not lighted at night till the time of Severus Alexander, nearly twenty years after Caracalla had provided for the street-lighting of Rome.

Stationes Vigilum.

Five *stationes* of the *Vigiles* have been discovered in the following places—(Cohort I.) at the foot of the Quirinal near the Via Dataria; (Cohort II.) on the Esquiline near the Temple of *Minerva Medica* (so called); (Cohort III.) near the *Thermae of Diocletian*; see Bull. *Com. Arch. Rom.* 1873;

¹ Not only ordinary lifting pumps but force-pumps were known to the Romans. One form of the latter, which would be useful in throwing up a stream of water on conflagrations, is described by Vitruvius (x. 7) under the name of *Machina Ctesibica*. It was invented by Ctesibius in the reign of Ptolemy VII. (170-117 B.C.), and is described in an extant work by his pupil Hero of Alexandria. The *siphon* used by firemen is mentioned by Pliny the younger, *Epis. to Trajan*, x. 33 (42).

² One of the paintings in the central room of the "House of Livia" on the Palatine shows a lady issuing from her house at night attended by a slave-girl: they carry a lantern and a torch; cf. Suet. *J. Caesar*, 37.

(Cohort IV.) on the Aventine near the Church of S. Saba; (Cohort V.) on the Caelian Hill in the gardens of the Villa Mattei, now Villa Hoffman. The *statio* of the sixth Cohort was probably near the *Forum Romanum*, and the seventh in the Transiberine part of the city.

The *stationes* appear to have been buildings of great splendour, with marble halls, mosaic pavements, columns of richly coloured marbles and porphyry, and many statues and other works of art. The *statio* of the first Cohort, which was also the central depot of the whole body of *Vigiles* and the office of the *Præfectus*, was discovered in 1644 under the Palazzo Muti-Savorelli (now the Palazzo Balestra) and the Convent of S. Marcello at the northern end of the Piazza dei SS. Apostoli.

Magnificence of the stationes.

A contemporary writer describes it as a building of unusual magnificence, with marble profusely used throughout, and decorated with fine wall-paintings and numerous statues of emperors, deities, and the *Genii* of the *Vigiles*.

The fourteen *excubitoria* or subsidiary barracks, though less magnificent than the seven *stationes*, seem to have been large and handsome buildings.

Excubitoria.

The most perfect that now exists is one of the two *excubitoria* of the seventh Cohort, whose district was the Transiberine quarter of Rome.

It was discovered a few years ago near the Church of S. Crisogono in Trastevere.¹ It is a fine house of the second century A.D., with a large open court or Atrium paved with mosaic, round which a number of rooms were arranged two or three stories high; some of these were handsomely decorated with marble wall-linings. On one side a porch projects into the Atrium, of the usual brick-faced concrete, with rich decorations in moulded terra cotta; this entrance has an

Existing remains.

¹ The entrance is by a doorway in the middle of the little court called Contrada Monte di Fiore. A long flight of modern stairs leads down to the ancient ground level.

archway between two Corinthian pilasters which carry an entablature and pediment. The Corinthian capitals and all the mouldings are of terra cotta, very similar in style to those of the *Amphitheatrum Castrense*, and like them were once decorated with brilliant colours, with which the various members of the mouldings were picked out. Within the *Lararium*, projecting porch there is a graceful little chapel (*lararium*) with stuccoed walls richly decorated with painting.

See vol. i.
p. 96, fig. 11.

One room at some distance from the Atrium contains a large marble-lined plunge-bath. At the end of the room is an apse, in which is a small recess containing a marble statue. This bath-room is exceptionally interesting from the good preservation of the thin marble slabs with which the walls are lined. Bands and panels of various-coloured marble are framed and separated by thin slips of marble with a rounded edge built in sideways, thus forming a simple projecting "bead moulding." A considerable part of this *excubitorium* still remains unexcavated. The ground floor is about 25 feet below the modern level of the street.

Griffiths.

Some inscriptions scratched on the walls are of special interest for their record of the *militēs sebaciarii*, and of the *Genius excubitorii*, to whom the little chapel appears to have been dedicated. Two of them are as follows; the first is dated by the names of the Consuls 227 A.D.

OCTAVIVS · FELIX · MIL · COH · VII
VIGI · SEVERIANES · T · MAXIMI
SEBACIARIA · FECI · ALBINO · II
MAXIMO · COS · MES · OCTOBRE
FE[licitas]

T · MAXIMI · VETTI · F
LORENTINI
SEBACIARIA
FECI · MENSE
IVNIO · GRATASA^o

A · GENIO · ESCVBITORI
ET · COEMANIPVL
IB · SVIS · IN · PERPETVO

Another of these scratched inscriptions runs thus—

COH · VII · VIG · GORDIANI · D · N
MARCELIANI · EGRILII · RVFINIANI
SVBACIARIAM · TVTA · FECIT
OLEV · CVR · AVRELIVM · AGRIPINVM · OPTIONE
SEBACIA
LVCINIVM
LVCERNAS
AD · PORTA[M]
AD · POMPAS

Many of them give names with the title *Sebaciarius*; e.g. *Sebaciarii*
S · IVLI · AEMILIANVS · SEBACIARIVS · CENTVRIA · EQVES · FACTVS. *and* *Emitularii*.

Others mention an officer called *Emitularius*, the meaning of which is unknown; see *Bull. Com. Arch.* 1886, p. 251, and 1887, p. 77; and a monograph by C. Nocella, *Le iscrizioni graffite nell' escubitario della VII^{ma} Coorte dei Vigili*, Rome, 1887.

Further information about the *Vigiles* is given in an interesting paper by the Rev. Dr. Hirst, *Arch. Jour.* xli. p. 155; see Visconti, *Coorte vii. de' Vigili*, 1867; De Rossi, *Vigili*, in the *Ann. Inst.* for 1858; Henzen, *ib.* 1869 and 1874; and *Bull. Com. Arch. Rom.* 1886, p. 251.

Barracks of the Equites Singulares. In 1886, in the Via Tasso near the Lateran Basilica, extensive remains were discovered of the very magnificent barracks of the *Equites Singulares*, one of the most honoured divisions of the Roman army. Part of this building, which was constructed of concrete faced with *opus reticulatum*, consisted of a great hall, over 90 feet long, in which were found no less than forty-three inscribed bases of statues of various deities. *Equites Singulares.* *Forty-three inscriptions.*

Most of the inscriptions of this large and interesting series

record the dedication of statues as thank-offerings from veterans who had been honourably discharged after faithful service, *missi honesta missione*; see Lanciani in *Notiz. d. Scavi*, 1886, pp. 12 to 22.

The *Equites Singulares* were a special body of horse-guards attached to the person of the Emperor; see Henzen in *Ann. Inst.* 1850, pp. 5 to 53, and 1885, pp. 235 to 291.

THE HORREA OF ROME.

*Grain-
stores.*

Among the most extensive buildings of ancient Rome were the great magazines or storehouses (*horrea* and *emporia*) in which food and merchandise of all kinds were stored in enormous quantities; see Livy, xxxv. 10 and xli. 27 and 32.

*Horrea
Galbæ.*

One of the chief of these, the *Horrea Galbæ*¹ et *Aniclaia*, occupied an immense area at the foot of the Aventine Hill, near the principal landing-quay of the Tiber, and reaching as far as *Monte Testaccio*. It consisted of a great series of open courts surrounded by chambers two stories high for storage of provisions and foreign imports of all sorts. One of its brick-faced arches still exists, close under the Church of S. Sabina, spanning the road which leads along the *Marmoratum*.² The *Horrea Galbæ* is mentioned in *Regio XIII.* of the *Catalogues*, together with thirty-five other storehouses in the same *Regio*. Its name was derived from Sulpicius Galba, on whose property this enormous State magazine was built.

*Contents
of the
Horrea.*

The Comm. Lanciani excavated part of the *Horrea Galbæ*, and found various store-chambers containing, among other

¹ *Galbæa*, *Galbæ*, *Galbas* are various forms of the genitive used in inscriptions from the first century a.c. The adjectival forms *Horrea Galbæana* and *Galbiana* are also used.

² This arch has recently been destroyed, together with many other portions of the *horrea*, during the widening of the road and the construction of a new quarter of barrack-like houses near *Monte Testaccio* and the river-side.

things, stores of lentils, of fine sand for sawing marble, numbers of *amphorae*, and a great mass of elephants' tusks, containing no less than 675 cubic feet of ivory: see Lanciani, *Anc. Rome*, p. 250.

These public magazines were of much importance as part of the great Roman system for feeding the population of Rome, which has been estimated at about two millions during the most populous period of the city. A whole fleet of ships were constantly bringing corn and other provisions from the ports of Africa, Spain, Sicily, and other corn-growing countries, so that immense depots were needed for the storage of their cargoes. Supply of corn.

In 1885, outside the Porta Salaria, an interesting inscription was found with a large portion of the *Lex Horreorum Caesaris*, of the time of Hadrian; see *Bull. Com. Arch.* 1885, p. 110. Lex Horreorum.

In the sixteenth century extensive and lofty remains of the *Horrea Galbae* still existed. They are shown in Du Perac's *Vestigi*, pl. 23, extending for a great distance between the Tiber and the foot of the Aventine Hill.

In 1886 the tomb of the owner of the site of the *Horrea* was found. It is a simple rectangular monument of tufa, resting on a *podium* of peperino. Its inscription is, SER SVLPICIVS · SER · P · GALBA · COS · PEDes · QVADRati · XXX. Sergius Galba, the father of the occupant of this tomb, was Consul in 108 B.C. Tomb of Galba.

The *Horrea Galbae* was only one of an enormous group of *Horrea*, *Emporia*, corn-mills, and bakers' shops which extended for about a mile along the bank of the Tiber.¹ Among them stood the *Statio Annonae* ² *Urbis Romae*, which was the central Other Horren.

¹ See *Cor. In. Lat.* viii. 8480, *Molas propter annonam publicam a veteribus institutas, reformatas et instrumento pistorio exornatas, ad annonae publicae coctionem pistoribus tradidit.*

² *Annona*, the year's produce of corn, was personified on many Roman coins as a draped female holding a cornucopia, and with a *modius* or wheat-measure at her feet.

administrative office for the distribution of food; see De Rossi, *Ann. Inst.* 1885.

Enormous quantities of corn were stored in the *Horrea* of Rome; according to Spartianus, *Sept. Ser.* 8 and 23, sufficient corn to last for seven years was kept in store by Septimius Severus, reckoning the consumption at the rate of 75,000 *modii* a day. The scholiast to Lucan, l. 319 (ed. of Weber, vol. iii. p. 64), records that 80,000 *modii* of corn were consumed daily in the city. A large fraction of the people of Rome received a free supply of corn from the State; Julius Caesar reduced the number of people on the free list from 320,000 to 150,000; *J. Caes. Bell. Civ.* iii. 42.

Different *Horrea* were provided to hold the various kinds of goods, such as the *Horrea candelaria*, *chartaria*,¹ *piperataria*, for candles, paper, and spices, and many others. In the time of Constantine there were no less than 290 public *Horrea* in Rome. See G. Gatti in the *Bull. Ist. Arch. Germ.* vol. i. 1886, p. 65 *seq.*; Preller, *Regimen*, p. 101 *seq.*; Jordan, *Topogr.* ii. p. 67; and *For. Ur. Rom.* pp. 43 to 44, and Pl. xxi. 169.

¹ Paper (*charta*) made in Egypt from the *papyrus* which grew in the Delta was a very important article of import. It was the substance chiefly used by the Romans for books and manuscripts of all kinds; see Pliny, *Hist. Nat.* xiii. 74 *seq.* Under the Empire paper manufactories were also established in Rome and other places in Italy; see Middleton, *Illuminated Manuscripts*, Cambridge, 1892, page 24.

CHAPTER VIII.

TOMBS AND HONORARY MONUMENTS.

AS was the case with the Etruscans, the Romans sometimes burnt their dead, and sometimes buried them unburnt. It is common to find in the same Roman tomb-chamber examples of both methods. On the whole, burning was the most common; but some families, such as the Gens Cornelia, adhered to the other custom, at least for the greater part of the Republican period. Sulla the dictator is recorded to have been the first member of the Cornelian family whose body was burnt; see Cic. *De Leg.* ii. 22; and Pliny, *Hist. Nat.* vii. 187.

Modes of burial.

The bodies of the emperors and their consorts during the first three centuries of the Empire were usually burnt on very magnificent pyres, from which an eagle was set free as the flames kindled, and by its upward flight symbolised the escaping soul of the dead emperor or empress; see Herodian. iv. 2. This scene is represented on many coins, with the *legend* CONSECRATIO, and was usually followed by the deification of the dead person.

Funeral pyres.

On the pedestal of the column of Antoninus Pius in the *Giardino della pigna* in the Vatican, a relief represents the emperor and his wife Faustina borne heavenwards by a Genius with spreading wings; on each side an eagle is flying upwards. Allegorical figures of Rome and the Campus Martius point out the scene of the funeral rites; see vol. ii. p. 311.

Existing relief.

According to the law of the XII. Tables, which mentions

*Interment
burial
prohibited.* both burning and whole interment, burial within the walls of Rome was strictly prohibited, except in the case of the Vestal Virgins, and was only permitted by the Senate in a few rare cases as a special honour. This honour was granted to P. Valerius Publicola, whose modesty in moving his residence to a humble position was highly appreciated; Plutarch, *Public.*, and Cic. *De Leg.* ii. 23; see vol. i. p. 220.

Columbaria. The tombs of Rome were arranged in various ways; one was to have extensive *Columbaria* or Catacombs, which were sometimes the property of one wealthy *Genus*. Under the Empire such *columbaria* occasionally belonged to a sort of company, which sold chambers or recesses to any buyers. *Guild tombs.* Others belonged to *scholae* or funeral guilds, whose constitution somewhat resembled that of the mediaeval religious and social guilds.¹ These burial chambers were either wholly excavated below the ground, or in the side of a hill, or were partly built above ground, with rows of niches like pigeon-holes all over the walls, whence came the name *columbarium* (dove-cot). Each of the niches contained a vase (*olla*) with the ashes of one person.

Unburnt burial. During the time of the Empire it appears to have been frequently the custom for the members of wealthy families to be buried unburnt in sarcophagi, while their slaves and freedmen were burnt, and their ashes set in niches in the walls of the large chambers in which the sarcophagi stood.²

One of the commonest forms of tomb was an isolated monument set by the side of one of the roads which radiate

¹ An interesting account of these *scholae* is given by Prof. Baldwin Brown in his book entitled *From Schoola to Cathedral*, 1886.

² In many cases the cinerary urns were not set in niches, but on long shelves, moulded like a cornice, raised 7 or 8 feet above the floor; or sometimes with several tiers of shelves one above another. This was the arrangement in the tomb of the Pancratii on the Via Latina, the vault of which is decorated in the most magnificent way with stucco reliefs and painting, as is described below.

from Rome. The line of the ancient roads, and consequently the position of the gates in the Servian wall, has in many cases been established by the discovery of the long line of tombs which bordered the road, commencing immediately outside the gate.

Road-side
tombs.

Many of these road-side tombs, such as some of those which still exist in the *Via Latina*, are built in the form of chapels or *aediculae* above the ground, with one or more mortuary chambers beneath containing sarcophagi or niches for cinerary urns. Some chambers have both.

The chief of those on the *Via Latina* are of concrete neatly faced with brick and then decorated either with marble veneer or with fine stucco. The capitals of the pilasters and the richly decorated cornices are frequently modelled in terra cotta with great delicacy and spirit.

Mortuary
chapels.

They are in the form of a small temple, either with no columns or else with merely a *prostyle* portico. These upper chambers, which contained statues of deities and portraits of the dead who were buried below, served as mortuary chapels in which the friends and relations met to celebrate the anniversaries of the death of the occupants of the tomb below. Feasts were held on these memorial occasions, and offerings of food and flowers were made to the souls of the dead.

The subterranean tomb-chamber is, in some cases, ornamented in the most magnificent way with reliefs moulded in fine hard stucco (*opus albarium*), and then richly decorated with gold and colour. Some of the tombs on the *Via Latina* have reliefs of the finest Graeco-Roman style, with Homeric and other purely Greek subjects treated with wonderful skill and good taste.

Stucco
reliefs.

No existing examples of Roman decorative art can surpass the best stucco work of this sort, such as that in the *Tomb of the Pancratii*, which is still remarkably well preserved. The whole of the vault and a deep frieze round the walls are richly

Tombs on
the *Via
Latina*.

Stucco
work.

ornamented with reliefs of wonderful beauty, of almost pure Hellenic style, like those mentioned in vol. ii. p. 251. Most of these subject-reliefs are in low or *mezzo-relievo*, but there are also larger decorative figures of winged Victories, attached to the walls at the springing of the domical vault, which are almost completely modelled in the round.

Coloured
reliefs.

The colouring of this stucco work is exceptionally well preserved. The principal reliefs are left white, but the subsidiary panels and enrichments round them are brilliantly coloured with blue, vermilion, chocolate, and other pigments, applied with much taste and producing a very rich and harmoniously beautiful effect. In the centre of this inner chamber there is a very large, but quite plain, marble sarcophagus, containing two skeletons. *Ollae* containing ashes were placed on a shelf which runs all round the room at a height of about six feet from the floor. Above this tomb, at the ground level, there was the usual *aedicula*, but that is now destroyed, and a modern shed has been erected to protect the remains below. On the opposite side of the road there is another tomb with equally beautiful stucco reliefs on the barrel vault, but these are left the natural creamy white of the *caementum marmoreum*. Both these tombs appear to date from the early part of the second century A.D. They are about $2\frac{1}{2}$ miles outside the Lateran Gate.

In ancient times all the roads which radiated out from Rome seem to have been closely lined with tombs and monuments of various kinds, extending on some roads for many miles outside the city.

Record of
frontage.

The frontage on to the principal roads thus became of great value, and the monuments usually had at the end of their sepulchral inscription (*titulus sepulchralis*) a record of the exact frontage along the road, and the depth inwards toward the fields which belonged to the family who owned the tomb. Examples occur still *in situ* on the *Via Appia*, the *Via Latina*, and other roads which radiate from Rome, usually in this

form—IN · FRON[TE] · P[EDES] · X · IN · AGR[VM] · P[EDES] · XX;
i.e. "10 feet frontage by 20 feet deep."

A sepulchral inscription of a typical kind, built into the walls of the narthex of S. Maria in Trastevere, records in a common formula that a freedman named Ambrosius lived for forty-five years and eleven days with his wife Cocceia, without one quarrel.¹ It concludes with the usual statement of the size of the plot of land, IN · FRONTE · P[EDES] · XVI · IN · AGRO P · XXII.

*Epitaph
of married
pair.*

Some sepulchral inscriptions have other indications of the precise limits of the plot of land; and in some cases they conclude with a threat of penalties to be inflicted if any one alienates or violates the tomb.

*Penalties
threatened.*

For example, an inscription on the tomb of Statilia Euhodia, which was found in 1890 in the Vigna Torlonia, ends by threatening a fine of twenty thousand sesterces (about £200) in these words—SI · QVIS · VOLET · MANVS · INICERE · SIVE · VENDERE · SIVE · ABALENARE · DABET · POENAE · NOMINE · AERARIO POPVLI ROMANI · HS · XX · M. See *Bull. Com. Arch.* 1890, p. 335.

The usual sepulchral system of measurement is quoted by Horace, *Sat.* i. viii. 12—

*Horace on
tombs.*

*Mille pedes in fronte, trecentos cippus in agrum
Hic dabat; heredes munusculum ne sequeatur.*

In the same passage Horace describes the squalid appearance of a cemetery on the Esquiline, outside the *Agger* of *Servius*, in which paupers and uncared-for slaves were buried (without burning) in shallow graves, so that the ground was strewn with bleaching bones.

This site, as Horace mentions, was afterwards laid out with beautiful gardens and a park by Maecenas, who built himself a villa on the line of the ancient *agger*; see vol. ii. p. 239.

¹ A large proportion of Roman epitaphs of married people contain a similar statement as to absence of quarrels during their wedded life.

Cornelian
Genæ.

*The Tomb of the Genæ Cornelia.*¹ This is one of the most ancient of the Roman family burial-places which are now known to exist; it is excavated in the tufa rock at a point facing on to the *Via Appia*, near the *Thermae* of Caracalla, and extends a considerable distance into the fork formed by the junction of the *Via Latina* with the *Via Appia*.

It was first opened in 1780, and in it were found a large number of slabs of *peperino*, inscribed with the names and titles of many members of the Scipio family.

Scipio
tomb.

Owing to the custom of interment without burning, which was kept up by the Cornelian Genæ, the bodies were laid in *loculi*, rock-cut recesses, the side of each *loculus* being closed by a large slab of stone, on which the sepulchral inscription was cut, and the incised letters then coloured red. The "Tomb of the Scipios" consists of a number of narrow passages cut in the tufa rock, winding about in various directions, and excavated at different times as more room was required. At the opening from the *Via Appia* into the tomb an entrance façade exists, built of massive blocks of *peperino*, with a plain semicircular arch, 5 feet in span, supporting a simple moulded architrave.

Early
inscriptions.

The inscriptions (*tituli sepulchrales*), of which many exist dating from as early as the beginning of the third century B.C., are among the most important extant examples of archaic Latin palaeography. The originals have been removed, and have mostly been placed in the Vatican; their places are supplied by modern copies, many of which are blundered.² The form of some of the letters differs from that afterwards used, especially the L and R, which resemble the early Attic

¹ This is not, strictly speaking, a *columbarium*, as it contains large recesses for the corpses, not the small niches (*ossaria*) like pigeon-holes which were used to hold ashes.

² These inscriptions are published in *Cor. In. Lat.* i. p. 11 seq.; and see Mommsen, *Hist. Rom. Eng. trans.* i. pp. 437-493.

Greek form of these characters. The forms I' for F and II for E also occur.

The most important discovery made was a large sarcophagus, cut out of one block of peperino, and inscribed with the epitaph of Lucius Cornelius Scipio Barbatus, who was Consul in 298 B.C. (Livy, x. 12, 13), and was the great-grandfather of Scipio Africanus, who was elected Consul in 134 B.C. The sarcophagus (now in the Vatican) is decorated with a frieze, consisting of Doric or Tuscan triglyphs with rosettes in the *metopes*; it has a simple cornice with large *cymatium* and *dentile*. The inscription is incised and painted red on the lower plain part of the sarcophagus, which occupies the place of the architrave, below which there is a moulded plinth. The lid was cut out of another block, and is decorated with volutes at its angles. It was broken when the tomb was rifled in 1780, and about half of the lid is a modern restoration; the rest of the sarcophagus is as perfectly preserved as if it were only a few years old.

*Tomb of
L. C. Scipio.*

The inscription, in rude Saturnian verse, runs thus—

*Partial
epitaph.*

CORNELIVS · LVCIVS · SCIPIO · BARRATVS · GNAIVD · PATRE
| PROGNAVVS · FORTIS · VIR · SAPIENSQVE—QVOIVS · FORMA
VIRTVTEI · PARIVMA | FVIT—CONSOL · CENSOR · AIDILIS · QVEI
FVIT · APVD · VOS—TAVRASIA · CISAIVNA | SAMNIO · CEPIT—
SVHIGIT · OMNE · LVCANA · OPSIDESQVE · ABDVCIT; i.e. *Cornelius Lucius Scipio Barbatus (the bearded), born of his father Gnaevus, a brave man and a wise; whose form was fully equal to his worth, who was among you as Consul, Censor, Aedile; Taurasia, Cisanuna he took from the Samnites; he subdued all Lucania, and carried away hostages.* Many interesting archaisms occur in this inscription.

When the sarcophagus was broken open the skeleton of Scipio in a good state of preservation was found in it, and on one of the fingers was a gold signet ring with an engraved gem, which Pius VI. gave to the French antiquary Dutens, from whom it passed into the possession of Lord Beverley,

*Ring of
Scipio.*

and finally into the Collection of the Duke of Northumberland.¹ The stone in this ring is a *sard* or *carneian*, engraved with a standing figure of a winged Victory holding a palm-branch, a very common device on the engraved gems of the Republican period.

Ennius.

The poet Ennius was buried in this tomb, and his statue was placed in front of the entrance. The name of Ennius has been given, but without reason, to a youthful bust crowned with laurel, cut in peperino, which was found in the tomb, and is now placed on the sarcophagus of Scipio Barbatus.

Later Scipios.

Other inscriptions were found over the graves of Lucius Cornelius Scipio, the son of Barbatus, who was Consul in 259 B.C., when he seized Corsica and Sardinia after the defeat of the Carthaginian Hanno; and those of two sons of Scipio Africanus, and his brother Scipio Asiaticus, with other members of the family. The great Scipio Africanus, who died in 185 B.C.,² was not buried among his ancestors, but near his villa at Lâternum; Seneca, *Ep.* 86.

This very ancient burial-place continued in use under the Empire, and was continually enlarged. The roof of the passages and chambers, which are excavated in the soft tufa rock, are in various places supported by brick-faced concrete of the second century A.D.

Other columbaria.

Imperial Columbarium. Besides the Tomb of the Scipios, a great part of the fork made by the *Via Appia* and the *Via Latina* contains many other burial-places in the form of *columbaria*. Five of these are accessible, two can be entered from a door in the wall of the Vigna Codini, close by the *Porta Latina*, and others from the Appian Way.

These *columbaria* are mostly excellent and well-preserved specimens of the methods of interment used under the Empire.

¹ This priceless ring is now at Alnwick Castle, among the other gems in the Northumberland Collection; see Middleton, *Engraved Gems of Classical Times*, 1891, p. 47.

² Or, according to Polybius, in 183 B.C.

Some of them were used for servants and officials in the household of the Emperors, such as the Imperial physicians (*medicus*), accoucheurs (*obstetrix*), musicians (*auletes*), silver-smiths (*argentarius*), librarians (*bibliothecarius*), secretaries (*scribae*), footmen (*pedisequus*), jesters (*lusor*), and a lady's-maid (*ornatrix*). One of the servants was a dumb man, buffoon to Tiberius (*T. Caesaris lusor*), whom he amused by mimicking the gestures of legal advocates, as is recorded in his epitaph.

Various officials.

The librarians are mentioned as being in charge of the library in the *Porticus Octaviae*, and in that of *Apollo Palatinus*. In one case the ashes of a lapdog are placed in a niche with an inscription calling the dog "the delight of its mistress."

These *columbaria* are sunk in the tufa rock, and their walls lined with concrete faced with brick, or with *opus reticulatum*; they are in some cases decorated with stucco reliefs or mosaic.¹ The niches are arranged in many tiers reaching to the top of the lofty walls of the chambers; those for slaves are usually small semicircular recesses (*ollaria*), just large enough to hold a small earthenware pot (*olla*).

Construction of columbaria.

Ollaria.

Other recesses for officials of rank are frequently square niches about 2 feet wide, lined with marble or enriched stucco, and containing miniature marble sarcophagi or urns to hold the ashes, many of which are richly ornamented with sculptured reliefs. In some cases the *cineraria* are cut into the form of small temples or aediculae, worked with the most minutely detailed ornaments and figures.

Cinerary urns.

A cinerary urn, now in the Museum of the Palazzo dei Conservatori on the Capitol (terra-cotta room), is of the most costly description; it is a plain circular vessel cut out of a block of the beautiful translucent Oriental alabastrer, the much-valued *onyx* of Pliny. This is enclosed in a leaden vessel, and

Olla of alabastrer.

¹ The amount of splendid decorations lavished on the sepulchral chambers of Rome is very remarkable. Most of them, such as the magnificent tombs on the Via Latina, can only have been lighted by lamps, and were probably but seldom seen.

the whole is protected by being set in a large earthenware jar or *dolium*. This precious cinerary urn must have been a foreign import. Similar ones frequently are found in tombs among the Greek Islands, and in Phœnicia and other Oriental countries.

Large glass vases of graceful shape were often used to contain ashes, and these were usually enclosed in an outer jar of coarse pottery, or else in a lead box.

Upper
galleries.

In some cases there has been one or more tiers of projecting wooden galleries corbelled out from the face of the wall, so as to give access to the higher rows of niches. The main stairs leading down to the tombs were of marble or frequently of large tiles, *tegulae bipedales*.

"Wall
tunnels."

In some of the earlier Roman tombs, which were sunk below the level of the ground, access was given in a very curious way. A number of clay cylinders were made on the wheel by a potter, just large enough to admit the body of a man, and these were piled one above another, reaching up to the surface of the ground, exactly like a large chimney; foothold was given by a series of holes or sinkings in the sides of the cylinders, and the top was closed by a circular terra-cotta lid.¹

Shafts for
access.

One of these curious staircases, to descend which must have required almost the skill of a chimney-sweep, is preserved in the same room of the Capitoline Museum as the alabaster urn; on the lid is painted a name—EGO · C · · · ANTONIOS—in archaic Latin characters, apparently dating from the third or second century B.C.

The same method of forming shafts for access to underground tombs with cylinders of pottery is of common occurrence in Phœnician cemeteries, both in Phœnicia itself and in the island colonies; especially in the burials of the fifth to the second century B.C.

¹ Roman wells were often lined in the same way with large clay cylinders. A number of examples of this still exist round the lower slopes of the Athenian Acropolis.

One of the largest of the *columbaria* which was discovered on the *Via Appia* at the beginning of the last century has now wholly disappeared, with the exception of more than 300 of its inscribed slabs, which are preserved in the Capitoline and Vatican collections. The importance of this tomb, which contained the ashes of the freedmen of Augustus and his wife Livia, may be judged from a well-illustrated work published soon after its discovery by Gori, *Columbarium libert. et serv. Liviae*, Rome, 1727.

Slabs of
Augustus.

Space will not allow of a description of the other numerous *columbaria*, immense numbers of which have been discovered in Rome, especially during the extensive building operations of the last fifteen years. We may, however, note the positions of a few of the principal ones.

Other
columbaria.

A large group of *columbaria* was discovered a few years ago near the so-called *Temple of Minerva Medica*, in the fork between the *Via Praenestina* and *Labicana*, but after being rifled of their contents, and much injured in the search for statues and other objects, these *columbaria* were again buried in earth. Many hundreds of terra-cotta lamps, and vessels in both fictile ware and glass, with over 200 inscribed marble slabs, and countless other objects, were taken from these interesting and now lost remains.

Group of
columbaria.

Another *columbarium* by the *Via Praenestina*, not far from those last mentioned, is interesting as having been constructed by the historian of the Punic Wars, Lucius Arruntinus, who was Consul in 6 A.D., as a burial-place for his slaves and freedmen. This was recorded on an inscribed slab placed over the entrance.

Slabs of
L. Arrun-
tina.

Near it is another tomb consisting of one vaulted chamber, decorated with paintings and stucco reliefs. This *columbarium* has as yet escaped destruction, but will probably soon be destroyed.

In the garden of the Villa Wolkonsky a fine *columbarium* has been exposed, three stories high, with concrete walls faced

Architect's
tomb.

mainly with *opus reticulatum*, dating from about the middle of the first century A.D. It is the burial-place of the family of an architect called Tiberius Claudius Vitalis, and was built by another architect named Euty chius. Some interesting bas-reliefs in marble, apparently representing buildings designed by Vitalis, were found within one of the chambers.

The fine *columbaria* recently discovered in the park of the Villa Pamfili-Doria have suffered the usual fate of these buildings in and near Rome; being first rifled of their contents, and then again buried in a sadly damaged condition.

*Crypt of
S. Maria in
Cosmedin.*

A small chamber of classical construction, with two tiers of marble-lined niches, exists below the high altar of S. Maria in Cosmedin, and is made into the *confessio* of the church. This is the Church in which are built up the remains of the *Templum Cerevis ad Circum Maximum* described in vol. ii. p. 193. This curious little chamber has been called a *columbarium* by some writers, but its position within the circuit of the Servian wall makes this very improbable.

*Tomb of
Eurysaces.*

Tomb of Eurysaces the baker. One of the towers with which Honorius had strengthened the double *Porta Praenestina* and *Labicana* concealed this tomb till 1838, when the tower was pulled down and the tomb found embedded in its thick concrete walls. It now stands clear of the gate, modern Porta Maggiore. The *tomb of Eurysaces* was originally built in the fork of two roads, the *Via Labicana* and *Via Praenestina*, and this accounts for its not being rectangular on plan, as two of its sides faced on to and were parallel to these radiating roads.

*Design of
tomb.*

The whole design of this tomb is very eccentric. It consists of a high, plain basement, on which stands an upper structure cut in the shape of three tiers of large circular basins, with their mouths outwards; these are supposed to represent kneading bowls, such as were used by the baker to whom the monument was erected. At the angles are slightly projecting pilasters. The part immediately under the tiers of

bowls is formed in the shape of a row of tall cylinders, which probably represent a number of measures for grain.

The internal mass of the tomb is of concrete, the lower part being of blocks of tufa faced with travertine; the outer casing and the sculpture of the upper part is also of travertine. Above the rows of bowls the tomb is decorated with a sculptured frieze, surmounted by a simple semi-Corinthian cornice, with consoles and rosettes under the cymatium, which is much too small for its place.

*Materials
of tomb.*

On the frieze is represented a variety of scenes connected with the trade of a baker—the bringing and grinding of wheat, kneading the bread, raking fuel into the oven, weighing and distributing the loaves, executed with vigour but without much refinement of detail—partly, no doubt, on account of the unsuitable nature of travertine for such small figures.¹

*Sculptured
reliefs.*

This monument probably dates from about the middle or early part of the first century B.C.; it is inscribed with an interesting epitaph in rather archaic spelling, which is repeated three times on the plain string-course which separates the upper and lower stages of the structure. It runs thus—

Epitaph.

EST · HOC · MONIMENTVM · MARCEI · VERGILII · EURYSACIS
PISTORIS · REDEMPTOR[IS] · APPARET[ORIEVS]; *This is the monu-
ment of Marcus Virgilius Eurysaces, a baker; bread-contractor to
the apparatuses.*² The *apparitores* were the public servants of
the magistrates of Rome. By it stood a somewhat similar
tomb to his wife Atistia, of which only part of the inscription
now exists—

FVIT · ATISTIA · VXSOR · MIHEI — FEMINA · OPTVMA · VEIXSIT
— QVOIVS · CORPORIS · RELIQVIAE — QVOD · (sic) · SVPERANT
SVNT · IN — HOC · PANARIO; *Atistia was my wife; she lived the best
of women; of whose body the remains which exist are in this 'bread-*

*Wife of
Eurysaces.*

¹ The more delicate details of these reliefs were probably executed in the coating of marble-dust cement with which stone appears usually to have been covered in the time of the Republic and of the early Empire.

² The later form is *apparitores*.

Bakers'
tombs.

basket.¹ This extraordinary phrase probably refers to the fact that the monument was made in the shape of a *panarium*.² In these inscriptions the diphthong *ei* is used for long *i*, as was usual till the reign of Augustus, and *xs* for the double letter *x*.³

Some fragments of sculptured travertine, now set by the side of the modern road, appear to belong either to Atistia's tomb or to the tomb of some other baker. On these fragments are carved in relief representations of flat round loaves, marked with a cross like hot-cross buns, many of which were found at Pompeii.

Tomb in the
Lateran.

In the Lateran Museum is preserved the sarcophagus of another Roman baker named L. Annius Octavius. On it there is a sculptured relief representing slaves making bread, with the following melancholy inscription—

*Evae, effugi. Spes et Fortuna caute;
Nil mihi vobiscum; luctificate aliae.*

Tomb of
Bibulus.

The Tomb of *Bibulus*, or rather part of it, still exists by the side of the *Via Lata* about 60 yards outside the *Porta Rotumena*,⁴ built into a modern house in the *Via di Marforio*. It is built of concrete faced with large blocks of travertine, and is formed in the shape of a small house with a plain base, above which the wall is decorated by simple Tuscan pilasters supporting an entablature with enriched frieze, sculptured with garlands and

¹ This inscription is now in the cloister of the Museo delle Terme.

² It is interesting to compare this method of writing the double consonant with the archaic form of the corresponding Greek letter the Ξ , which till about the end of the fifth century B.C. was usually written by Attic Greeks $\Sigma\Xi$, e.g. $\Sigma\Xi\Xi\iota\theta\epsilon\omicron\varsigma$ for $\Xi\Xi\iota\theta\epsilon\omicron\varsigma$.

³ Bunsen (*Besch. der Stadt Rom*, iii. p. 35) is mistaken in thinking that this tomb was within the line of the Serrian wall; remains of the wall and the *Porta Rotumena* have recently been found under a house, No. 8, in the *Via di Marforio*, showing that the tomb of *Bibulus* was not an exception to the law of the XII Tables against intramural burial; see vol. i. p. 128.

rosettes between ox-skulls, of which only one fragment remains at the south angle. In one of the panels formed by the pilasters there is a large window with a moulded architrave, and in the other narrower spaces two small tablets with miniature cornice. The tomb originally extended beyond the angle of the street, and there was probably another large window in the missing half.

Sculptured ornament.

On the plain dado is an interesting incised inscription, again repeated on the end of the tomb which is partly concealed by the modern house—*To Caius Publicius Bibulus, the son of Lucius, Aedile of the Plebs, on account of his honour and worth, by a decree of the Senate, and by the command of the people, a place has been publicly given for a monument, in which he and his posterity may be interred.*

C · PUBLICIO · L · F · BIBVLO · AED · PL · HONORIS
 VIRTVTISQVE · CAVSSA · SENATVS
 CONSVLTO · POPVLIQVE · IVSSV · LOCVS
 MONVMENTO · QVO · IPSE · POSTEREIQVE
 EIVS · INFERRENTVR · PVBLICE · DATVS · EST

Epitaph of Bibulus.

Nothing certain is known about this highly honoured Roman; he can hardly be the C. Bibulus mentioned by Tacitus, *Ann.* iii, 52, as being aedile in 22 A.D., since the style of the tomb appears to be earlier than this.

Remains of other tombs flanking the *Via Lata* exist a little beyond this one, built into the modern houses of the *Via di Marforio*; little except their concrete core now remains.¹

Tombs outside the Porta Salaria. Remains of several tombs were exposed to view by the destruction in 1871 of the towers

Tombs on the Via Salaria.

¹ The house with a tablet to record that the painter Giulio Romano was born in it is partly constructed out of the remains of one of these tombs. Parts of the *Via di Marforio*, together with the remains of several ancient tombs, have been destroyed to make room for the monument of Victor Emmanuel on the Arx of the Capitol.

*Tombs on
the Via
Salaria.*

which flanked the *Porta Salaria* of Aurelian.¹ One of these just outside the modern gate, on the right, closely resembles in its design the tomb of Bibulus, and is probably of about the same date. It is specially interesting from its curious mixed construction of several materials, and as an example of the sparing way in which marble, afterwards so common, was frequently used in the first century B.C.

*Elaborate
masonry.*

This tomb was nearly square on plan; the front facing on the ancient road is decorated with four pilasters and a large central window above a richly moulded plinth; on the other existing side there are three pilasters but no window. The main bulk of the walls is of *opus quadratum* of peperino, very neatly worked and jointed; the deep moulded plinth and the pilasters are of white marble, and a small sub-base under each pilaster is of black marble. The upper part of the tomb and its entablature are missing; no inscription exists to show whose monument it was.

By the side of this tomb remains exist of another monument built of travertine, surmounted by a coarsely designed cornice; a large marble slab with moulded frame is let into its front, but the panel is uninscribed; possibly the inscription was only painted.

On the other side of the road, close by the gate, there are remains of a large hemicycle of massive stone masonry. This appears to have been one of the recesses with a stone bench along its curve, which were frequently erected for public use by the road-side, either as a separate structure or in connection with a tomb.

*Monument
to a boy.*

During the demolition of the Aurelian towers of the same gate a marble *cippus* or monument, cut out of one block of marble, was found built into the wall. This commemorates the death of a schoolboy named Q. Sulpicius Maximus, who won the prize for a copy of Greek verses on the subject of

¹ The towers had been partly destroyed by the cannon of the Italian army when they entered Rome on 20th September 1870.

a supposed lecture given by Jupiter to Apollo Helios for his rashness in allowing his son Phaeton to drive the chariot of the sun. This unfortunate boy died at the age of eleven, an early victim to competitive examinations. Part of his prize poem is incised on the monument, as well as a full-length portrait relief of the young author holding a scroll in his hand. This interesting *cippus*, now in the Capitoline Museum, dates from the reign of Domitian, who in 86 A.D. instituted this competition, which was called the *Agon Capitolinus*. The verses are very creditable to the youthful poet.

In 1885-86 a large number of interesting tombs were discovered while digging the foundations of new houses near the *Porta Salaria*, both inside and outside the Aurelian wall.

Tombs of the Gens Licinia. The most historically interesting of these discoveries was that of the vaulted tomb chamber of several members of the Gens Licinia, in the ground of the Villa Bonaparte, just inside the gate. The vault contained seven marble receptacles for ashes (*cineraria*), each hollowed out of a solid block, with a separate slab, decorated with a pediment, to form the lid. They averaged about 3 feet long, and a little more in height.

The chief of these contained the ashes of L. Calpurnius Piso Licinianus, who was adopted as his successor, with the title of Caesar, by the Emperor Galba only four days before they were both murdered by the partisans of Otho in 69 A.D. Piso was barely thirty-one years of age. His widow Verania bought the mutilated body of her husband from Otho, had it decently burnt, and then constructed this handsome tomb to receive the ashes, and her own after her death. The inscription on the tomb is—

DIIS · MANIBVS
L · CALPVRNI · PISONIS
FRVGI · LICINIANI
XV · VIR · S · F (*sacris fuchundis*)
ET · VERANIAE

*Licinian
Gens.*

*Tomb of
Piso.*

*Epitaph of
Piso.*

Q · VERANI · COS · AVG · F

GEMINAE

PISONIS · FRVGI

Another similar *cinerarium* contained the ashes of Piso's father, M. Licinius Crassus, who was Consul in 27 A.D., and also held the offices of Pontifex, Praetor Urbanus, and Legate of the Emperor Claudius.

The third *cinerarium* contained the ashes of Piso's elder brother; and the other four contained the ashes of other members of the same family.

*Sculptured
decoration.*

The tympana of the pediments, angles, and friezes of these *cineraria* are decorated in the usual Roman fashion with reliefs of garlands, ox-skulls, acanthus leaves, and animals. None are of any importance as works of art, but merely the stock productions of the monumental marble mason. A very graceful bronze statuette, about 2 feet high, was found in the same vaulted chamber, but it has been surreptitiously sold and removed from Rome.

*Marble
sarcophagi.*

Marble sarcophagi. Close by the tomb of Piso and his family several other subterranean vaulted chambers were discovered, and in them eight large marble sarcophagi, six of them richly sculptured. These belong to the second century A.D., a time when the old practice of cremation was beginning to die out, and the richer classes embalmed their dead, and placed them in very massive and costly sarcophagi, instead of the smaller receptacle for ashes.

The skeletons in these sarcophagi were well preserved; and with the bones were found large lumps of some aromatic gum, resembling that used by the embalmers of Egyptian mummies.

No inscription was found to give any clue to the identity of the persons who were here entombed, but from the size and elaboration of their sarcophagi they must have belonged to some wealthy family.

The finest of these sarcophagi measures, without the lid, about 7 feet in length by nearly 2 feet high. On the front and ends are reliefs representing Silenus with sportive Fauns and Bacchanals, dancing and playing on musical instruments; in all fifteen figures, executed with much vigour of movement and some grace in execution. Part of this relief was unfinished, the forms being merely blocked out, without the use of any "points" or other aids to the sculptor's eye.

Reliefs in marble.

Another sarcophagus is decorated with a relief of the rape of the daughters of Leucippus by Castor and Pollux. In the centre the mother is raising her arms in despairing appeal for help; on one side Castor is carrying off Phoebe, and on the other Pollux bears Hilara away in his arms. Beyond are warriors fighting, and on each end one of the Dioscuri is represented carrying away his bride in a quadriga.

Great subject.

This subject, which occurs on several other Roman sarcophagi, may very possibly be a traditional copy from the celebrated painting by Polygnotus on the walls of the Temple of the Dioscuri in Athens, executed about the middle of the fifth century B.C.; see Pausan. i. 18, 1.

Another of these sarcophagi has its lid carved to represent the roof of a house, with its tiles and *antefixae* at the eaves. At each angle is a winged Victory, and along the upper part there is a frieze of hanging garlands supported by cupids, and a small portrait bust introduced on each side of a central Gorgon's head.

House-shaped tomb.

One sarcophagus has a relief of the birth of Bacchus, with Silenus and other attendant figures. Others have hunting scenes, men on foot and horseback pursuing lions, bears, and other animals.

One of the largest is quite undecorated, but is remarkable for being a double sarcophagus hollowed out of one immense block of marble.

Double sarcophagus.

The two bodies were separated by a thin slab, probably of

wood, which slid in grooves cut for it in the marble sides of the sarcophagus.

Greek style. A strong Greek influence is evident in most of these reliefs; many of the figures are obviously copied from much older originals of Hellenic origin, so that the motives are as a rule superior to the execution.

These sarcophagi, together with other sepulchral sculpture from the same site, are now preserved in the gardens of the Palazzo Campanari in the Via Nazionale, where they may be seen with the permission of the owner, Signor Maraini.

Tomb of Poetua. *Mausoleum of Lucilius Poetua.* About half a mile outside the *Porta Salaria*, in the garden of the Cav. Bertona, an interesting mausoleum has been discovered, built to contain the ashes of Lucilius Poetua and his sister Lucilla Polla. The mausoleum consisted of a great drum of neatly-jointed blocks of travertine, 114 feet in diameter, and about 10 feet 6 inches high; on this circular base rested a great cone of brick-faced concrete, 55 feet high.

Early tumulus. This form of tomb is an interesting survival of the prehistoric earthen tumulus, with its base strengthened by a mere ring of stones, examples of which still exist in the Troad and elsewhere. In later times the rough ring of stone developed into a carefully built drum of masonry, and the heap of earth was replaced by a cone of stone or marble. A well-preserved Greek example of this still exists in the Necropolis of Cyrene in northern Africa. It is very similar in form to this Roman tomb of Lucilius Poetua.

Development of tumulus. A still further development is represented by the tomb of Cecilia Metella and the great mausoleum of Hadrian, in which the drum of masonry became the chief part of the monument, the cone on the top being proportionally reduced in size.

In the mausoleum of Augustus the old traditions survived so far that the drum was surmounted by a mound of earth instead of a cone of brick or stone.

To return to the newly discovered tomb, its inscription is

cut, on the outside of the drum, in fine large characters marked with red, dating (as their form shows) from the time of Augustus. It runs thus—

V · LVCILIVS · M · F · SCA · PAETVS
 TRIB · MILIT · PRAEF · FABR · PRAEF
 EQVIT
 LVCILIA · M · F · POLLA · SOROR

*Epitaph of
 Poetus.*

This inscription records that Lucilius Poetus held the important offices of *Præfectus* of the *Tribuni Militum* (the superior officers of the Roman legions) and of *Præfectus Fabrum*, "Commander of the Pioneers," an important body among the military engineers of Rome.

A vaulted passage 36 feet long, with rows of *loculi* or recesses for ashes on each side, leads to the small central chamber, which is 9 feet 9 inches long by 6 feet 6 inches wide. On three sides of the tomb chamber are niches to hold the marble chests in which were placed the ashes of the principal persons buried here. Unfortunately the whole mausoleum had been rifled, and used as a common place of burial in the fourth century A.D., and so the original sarcophagi are missing.

*Passage
 and
 chamber.*

Near the entrance of the mausoleum is a descending approach to a long catacomb passage excavated in the tufa on which the building stands. This passage is nearly 100 feet long, and contains a number of small *loculi*. It was apparently excavated in late times after the mausoleum had been opened and put to more common use.

Tomb of Menander. About 70 yards outside the *Porta Salaria* a tomb of unusual form was discovered in 1886. This is a large semicircular monument built of blocks of tufa with a cornice of peperino.

*Tomb of
 Menander.*

Its inscription runs thus, M · IVNVS · M · L · MENANDER
 SCR · LIHR · AED · CVR · PRINCEPS · ET · Q | V · IVNIA · M · L
 CALLISTE · IVNIA · O · L · SOPHIE · VIXIT · ANN · VIII. The

Freedman Menander was *scriba librarius* or secretary to the Aediles and Quæstors; see *Bull. Com. Arch.* 1886, p. 371.

*Sempronian
Genus*

Tomb of the Genus Sempronius. Remains of a fine tomb of the *Genus Sempronius* were discovered in 1863, on the slope of the Quirinal, in the modern *Via della Dataria*. This tomb stands a short distance outside the site of the ancient Servian *Porta Sanguinalis*, and was set by the side of the road which passed out of that gate. A part only of the front remains, which appears to date from about the middle of the first century B.C.

*Existing
tomb.*

It is built of large, neatly-jointed blocks of travertine. The front has a moulded plinth and a well-designed entablature with enriched frieze, sculptured with the Greek honeysuckle pattern. In the centre is a round arched window about 5 feet wide, devoid of any moulding or ornament. Over this window, on the plain surface of the wall, is an incised inscription—

Epitaph.

CN[ÆVVS] · SEMPRONIVS · CN[ÆI] · F[ILIVS] · ROM[ANVS]
SEMPRONIA · CN[ÆI] · F[ILIA] · SOROR
LARCIA · MV[NATHI] · F[ILIA] · MATER

This tomb is illustrated in the *Bull. Com. Arch. Rom.* vol. iv,

A large and important group of tombs was found in 1887 on the *Via Portuensis*, about a mile outside the walls of Rome; see *Bull. Com. Arch.* July 1887.

Every volume of this periodical and the *Notizie degli Scavi* contains notices of newly discovered tombs.

*Pyramid
of Cestius*

The *Tomb of Cestius* near the *Porta Ostiensis* in the Aurelian wall dates from the latter part of the first century B.C., when the conquest of Egypt had begun to cause the introduction into Rome of an Egyptian class of artistic and religious ideas. This tomb is in the form of a pyramid 118 feet high with a base 96 feet square, formed of concrete cased with blocks of white marble. The whole rests on a massive footing-course of travertine. In the centre of the concrete mass is a small

Nothing further is known about this C. Cestius except the facts recorded in the inscription quoted below. He may possibly be the Roman knight mentioned by Cicero, *Pro Flacco*, xiii., and *Ad Att.* v. 13.

Inscribed
bases.

The date of his death is, however, roughly indicated by two marble inscribed pedestals, which were found near the pyramid in 1663, when the ground round it was excavated to the original level.

The inscription, repeated on each of these bases, was as follows—*MARCVS · VALERIVS · MESSALLA · CORVINVS · P · RVTILIVS · LVPVS · L · IVNIVS · SILANVS · L · PONTIVS · MELA · D · MARIVS · NIGER · HAEREDES · C · CESTI · ET · L · CESTIVS · QVAE · EX · PARTE · AD · EVM · FRATRIS · HAEREDITAS · M · AGRIPPAE · MVNERE · PERVENIT · EX · EA · PECVNIA · QVAM · PRO · SVIS · PARTIBVS · RECEPER · EX · VENDITIONE · ATTALICORVM · QVAE · EIS · PER · EDICTVM · AEDILIS · IN · SEPVLORVM · C · CESTI · EX · TESTAMENTO · EIVS · INFERRE · NON · LICVIT.*

Cloth of
gold.

This inscription records that C. Cestius died in the reign of Augustus, during the lifetime of M. Agrippa, who died in 12 B.C., and that the bronze statues which stood upon the pedestals were paid for by the sale of some robes made of gold tissue, called *attalica*,¹ in which C. Cestius had desired to be buried. As, however, this was contrary to law (*Cicero, De leg. II. xxiv. 60*), the heirs and executors spent the value of the gold stuffs in erecting the two bronze statues. The foot of one of these statues still exists,² fixed to the pedestal; it is colossal in size, showing that the value of the cloth of gold must have been very great.

Aurelian
wall.

When the wall of Aurelianus was constructed the tomb of Cestius was built into it so as to form part of the line of

¹ On *attalica*, see Pliny, *Hist. Nat.* viii. 196, and xxxiii. 63; cloth of gold was so called from its having been largely used by the wealthy Attalid Kings of Pergamum.

² This bronze foot with the inscribed pedestal is preserved in the "Bronze room" in the Capitoline Palazzo dei Conservatori.

defence. The old Protestant cemetery with the grave of Keats is under the shadow of this pyramid.¹

The marble lining was restored in 1663 by Alexander VII., who disfigured one side by cutting a new inscription on it.

Other tomb pyramids. At least two other sepulchral pyramids existed in Rome as late as the fifteenth century. One of these, known popularly as the "Tomb of Romulus" or *Memoria Romuli*, stood between the Castle of S. Angelo and the Vatican, and was destroyed by Pope Alexander VI. (Borgia) in 1497, when he rebuilt part of the covered bridge which unites these two buildings. It is shown in a very interesting relief on the bronze doors which belonged to the ancient Basilica of S. Peter, and now form the central entrance in the *narthex* of the present church; several other classical buildings are represented on these doors, and are all rendered with much minuteness.² The so-called *Memoria Romuli* is mentioned by Petrarch in one of his *Epistles*.

*Memoria
Romuli.*

Another pyramidal monument stood at the side of the *Via Flaminia*, by the site of the modern Church of S. Maria dei Miracoli in the Piazza del Popolo. This is shown in several old views of Rome made in the fifteenth and sixteenth centuries, and pieces of it were discovered a few years ago when the Aurelian Porta Flaminia was pulled down; see *Bull. Com. Arch. Mun. Rom.* vol. v. Tav. 20; and De Rossi, *Piante di Roma anteriori al sec. xvi.* Rome, 1879.

*Pyramid
tomb.*

¹ Shelley's grave, on which it has been proposed to erect a costly monument, is in the adjoining enclosure.

² Those noble pieces of bronze casting were made for Eugenius IV., about 1435, by Antonio Filarete and Simone di Ghini. They are described by Vasari in his life of the former with some minuteness; he is, however, mistaken in calling Simone a brother of Donatello. A magnificent bronze effigy in the Lateran Basilica is by the second of these artists, the Florentine sculptor and goldsmith, Simone di Ghini. The doors of St. Peter's show distinctly the work of two hands; the large panels are very inferior to the small reliefs and the rich foliage in the borders.

*Tomb of
Marcella.*

The Comm. Lanciani has recorded (*Anc. Rome*, p. 281) the discovery of a tomb, on the summit of Monte Mario outside Rome, which is of special interest. It was a small sepulchral chamber, about 26 feet square, containing the sarcophagi of the *Gens Minucia*. One of the epitaphs records the death of that accomplished and beautiful girl, whose early death, at the age of thirteen, soon after her betrothal, is mentioned by the younger Pliny (*Ep.* v. 16) with such affectionate sympathy and sorrow. The inscription runs thus, D · M · MINICIAE (sic) · MARCELLAE FVNDANI · F · VIX · A · XII · M · XI · D · VII. Her father was C. Minucius Fundanus, Consul in 107 A.D. Pliny speaks of her as not yet fourteen, but the epitaph records that she was a few days short of her thirteenth birthday when she died.

This tomb, which is in the form of a large altar-like *cippus* of white marble, is now in the cloister of the Museo delle Terme.

IMPERIAL SEPULCHRES.

*Mausoleum
Augusti.*

Mausoleum of Augustus (modern *Teatra Cornea*). This stands near the Tiber, in the *Campus Martius*. It is described by Strabo (v. 3, 8) as a mountain of earth, planted with ever-green trees, raised on a lofty base of white marble 220 feet in diameter. On the summit was a colossal bronze statue of Augustus, and at the sides of the entrance were two bronze columns, inscribed with a long inscription, *index rerum gestarum*, in honour of Augustus, a copy of which exists in both Greek and Latin incised on the marble walls of the *Temple of Augustus* at Ancyra. An account of this most important inscription is given at vol. i. p. 384.

*See postea
Augusti.*

Suetonius (*Aug.* 100) says that the mausoleum stood between the *Via Flaminia* and the river, and that it was built by Augustus during his sixth consulship, that is, in the year 28 B.C. Owing to this monument being surmounted by a

mound of earth, it is called a *Tumulus* by Tacitus, *Ann.* iii. 9, and Virgil, *Aen.* vi. 875.¹

In this respect the form of the *Mausoleum of Augustus* was a curious survival of the primitive method of burial under great mounds of earth or *tumuli*, the great drum of masonry being a development of the simple stone curb which surrounded the bases of the prehistoric *tumuli*; see above, vol. ii. p. 282.

Early
tumuli.

As late as the sixteenth century the *Mausoleum* of Augustus still preserved much of its original form; the mound of earth, and even the garden on its summit, still existed, and also portions of its marble decorations round the lower story; see Du Perac, *Festigi di Roma*, who gives an illustration of its state in the middle of the sixteenth century. This etching shows a statue on each side of the central doorway, and a colossal head over it; in front is a large sarcophagus. The garden on the top is laid out in the stiff Dutch fashion.

Nothing now exists but the core of the mausoleum stripped of its once splendid marble linings. It is built of massive concrete faced with neat *opus reticulatum*, which can best be seen in the courtyard of the Palazzo Valdambrini, in the Via Ripetta.

Existing
remains.

Besides the central circular chamber, which contained the sarcophagus with the ashes of Augustus, a series of fourteen smaller chambers two stories high were formed all round it. The arrangement of these chambers may be roughly represented in plan by a cart wheel, the felloe occupying the place

Tomb
chambers.

¹ The name *Mausoleum*, given to this and other magnificent sepulchral monuments, was taken from the celebrated Tomb of Mausolus at Halicarnassus, erected by his wife Artemisia, which was called one of the seven wonders of the world. Mausolus, or Maussellus as he is called on his coins, was Satrap and finally independent sovereign of Caria from 377 to 353 B.C. Remains of this monument, with its sculpture of the school of Scopas and Praxiteles, were found by Sir Charles Newton in 1860. The decorative portions are now in the British Museum.

of the central chamber. In each of these radiating tomb chambers some member of the Julian family was interred, and many of the succeeding emperors till the time of Nerva's death.

The whole interior is disfigured and hidden by a modern circus, which has caused much damage to the sepulchral chambers.

Square base.

The square travertine basement, on which the drum or circular portion stands, is wholly buried below the modern ground level. Near the apse of the neighbouring Church of S. Rocco traces still exist of a portico with rows of columns, which formed the entrance on the south towards the river to a *porticus* which enclosed the mausoleum.

Inscribed cinerary.

Many inscriptions, pieces of sculpture, sarcophagi, and cinerary urns from the Mausoleum of Augustus still exist at various places in Rome; one of these is a fine urn of Oriental alabaster now in the Vatican. The inscribed pedestal which supported the cinerary urn of Agrippina, the mother of Caligula, is now in the courtyard of the Palazzo de' Conservatori on the Capitol. It is inscribed OSSA · AGRIPPINAE M · AGRIPPAE · F[ILIAE] · DIVI · AVG · NEPTIS · VXORIS · GERMANICI · CAESARIS · MATRIS · C · CAESARIS · AVG · GERMANICI PRINCIPIS.¹

Durials in the mausoleum.

The first interment in the *Mausoleum of Augustus* was that of the young Marcellus, nephew of Augustus, who died in 23 B.C.; see Dion Cass. liii. 32, and liv. 26, and cf. Virgil, *Aen.* vi. 873-884. M. Agrippa was next buried there in 12 B.C.; being the son-in-law of Augustus, he was interred with the Julian family.

Among the other Imperial persons buried in this tomb were Octavia the sister of Augustus, Drusus the elder, Caius and Lucius the two grandsons of Augustus, then Augustus himself, with his wife Livia, and subsequently Tiberius,

¹ In mediæval times the cinerarium of Agrippina was used as a standard measure for wheat.

Claudius, and Britannicus. Nerva's was the last interment here, in A.D. 98; after which the tomb was full.

Two obelisks, which are now by the Quirinal Palace and the Church of S. Maria Maggiore, were placed by the sides of the entrance to the Mausoleum of Augustus, about the end of the first century A.D.

Obelisks at entrance.

In 410 A.D. Alaric and his Goths broke the mausoleum open, and shattered the sepulchral urns in their search for gold. In the twelfth century it was used as a fortress by the Colonna family, and was much damaged by an attack made on them in 1167, and again by another siege in 1241. In the seventeenth century, during an earthquake, the central vault fell in, and at the end of the eighteenth century the remains of the mausoleum were converted into an open-air theatre for bull-baiting and the like.

Fate of the mausoleum.

The Ustrina Caesarum. Near the mausoleum, Strabo records (v. 3, 8), there was a large marble-paved enclosure, surrounded with iron railings, and planted with poplar trees, the *καύστρον* or *Ustrina Caesarum*, where the dead whose ashes were to be interred in the adjoining tomb were burnt.¹ The site of the *Ustrina* on the side towards the *Via Flaminia* (*Corso*) has been identified by the discovery of six travertine *cippi*, inscribed with records of the persons whose bodies had been burnt there. Five of these are preserved in the Vatican, in the "*Galleria delle statue*."²

Imperial Ustrina.

The persons mentioned on these *cippi* are three children of

¹ The ceremonies performed at the funerals of rich men and the apotheosis of the emperors, are minutely described by Herodian, iv. 2.

² It should be observed that these and other inscribed *cippi* and pedestals in the Vatican have statues placed upon them with which they have no connection. For example, a statue of Lucius Verus is set on the pedestal which is inscribed with the name of Gaius Caesar (Caligula), and many other statues have inscriptions under them which are very liable to mislead the student, who naturally assumes that the statues and pedestals belong to each other.

Germanicus—Tiberius Caesar, Caligula, Livilla, and also a son of Drusus named Titus, and one member of the Flavian family.

*Inscribed
cippi.*

The record of the burning of Caligula's body is this—
Q[AIVS] · CAESAR · GERMANICI · CAESARIS · P[IVLIVS] · HIC · CRE-
MATVS · EST. Another form used on some of the *cippi* is HIC
SITVS · EST.

Since the burial of Nerva in 98 A.D. had filled the last vacant space in the *Mausoleum of Augustus*, the ashes of his successor Trajan, who died in 116 A.D., were placed in a gold vase under his great sculptured column; Dion Cass. lxxviii. 16, and lxxix. 2. Hadrian then built another enormous mausoleum for himself and his successors to the Empire.

*Mausoleum
of Hadrian.*

The *Mausoleum of Hadrian*, now the Castle of S. Angelo, which far exceeded in size and splendour the world-famed Tomb of Mausolus, was begun by Hadrian in 135 A.D. It was built near the bank of the Tiber, and was approached by the *Pons Aelius*, which Hadrian made to connect it with the *Campus Martius* on the other side of the river. The bridge is so placed as to lead directly to the central axis of the mausoleum. At present the bridge only reaches across the river, but originally it had other arches which led straight to the entrance of the *mausoleum*. This missing part of the bridge is shown in more than one mediæval drawing, published by Mariano in the work mentioned below; see p. 298.

*Remains of
mausoleum.*

Nothing remains but the stone and concrete core, so that it is now very difficult to realise its original magnificence, when it was wholly lined with white Parian marble, and surrounded by rows of statues of marble and gilt bronze placed between columns of richly coloured Oriental marbles and porphyry.

Its splendour is described by Procopius (*Bell. Goth.* i. 22), and a representation of its exterior, made in the middle of the fifteenth century, gives some notion of its appearance. This is a relief on one of the bronze doors of S. Peter's, mentioned above, vol. ii. p. 287; see also Mariano's work, *inf. cit.*

The general design of this mausoleum consisted of an immense circular drum set on a square basement or *podium*. The circular part, most probably, was surmounted by a conical marble dome; very similar on a greatly enlarged scale to the existing Tomb of Caecilia Metella on the Appian Way, and to the Tomb of the Plautii, on the road from Rome to Tivoli.

General design.

The lower square story was divided into panels by a series of columns or pilasters. The main circular story appears to have been decorated with external aisles or colonnades in two tiers, along which statues were ranged, one in each intercolumnar space. A great number of statues were also placed on the top of the square *podium*, at the foot of the circular drum.

External colonnades.

The whole of the visible exterior was of marble, mostly white, with columns of richly coloured foreign marbles and porphyries; the inner core, which still exists in a much mutilated state, is built of large blocks of peperino and travertine surrounding an inner mass of concrete, in which are formed the central sepulchral chamber, and the passages which lead to it; see figs. 92 and 93.

Marble linings.

The mass of concrete which forms the walls of the drum is of enormous thickness and strength.

The main circular story was, with its marble casing, more than 230 feet in diameter, and each side of the square basement measured about 300 feet.

The central vaulted chamber (A on fig. 92) which contained Hadrian's sarcophagus and those of later emperors is still well preserved;¹ it is lined with large blocks of peperino and travertine, and was once faced with rich Oriental marbles, and paved with mosaic, as were also the winding passages which lead with a gentle slope up from the entrance at the ground level to this large chamber, which is nearly at the top of the circular drum; see B on fig. 92.

Tomb chamber.

¹ The Castle of S. Angelo is now used as a military barrack, and can only be visited by a special permission from the Commandante.

Porphyry sarcophagus.

The sarcophagus of Hadrian, which stood in a large recess, has been destroyed, but its immense lid, of polished Egyptian porphyry, is now used as a font¹ in the Baptistery of S. Peter's. The sarcophagus itself was used as a tomb for Innocent II., 1143, but it was destroyed in the fire which ruined the Lateran Basilica in the fourteenth century.

Inclined passages.

The access to the main sepulchral chamber is formed in a very complicated way by various passages gently sloping upwards in a series of inclined planes, so as to admit of heavy sarcophagi being introduced and dragged up on rollers. Mid-way this passage opens out into another chamber, below the principal one; and here the sloping way is broken at two places by a sort of trap-door arrangement, so as to cut off communication and prevent the tomb chamber from being reached; see fig. 93.

Vertical shafts.

There are also vertical shafts reaching from the main floor down to the basement of the building.²

The whole structure is very complicated in design, and it has been so much altered at various periods to fit the mausoleum for use as a fortress that it is now very difficult to understand its original plan.

Molten rooms.

The upper part is now occupied by a number of very handsome rooms, some of them large and richly decorated with stucco reliefs. These chambers were mostly added in the sixteenth century by Paul III. and other Popes to make the castle a Papal residence.

Fig. 92 shows the present plan of the *mausoleum* above the *podium* but below the level of the principal tomb chamber.

¹ The lid was first used as a tomb for the Emperor Otho II., who died in 953 A.D., but when his bones were removed to the crypt it was converted to its present use.

² Compare the shafts which run upwards and downwards in the pyramid of Cheops. Openings to the outer air in Egyptian tombs were probably made in order that the *Ka* or "double" of the dead man might pass freely in and out of the grave.

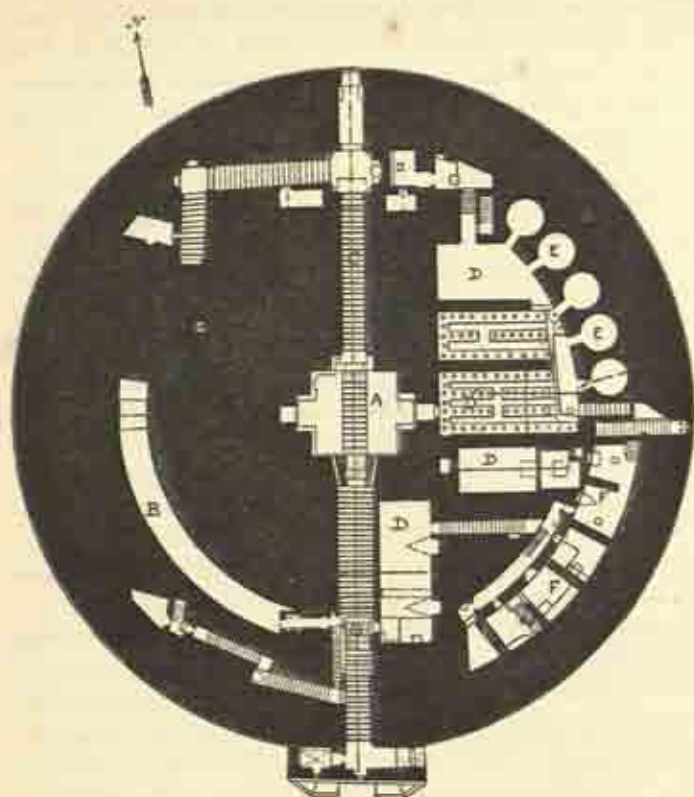


Fig. 92.

Plan of the Mausoleum of Hadrian as it now exists, with alterations made in mediæval times to fit it for use as a fortress.

- A. Central Chamber.
- B. Sloping passage winding round the drum of the Mausoleum.
- C. Another sloping passage, the floor of which is notched into very shallow steps.
- DD. Mediæval Chambers excavated out of the solid concrete mass of the Mausoleum.
- EE and FF. Series of Cisterns and Store-rooms to hold water and food for the garrison.

*Mediaeval
alterations.*

Most of the other chambers shown in this plan are of mediaeval date, quarried, as it were, out of the solid concrete mass. The circular chambers are tanks to hold water for the use of the garrison during a siege; others are store-rooms for oil and solid provisions.

*Statues
from the
mausoleum.*

In the seventeenth century several statues were found in the moat round the building, and probably many others still lie buried there, as it is recorded by Procopius (*Bell. Goth. i. 22*) that the statues which decorated the external colonnades were hurled down by the garrison upon the heads of the Goths under Vitiges, who assaulted the place in A.D. 537.

*Bronze
peacocks.*

Among these statues are the Dancing Faun in the Uffizi at Florence, the Barberini Faun now at Munich, and the colossal head of Hadrian, now in the Vatican Rotonda. The beautiful peacocks, most skilfully and tastefully worked in gilt bronze with almost Japanese realism during a very good period of Graeco-Roman art, which now stand by the colossal fir cone in the Vatican Court, are said (probably wrongly) to have come from this mausoleum.

*Burials
in the
mausoleum.*

After the death of Hadrian in A.D. 138, his mausoleum was used as the burial-place for the families of successive emperors till the time of Sept. Severus, who is said to have built a new mausoleum on the *Via Appia*; *Hist. Aug. Sept. Sev.* 19 and 24. The first burial in it was that of Hadrian's son Aelius (*Hist. Aug. Ael.* 6), and the last was probably that of Commodus in 192 A.D. In the sixteenth century the inscriptions in memory of Antoninus Pius and Faustina the Elder were still *in situ*; others, which existed in the ninth century, are quoted in the *Einsiedlen MS.*

*Mausoleum
made into
a fortress.*

The sepulchral chambers were first rifled by the Goths under Alaric in 410 A.D. A few years afterwards the mausoleum is said to have been converted into a fortress by Belisarius; see Donati, *Roma vetus ac recens*, 1665, p. 476 seq. In the Pontificate of Gregory the Great (590-604) it was consecrated under the name of *S. Angelus inter nubes*, in consequence

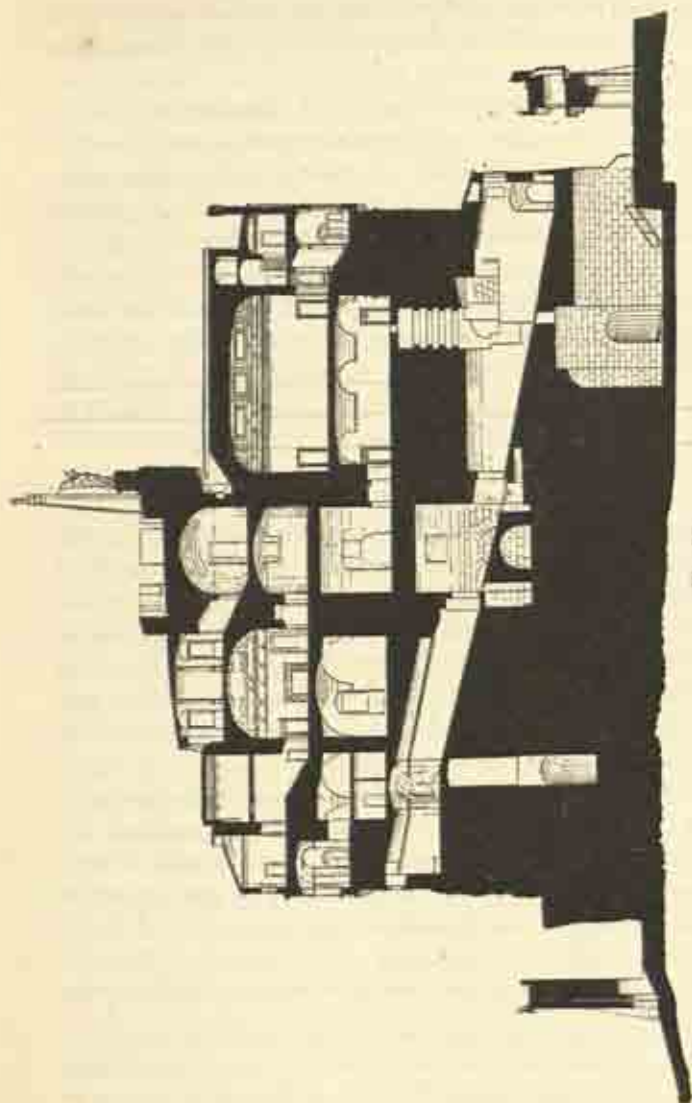


Fig. 93.

Section of the Mausoleum of Hadrian showing the inclined plane to admit the sarcophagi, and on the summit of the building the rooms added in the sixteenth century.

of a dream in which the Pope saw the Archangel S. Michael sheathing his sword after a plague which had been devastating Rome.

*Medieval
castle.*

In the tenth century the Castle of S. Angelo was seized by the Count of Tusculum, and for some centuries was the centre of constant party struggles. It has at various times been called by different names, e.g. the *Castle of Theodoric* in the sixth century, and the *Castle of Crescentius* in the eleventh.

*Refuge for
the Popes.*

Owing to the enormous thickness and strength of the concrete mass, in which the passages and chambers form voids of proportional insignificance, the Castle of S. Angelo formed, in the Middle Ages, a quite impregnable fortress, in which, at moments of danger, the Popes could take refuge, escaping to the castle from the Vatican Palace by means of a covered passage.

The modern rooms, some of which are very beautifully decorated with frescoes and stucco reliefs (see top of fig. 93), and the upper part of the castle, are mainly the work of Alexander VI. in 1495, and the Farnese Paul III., 1534-50. The colossal bronze angel on the roof was made in 1770 by a Dutch sculptor named Vereschaffelt. The long covered bridge which connects the castle and the Vatican was built about 1411 by Pope John XXIII., and was restored by Alexander VI. and other Popes.¹

During the sack of Rome by the Constable de Bourbon's army in 1527, the Castle of S. Angelo alone resisted the besiegers, and in it Pope Clement VII. remained safe, though a prisoner, till peace was made. The story of the defence of the castle is most vividly told by Benvenuto Cellini in his *Autobiography*, I. xxxiv. to xxxix.

The bronze pigna in the Vatican. There is evidently no

¹ A very interesting monograph on the *Mausoleum of Hadrian* and its alterations into the existing form of the *Castel Sant' Angelo* was published by B. Mariano in Rome in 1890. This book gives facsimiles of many interesting mediaeval drawings, which show much that is now lost.

truth in the tradition that the bronze fir cone ever surmounted the roof of Hadrian's Mausoleum. As the Comm. Lanciani has pointed out (*Ancient Rome*, p. 286), the *pigna* is pierced with holes, at the root of each of its scales, from which jets of water issued, and it must therefore have been always the centre-piece of a fountain, as it was when it stood in the Atrium of S. Peter's Basilica.

*Bronze
fir cone.*

A very interesting inscription is cut twice over round the lower part of this immense piece of bronze casting, which measures nearly 11 feet high; this inscription, which records the name of the bronze-founder who made it, is as follows, P · CINCIVS · P · L · CALVIVS · FECIT, "Publius Cincius Calvius, freedman of Publius (Cincius Calvius) made it."

*Bronze-
founder's
signature.*

This bronze fir cone was placed by Pope Symmachus (498-514) in the centre of a very handsome fountain which he had made to stand in the middle of the open atrium in front of the main entrance into Constantine's Vatican Basilica of S. Peter. It is shown in this position in one of the frescoes in the Church of S. Martino ai Monti, and probably remained there till the old Basilica was destroyed by Pope Julius II., when he determined to build a new church of still greater magnificence to hold his tomb by Michelangelo.

The bronze peacocks appear to have been placed as angle ornaments on the top of the façade of Constantine's Basilica. They are shown in this position in a very interesting drawing of the façade of the Vatican Basilica in a manuscript of the ninth century, which is preserved in the library of Eton College.¹ The garden court in the Vatican Palace, where the peacocks and the fir cone now stand, is called from the latter the *Giardino della Pigna*.

*Bronze
peacocks.*

¹ I owe my knowledge of this important drawing to my friend and colleague Mr. Montagu R. James.

CHAPTER IX

TRIUMPHAL ARCHES.¹*Earliest
arches.*

DURING the later Empire there were in Rome about thirty-eight important triumphal arches. The earliest were two erected—one in the *Forum Boarium*, and the other in the *Circus Maximus*—in 196 B.C., by L. Stertinius out of spoils gained during his campaign in Spain. They were surmounted by gilt statues, probably of bronze. This is recorded by Livy (xxxiii. 27), who says, *L. Stertinius . . . de manubiis duos fornices in Foro Boario ante Fortunae uedem et Matris Matulae, unum in Maximo Circo fecit, et his fornicibus signa aurata imposuit*. Livy also tells us that Stertinius deposited in the public *aerarium* 50,000 pounds weight of silver from the same spoils.

*Arch of
Scipio.*

In 190 B.C. an arch was erected in honour of P. Cornelius Scipio Africanus across the road leading up to the Temple of Jupiter Capitolinus; see Livy, xxxvii. 3. On it were fixed seven statues (*signa aurata*) and two horses of gilt bronze, and in front of it two marble basins (*labra*). Nothing now remains of these early arches; and that of Nero on the Capitol (see fig. 94), with many others, has now wholly disappeared.

*Arch of
Claudius.*

The *Arch of Claudius*, erected in 43 A.D. to commemorate his imaginary victories in Britain, stood across the *Via Lata* (the Corso), between the Palazzo Sciarra and the Church of S. Francesco Saverio (Xavier). Its foundations were found in 1882; see *Bull. Comm. Arch. Rom.* vi. Tav. 4. This arch

¹ For the Arches of Fabius, Augustus, Tiberius, and Severus see vol. i. chap. vii. on the *Forum*.

existed in an almost perfect state till the seventeenth century, when it was destroyed by Alexander VII. The only parts now preserved are half the inscribed panel on the *attic*, which is about 7 feet high, and portions of two large reliefs, much mutilated, which are now in the porch of the Villa Borghese.

The inscription, or rather half of it, now in the garden of the Barberini Palace, was found buried by the Palazzo Sciarra in 1641; see Vacca, *Memorie scritte nell' anno 1594*, printed in Nardini, *Roma Antica*, ed. Nibby, vol. iv. p. 15. It has been restored as follows:—

TI · CLAVDIO Drusi F. Caes.
 AVGVSTO Germanico Pio
 PONTIFICI Max. Tr. P. iz.
 COS · V · IMP. xvi. P. P.
 SENATVS · POP. Q. Rom. Quod
 REGES · BRITANNIAE sine
 VLLA · LACTVRA donuerit
 GENTESQVE Barbaras
 PRIMVS · INDICIO subegerit.

The reliefs in the Villa Borghese are noble in style, but are much damaged; they represent colossal figures of Roman generals and standard-bearers, probably in a procession, or listening to an address from the emperor.

This arch is represented on both *aurei* and *denarii* of Claudius, with the legend DE BRITAN[NIS] inscribed over the arch. On the top is the emperor in a quadriga between trophies of armour, which were probably all of gilt bronze.

The *Arch of Nero*, of which no remains now exist, was erected in the central space between the two peaks of the Capitoline Hill in honour of victory over the Parthians; see Tac. *Ann.* xv. 18. It is shown on the *rec.* of a *First Brass* of Nero as a single arch richly decorated with statues and reliefs. On the attic is a triumphal quadriga between statues of *Victory* and *Abundantia*; at the angles of the entablature are

*Inscription
on arch.*

*Existing
reliefs.*

Coin type.

*Arch of
Nero.*

*Arch
of Nero*

smaller statues. Figures in relief are carved all round the sides and top of the archway, and in a niche at the end of the monument is a colossal statue of Mars. The whole of the arch is very minutely represented in perspective so as to show one end as well as the principal front. Except the usual S. C. there is no reverse legend on this very fine coin.



Fig. 24.

Arch of Nero shown on a First Aureus.

*Arch of M.
Aurelius*

The Arch of Marcus Aurelius stood in the Via Flaminia, a continuation of the Via Lata, not far from the Arch of Claudius, in the modern Corso, at the corner of the Via della Vite.¹ It also was destroyed in 1563, and six of its sculptured panels were placed in the Capitoline Palazzo de' Conservatori. They are now on the walls of the staircase.

Some of these reliefs appear to have been removed from the same arch at an earlier period, and were found in the sixteenth century under the Church of S. Martina by the *Forum Romanum*.²

These are not only unusually fine specimens of Roman sculpture, but are also of special interest for their topographical indications and architectural backgrounds.

*Subjects of
reliefs*

The subjects represented are these: (1) the Emperor offering sacrifice in front of the triple Temple of Jupiter Capitolinus—this relief is of great value for its representation of that

¹ The Arch of M. Aurelius, as it existed shortly before its destruction in 1563, is shown by Donatus, *Roma vetus*, 1695, in the engraving opposite p. 242. In this drawing two of the reliefs which are now in the Capitoline Museum are represented *in situ*.

² The original place of the reliefs found under the church is not known; and it is possible that all the reliefs may not have belonged to the same arch, though they agree so closely in style and scale as to make it probable that they did.

temple; see vol. i. p. 364; (2) the entry of Marcus Aurelius into Rome after his German victories; with a figure of the goddess *Roma*, who receives him at the gate; (3) *Roma* presents him with the orb of empire; (4) he grants terms of peace to the conquered Germans; (5) he gives an address (*allocutio*) to the army; (6) the Apotheosis of Marcus Aurelius and the younger Faustina—very similar in treatment to the Apotheosis of Antoninus Pius and Faustina the elder on the pedestal in the Vatican; see vol. ii. p. 311. Another of this fine series of reliefs is in the possession of the heirs of the banker Prince Torlonia.

The *Arch of Titus*, in Pentelic marble, was erected on the *Summa Sacra Via* by Domitian, in honour of Vespasian and Titus, to commemorate the taking of Jerusalem; Josephus, *Bell. Jud.* vii. 5, 5.

The inscription to "Divus Titus" shows that the arch was erected after his death—*SENATVS · POPVLVSQVE · ROMANVS*
DIVO · TITO · DIVI · VESPASIANI · F · VESPASIANO · AVGVSTO. The central part only of the existing arch is original; the sides were restored in 1823.

In the twelfth century the tower of a fortress, the stronghold of the Frangipani family, stood over the Arch of Titus; this was known as the *Turris Cartularia* or Record Tower. Remains of this tower, consisting of a massive concrete wall made of broken bits of marble, still exist near the arch, set among the ruins of an unnamed building in peperino and travertine; see vol. i. p. 229.

The capitals of the engaged columns on each side of the Arch of Titus are of the *Composite* style, of which they are the earliest existing examples.

On the inner jambs of the arch are two fine reliefs representing the triumphal procession of Titus and his army bearing the spoils from Jerusalem. On one side the short, stout figure of Titus crowned by Victory is represented in a quadriga, the horses of which are led by the goddess *Roma*; he

Flavian Arch.

Middle tower.

Subjects of reliefs.

is passing under a triumphal arch on which stand two quadrigae, and he is surrounded by lictors bearing fasces without axes.

*Spoils from
Jerusalem.*

On the opposite side is the famous relief showing that part of the triumphal procession in which the golden spoils from the Jewish temple are being carried along; the seven-branched candlestick, the table for shewbread, and the golden trumpets, are the principal objects. These spoils were deposited by Vespasian in the *Temple of Peace*, which occupied the centre of his Forum; Joseph. *Bell. Jud.* vii. 5, 7; see vol. ii. p. 13. Two female heads in slight relief, crowned with laurel, which are part of this panel, are of great beauty.

On the soffit of the richly coffered arch is a relief of the Apotheosis of Titus, represented in the usual way, with the Emperor borne upwards by an eagle. The external frieze has small sculptured figures representing sacrificial scenes. In the spandrels of the arch are figures of winged Victories bearing trophies, and the keystones are decorated with figures of Roma and Fortuna, the latter with a cornucopiae.

*Arch of
Titus in
the Circus.*

Another arch in honour of Titus to commemorate the same conquest had been erected in the *Circus Maximus* during his lifetime, in 80 A.D. Its inscription is given in the *Kinsiedlen MS.*; see also Gruter, *Inscrip.* pp. 244-246.

This interesting inscription, which is now lost, was as follows, IMP · TITO · CAESARI · DIVI · VESPASIANI · F · VESPASIANO · AVG · PONTIFICI · MAXIMO · TRIB · POT · X · IMP XVII · COS · VIII · P · P · PRINCIPI · SVO · S · P · Q · R · QVOD PRAECEPTIS · PATRIS · CONSILIIQUE · ET · AVSPICIIS · GENTEM INDAEORVM · DOMVIT · ET · VRREM · HIEROSOLYMAM · OMNIBVS · ANTE · SE · DVCEBVS · REGIBVS · GENTIBVSQUE · AVT FRVSTRA · PETITAM · AVT · OMNINO · INTENTATAM · DELEVIT.

*Goldenmühle
arch.*

*Arch of Severus*¹ in the *Forum Boarium*. The richly decorated but coarsely sculptured gateway which led from the

¹ The *Arch of Severus* in the *Forum Romanum* has already been described; see vol. i. p. 343.

Velabrum into the *Forum Boarium* is not, accurately speaking, an arch, but a gateway with a flat lintel, richly decorated on its under side or *soffit* with carved rosettes in deeply sunk panels or coffers (*lacunaria*). Its inscription originally recorded that it was erected in honour of Sept. Severus, his wife Julia Domna, and his sons Geta and Caracalla, by the silversmiths or bankers and other merchants of the *Forum Boarium* (*argentarii et negociantes Boarii*), in the year 204 A.D. After the murder of Geta in 212 A.D., the year after the death of Severus at York, Caracalla destroyed all sculptured representations of his brother, and erased his name from all honorary inscriptions; see vol. i. p. 344.¹

Murder of
Geta.

On this gateway, as on the Arch of Severus in the *Forum Romanum*, Geta's name was replaced by additional titles of Caracalla, and his figure was cut away from a relief on the inside of the gate, in which he and his brother had been represented offering sacrifice. On the opposite side there is a similar scene, with a portrait figure of Severus, and on the exposed end of the gate a relief of Roman soldiers conducting Oriental prisoners. Other smaller sacrificial scenes are represented under the large panels. The whole of this sculpture is very poor both in design and execution.² The whole is of

Subjects of
reliefs.

¹ An extraordinary instance exists of the strictness of Caracalla's orders for the obliteration of Geta's name. A lead pipe in the Museo Kircheriano, found at Palestrina, has the following inscription—

EX - INDVIGENTIA - D - N - SEVERI

ANTONINI - ET - IGHTE: AVGG - L - F

In the second line the name of Geta has been erased. This may have been done, as the Comm. Lanciani suggests (*Comus. di Frontino*, p. 269), on the occasion of repairs being made; or more probably it was a pipe which the plumber had in stock at the time when this edict was issued by Caracalla. The joint rule of Caracalla and Geta had lasted less than a year when Geta was stabbed by his brother.

² The second half of the second century A.D. was a time of the most rapid decline in art. The relief of Antinous in the Villa Albani, and

white marble, except the lower part of the gate, which is of travertine.

The twelfth-century campanile of S. Giorgio in Velabro stands partly on one end of this gate, and conceals two of its sculptured faces; see *Bull. Inst.* 1867, p. 217, and 1871, p. 233.

*Janus
Quadrifrons.*

Arch of Janus Quadrifrons. Close by it stands one of these fourway arches, set at the intersection of two streets, which were called arches of *Janus Quadrifrons*; it is partly built of older architectural fragments, and is a work of the most degraded period, possibly even later than the time of Constantine. The inside of this archway is vaulted with a simple quadripartite vault, which is constructionally of interest as being the prototype of the Gothic vaults of the mediæval period.

Constantine's Arch.

The Arch of Constantine. The reliefs with which the *Arch of Constantine* is decorated are described in vol. ii. pp. 35 to 38. This arch was erected to commemorate Constantine's victory over Maxentius at the Pons Milvius,¹ 312 A.D.; and this battle is represented on the very coarsely sculptured band over the right-hand side arch, on the front away from the Colosseum.

The general design and proportion of this arch are exceedingly good (see fig. 95), and are probably copied from the Arch of Trajan; from which are also taken not only the fine sculptured panels with scenes in the life of Trajan, but also the main entablature, and the eight magnificent fluted columns

other portraits of him made in the reign of Hadrian (117-138 A.D.), are among the most beautiful existing specimens of Roman or Græco-Roman sculpture, while after the accession of Sept. Severus in 193 A.D. no sculpture of any real artistic merit seems to have been produced in Rome.

The throne of the High Priest of Dionysus in the great theatre in Athens, which dates from the time of Hadrian, has reliefs which rival the Greek work of the fourth century B.C.

¹ More correctly *Milvius*.

of the Corinthian order which decorated the two fronts of the arch. These columns are large monoliths of Numidian *giallo antico*; one is now replaced by a white marble column, the original one having been placed in the Lateran Church, where it still exists. *Monoliths of giallo.*

The clumsily sculptured Victories in the *spandrels* of the central arch, the river-gods over the side arches, the medallions of the rising and setting sun at the ends, the Victories on the pedestals of the *giallo* columns, and the bands over the side *Coarse sculpture.*



Fig. 95.

Arch of Constantine; the front towards the Colosseum.

arches, are all of Constantine's time, and show the miserably degraded state into which Roman art had sunk by the beginning of the fourth century A.D.

The following interesting inscription is cut in the centre of the attic, but no exact indication of the date is given in it, IMP · CAES · FL · CONSTANTINO · MAXIMO · P · F · AVGUSTO · S · P · Q · R · QVOD · INSTINCTV · DIVINITATIS · MENTIS · MAGNITVDINE · QVM · EXERCITV · SVO · TAM · DE · TYRANNO · QVAM · DE · OMNI · EIVS · FACTIONE · VNO · TEMPORE · IVSTIS *Inscription on the arch.*

REM-PUBLICAM · VLTVS · EST · ARMIS · ARCVM · TRIVMPHIS
 INSIGNEM · DICAVIT · LIBERATORI · VRBIS—FVNDATORI · QVIETIS;
 (and at the sides) VOTIS · X · VOTIS · XX—SIC · X · SIC
 XX. The words SIC · X—SIC · XX show that the arch was
 erected after the tenth year of Constantine's reign (315 A.D.),
 the meaning being—as he has reigned ten years, so may he reign
 twenty. The title *Maximus*, which is used in the main inscription,
 occurs only on coins of Constantine which were struck
 after his tenth year; and the phrase *by divine inspiration*
 (*instinctu divinitatis*) appears also to point to a time when
 Constantine was more under Christian influence than he was
 in the early years of his reign.¹

*Proofs of
 date.*

A staircase formed in the thickness of the arch is entered
 from a door at some height above the ground, in the end
 towards the Palatine.

*Arch of
 Dolabella.*

The *Arch of Dolabella* is not a triumphal arch; its original
 use is not known. It stands on the Caelian Hill, and the continuation
 of the Claudian aqueduct which Nero built passes
 over it, branching in two directions. The concrete mass of the
 aqueduct partly conceals one of the piers of Dolabella's Arch.

This gateway consists of a plain arch, built of large blocks
 of travertine, and on it is an incised inscription recording that
 it was erected by order of the Senate by the Consuls Publius
 Cornelius Dolabella and C. Junius Silanus, *i.e.* in the year 10
 A.D. The latter, as the inscription records, was *Flamen Martialis*,
 and it has been suggested that this gateway led into the
Campus Martialis, an open space on the Caelian Hill, which
 was used for games in honour of Mars at times when the great
Campus Martius was inundated.

*Flamen
 Martialis.*

The *Arch of Drusus*, wrongly so called, is described in vol.
 ii. p. 172.

The *Arch of Gallienus* was built close against the outside of
 the *Porta Esquilina*, in the Servian agger; see vol. i. p. 133.

¹ It, however, seems probable, from some existing marks on the marble,
 that these words were added in place of some earlier phrase.

It was originally a triple arch surmounted by a central pediment; it is shown so in the Mantuan picture; see De Rossi, *Piante di Roma*, etc., 1879, and Bellori, *Ved. Arc.* xxii.; the two side arches and the pediment were removed in the sixteenth century, but the central arch is still well preserved.

*Arch of
Gallienus.*

On each side of it there is a Corinthian pilaster which supports the entablature, the frieze of which is incised with a laudatory inscription recording its erection in 262 A.D. by the Praefect of the city, M. Aurelius Victor, in honour of Gallienus and his wife Salonina. The whole is built of massive blocks of travertine.

Several of the triumphal arches of Rome which are now destroyed are illustrated by Bellori, *Veteres Arcus Augustorum*, Rome, 1690; see also Fea, *Archi triumph.* Rome, 1832.

HONORARY COLUMNS.

Columna Maeniana. One of the earliest honorary columns in Rome was that erected by C. Maenius, who fixed the bronze beaks to the *Rostra* in 338 B.C.; see Pliny, *Hist. Nat.* xxxiv. 21. This column appears to have been placed in the Forum, but its exact site is doubtful.

*Column of
Maenius.*

The *Columna Duilia* was set up by C. Duilius in 260 B.C., in the Forum, near the *Rostra*, in commemoration of his victory over the Carthaginian fleet; Pliny, *loc. cit.* It was adorned with bronze *rostra* from the captured Punic ships. Part of its inscribed base is preserved in the Capitoline Museum;¹ it was found near the Arch of Severus in the sixteenth century, and was restored by Michelangelo.

*Columnae
Rostratae.*

Two reproductions of a similar column now stand on the slope of the Pincian Hill by the road which leads up from the

¹ In the entrance hall of the Palazzo dei Conservatori. This inscribed base appears to be an archaistic copy of the original one, made during the Imperial period.

Piazza del Popolo. Such monuments, called *columnae rostratae*, were frequently set up in honour of naval victories; see Servius, *Ad Geor.* iii. 29. Livy (xlii. 20) mentions another *columna rostrata* which was erected on the Capitol after the first Punic war by the Consul M. Fulvius.

Column of Minucius.

The Column of Minucius. A third column of Republican date is shown on the reverse of a denarius struck about 130 B.C. with the legend C-AVGVRIVS; the column is surmounted by a statue, and two bells hang from its capital; at the sides stand an augur with the *lituus*, and another figure bearing a *patera* and a loaf of bread. This appears to be a column erected outside the *Porta Trigemina*, in honour of L. Minucius, who was *Præfectus Annonæ* in 439 B.C., on account of his reducing the price of bread; see Pliny, *Hist. Nat.* xxxiv. 21. Livy (iv.) 16 does not mention the column, but says that a gilt (bronze) statue of an ox was set up in honour of this good deed.

Antonine Column.

*The Column of Antoninus Pius*¹ stood in front of the *Temple of Antoninus Pius*, the remains of which (on Monte Citorio) are wholly buried. The pedestal of the column remained *in situ* till it was set by Benedict XIV. near the obelisk in the Piazza di Monte Citorio. Gregory XVI. moved it to the Giardino della Pigna in the Vatican, where it still stands. The shaft of the column, which was a monolith of red Egyptian granite, had been overthrown and broken into many pieces. Its fragments were discovered under a house at the north-west angle of the Piazza in 1704, and were cut up and used to mend the obelisk of Monte Citorio. On the base of this column was an interesting quarry inscription, recording that two blocks of granite, 50 feet long, were sent from Egypt by Dioskouros, a quarry superintendent, and Aristides an architect, in the ninth year of Trajan's reign, 106 A.D. The inscription, now in the Vatican Museum, runs thus—

Quarry inscription.

¹ For the *Column of Julius Caesar* see vol. i. p. 285. The *Column of Trajan* is described in vol. ii. p. 30.

ΔΙΟΚΟΤΡΟΤ
 ΑΘ - TRAIANOT
 ΔΤΟ - ΑΝΑ - ΗΘΑΕC - Ν
 ΑΡΙCΤΕΙΔΟΤ - ΑΡΧΙΤΕΚΤΟΤ

The ΑΘ means *the year nine*, Α or Λ being derived from an ancient Egyptian symbol meaning year, adopted in Ptolemaic and Roman times instead of the proper Greek form ΕΤΟΤΖ. ΗΘΑΕC is a blunder for ΗΘΑΑC, and the Ν is the Greek numeral 50.

This column was not erected till after the death of Antoninus Pius in 161 A.D. The inscription on the pedestal records that it was set up by his adopted sons, M. Aurelius Antoninus and Lucius Verus—

Date of column.

DIVO · ANTONINO · AVGVSTO · PIO
 ANTONINVS · AVGVSTVS · ET
 VERVS · AVGVSTVS · FILII

On one side of the pedestal are very high reliefs with soldiers, both cavalry and infantry, arranged in a very tasteless way in three tiers one above another. The other relief is very superior as a work of art; it represents the apotheosis of Antoninus Pius and Faustina; see vol. ii. p. 263. A youth reclining on the ground and holding a tall obelisk represents the *Campus Martius*. On the other side of the relief is a fine seated figure of the goddess *Roma*. On the summit of the column stood a colossal statue of Antoninus in gilt bronze; this is shown on the coin mentioned below, p. 313.

Reliefs on the base.

The Egyptian obelisk, to mend which the above-mentioned granite column of Antoninus was cut up, now stands in the Piazza di Monte Citorio; it has the following inscription on its pedestal, recording that it was erected by Augustus in 10 B.C. in honour of the solar deity, and to record his conquest of Egypt. The inscription is as follows, IMP · CAESAR · DIVI F · AVGVSTVS · PONTIFEX · MAXIMVS · IMP · XII · COS · XI · TRIB POT · XIV · AEGYPTO · IN · POTESTATEM · POPVLI · ROMANI · REDACTA · SOLI · DONVM · DEDIT. This obelisk was set up by

Sun-dial obelisk.

Dedicatory inscription.

Sun-dial. Augustus in an open paved space in the Campus Martius, where it served as the gnomon of a huge sun-dial, the hours being marked on the pavement round it by lines inlaid in bronze. It is described by Pliny, *Hist. Nat.* xxxvi. 72.

In the sixteenth century part of this pavement was discovered during excavations made for the foundations of a new palace. It consisted of great slabs of travertine, in which deeply cut lines were filled in with strips of bronze.

Obelisk in the Circus.

The other obelisk which Augustus brought from Egypt was erected on the *spina* of the Circus Maximus; it is a monolith of granite 78 feet high. It now stands in the Piazza del Popolo. On this and other obelisks in Rome see Pliny, *Hist. Nat.* xxxvi. 64 to 74.

Column of Aurelius.

Column of M. Aurelius. With the exception of its lower pedestal and the statue at the top, the Column of Marcus Aurelius is still well preserved. It is almost a copy of Trajan's column, and, not counting the pedestal, is exactly the same height—100 Roman feet, or 97 feet 6 inches English measure, whence these were called *columnae centenariae*.¹ The pedestal was in two stages, one of which is now buried below the modern Piazza, which is about 16 feet above the old ground level. On the upper part of the lower stage was a sculptured band, with reliefs of Victories holding garlands; these are shown by Du Perac, *Vestigi di Roma*, and by other sixteenth-century antiquaries. The upper stage of the pedestal has been completely renewed. On the top of the column was a colossal statue of M. Aurelius in gilt bronze.

Sculptured pedestal.

The column itself is built of Luna marble; it is nearly 12 Roman feet in diameter at the base, and has an internal winding staircase of 190 steps. It had a special custodian (*procurator*); a decree of the Emperor Sept. Severus granting him a house (*solarium*²) to live in still exists incised on marble,

Guardian of the column.

¹ Cf. the ancient name of the Parthenon, called *Hecatompedon* from its being 100 feet long.

² The word *solarium*, which originally meant an upper room exposed

and is preserved in the *Galleria lapidaria* of the Vatican. This inscription is long, and contains many interesting details relating to the site and materials of the custodian's house.

The spiral reliefs, which wind round the column in 20 tiers, represent scenes in the four campaigns of Marcus Aurelius against the German tribes north of the Danube, 167-179 A.D. In both design and workmanship these sculptures show a considerable decadence since the time when Trajan's column was executed.

German
victories.

Like the column of Trajan, the Column of M. Aurelius stood in front of a temple dedicated to the deified Emperor,¹ and was surrounded by a large *porticus* or enclosure with rows of columns; see *Ann. Inst.* 1852, p. 338, and *Mon. Inst.* v. Tav. 40.

Temple of
M. Aurelius.

For a long time this column was wrongly thought to have been erected in honour of Antoninus Pius on account of its resemblance to the column shown on a First Brass with the head of Antoninus and the legend *DIVO · PIO*.

It is now known that the *Column of Antoninus Pius* was the granite monolith mentioned above.

The representation on the coin is interesting because it shows the marble screen (*cancelli*) which originally enclosed a small square area, paved with marble, in the middle of which the granite column stood.

Coin type.

For an account of the columns of Antoninus and Aurelius, see Bartoli, *Columna M. Aurelii*, Rome, 1704; Chausse, *Colonna trovata nel Campo Marzo*, Naples, 1704; Fabris, *Piedestallo della Colonna Antonina*, Rome, 1846; Pellegrini, *Colonne ed obelischi*, Rome, 1881.

to the sun, in this inscription appears to be used for a whole house. Compare the mediæval English *solar*, which was an upper room, usually at the dais end of the hall.

¹ The elevation called Monte Citorio is probably formed by the buried remains of the Temple of Marcus Aurelius; see above, vol. ii. p. 208.

CHAPTER X

THE WATER SUPPLY OF ROME.

Early water supply. TILL the year 312 B.C., when the Censor, Appius Claudius Cæcilius, constructed the first aqueduct—the *Aqua Appia*—the Romans were dependent for their water supply on the Tiber, or on wells and springs. Frontinus, in his interesting work, *De aquaeductibus Urbis Romæ* (§ 4), says, *Ab urbe condita per annos CCCCXLI (till 312 B.C.) contenti fuerunt Romani usu aquarum quas aut ex Tiberi, aut ex puteis, aut ex fontibus hauriebant.*

Frontinus Censor Aquarum. This book, to which (together with Vitruvius, viii. 6) we owe a great part of our knowledge of the details of the water supply of Rome and the laws which regulated it, was written by Sextus Julius Frontinus, who was Praetor Urbanus in 70 A.D., and Governor of Britain (under Vespasian) in 75 A.D., when he conquered the Silures. In the reigns of Nerva and Trajan, 97 to 106 A.D., Frontinus occupied the very important post of *Curator Aquarum*, or general Superintendent of all the aqueducts, reservoirs, and fountains, used for the public and private water supply of Rome. He was also Consul Suffectus in 97 A.D., and Consul in 100 A.D. A new edition of his work, together with much additional information about the aqueducts, has been published by the Comm. Lanciani, *Comentarii di Frontino*, Rome, 1880.¹

Lanciani's edition.

¹ Pliny's remarks (*Hist. Nat.* xxxi. 57, and xxxvi. 121 to 123) about the water supply of Rome are interesting, but are mostly taken from Vitruvius, viii. 6.

Much interesting information with regard to aqueducts and water-pipes generally is given by Vitruvius in cap. 6 of book viii. In all the early printed editions of Vitruvius, beginning with the *Editio Princeps*, Rome, 1486, the *Commentary of Frontinus* is printed at the end of the volume. Vitruvius goes much more into practical details than Frontinus does with regard to the construction of aqueducts, cisterns, filters, lead pipes, and the like, while Frontinus gives accurate figures as to the length of each aqueduct and the amount of water it supplied. His work is a sort of official report on the water supply of Rome in the reign of Trajan.

Vitruvius
on water
supply.

Some of the early rock-cut cisterns for storing spring water, and the well-shafts which communicate with them, still exist on the Palatine Hill, and are mentioned in chap. iii.; see vol. i. pp. 113 and 162, and fig. 16. Other springs of water, such as the sacred *Fons Juturnæ* in the Forum (see vol. i. p. 284), were preserved in later times for ornamental and religious reasons; but a large proportion of the small streams which once formed open brooks, draining the main valleys of Rome, were, after the wide growth of the city and the construction of the aqueducts, no longer allowed to run along the surface of the ground, but were turned into the great *Cloacæ*, which they helped to keep clean and wholesome, just as in London is the case with the Fleet and other once open streams of water, which now run in sewers under the streets.

Early
cisterns.

The earlier aqueducts were not constructed on the lofty tiers of arches which afterwards were built to supply the upper stories of the lofty buildings of Imperial Rome, but ran for the most part in subterranean channels along the ground level of the Campagna. The first aqueduct, the *Aqua Appia*, was almost wholly underground; the second, the *Anio Vetus*, the channel of which was 43 miles long, ran only for about a quarter of a mile above the ground.

Early
aqueducts.

The Romans were thoroughly acquainted with the simple hydraulic law that water in a closed pipe finds its own level,

Rising
main.

Hydraulic law. or, as Pliny puts it,—*subit altitudinem exortus sui* (*Hist. Nat.* xxxi. 57), and they took advantage of this fact by constructing pipes reaching to the top of lofty fountains, and "rising mains" to supply the upper rooms of houses, which branched off right and left from a main pipe laid under the pavement of the streets, just as is done in modern towns; see fig. 98. Many of these mains and their service-branches have been found during recent excavations in the streets of Ostia.

So, at viii. 6. 5 to 6, Vitruvius describes the method of carrying water in a closed pipe down one hill and up another.

Advantage of aqueducts.

It was not, therefore, from ignorance of this law of Nature that the Romans constructed almost level water-channels carried on long lines of arches, but simply because it was the most economical way to bring a large supply of water from a distance. Even in recent times this method has been resorted to with advantage,¹ in spite of the modern improvements in iron casting, which allow iron pipes to be made cheaply and of great strength and capacity; whereas the Roman pipes had to be made of the more costly and weaker lead, or, in places of especial pressure, of the still more expensive bronze.

Deposit of lime.

It was doubly convenient to employ channels which were always readily accessible, and could be cleared out without any difficulty,² on account of the calcareous deposit with which water from the neighbourhood of Rome so rapidly encrusts pipes and water-channels.

Circuitous course of aqueducts.

One peculiarity in the construction of the Roman aqueducts is very difficult to account for; that is the very circuitous course which some of them follow, in some cases about doubling the distance in a straight line. This, according to

¹ As, for example, in the great Croton Aqueduct, 40 miles long, which supplies New York city, constructed between 1837 and 1842.

² The modern water companies of Rome constantly find their pipes almost closed up in a very short time after they are laid. In the old system the water had deposited the greater part of its dissolved carbonate of lime before reaching the lead pipes of distribution in the city.

Frontinus, was to prevent the slope of the channel from being too steep, when the source of the water was high above the required level of distribution in Rome. But it is not easy to say why step-like falls of water could not have been arranged for at any required points along the course of the aqueduct. The gradient (*libramentum*) for the channel of an aqueduct recommended by Vitruvius (viii. 6. 1) is a fall of 6 inches in each 100 feet.

Administration of the water-works. The following were the officials and workmen who had charge of the water supply of Rome.

Administration of water supply.

Till the last century of the Republic the Censors had charge of all aqueducts and *rivi subterranei*; see Livy, xxxix. 44; and then, for a short time, they were under the Quæstors and Aediles.

This lasted till the reign of Augustus, who instituted a new and very complete system of management, directed by a *Curator Aquarum*, who was appointed for life. It was an office of great dignity, resembling in function that of a *Curator Viarum* or *Frumenti*. The first *Curator Aquarum* was M. Agrippa (Front. 98, 99), who held the office till his death in 12 B.C. The *Curator* was surrounded by a number of minor officials and personal attendants (*apparitores*), such as secretaries (*scribae librarii*); ushers (*accensi*); criers (*praecoones*); three public slaves (*servi publici*); several engineers (*architecti*); and, when outside the walls of Rome, two lictors.

Curator Aquarum.

The public office of the *Curator* was called the *Statio Aquarum*, and to it were attached clerks, called *Tabularii Stationis*.

Other subordinate officials were the two *Adiutores*, men of Senatorial rank, one *Procurator Aquarum*, usually an Imperial Freedman, and a *Tribunus Aquarum*. The artisans who worked under the *Curator* were classed as belonging to the *Familia aquaria publica* and *Familia aquaria Caesaris*. These included *Aquarii* or *Villici*, presided over by a *Præpositus*, who made and laid the lead supply pipes; *Libratores*, who measured the

Subordinate officials.

Artisans.

levels of the water; *Castellarii*, who kept the *Castella* or reservoirs in order; *Circitores*, inspectors of the works; *Silicarii*, who took up and relaid the *silex* (lava) pavement of the street, when mains were laid or repaired; *Tectores*, tilers, and other workmen, such as bricklayers, masons, and *Psaltores*, crushers of pottery (*testae tunsaæ*), to make the *opus signinum* for lining the channels and reservoirs.¹

Street
mains.

Considering how copious the water supply was in Rome, the *silicarii* must have been constantly at work, pulling up and relaying the pavements of the streets when the mains or their branches needed repair. But in some cases, in the more important streets, the Romans, wiser than our modern water companies, formed tunnels in which the pipes were laid and could be repaired without breaking up the street.

Moreover, the Roman pipes are made of much thicker substance of lead than modern pipes, and so would far less frequently need repair.

Cost of
aqueducts.

The construction of new aqueducts was carried out by public contractors, *Redemptores operum publicorum*. Frontinus mentions the cost of some of the aqueducts, which seems extraordinarily small. It must, however, be remembered that they were built by slave labour, and that the materials used, such as tufa, peperino, pozzolana, and clay for bricks, were chiefly State property, and were mostly found close at hand, and so cost but little for carriage.

Thus the actual cost of these and other great public works would very commonly be merely the cost of providing cheap food for the requisite number of slave workmen.

The *Aqua Claudia* and the *Anio Novus*, both begun by Caligula and completed by Claudius in 50 A.D., are stated by Frontinus (quoting Fenestella) to have cost only 55½ millions of sesterces, about £555,000. These are two of the longest

¹ Immense quantities of this must have been used, and it appears probable that the great heap of broken pottery called Monte Testaccio was stored for this purpose; see vol. I. p. 79.

and most lofty of the aqueducts; they were built of massive blocks of tufa. They certainly could not now be built for anything like that amount.

A strip of land, 30 feet wide, was reserved all along the course of the channel or arches of all aqueducts, and no one was allowed, under penalty of a heavy fine, either to plant trees or in any way to encroach upon this reserved strip. The margin of this strip, along three of the older aqueducts, was marked with *cippi jugerales*, or boundary stones, set at intervals of two *actus* or 240 feet, marked with distances to show the length of the channel from its termination in the *castellum* in Rome. These *cippi* appear to have been used only by the earlier emperors; out of thirty-one, twenty-six are of the time of Augustus, three of Tiberius, and two of Claudius.

Reserved
margin.

An example of the inscriptions on the *cippi* of Augustus is quoted below; see p. 341.

Laws and penalties relating to the Aqueducts. The laws relating to water supply, *Jus ducendae tuendaeque Aquae*, are given by Frontinus. From these it appears that Imperial concessions of water to individuals, *ex indulgentia* or *liberalitate Imperatoris*, were granted only for life, and were not enjoyed by the heirs without a fresh concession.

Laws and
penalties.

A list of penalties for various offences is given—namely, for irrigating land with water from a public aqueduct; for throwing dirt into the water; for cultivating or encroaching in any way on the 30 feet strip; for any injury to pipes or channels; for inserting a pipe larger than the concession allowed; for inserting a pipe into the *specus* of an aqueduct instead of the *castellum*. In the last two cases the concession of water was forfeited. It was also forbidden to use water from leaks (*aqua caduca*) without permission, in order to prevent leaky places being made by wilful injury. Heavy fines were inflicted on any official who connived at any of these misdemeanours.

Prohibi-
tions.

In spite of the penalties, fraud appears to have been not

uncommon, and the *aquarii* were often bribed to insert a larger pipe than had been conceded.

*Measure-
ment of
supply.*

In order to prevent this, the junction between a public main or reservoir (*castellum*) and the lead pipe for a private supply (*erogatio*) was made with a pipe of bronze (*calix*), the exact capacity of which (*lumen*) was stamped on it—*est calix modulus aeneus*, as Frontinus says; it was to be at least 12 *digiti* long (9 inches). The two existing specimens of *calices* are stamped with an owner's name, as well as the capacity (FL. GREGORI. V. D. and FL. RVSTICI. V. H.); one is in the Vatican, another in the Museo Kircheriano.¹

Lawsuits.

Disputes occasionally arose in Rome between private persons or corporations and the administration of the water supply.

Inscriptions recently discovered on the Esquiline Hill record a lengthy trial before the Chief of the Police, the *Præfectus Vigilum*, between the *Curator aquarum* on one side, and on the other the *Collegium Fullonum*, Corporation of Fullers, who claimed a certain supply of water free of charge. This legal process dragged on from 226 A.D. to 244 A.D., when a final decision was given by the *Præfectus Vigilum*; see Lanciani, *Anc. Rome*, p. 223.

*Modes of
construction.*

Construction of water channels. Aqueducts with channels built of stone or concrete are called *canales structiles* by Vitruvius (viii. 6. 1). Vitruvius also mentions two other methods of carrying water—namely, lead pipes (*fistulae plumbeae*), and clay pipes (*tubuli fictiles*); the latter were mainly used, as they are now, for agricultural purposes.

Clay pipes. Rain-water pipes and overflow pipes from fountains were commonly made of pottery (*tubuli*). The down-pipes which carried the rain water from the roofs of Roman houses into the street sewer are, as a rule, carefully-made socket-jointed pipes like the circular smoke flue shown at J on fig. 65, vol. ii. p. 121.

¹ Now called Museo del Collegio Romano.

These down-pipes are frequently embedded in the concrete mass of the wall as shown in the last-named fig. 65. Examples in abundance may be seen in the *Thermae of Caracalla* and other similar buildings, and also in the walls of the *cryptoparticus* described in vol. i. p. 196. *Rain-water pipes.*

When the roof was large, and the down-flow of rain water copious, down-pipes of greater capacity (*lumen*) were made in the concrete walls by forming square channels with tiles, as is described in vol. ii. p. 174, and is shown at K in fig. 65, vol. ii. p. 121.

In some cases, as, for example, among the houses of Pompeii, the down-pipes for rain water are fixed on the exterior of the house; and in that case lead pipes (*fistulae*) are used, instead of the cheaper *tubuli*. *Square down-pipes.*

The Romans seem, as a rule, to have been careful not to let the rain water drip from the eaves into the street. In the same way in ancient Athens there was a law forbidding the rain-water gutters of the houses to discharge in an open stream on to the street; see *Aristot. Pol. Athen.* § 50.

In Roman buildings of the Imperial period lead is generally used in the most unsparing way, mainly owing to the enormous quantities which were obtained and imported into Italy by the Romans from the very rich mines in the Mendip Hills, and in Derbyshire and elsewhere in Britain.¹ *Free use of lead.*

The open mouths of overflow pipes in fountains and cisterns, whether they were made of lead or clay, were commonly guarded with a perforated strainer, like the "rose" *Strainers.*

¹ Many examples of blocks or "pigs" of lead have been found at various places in Britain with inscriptions recording from what mines and under what superintendent the lead had been obtained. A "pig" from Brough in Yorkshire is inscribed thus—C. IVL. PROT. BRIT. LVT. EX ARG; *C. Julius Proti Britannicum [plumbum] Lutudense ex argentario*, meaning "British lead prepared from the silver-lead ore of Lutudae under (the superintendent) C. Julius Protus." Lutudae was probably in Derbyshire; see Haverfield, *Rom. Insacr. Brit.* 1888-90, No. 53.

of a water-pot, to prevent stoppage of the drain from floating objects.

Similar strainers were used at various points where supply-pipes of drinking water issued from tanks and cisterns, and in every way the greatest care was taken to keep the water supply as pure as possible.

Drinking
water.

In cap. 1 of lib. viii. Vitruvius gives a number of sensible suggestions as to the selection of water for drinking; cap. 2 is on the use of rain water. The source was usually either an open spring (*fons*) or a well (*puleus*); frequently several springs were conducted to one reservoir at the commencement of an aqueduct. At the fountain-head a large reservoir (*piscina*) was formed, which answered the purpose of a settling-tank. Other reservoirs for the same purpose, and filtering tanks arranged so that the water passed through a bed of gravel (*piscinae limariae*), were constructed at various points along the course of the aqueducts.

Aqueduct
channels.

The covered channel along which the water flowed was called the *specus*, and was always thickly lined with a very hard cement (*opus signinum*), made of lime, pozzolana, and pounded pottery or brick. Even the roof of the *specus* was lined with this cement, and at the bottom of the channel it was rounded off into a circular depression; see fig. 96.

X

The method of making this hydraulic cement is described by Vitruvius, viii. 6. 14, and at ii. 5. 1. On its name, *opus signinum*, see Pliny (*Hist. Nat.* xxxv. 165), who derives it from the ancient city of Signa.

Three
channels
combined.

In the earlier aqueducts the *specus*, like the arches below, was built of large blocks of tufa, and when two or more *specus* came close one over another, the intermediate floor was often formed by a large slab of travertine, so as not to waste space. This is the case where the three *specus* of the *Aqua Julia*, *Tepula*, and *Marcia*, rebuilt by Augustus, pass over the Porta San Lorenzo; see figs. 96 and 99.

In later times the aqueducts and their *specus* were made of

concrete faced with brick on the outside. In some cases the roof of the *specus* was formed by two large tiles (*tegulae bipedales*) set leaning together, acting as centering to support the mass of concrete which was poured in above—a method frequently employed in the smaller *Cloucae*.

E on fig. 96 shows an example of this taken from a restora-

Existing example.

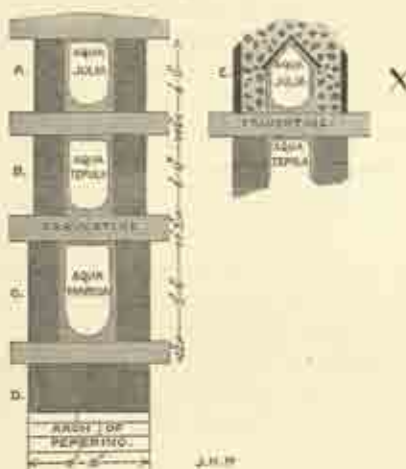


Fig. 96.

Section through one of the arches of an Aqueduct near the Porta S. Lorenzo.

- A, B, C. Specus of the Aquae Julia, Tepula, and Marcia; the top and bottom of each is of travertine, the sides of tufa or peperino; they are lined with opus signinum.
- D. Peperino arch.
- E. Specus of the Aqua Julia at another point, where it has been restored in concrete and brick.

tion of part of the *Aqua Tepula* near the aqueduct arch of Augustus. At intervals of a few yards blow-holes (*spiramina*) were made for imprisoned air to escape, and also for ventilation when the water was temporarily cut off, and the workmen were crawling along the *specus* to get at a place where repairs were needed. These apertures passed straight up through

the top of the channel, or if there were another *specus* above, the holes were carried out at the side.

*Subterranean
channels.*

X When the *specus* of an aqueduct was buried below the ground level, "inspection-shafts" were built at intervals to enable workmen to reach the subterranean channel. Vitruvius (viii. 6. 3) calls these shafts *putei*, and directs that they should be constructed at intervals of one *actus*, that is, every 120 feet. An existing example of one of these *putei* is described below, at p. 337.

Reservoir.

Castella. At the termination of the aqueduct in the city a large reservoir was built called a *Castellum aquarum*, from which the water was distributed over the quarter that it supplied. Vitruvius (viii. 6. 2) says that each *castellum* is to be divided into three compartments, each with a separate main, one to supply *public fountains, basins, and jets* (*fontes, lacus, et salientes*), one to supply *public baths*, and a third for *private houses*; cf. Pliny, *Hist. Nat.* xxxvi. 121.

*Various
classes of
supply.*

In later times the arrangement was much more complicated, and in the time of Frontinus many other subdivisions of *Castella* existed—(1) For *Castra*, military camps; (2) *Opera publica*, places of amusement and public buildings generally, except those which had been built by the emperors, which were classed (3) *Nomine Caesaris*; (4) *Laci et salientes*, public troughs, pools or basins and jets of water; (5) *Munera*, large ornamental fountains; (6) *Beneficia Caesaris*, Imperial grants of water to guilds, corporations, or private persons; (7) *Usibus privatis*, private houses generally. Under class (2) would come places such as the Baths of Agrippa and other public buildings constructed by citizens of Rome; class (3) included the *Colosseum*, the *Thermae of Titus* and *Caracalla*, and all buildings constructed by the emperors.

† Some of the *Castella* were architecturally very magnificent, being lined with rich marbles, and decorated with statues and a large public fountain.

Castellum of the Aqua Julia. The reservoir built by Severus

Alexander as a *Castellum* for the *Aqua Julia* on the Esquiline, remains of which still exist in the modern Piazza Vittorio Emanuele, was a large and splendid example, with a very complicated system of chambers for subdividing and filtering the water. Externally it was surrounded with a magnificent series of marble fountains, basins of water, and miniature waterfalls,¹ decorated with sculpture and columns of coloured marble. It is shown with some minuteness on medallions of Severus Alexander; see Froehner, *Méd. Rom.* p. 169.

Existing
castellum.

This appears, however, not to have been the *Castellum* for immediate distribution, but mainly a very large and elaborate fountain, the water from which, after being displayed in a series of cascades and jets, was run off from a lower basin to a number of less magnificent reservoirs, from which the water was distributed in lead pipes. This complicated structure was excavated, and careful drawings of it were made by some Prix de Rome students in 1822. It was again and more completely exposed in 1877, but no lead pipes were found leading from it, as would have been the case if it had been an ordinary *Castellum* for the *erogatio*.

Ornamental
fountain.

The so-called "*trophies of Marius*," made in the reign of Domitian, were set on the exterior of this building, where they are shown in Du Perac's etching; see *Vestigi di Roma*. In the sixteenth century they were moved to the top of the Capitoline stairs; see vol. i. p. 25, note 2.

Trophies of
Marius.

In addition to the large central *Castellum*, each aqueduct had a number of smaller ones placed at various points in the *Regiones* it supplied. Some, such as the *Aqua Marcia*, had over fifty of these subordinate *Castella*.

Great care was always taken by the Romans to purify their drinking water by passing it through series of filtering tanks and settling tanks—*piscinae limariae* as they are called

Filtering
tanks.

¹ The seventeenth-century *castellum* on the top of the Janiculan Hill behind S. Pietro in Montorio, much resembles one of the ancient *castella*, from its magnificent flood of water constantly poured into a great *locus*.

by Frontinus, *De Aquaed.* 15. Every important *Castellum* contained a number of vaulted chambers for this purpose, in addition to those which were constructed near the source of the aqueduct, and at intermediate points between the source and its termination in Rome.

Reservoirs. Important buildings had reservoirs of their own (*piscinae*) with a series of vaulted settling-chambers, usually arranged in two stories. Existing examples are the so-called *sette sale*, a reservoir built by Nero to supply his *Golden House*; see vol. ii. p. 156; and those which belonged to the *Thermae* of Caracalla and Diocletian; see vol. ii. p. 171, and fig. in vol. ii. p. 183. The cisterns in private houses were called *castella domestica*; but except in very grand houses these appear not to have been much used, as the inhabitants of ancient Rome possessed the great advantage of having a constant water supply, and so had no need of storage.

Water-pipes. Vitruvius (viii. 6. 1) mentions two sorts of pipes in addition to the built *specus*—*Ductus aquae sunt generibus tribus, rivis per canales structiles, aut fistulis plumbeis, seu tubulis fictilibus.* Clay pipes were mostly used for agricultural purposes under the Empire, and many examples of these have been found, but in earlier times they were occasionally used for drinking-water, in which case Vitruvius says the joints should be strengthened at points of special pressure by stone rings.

A number of socket-jointed clay pipes, about 5 inches in diameter and about 18 inches long, are preserved in the Museo delle Terme. These pipes are made in short lengths for convenience in rapidly moulding them on the potter's wheel. Angle pipes with junctions of various forms are to be seen in the same collection, together with many other interesting objects connected with the Roman water supply.

Lead pipes. Vitruvius (viii. 6. 10) recommends clay in preference to lead pipes, on account of the risk of lead-poisoning, *multo salubrior est ex tubulis (clay pipes) aqua quam ex fistulis (lead*

pipes); *quod per plumbum videtur esse ideo vitiosa, quod ex eo cerussa nascitur*. In Rome, however, there was no risk of this, owing to the calcareous deposit with which lead pipes were rapidly lined,¹ and therefore under the Empire they were universally used, except in a few rare cases where pipes of bronze were introduced in places where there was heavy hydraulic pressure, which might have burst leaden pipes; see *Hor. Ep. l. x. 20*—

Purior in vicis aqua tendit rumpere plumbum.

Pliny mentions wooden pipes, made of elm or fir; no examples of these have been found in Rome, but there is no doubt that they would last a long while,² as wood which is kept constantly wet does not decay as it does if it is sometimes wet and sometimes dry. Stone pipes were used at a very early period, and many examples of these have been found in various parts of Italy; some from Arezzo, of the Republican period, are very large, measuring nearly 2 feet in internal diameter.

Wooden
pipes.

Fistulas plumbeae. Lead pipes (see fig. 97) were made by rolling thick plates of cast lead in lengths of 10 feet round a wooden core, the edges were brought together and soldered with melted lead, *in rotundationem flectantur (laminæ)*, as Vitruvius says; see D, on fig. 97. The Roman pipes were made of much thicker lead than is the custom now. Some, which are 5 inches in diameter, are made of lead weighing more than 20 pounds to the square foot.

Manner
of
making
lead
pipes.

¹ The fact is, that except when they are quite new, there is no danger caused by the use of lead water-pipes. The lead very soon becomes coated with an insoluble carbonate, and this protects it from further decomposition.

² A few years ago wooden pipes, laid by the New River Company, and probably two centuries old, were taken up in some of the streets of London in good preservation. Similar wooden pipes, each made of a tree with its centre drilled out, have been found in the monastic buildings of Westminster Abbey. These were made of willow wood.

Cast sheets.

The lead plates were probably cast, as is done now, on a smooth bed of sand, in sheets 10 feet long and probably rather less in width. These sheets were then cut up into strips of the right widths to roll into pipes. It was of course desirable to cast rather long sheets of lead, in order that when made

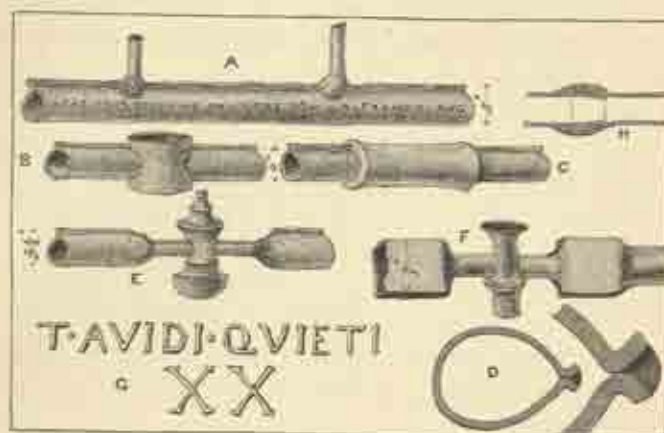


Fig. 97.

Lead Pipes and Turncocks.

- A. Main pipe with two service branch pipes, inscribed with the name of Severus Alexander.
- B. Fourway pipe.
- C. Junction formed by enlarged lead cylinder.
- D. Section of pipe and soldered joint to larger scale.
- E, F. Stopcocks, *Epistomis volpumbata*.
- G. Owner's name and capacity of pipe (20 *quinarior*) inscribed in raised letters.
- H. Method of joining two lengths of pipe.

Inscrip-
tions.

into pipes there might be as few joints as possible. This is why Vitruvius (viii. 6. 4) advises, *fistulae ne minus longae pedum decem fundantur*. Inscriptions were cut in relief on stamps of wood or marble, and then impressed on the sand-bed, so that the cast plate of lead received the letters in relief. Pipes were joined endwise, by one end being enlarged

by hammering, and the end of the next pipe reduced in size so as to slip into the larger one; solder was then fused all round the junction; see H, on fig. 97.

Strainers formed of caps of lead, pierced with many small holes, were often fixed at the end of the pipes which discharged into a cistern or fountain. Strainers.

The taps and turncocks by which the water could be drawn off from cisterns and shut off from the main during repairs were made of bronze, of very skilful workmanship, soldered to the lead pipes—*epistomis fistulis adplumbata*, as Ulpian calls them; see E, F, on fig. 97. A very large one, now in the Museum in Naples, was found at Pompeii half full of water; till recently it could be heard to splash when it was moved. Bronze taps.

The ordinary water-taps were commonly made in the form of an animal's head.

Fountains in houses were frequently arranged so that the constant stream of water spouted or poured through a shell, a fish, or some other object held in the hand of a bronze statuette, the lead supply pipe being concealed inside the hollow bronze figure. Some of these fountain-statuettes are of the finest quality as works of art; figures of Cupid occur most frequently. Fountains.

The junctions, where service-pipes to private houses branched off from the main in the street, were often formed in the shape of a cubical lead box—a stronger method than soldering one pipe directly into another, as is shown at A in fig. 98. Junctions in the mains.

Pipes of different capacity had different names, such as *quinaris*, *senaria*, *septenaria*, etc. According to Vitruvius (viii. 6. 4), they were named from the width of the plate before it was rolled into a tube, e.g. *fistula quinquagenaria*, from its plate being fifty *digiti*¹ wide (3 feet $\frac{1}{2}$ inch). Frontinus, however, who mentions this statement of Vitruvius, thinks it more probable that the names came from the size of the diameter. Measurement of capacity.

¹ The Roman *pala* or foot, which was about $\frac{1}{2}$ inch shorter than the modern English foot, contained sixteen *digiti* or twelve *uncia* (inches).

of the finished pipe, *e.g.* that a *fistula quinaris* was so called a *diameter quinque quadrantes*, the *quadrans* being the fourth of the *digitus*, and the *quinaris* therefore measuring $\frac{5}{4}$ of a *digitus* (or $1\frac{1}{4}$ *digitus*) in diameter; see *Front.* 25.

*Quinaris
standard.*

The capacity of pipes was measured in *quinaris* units; the ten-*quinaris* pipe measured about $1\frac{1}{2}$ inch in internal diameter at the widest part of the irregular or pear-shaped oval—a form produced by the way in which the pipes were rolled round the wooden core. The twenty-*quinaris* pipe measures about $2\frac{1}{2}$ inches, and the other sizes in proportion. A pipe in the Museo delle Terme is inscribed CXX to show that its capacity is 120 *quinaris*; it measures about 18 inches in diameter.

*Inscribed
pipes.*

Inscriptions on lead pipes. The importance of inscriptions



Fig. 29.

Junction between the lead main in a street and the lead rising-mains passing to the houses on each side of the street.

on lead pipes has only been realised within the last few years, mainly owing to the care of Comm. Lanciani, who with wonderful industry has collected an immense number and published them in his valuable *Commentarii di Frontino*.

Many tons weight of these interesting documents (as inscribed pipes may be called) have been melted down without any note being taken of their inscriptions. Even as late as 1878, Prince Alessandro Torlonia melted over 2000 pounds weight of inscribed lead pipes, which were dug up in his estate in Rome, and the few that it has been thought worth while to put in museums are usually scattered and hidden

*Modern
manipulation.*

away, so as to be almost inaccessible for purposes of study and comparison.¹

With the aid of inscriptions on *fistulae*, Comm. Lanciani has identified the sites of eighty-one houses in Rome from the owner's name being inscribed on the pipes, and also eighty-eight suburban estates or villas. He has also gained much interesting information as to the distribution of water from the various *Castella* of Rome and many collateral historical and topographical facts.

The earliest existing inscribed pipes date from the reign of Augustus, and they continue in an almost unbroken series down to the fourth century A.D. The most numerous are of the reigns of Domitian, Nerva, Trajan, Severus, and Caracalla; after Trajanus Decius the number steadily declines. These inscriptions record a large number of facts, such as the name of the reigning Emperor, with sometimes the Consuls for the year; the name of the *Procurator Aquarum*, and other officials under the *Curator*; the plumber who made the pipe; the owner of the house, with, more rarely, the name of the house or estate; and lastly the fact of the water being an Imperial concession.

The capacity (*lumen*) of the tube is sometimes, but not always, inscribed on it in large numerals, giving the number of *quinariae*; see fig. 97. The smallest existing specimen is marked III., and the largest pipes reach to over CCC *quinariae*.

A few pipes are recorded by Gruter and others to have been inscribed with the name of the water they carried, but these are probably spurious, with perhaps the exception of one of about the year 366 A.D., which has the inscription AQVA PINCIANA · D · N · VALETINIANI · AVG. This pipe was found in 1757 in the *Horti Sallustiani*.

The lists of emperors' names on pipe inscriptions include

¹ A large collection of inscribed pipes found in Rome and at Ostia is preserved in the great Museo delle Terme.

nearly all from the reign of Augustus down to Valentinianus II., 375 A.D., when the Imperial series closes; see fig. 97 A.

Several pipes inscribed with the name of Pope John I., 523-526, were found in 1707, near S. Lorenzo fuori le mura, but this is almost an isolated example; the inscription was SALVO · PAPA · IOHANNE · STPAN · VR · (*Stefanus Præpositus*) REPARAVIT.

Official
names.

Names of Emperors, Consuls, and other officials. The earlier examples have the name of the emperor only, as, for example, TIB · CAESAR · AVG (Tiberius) or NERONIS · CAESARIS · AVG (Nero). Another from the *Thermae of Nero*, near the Pantheon, has the Procurator's name in addition, SVB · GNESIO · AVG LIBERTO · PROC · NERONIS · CLAVDI · CAES · AVG. The Greek name *Πρωσιος* occurs in many of these inscriptions. One of Vespasian has on it the name of the water-works office in Rome—IMP · AVG · VESPASIANI · STATIO · VRBANA · AVG.

Imperial
stationes.

One of Nerva is marked as belonging to a private *statio* of the emperor's—IMP · NERVAE · CAES · AVG · STAT · PATRIMONI AVG · N. Another has IMP · ANTONINI · AVG · PH · STATIONIS PATRIMONIS · SVB · CVRA · DIOSCORI.

The commonest formula on pipes of the latter part of the first and the second century gives first the Emperor's name, then the Procurator's, and last the plumber's, e.g. IMP · CAES TRAIAN · HADRIANI · AVG · SVB · CVRA · HYLAE · AVG · LIB PROC · A · LARCIVS · EPTYCHES · FEC; i.e. in the reign of Hadrian, under the care of the Procurator Hylas a freedman of Augustus, A. Larcus Eutyches made it.

Dated pipes.

In some cases the exact year is indicated by the number of the Emperor's consulship, e.g. IMP · DOMIT · AVG · GERM · XVI COS (93 A.D.); or by the names of the two consuls for the year, e.g. PISONE · ET · IVLIANO · COS (175 A.D.), TESSERA · CASTRE[N]SIS; this interesting inscription was found in the Praetorian Camp in 1862.¹

¹ The *tessera* was the watchword for the night written on a slip of wood, and sent round the camp before dark; see Livy, xxvii. 46; and the

Another pipe inscription found on the Quirinal in 1875 is dated by the Consuls' names in the joint reign of Marcus Aurelius and Lucius Verus, 162-163 A.D., thus—

IMP · CAES · AVRELI · ANTONINI · ET · AVRELI · VER · **VIII**
SVB · CVRA · CAECILII · DEXTRIANI · PROISMAL · F
AVREL · CAES · III · ET · COMM · II · COS

A pipe found at Ostia in 1867 has the names of Severus *Severus and his sons.* and his two sons Caracalla and Geta—IMPP · L · SEPTIMI SEVERI · ET · M · AVR · ANTONINI · AVGG · ET · GETAE · CAESAR SVB · CVRA · PROC · VENUST · AVGG · LIBERT · EX · OFF · T FLAVI · TIRIDATIS · LIB; *i.e. in the time of the two Augusti Severus and Caracalla¹ and of the Caesar Geta, under the care of the Procurator Venustus, an imperial freedman; out of the workshop of the freedman T. Flavius Tiridates.*

Imperial concessions of water are recorded by the words *Imperial grants.* EX · INDVLGENTIA or EX · LIBERALITATE, followed by the Emperor's name; see vol. ii. p. 319.

Names of Empresses also occur, e.g. PLOTINAE · AVG, on a pipe found near the Emporium, and MATIDIAE · AVGVSTI FILIAE Q · PVBLI · SECVNDVS · FECIT—*of Matidia the daughter of Augustus; Q. Publius Secundus made it.*

Other officials' names, instead of the *Procurator Aquarum*, sometimes occur, such as the *Tribunus Aquarum*, and the *Scribae* or secretaries of the *Curator*, but these varieties are rare. The chief official of all, the *Curator*, did not impress his name on the pipes, except in the case of those in his own private house; see below.

Plumbers' names. Plumbers' names, like those of brick-makers, are given either in the nominative with FECIT, or in the genitive after EX · OFFICINA; one of the pipes found in the *teserarius* was the soldier who distributed information as to the watch-word; see Orelli, *Inscr.* No. 3462. Its meaning inscribed on a pipe is not clear; it may simply mean *stamp of the Praetorian Camp.* *Plumbers.*

¹ Caracalla is usually called Marcus Aurelius Antoninus (Pius).

Horti Sallustiani in 1886 was inscribed thus, OFFICINA · FORTVNI. A considerable number of female plumbers' names occur,¹ e.g. IVLIA · CLEOPATRA · FECIT; another pipe has FLAVIA · GLYCERA · FECIT.

House-owners.

Names of house-owners. The names of private owners are very numerous; several names often occur on one pipe, e.g. M · POSTVMI · FESTI · ET · PAVLLAE · EIVS · ET · FILIORVM ET · POMPEI · HELIODORI—*Marcus Postumus Festus and Paulus his wife and his sons, and Pompeius Heliodorus.*

A pipe recently found on the Esquiline has M · COCCER[VAR]. M. Cocceius Nerva was *Curator Aquarum* from 24-33 A.D., but his name is here inscribed in his private capacity of a consumer of water. He was Consul-Suffectus in 22 A.D., and his name is inscribed on the front of the *Tullianum* as one of its restorers; see vol. i. p. 153. M. C. Nerva was an intimate friend of Tiberius, and in 33 A.D. committed suicide from grief at the cruelties and murders committed by the Emperor, over whom he had lost all influence.

On some pipes is recorded the fact that the imperial concession of water was renewed to a man's heirs, e.g. HEREDVM SPVRI · MAXIMI · EGREGII · VIRI.

Lady owners.

The names of lady house-owners are common, as, for example, LAVR · AGAELYTI · SABINAE · AVG · SOROR; and CORNELIAE · PRAETEXTATAE · Cui · Filiae; and SEPTIMIAE · CALLICHTIAE; and IVLIAE · CALICES · ET · LIBERT · EIVS · ET · ALYPTI AVG · L · LIBERT; that is, the right to the water was shared by *Julia Calice, her freedman, and Alyptus an Imperial freedman.*

This last inscription is on a lead pipe of 15 *quinariae* capacity, which was found in the Via Alessandrina.

Estates.

Topographical indications, such as names of estates, sometimes occur, but are rare. A pipe from the Palatine has [DOM]VS · AVGVSTANAE. Some marked as belonging to Sallust's estate are mentioned in vol. ii. p. 242.

¹ Probably these were women who owned a plumber's *officina* worked with slave labour.

Donati (*Roma*, p. 400) and other old topographers, mention a pipe found near the Pantheon, which was marked *Temple of Matidia*—TEMPLO·MATIDIAE; but this inscription is suspicious, from the word *temple* instead of the nominative *templum* being used.

A pipe of the sixth century A.D., in the Museo Kircheriano, is inscribed ✠ XENŌD · ORFANONT (Ξενοδοκείου ὀρφανοτροφείου); a Xenodochium or Asylum for the orphan children of foreigners, possibly that which Belisarius is recorded to have built; see *Bull. Com. Arch. Rom.* vi. p. 134.

*Orphan
asylum.*

Several pipes have been found in the Praetorian Camp inscribed CASTR(a) PRAETOR(ia); see also vol. ii. p. 332.

In the same place was found the following interesting inscription on a pipe which is now in the Museo Kircheriano—IMP · L · SEVERO · III · ET · ANTONINO · COS · (202 A.D.) CVRA GEN · FVRIO · FESTO · TRIBVNO · COHORTIS · VII · PRAEPOSITO · OPERVM MINORVM · CVRATORE · MESSIO · ATTICO · CHOR · VII · PL.¹

These include nearly all the known examples of Roman pipes inscribed with the name of the building to which they belonged.

THE AQUEDUCTS OF ROME

In the time of Frontinus, *Curator Aquarum* from 97 to 106 A.D., there were nine aqueducts to supply Rome.

1. The *Aqua Appia* was built at the same time that the *Via Appia* was constructed by the Censor Appius Claudius Caecus, 313 B.C., whose Censorship was prolonged to allow him to complete the work; see Livy, ix. 29; Diod. Sic. xx. 36; Front. 79. The start of the water-channel is mentioned by Frontinus (§ 5) as being by the *Via Praenestina*, between the seventh and eighth milestones, measured from the *Porta Esquilina*.

*Aqua
Appia.*

This appears to be a mistake; the real source has been

Source.

¹ On this inscription see Henzen in *Ann. Inst.* 1864, p. 6; and Mommsen, *Bull. Inst.* 1866, p. 127.

discovered in the reservoirs formed in the ancient quarries, now called *latomie della Rustica*, about 50 feet below the level of the ground. Lanciani suggests the probable emendation *Via Collatina* instead of *Prænestina*.

Existing remains.

The subterranean *specus* of this aqueduct has been at various times discovered in several places in Rome; at one point it is now accessible, and is well preserved for a long distance, namely, where it passes through the old tufa quarries in the Aventine near the Church of S. Saba. Its line near this point is now traversed by the modern *Via di Porta*; see Descemet, *Fouilles à S. Sabina*, Paris, 1863.

Terminus mæstibæ.

The termination of the *Aqua Appia* was near the Tiber bank, close by the *Marmoratum*; the last part of its course for a few hundred yards was on low arches close inside the line of the Servian wall; with this exception the *specus* of the *Aqua Appia* was subterranean. Additional springs were brought to the *Aqua Appia* by a branch added by Augustus, which was called the *Aqua Appia Augusta*.

Anio Vetus.

II. The *Anio Vetus* was begun in 272 B.C., forty years later than the *Appia*, by the Censor Manius Curius Dentatus out of the spoils won from Pyrrhus, and in 270 B.C. was completed by M. Fulvius Flaccus, who had been appointed, together with Dentatus, *duumvir aquæ perducendæ*; see Front. 80, and Livy, ix. 29. Its length was 43 miles; 10¹ miles from its source in the hills to a *piscina* near Tibur (Tivoli), and 33 miles thence to Rome; its course being very circuitous; see Aur. Victor, *Viri* iii. 43; and Livy, ix. 29, and xl. 51.

Of this long channel only about a quarter of a mile was above ground.

Existing remains.

The *specus* of the *Anio Vetus* has been identified below the Claudian Aqueduct at the Porta Maggiore; other pieces of the channel and remains of large cisterns were discovered in 1873-79, while laying out the new *Via Principe Amadeo*, Carlo Alberto, and Napoleone III.

¹ Not 20, as is sometimes stated.

A long piece of the *specus* was formed in the earth of the agger of Servius, and ran parallel to the wall. Where the *specus* was above ground, it was built of massive blocks of peperino; see Lanciani, *Com. di Front.* Tav. iv.

At one point about 30 feet outside the remains of the Servian wall and agger, near the railway station, there is still well preserved a curious *inspection-shaft* (*puteus*), made to enable workmen to reach the subterranean *specus* of this aqueduct; see Vitr. viii. 6. 3. It stands up above the excavated ground-level like a small circular tower, about 12 feet high and 10 feet in diameter. It is built of massive blocks of tufa and travertine, and has a small door for access, in the sill of which are the pivot-holes of two wooden folding doors.

*Inspection
shaft.*

A branch subdividing the water of the *Anio Vetus* into two parts was built by Augustus, starting from the old *specus* about 2 miles from its termination in Rome, then passing by the *Amphitheatrum Castrense*, and for some distance along the line of the Aurelian wall towards the *Porta Latina*. The existing remains of this branch are of concrete faced with *opus reticulatum*.

III. The *Aqua Marcia* was built by the Praetor Q. Marcus Rex in 144 B.C., by order of the Senate at the same time that they had the two existing aqueducts restored; see Dion Cass. xlix. 42; Front. 81; and Pliny, *Hist. Nat.* xxxi. 41, and xxxvi. 121. Frontinus, quoting Fenestella, tells us that 180 million sesterces were voted to build this aqueduct, that is, about £1,800,000. This is commemorated on a *denarius* of the *Gens Marcia* with (*obverse*) a head of King Ancus Martius and the legend *ANCVS*; (*reverse*) a rude representation of the arches of an aqueduct inscribed *AQVA · MARCIA*; on it is an equestrian statue—*legend*, *PHILLIVS*. The supposed descent of the *Gens* from Ancus Martius, and the construction of the Marcian Aqueduct, were the two chief distinctions of the family, and were therefore commemorated on the *denarii* struck by *monetarii* of this *Gens*.

*Aqua
Marcia.*

Coin type.

Rome.

The source of this aqueduct is about 38 miles from Rome, 3 miles to the south of the *Via Valeria*;¹ its last 6 miles are on massive peperino arches, many of which are still well preserved, but about seven-eighths of the length of the *specus* was subterranean. Remains of the *specus* still exist in the Sabine Hills above Tivoli, and also on the slopes below it. The water was brought into Rome at a level high enough to supply the Capitoline *Arx*.

Aqua Augusta

A short branch, called the *Aqua Augusta*, was added by Augustus, and this doubled the original supply of water, as is recorded in the Ancyrean inscription—AQVAM · QVAE · MARCIA APPELLATVR · DVPLICAVI · FONTE · NOVO · IN · RIVVM · EIVS INMISSO. Its water is exceptionally pure and cold—*nices et frigora ducens Marcia*, as Statius calls it, *Silv.* I. v. 25; see also *Mart.* vi. 42, 18, and *Vitr.* viii. 3. 1.

Cippus Jugurthae

One of the *cippi jugurthae*, set up by Augustus to mark the band of ground, 30 feet wide, belonging to this aqueduct, has been found; it is inscribed—MAR(cia) · IMP · CAESAR · DIVI · F · AVGVSIVS · EX · S · C · ∞ CXC VII · P(edes) · CCL, i.e. *Marcian (Aqueduct) the Emperor Augustus (adopted) son of the divine Caesar, by command of the Senate; Cippus Number 1197, distance from the end 250 feet; L for 50, the archaic form of L, is used here.*² This interesting inscription is now built into a wall over the place where it was found.

Additions of Titus and Caracalla.

Two inscriptions, now preserved by the main entrance of the Basilica of S. Lorenzo, record the restorations and increased water supply with which Titus and Caracalla improved the Marcian aqueduct. They are as follows—IMP · TITVS · CAES · DIVI · F · VESPASIANVS · AVG · PONT · MAX · TRI-

¹ The *Via Valeria* was a continuation of the *Via Tibertina*, from Tibur (Tivoli) onwards over the Sabine Hills.

² The Roman numeral for 50 passed through three stages, first Ψ , as on the earliest gold sixty-sestertii pieces struck about 217 B.C., then \perp , and lastly from the middle of the first century A.D. onwards the form L was used.

EVNICIAE · POTEST · IX · (80 A.D.) IMP · XV · CENS · COS · VII
 DESIGN · VIII · RIVOM · AQVAE · MARCIAE · RESTAVRAVIT · DILAP-
 SAM · REPECIT · ET · AQVAM · QVAE · IN · VSV · ESSE · DESIERAT
 REDVXIT. The other, of Caracalla's time, runs thus—IMP
 CAES · M · AVERELIVS · ANTONINVS · PIVS · FELIX · AVG · PART
 MAX · BRIT · MAXIMVS · PONTIFEX · MAXIMVS · AQVAM · MAR-
 CIAM · VARIIS · CASIBVS · IMPEDITAM · PVRGATO · FONTE · EXCISIS
 ET · PERFORATIS · MONTIBVS · RESTITVTA · FORMA · ADQUISITO
 ETIAM · FONTE · NOVO · ANTONINIANO · IN · SACRAM · VRBEM
 SVAM · PERDVENDAM · OVEAVIT.

*Aqua
Marcia.*

The Marcian Aqueduct ended near the *Porta Capena* and was distributed over *Regio II.*, the Caelian Hill. Its *specus* can be well examined where it passes over the arch built by Augustus (now the *Porta S. Lorenzo*), below the *specus* of the *Aqua Julia* and *Tepula*; see fig. 99. At this point, where the aqueduct spanned an ancient road, the whole is of travertine; at other places peperino and tufa blocks were used. Some of the piers of this triple aqueduct were destroyed in 1884; see vol. ii. p. 254. The Marcian water is still brought to Rome under the name of the *Aqua Pia*, a restoration com-

*Ternant
castellum.*

Aqua Pia.

IV. The *Aqua Tepula* was constructed by the Censors Cn. Servilius Caepio and L. Cassius Longinus, in 127 B.C.; see Front. 82. It began about a mile and a half from the tenth milestone on the *Via Latina*. Its *specus* is shown on fig. 99, between the *Aqua Marcia* and *Julia*. This water was called *tepula*, a form of *tepida*, from its being slightly warm.

*Aqua
Tepula.*

V. The *Aqua Julia*; see Front. 83. This and the two last-mentioned aqueducts were for a long distance carried on the same row of arches, which were rebuilt in the reign of Augustus.

Aqua Julia.

About half of the course of the *Aqua Julia* was subterranean; the other half being carried either on solid substructions or on stone arches.

This new aqueduct, with the addition of the *Aqua Julia*, was constructed by M. Agrippa, when aedile, in 33 B.C. Fron-

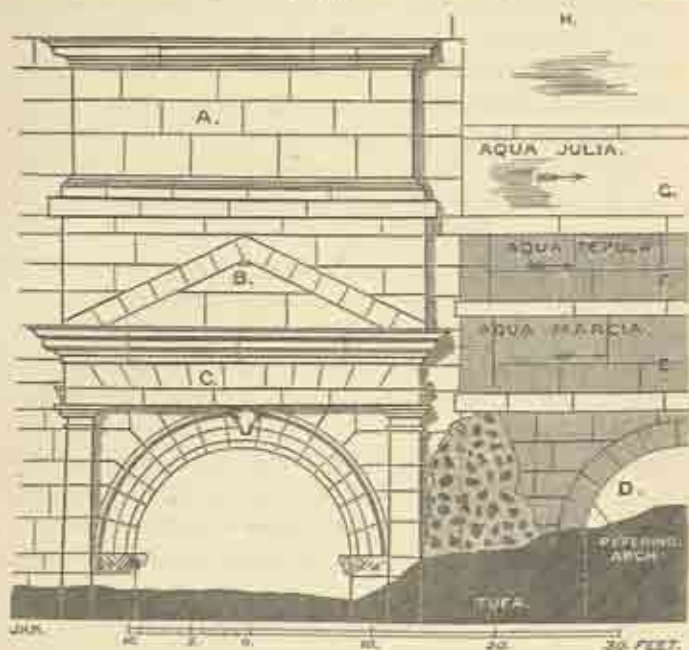


Fig. 99.

Arch built by Augustus where a triple Aqueduct passes over a Road—
now the Porta S. Lorenzo.

- A. Original inscription of Augustus.
- B. Inscription recording restorations by Titus; the moulding of the pediment has been cut away to make room for this.
- C. Inscription added by Calpurnia; the architrave moulding has been cut away to make room for it.
- D. Peperino arch of the Aqueduct.
- E, F, G. Specus of the Aquas Marcia, Tepula, and Julia, now exposed by the removal of their sides.
- H. Part of one of the towers of Aurelian's wall.

tinus (cap. 19) says its level was the third in order, coming after the *Anio Novus*, which was the highest, and the *Aqua*

Claudia, which was the second. Its *specus* is shown in fig. 99, above the *Aqua Tepula* and *Marcia*.

The rebuilding of this part of the aqueduct by Augustus *Restoration of Augustus.* in 5 B.C. is recorded by an inscription on the side of the upper *specus* at the place marked A in fig. 99, *Aqua Julia*—IMP CAESAR · DIVI · IVLI · AVGVSTVS · PONTIFEX · MAXIMVS · COS XII · TRIBVNIC · POTESTAT · XIX · IMP · XIII · RIVOS · AQVARVM OMNIVM · REFECIT. Below this another inscription on the side of the *specus* of the *Aqua Tepula* records a restoration by Titus in 79 A.D.; see B in fig. 99.

Other restorations were carried out by Severus in 196 A.D., *Restoration of Severus.* and by Caracalla in 212 A.D.; the latter is recorded by an inscription added under the cornice at C on fig. 99. Not only has the pediment been cut away, but even the mouldings of the architrave were hacked off to make room for the inscription of Caracalla. On the inner keystone of this fine arch an ox's head is carved, on the outside an ox's skull. All the moulded details, the cornice and caps of the columns and pilasters, are very finely designed and well executed.

In Rome itself the three *specus* were separated and carried in different directions. Ruins of the once magnificent *Castellum* of the *Aqua Julia*, built by Severus Alexander, exist in the modern Piazza Vitt. Emmanuele; see vol. ii. p. 325.

The source of the *Aqua Julia* was a spring about a mile *Source.* above the Monastery of Grottaferrata, not far from the twelfth milestone on the *Via Latina*. At various places near the source no less than nine of the original *cippi* of Augustus have been found in 1886-87. Each of them is inscribed thus—AQVA *Inscribed cippi.* IVLIA · IMP · CAESAR · DIVI · F · AVGVSTVS · EX · S · C · CLVI *pedes* · CCXL.¹ The first number is different in each, as it records the distance from the *castellum* in Rome. The second number is the same on all; it merely states the intervals of two *actus* at which the *cippi* were placed; see Lanciani in *Notiz. d. Scavi*, 1887, p. 558.

¹ The archaic I for L is used.

Aqua Virgo.

VI. The *Aqua Virgo*; this aqueduct also was begun by Agrippa, while aedile in 33 B.C.; see Front. 84; Dion Cass. liv. 11; and Pliny, *Hist. Nat.* xxxi. 42. In the same year Agrippa, who was appointed by Augustus to the newly-instituted office of *Curator Aquarum*, is recorded (Pliny, *Hist. Nat.* xxxvi. 121) to have constructed for public use no less than 700 basins or pools (*lucus*), 500 fountains (*salientes*), and 130 *castella*, many of them richly decorated with statues and columns. Three hundred statues of marble and bronze, and 400 marble columns, were used in these works, all of which, Pliny says, were erected in one year, 33 B.C., which can hardly have been the case.

Benefactions of Agrippa.

Origin of name.

The main object of the *Aqua Virgo* aqueduct was to supply the *Thermae of Agrippa*; its source, as Frontinus says, was near the eighth milestone of the *Via Collatina*, fed by a spring, which, according to the story, was first pointed out by a girl to some thirsty soldiers, and was therefore called the *Aqua Virgo*. This aqueduct has been restored, and still brings a large quantity of pure cool water to Rome, supplying the magnificent Trevi fountain, and those in the Piazza di Spagna and the Piazza Navona, together with ten smaller ones, and a large number of streets.

Existing arches.

Some of the original arches of this aqueduct as built by Agrippa have recently been discovered at three places; namely, in the garden of the Palazzo Bufalo (now Castellani); at the angle of the Via delle Maratte and the Via della Vergine; and in the court of the Palazzo Sciarra; see *Bull. Com. Arch.* 1888, p. 61, and *Notiz. d. Scavi*, 1887, p. 447. The main *castellum* of the *Aqua Virgo* was on the Pincian Hill. Only about one-thirteenth of the course of the *specus* was above ground.

Another well-preserved piece of the ancient *specus* can be seen below the level of the street, in the court of No. 12 *Via del Nazarenno*, behind the Trevi fountain. At this point a house has recently been pulled down so that this bit of the aqueduct is now visible from the street. The upper parts of

three arches, with engaged columns between them, are now exposed. Above them the *specus* of massive travertine, decorated with an entablature, is visible, and is perfectly preserved. The top of the *specus* is nearly level with the paving of the modern street. On both sides of the frieze is an inscription recording that this part was rebuilt by Claudius in 52 A.D., after the aqueduct had been injured by Caligula, probably while constructing his wooden amphitheatre near the *Septa Julia*; Suet. *Cl.* 21.

*Restoration
of Claudius.*

The inscription runs thus—TI · CLAVDIVS · DRVSI · F · CAESAR AVGVSTVS · GERMANICVS · PONTIFEX · MAXIM · TRIB · POTEST V · IMP · XI · P · P · COS · DESIG · IIII · ARCVS · DVCTVS · AQVAE VIRGINIS · DISTVRBATO · PER · C · CAESAREM · A · FVNDAMENTIS NOVOB · FECIT · AC · RESTITVIT.

The date of this inscription (given by the *tribunicia potestate* V. etc.) is 52 A.D. The special ornamentation of this piece of the aqueduct is due to its being a part where a road passed under it, as is the case with portions of other aqueducts at the *Porta Maggiore*, the *Porta S. Lorenzo*, and the so-called "Arch of Drusus" near the *Thermus of Caracalla*; see vol. ii. p. 172.

*Dated
52 A.D.*

Another piece of the arches of the *Aqua Virgo* existed in the sixteenth century, where it crossed the Corso at the angle of the Via di Caravita. Other parts were found under the Church of S. Ignazio. The water of this aqueduct was distributed from eighteen *Castella*, in Regions vii., ix., and xiv.

VII. The *Aqua Alsietina* was constructed by Augustus mainly to supply his great *Naumachia*, on the Transiberine side of Rome. Frontinus (§ 85) says, *tota extra Urbem conuenitur, nomine Caesaris quinariae ceteris, privatis quinariae ceteris.* It was supplied by the *Lacus Alsietinus*, now called *Lago di Martignano*, which was near the fourteenth milestone of the *Via Claudia*. The water was not fit to drink, and its level was the lowest of all the aqueducts—*omnibus humilior Alsietina est*, as Frontinus (§ 11) says. The *Naumachia* of Augustus was in the plain between S. Cosimato, S. Francesco a ripa, and

*Aqua
Alsietina.*

*Naumachia
of
Augustus.*

the foot of the Janiculan Hill, where some remains of it have been discovered.

*Aqua
Anietina.*

In 1887 an inscribed stone slab, covering part of the *specus* of a branch aqueduct from the Lago di Bracciano, was found near the *Via Claudia*, about 15 miles from the Porta del Popolo. Its inscription is the only epigraphic record of the *Aqua Anietina* which is known. As restored by Prof. Barnabei it runs thus, (IMP · CAESAR · DIVI · F) AVGVSTVS · PONTIF · MAX (FOR)MAMMENTIS · ATTRIB · IN · RIVO · AQVAE · AVGVSTAE · QVAE · PERVENIT · IN · NEMVS · CAESARVM · ET · EX · EO · RIVALIBVS · QVI · (PER · BVCCINAM · ACCIPIEB)ANT · AQVAM · PERENNEM DEDIT). See *Notiz. d. Scari*, 1887, pp. 181-186.

*Inscribed
slab.*

*Claudian
aqueducts.*

VIII. The *Aqua Claudia*, and IX. The *Anio Novus*, were both begun by Caligula in 38 A.D., and completed by Claudius in 52 A.D. The total length of the magnificent aqueduct which carries the *specus* of the *Aqua Claudia* is over 45 miles, of which 9½ miles are on lofty arches, and about 1000 yards on solid masonry.

Anio Novus.

The *Anio Novus* was nearly 62 miles long, of which about 9½ miles were above ground, some of the arches being as much as 100 feet high. As is mentioned below, these two aqueducts met about 3 miles from Rome, and from that point both *specus* are carried on the same arches. These are the finest of all the Roman aqueducts in length, height, and massive construction; see Front. 86.

*Aqua
Claudia.*

The source of the *Aqua Claudia* was by the thirty-eighth milestone of the *Via Sublacensis*, near the start of the *Aqua Marcia*: it was fed by two springs, the *Fons Coeruleus* and *Fons Curtius*, as is recorded in the inscription on the *specus* over the double travertine gateway of the *Via Labicana* and *Prænestina* (now the Porta Maggiore).

*Point of
junction.*

The *Anio Novus* started from a stream of that name near the forty-second milestone of the *Via Sublacensis*, where remains of its *incile* or inlet from the river-bank and *piscine* still exist. Near the city these two streams were united and

carried on the same arches, the *specus* of the *Anio Novus* being above that of the *Aqua Claudia*. Within the city the two waters were mixed—*Claudia et Anio Novus extra urbem proprio quaque rivo erogabantur, intra urbem confundebantur*, as Frontinus says, § 86.

That very splendid piece of this double aqueduct, which now forms the *Porta Maggiore*, is worthy of close examination, as the two *specus* are well preserved, and the whole structure is a very noble piece of masonry. These special arches were built with exceptionally elaborate architectural decorations, because two roads passed under them, the *Via Praenestina* and the *Via Labicana*. It was an invariable custom among the Romans to build in a decorative way any arch of an aqueduct under which a road happened to pass.

Existing
archway.

The inscription on the upper *specus* over the *Porta Maggiore* is—*TI · CLAUDIVS · DEVS · P · CAISAR · AVGVSTVS · GERMANICVS · PONTIF · MAXIM · TRIBVNICIA · POTESTATE · XII · COS · V · IMPERATOR · XXVII · PATER · PATRIAE · AQVAM · CLAVDIAM · EX · FONTIBVS · QVI · VOCABANTVR · CAEREVLVS · ET · CVRTIVS · A · MILLIARIO · XXXV · ITEM · ANIENEM · NOVAM · A · MILLIARIO · LXII · SVA · IMPENSA · IN · VREEM · PERDVENDAS · CVRAVIT*. The lengths of the aqueducts given in this inscription, namely, the *Aqua Claudia* 45 miles long, and the *Anio Novus* 62 miles, were the actual length of the *specus*, not the shortest distance from point to point; compare Pliny, *Hist. Nat.* xxxvi. 122.

Inscription
of Claudia.

Below this, on the *specus* of the *Aqua Claudia*, is another inscription, recording the restoration of this aqueduct by Vespasian in 71 A.D., *AQVAS · · · INTERMISSAS · DILAPSAS · QVE*. It must have been badly built to need repair within twenty years of its construction.

Restoration
of
Vespasian.

A third inscription, lower still, records another restoration by Titus in 81 A.D., the last year of his reign. About 200 A.D. it was again restored by Severus and Caracalla, who built

brick-faced concrete arches under many of the stone arches of Claudius.

*Nero's
extension.*

In the reign of Nero this Claudian aqueduct was extended over the Caelian to the Palatine, by a magnificent series of double arches of concrete, faced with unusually neat brickwork. A great number of the arches of this extension still exist in good preservation, with, in places, later arches built under them by Severus in 201 A.D., probably to support them after injury by an earthquake.

*Existing
remains.*

A number of the arches, two tiers high, near the Lateran Basilica, are specially well preserved. The later arches are added as supports in the upper tier of arches of Nero's aqueduct: their brick facing is very inferior in neatness to the more beautiful work of Nero's time, when, in colour, quality, and fineness of jointing, Roman brickwork was at its highest point of perfection.

A branch built by Nero, part of which is still well preserved, diverges from the main line of his extension, passing over the Arch of Dolabella on the Caelian towards the Colosseum, while the rest of the water was carried on to the Palatine.

*Fine
gateway.*

A fine lofty gateway where a road passes under this aqueduct exists near the Porta Maggiore, decorated with moulded brick imposts¹ and short string-courses. A large marble slab for an inscription once existed over this archway on both sides; the slabs are gone, but the holes to fix them are visible.

Magnificent remains of the Claudian Aqueduct, built of massive blocks of tufa, still exist for many miles across the Campagna.

¹ The impost moulding at the springing of the arch is a large *cymatium*, formed of sixteen courses of brick. This part of Nero's aqueduct, with its lofty archway spanning the road, is one of the finest examples of brick-faced concrete which exists; the facing of the arches, with their two rings of *tegulae bipedales*, or 2-foot tiles, is extraordinarily neat and close-jointed.

In addition to the above-mentioned nine aqueducts which existed in the time of Frontinus, two others were added later.

X. The *Aqua Trajana* was constructed by Trajan in 109 A.D., three years after the death of Frontinus, to supply the Transiberine quarter of Rome. Its level was high enough to bring water to the highest part of the Janiculan Hill. The completion of this aqueduct is recorded on the reverses of bronze coins of the year 110 A.D., with the legend AQVA TRAIANA, and a representation of the water as a river-god reclining on the ground holding a reed, and with one arm resting on an urn from which issues a stream of water; over him is an arched canopy supported by columns.

*Aqua
Trajana.*

In 1830 a slab of travertine was found on the course of this aqueduct, about 10 miles from Rome, with an inscription recording its construction, and the purchase by Trajan of a strip of land 30 feet wide, the usual width for the reserved strip on which no planting was allowed. After the name and titles of the Emperor, with the date 109 A.D. (TR · POT · XIII), the inscription runs—AQVAM · TRAIANAM PECVNIA · SVA · IN · VRBEM · PERDVXIT · EMPTIS · LOCIS PER · LATITVD · I[edes] XXX.

*Inscribed
slab.*

The source of this aqueduct was derived from a number of springs near the *Lacus Sabatinus*, the modern *Lago di Bracciano*. Its termination was at a magnificent *castellum*, on the top of the Janiculan Hill, which is shown on several coins of Trajan, adorned with columns and a reclining male figure with an urn; the legend is S · C · AQVA · TRAIANA.

Source.

This aqueduct was restored by Belisarius, after being cut by the Gothic leader Vitiges in 537 A.D. It was repaired by several of the Popes, and still supplies with a copious flood of water the great Fontana Paolina behind S. Pietro in Montorio, and the fountains in front of S. Peter's, together with a large area of the Transiberine city.¹

¹ Besides this and the above-mentioned *Aqua Vergine*, there are two others of the old aqueducts the water of which is still brought to supply

The Fontana Paolina, with a magnificent flood of water pouring into a large stone basin, stands on the site of the ancient *castellum* of Trajan. It was constructed in 1611 by Pope Paul V.

*Aqua
Alexan-
drina.*

XI. The *Aqua Alexandrina* was constructed about 226 A.D. by Severus Alexander, to supply his enlargement of the *Thermae* of Nero in the *Campus Martius*, near the Pantheon, called after him the *Thermae Alexandrinae*; see vol. ii. p. 144. Its source was between Gabii and Lake Regillus, about 14 miles from Rome. It is the same water which now supplies Rome under the name of the *Aqua Felice*, by means of a restoration made in 1586. The ancient course of the *Aqua Alexandrina*, after reaching the walls of Rome, is very uncertain.

*Eleven
aqueducts
in all.*

This was the last aqueduct which was constructed, and the whole number of separate aqueducts never exceeded eleven. Procopius makes up the number to fourteen, by counting as distinct aqueducts (*ὄχτροι*)¹ what were really only branches, made to tap the existing *specus* of certain of the pre-existing aqueducts.

Enumerates.

Thus he includes the *Specus Octavianus* leading from the *Anio Vetus*, and the *Specus Antoninianus*, a branch from another aqueduct, made to supply the Baths of Caracalla; and thirdly, he counts the *Aqua Augustalis*, constructed by Augustus to supply certain country estates of his, but which did not come near to Rome. The *Aqua Algentia* appears to have been a name invented from a corrupt reading of *Alsiolina*; see Jordan, *Topogr.* p. 223 *seq.*, and Lanciani, *Com. di Front.* p. 185.

Rome. These are the *Aquas Pia* (ancient *Aqua Marcia*) and the *Aqua Felice* (*Aqua Claudia*).

¹ More correctly *ὄχτροι* was used in a more limited sense, meaning the actual water-channel or *specus*; the whole aqueduct being called *ὁδὸς ὕδατος*. Compare an interesting inscription in the Louvre (*Greek Inscrip.* No. 133), which records the construction of an aqueduct at Mylasa in the time of Philip Aridaeus, 323 to 317 B.C.

The amount of pure water which was continually being poured into Rome by all these aqueducts must have been something enormous, probably not less than about 340 millions of gallons a day, far exceeding the supply of any modern city. It is not without reason that Pliny and Frontinus speak of the Roman aqueducts as being among the chief wonders of the world. *Copious supply.*

Public Fountains. Fountains existed in enormous quantities all over the city, either in the form of large basins of water (*lacus*) or upward-spouting jets of water (*salientes*). The number of these set up by M. Agrippa in the reign of Augustus is mentioned above, vol. ii. p. 342. *Fountains.*

The *Regionary Catalogues* give the number of *lacus* in each *Regio* of the city, in many cases amounting to as many as eighty in one *Regio*; see Ulrichs, *Cat. Topogr.* pp. 3 to 27. The larger fountains combined both *lacus* and *salientes*, large marble basins and spouting jets of water; many of these were large and magnificent structures, usually decorated with marble columns, linings, and statues in niches both of marble and of gilt bronze. *Fountains and jets.*

The *Nymphæum of Severus Alexander*, which received the *Aqua Julia*, is the finest existing example of one of these; see vol. ii. p. 325.

The *meta sudans* (so called) by the Colosseum is almost the only existing example of a fountain which had jets of water pouring into a large circular basin. Nothing now exists but the brick and concrete core of the lower part of the fountain, which was originally more than three times its present height; in shape it was a tall marble-lined cone, with water issuing from the summit, and from various points below. *Meta sudans.*

Its original form is shown on a sculptured sarcophagus now in the *galleria lapidaria* of the Vatican. Near the base were niches for statues holding urns, which can still be traced in the existing though much restored core of the lower part. *Sarcophagus relief.*

*Meta
sudans.*

A central circular hollow, 2 feet 3 inches in diameter, contained the rising lead pipes to supply the upper jets.

The brick facing appears to be of Flavian work, and the fountain is shown on coins of Domitian by the side of the Colosseum, so it is probably of about the same date as the great Flavian Amphitheatre. The name *meta sudans* does not occur earlier than the *Regency Catalogues* of the fourth century A.D. Any tall circular object was called a *meta*; the form of this fountain resembled somewhat the *metæ* or goals at the ends of the *spinae* in the *Circi*; the epithet *sudans* (sweating) was probably applied on account of the way in which the water seemed to ooze from it.

*Bronze
pine cone.*

The colossal bronze pine cone, now in the Vatican, was a magnificent and fanciful sort of fountain. Large numbers of small jets spouted out from its whole surface. The effect of such a mass of gold-plated bronze in the centre of a large marble basin of water must have been very splendid. A further description of it is given above in vol. ii. p. 299.

*Existing
basins.*

Some small *lucus* or shallow basins of water have been exposed among the row of buildings along the north-east side of the *Via Nova*, near the Arch of Titus. These are divided into several shallow rectangular basins lined with the hard *opus signinum*, or cement made of pounded brick, which was always used for water-channels and cisterns; see vol. i. p. 79. The various compartments are arranged so that one overflowed into the other; they look as if they were intended for washing clothes. A great number of isolated fountains appear to be shown on many fragments of the *Marble Plan of Rome*; see Jordan, *Forma Urbis Romæ*.

*Fountains
in houses.*

Private Fountains. An enormous number of small fountains existed in the courts and gardens of the private houses of Rome. Many of these were very beautiful and costly structures made of white and coloured marbles and porphyries, decorated with statuettes in marble and gilt bronze. Great invention and fancy is shown in the endless variety of the

designs of these private fountains. In many of them the jet of water spouts from a fish, a shell, or some other object held by a figure of Cupid or a Nymph. In some cases the fountain is in the form of a small marble *œdicula*; the water issuing from the miniature building and running down its steps into the surrounding basin. A very pretty example of this is preserved in the cloister of the Museo delle Terme. Some of the most graceful fountains are in the form of a large delicately fluted basin of *paronazello* or other richly coloured marble, set on a slender stalk of Oriental alabaster. A jet of water sprang up from the middle of the basin.

*Varied
designs.*

A favourite kind of fountain, especially in gardens and open courts, was in the form of a niche lined with brilliant glass mosaics bordered with an inlay of shells; below the niche was a marble tank or basin into which the water poured from a statuette or from a lion's head set in the glass-lined niche. Some very perfect examples of this have been found at Pompeii; those found in Rome are mostly in an inferior state of preservation. In many cases flowers and water-plants were placed round the margins of the fountains, either in pots or in earth which filled hollow channels at the edge of the water. The size of the fountains, of course, depended on the amount of water which had been conceded to the owner of the house; some poured forth a very copious stream; others were devised to make the most of a minute trickle of water of no greater volume than would be supplied through a goose-quill.

*Glass
mosaics.*

In ancient Rome, as in Rome of Papal times, the public and private fountains must have been one of the most beautiful and striking features of the city, on account of their enormous number, their graceful designs and rich materials, and also from the astonishing volume of pure crystal-like water which, during winter and summer, day and night, was always being poured forth, sparkling in the brilliant sunshine, which in Rome is so seldom broken by rain or clouds.

*Abundance
of water.*

CHAPTER XI

ROADS AND BRIDGES OF ROME.

THE ROADS OF ROME.

THE *Roads of Rome* ranked with the Aqueducts, as being among the most costly and carefully constructed pieces of engineering which the inartistic but practical Romans produced with such skill and disregard of human labour.

*Vitruvius
on roads.*

The construction of the paved roads, which were called *viæ silice stratae*, resembled that described by Vitruvius, vii. 1, for ordinary pavements; see vol. i. p. 80. Great care was taken to carry off rapidly the rain water that fell on the impervious closely-jointed paving.

At v. 9, 7, Vitruvius gives directions for the formation of *douces* along both sides of the whole course of each new-made road, with drain-pipes at intervals to carry the surface water from the road into the drains.

*Road
foundations.*

Certain modifications were employed according to the different character of the ground over which each road passed; in a rocky place the *statumen* or lower bed of rough stones was omitted, and the rock was carefully levelled to receive the *rutæ* and *nucleus*, on which lava paving (*silex*) was bedded.

*Arched
viaducts.*

On marshy ground the *statumen* was replaced by wooden piles; and where the road passed over a valley it was frequently kept to an even level by being raised on a viaduct of massive masonry, like that of an aqueduct, either constructed

with a solid wall or with rows of arches,¹ according to its height. This latter kind of road was called *Via fornicata*; see Livy, xxii. 36. The oldest of the roads of Rome, the *Via Appia*, is built on substructures of solid masonry where it passes through the valley of Ariccia and elsewhere. In other places, to avoid *défilés* and to keep the road as level as possible, deep cuttings through the hill were formed, in some cases 50 or 60 feet deep, sunk through the solid rock.

Raised
viaducts.

In other cases actual tunnels were quarried out, in order to carry a road straight through a hill. The most remarkable example of this is between Naples and Puteoli, where the road passes through a magnificent rock-cut tunnel about half a mile long, nearly 30 feet wide, and varying in height from 25 to 30 feet, except at the entrance, where the height is nearly 90 feet. This tunnel, which is mentioned by Seneca and Petronius, probably dates from the time of Augustus. It is still in use.

Road in
tunnels.

Some details with regard to the formation of a Roman road are described by Statius (*Silv.* iv. 3, and 40 to 53) in his account of the repair of part of the *Via Appia* by Domitian. The margins of the road were marked out by the digging of two ditches, *fossae*, within which the *gremium* or enclosed space was first excavated and then filled in with the foundations for the paving, *dorsum*, so called from its being curved to throw off the rain water.

Statius on
roads.

The paving of the central part of the *Via Appia* and other chief roads was made of large blocks of lava (*silex*), of polygonal shape, jointed with the most minute accuracy. The larger pieces measured about 4 feet by 3 feet. These blocks have in most places been carelessly relaid in late times, and present

Lava
paving.

¹ The *Pont du Gard*, near Nîmes (*Nemausus*), is the finest existing example of a combination of aqueduct and viaduct crossing a valley on three tiers of arches. The road is carried on the top of the second tier of arches, the water-channel being at the summit on the third tier.

a very different appearance from what they did under the Republic and early Empire.

The one fragment of ancient road in the Forum which still exists in its original state, with closely fitting joints, is figured above in vol. i. p. 251.

width of
roads.

The principal roads varied in width from 10 to 15 feet; but some of the small cross roads were only 4 feet wide. The lava paving was bordered by a massive curb, usually of tufa, peperino, or travertine.¹ The latter was used in the *Forum Romanum* along the *Sacra Via*, and the road which skirted the opposite side of the central paved space.

The side pathways (*marginæ*) appear to have been laid with gravel (*glarea*) outside Rome, and inside the city with rectangular slabs of travertine or other hard stone like modern flagging, *suo quadrato stratae*. The phrase used for constructing a road was *viam munire* or *sternere*; see inscriptions and coins quoted below at pp. 357 and 358.

Via Appia.

The earliest road which was constructed in this solid way was the *Via Appia*, which led from Rome to Capua, and was extended in later times to Brundisium (Brindisi). It was made, according to Frontinus and Livy, ix. 29, by the Censor Appius Claudius Caecus in 313 B.C., at the same time that he constructed the first aqueduct which brought the *Agua Appia* to Rome. Earlier roads of course existed, but were probably not paved with stone.

Lava for
paving.

An abundant supply of lava for paving was quarried out of the great stream which had flowed from the Alban Hills to within 3 miles of Rome; this is still quarried for the paving of the modern streets at a place near the tomb of Caecilia Metella. For some miles the *Via Appia* passes over this extensive flood of lava, and a great part of its old paving still exists, especially near the foot of the Alban Hills, for 2 or 3 miles towards Rome.

¹ In some places along the *Via Latina* the curb as well as the central paving is made of lava.

Livy (x. 23) mentions the use of *saxum quadratum*, or rectangular slabs of stone for small paths; he says that a foot-road (*semita*) was laid in this way by the two Ogulnii, aediles for the year 296 B.C., out of the fines they imposed, from the *Porta Capena* to the Temple of Mars, which stood outside the gate. At xli. 27, Livy appears to say that as late as 174 B.C. roads were *silice stratae* only within the city, and that gravel was used outside; but the passage is much mutilated, and he is probably referring only to the gravel side-walks. In this passage he states that the *Clivus Capitolinus* and the *Emporium* by the Tiber quay, together with various other covered walks or *porticus*, were paved with lava in 174 B.C. The fragment of road shown in vol. i. p. 251 may possibly be of that date.

Livy on roads.

Gaius Gracchus did much in the way of paving the Roman roads and constructing new ones, some of them on raised viaducts. He also set up milestones, and in other ways improved the means of traffic; see Plutar. *G. Gracch.* 7.

Administration of the roads. During the early years of the Republic the roads were under the care of the Censors (see Cicero, *De Leg.* iii. 3. and Aur. Victor, *Vit.* ill. 72), and falling them under the Aediles. In the second century B.C. four officials, called *quattuor-viri viarum*, were appointed, and inscriptions show that these lasted till the reign of Hadrian or later; οἱ τε τέσσαρες οἱ τῶν ἐν τῷ ἄστει ὁδῶν ἐπιμελούμενοι, as Dion Cassius (liv. 26) calls them.

Road officials.

Suetonius seems to say that the Quaestors had charge of the roads in the reign of Claudius, but that the Emperor gave them instead the management of gladiatorial shows; see Suet. *Claud.* 24, *Collegio Quaestorum pro stratura viarum gladiatorum munus intulit*. In the reign of Augustus, M. Agrippa when aedile appears to have had the management of the necessary repairs to the roads added to his numerous other duties.

Quaestors.

Curatores Viarum. In most cases, however, the extension or repairs were managed by a separate *curator* for each road—

Separate curators.

an office of much dignity and importance.¹ Julius Caesar was *curator* of the *Via Appia* (see Plutarch, *Cæs.* 5), and A. Minucius Thermus, in 65 B.C., was *curator* of the *Via Flaminia*; see Cicero, *Ad Att.* i. 1. Several of the emperors assumed this title, as is recorded in many inscriptions; see Gruter, *Inscrip.* cxlix.-clix.

Road
contractors.

Under the *curator* of each road were a number of *mancipes* or contractors, who carried out repairs and new works. One of these is mentioned on a monument erected to him by his wife, as MANCIPI - VIAE - APPIAE; see Orell. *Inscrip.* 3221.

System of
posting.

The duty of supplying horses and mules free of charge for officials travelling on State business was a heavy burden on farmers and others. It was one of Nerva's generous acts to remit this form of impost, as is recorded on the *rev.* of one of his *First Brasses*, with two mules feeding, just liberated from their yokes, which are shown behind them; the *legend* is VEHICVLATIONE - ITALIAE - REMISSA. This coin is exceptionally fine as a work of art; it was struck in 97 A.D.

Post-
masters.

In later times the supply of horses and vehicles for posting on each road was managed by a class of postmasters called *iuuatores iumentarii*. Both these subordinate officials are mentioned in a dedicatory inscription on the pedestal of a statue of Caracalla, which was found in 1884 in the House of the Vestals. This statue was set up by the MANCIPES - ET IVNCTORES - IVMENTARII - VIARVM - APPIAE - TRAIANAE - ITEM ANNIAE - CVM - RAMVLIS.

Via
Trajana.

The *Via Trajana* was a branch of the *Via Appia*, so called from Trajan who constructed it. This is recorded on the *rev.* of a common denarius of Trajan, which has a recumbent female figure holding a wheel, with the *legend* VIA - TRAIANA. The *ramuli* are the small cross roads leading from the three important roads mentioned before.

¹ Pliny the younger, *Ep.* v. 14, speaks of the great honour that was conferred on Cerninus Tertullus when he was appointed *curator* of the *Via Aemilia*.

The whole inscription records that this honorary statue of Caracalla was jointly dedicated in 214 A.D. by the contractors and postmasters of the *Via Appia, Traiana* and *Annia* with their branch roads, who had received certain benefits from the Emperor, under the patronage of three officials, *Præfecti vehiculorum*, "Præfects of the posting carriages." This pedestal still stands in the *Atrium Vestæ* by the side of the statues of the Vestals. It is dated by the names of the Consuls for 214 A.D. placed at the side of the pedestal, as is the case with other pedestals; see vol. i. p. 325. *Inscribed pedestal.*

Special rates were levied for the repair of the roads, the inhabitants of each house in the city being taxed for the piece of paving opposite.

The small country roads (*Viae vicinales*) were paid for by a sort of parish rate (*Sicul. Flacc. De Cond. Agr.*, ed. Goes. p. 9), and were under the care of local officers called *magistri pagorum*. *Local officers.* The great roads were paid for either by grants from the public *aerarium*, or by private munificence; very frequently the *curator* of a road spent large sums on it out of his private fortune. Many inscribed *cippi* have been found with records of the liberality of different *curatores*.

An example of this is recorded in an inscription quoted by Panvinio, *Urbs Romæ*, p. 68—1. · APPVLEIVS · C · F · ANI · NIGER · II · VIR · CVRATOR · VIARVM · STERNENDARVM · PEDVM · DECEM · MILLIA · VIAM · SVS · PEIVNIA · FEIT. *Liberality of curators.*

A similar act of munificence on the part of Augustus, who restored the Flaminian road, is recorded on an interesting *aureus*, struck in 17 B.C. On the *obverse* is a head of Augustus with *legend*, S · P · Q · R · IMP · CAESARI; on the *reverse* is shown part of the *Via Flaminia* carried on arches, and surmounted by a triumphal arch, on which stands the Emperor Augustus crowned by Victory, in a biga drawn by two elephants; *legend*, QVOD · VIAE · MYNITAE · SVNT. An inscription given by Gruter, *Inscrip.* p. 142, records that this restoration by Augustus was superintended by his nephew Gaius Caesar. *Coin type.*

Coin which
inscribed
cippus.

Another coin of Augustus, struck both in gold and silver, has on the rev. a very remarkable type recording the improvement of other roads by the Emperor: a *cippus* is represented inscribed S · P · Q · R · IMP · CAESARI · QVOD · VIAS · MUNITV · SVNT · EX · EA · PECVNIA · QVAM · IS · AD · AERARIVM · DETVLIT, and round it is the legend L · VINICIVS · L · F · IIIIVIR.

Labour on
roads.

The labour employed on Roman roads, as on their other great works, was mainly that of slaves or convicts. Suetonius mentions among the cruelties committed by Caligula that he ordered many people of high rank to be branded and sent to labour in the quarries and on the high roads, *ad metalla vel ad viorum munitiones* . . . *condemnavit*; Suet. Cal. 27.

A class of workmen employed to take up and relay the paving blocks of lava (*siler*) were called *alicarii*; a large number of these were employed by the *curatores* of the aqueducts; see vol. ii. p. 318. An immense amount of labour must have been wasted in this way by the incessant changes in the concessions of water to private houses, necessitating constant alteration of the supply pipes under the streets.

Milestones.

Milliaria. Along the sides of the roads milestones (*milliaria*) were set up, recording the distance from the gate in the Servian wall from which the road issued. Under the Empire these were short marble columns, with simple base moulding and necking. The first milestone on the *Via Appia* was found *in situ* in 1584, and is now set at the top of the Capitoline steps; in addition to the numeral L, it has the name of the Emperor Nerva, who set it up, probably in place of an older one of tufa or peperino.

By measuring back one mile from the site of this milestone along the course of the road, Mr. Parker discovered the exact line of the Servian wall and its gate, the *Porta Capena*, through which the *Via Appia* issued.

The *Milliarium Aureum* set up by Augustus in 28 B.C.,

was not a milestone, but an *itinerary*, or list of the chief places on the roads which radiated from Rome in all directions,¹ with a record of their distances from the various gates of the city; see vol. i. p. 264.

*Itinerary
list.*

Three interesting itineraries, giving the names and distances of the various posting-stages and resting-places on the road from Rome to Cadiz, have been found engraved on silver vases which had been thrown as votive offerings to Apollo into the hot springs at Vicarello near Lake Bracciano, the ancient *Aque Apollinares*, probably by some Spanish colonist who had derived benefit from a visit to the baths of Apollo. These inscribed cups, which date from the Flavian period, were found in the hot spring, and are now in the Museo Kircheriano in the Collegio Romano.

Silver cups.

The following are the principal roads which radiated from the gates of Rome, beginning on the south:—

I. *Via Ostiensis*, which passed out from Rome through the Servian *Porta Trigemina* and the Aurelian *Porta Ostiensis*; its course was along the left bank of the Tiber to its mouth at Ostia.

*Via
Ostiensis.*

II. *Via Appia* issued from the Servian *Porta Capena* and the Aurelian *Porta Appia* (modern S. Sebastiano); this road was constructed in 313 B.C. as far as Capua, and afterwards extended to Brundisium; see Livy, vii. 39; ix. 29; and xxii. 1. It was often called the *Regina Viarum*, as being the oldest and finest of the Roman roads; Stat. *Silv.* ii. 2, 12.

Via Appia.

¹ Owing to the fact that the Roman roads extended into almost all parts of the Empire, and that the smaller provincial roads were branches from the main arteries of traffic, the saying "All roads lead to Rome," had once more than a metaphorical meaning. Various words were used to mean different sorts of roads: *iter*, a foot or horse path; *semita*, a narrow footpath (*semiter*); *actus*, a cart-road. *Actus* and *iter* were specially legal terms, used in the laws about rights of way through private property, which was called the *jus eundi*; these burdens on land were called *servitutes*; Gaius, iv. 3.

The *Via Ardeatina*, which led to Ardea, was probably a branch of the *Via Appia*.

Via Latina. III. *Via Latina*; this branched from the *Via Appia*, a few hundred yards outside the *Porta Capena*, it then passed through the Aurelian *Porta Latina*, and, like the Appian road, ended at Brundisium, passing along a more inland course.

Via Labicana. IV. *Via Labicana* issued from the Servian *Porta Esquilina*, and then passed through an arch of the double aqueduct gate built by Claudius (modern *Porta Maggiore*); it was carried on to Labicum, and then joined the *Via Latina* near the thirtieth milestone.

Via Praenestina. V. *Via Praenestina* branched from the *Via Labicana* just before passing through the other archway of Claudius' aqueduct. It led to Gabii, and hence it was once called the *Via Gabina*, then to Praeneste, finally joining the *Via Latina* near Anagnia.

Via Tiburtina. VI. *Via Tiburtina* started from the *Porta Fimimalis* in the Servian Agger, then through the aqueduct gate of Augustus (shown at vol. ii. p. 340), modern *Porta S. Lorenzo*. Thence it led to Tibur (Tivoli) and the Sabine country, and finally on to the shore of the Adriatic. The latter part of this road was called the *Via Faleria*.

Via Nomentana. VII. *Via Nomentana* issued from the *Porta Collina* at the north end of the Servian Agger, passed through the Aurelian *Porta Nomentana* to Nomentum, and finally branched into the *Via Salaria* at Eretum.

Via Salaria. VIII. *Via Salaria*, also from the Colline gate, then through the Aurelian *Porta Salaria*, and north-east to the Adriatic, finally joining the *Via Flaminia* at Ancona.

Via Flaminia. IX. *Via Flaminia*; this very important northern road is said by Livy (*Epit.* xx.) to have been constructed by the Censor C. Flaminius, at the same time that he built the great *Circus Flaminius*, which afterwards gave its name to the ninth *Regio* of Augustus. C. Flaminius constructed the road as far as Ariminum (Rimini) during his consulship in 187 B.C., and

his colleague, M. Aemilius Lepidus, continued it, under the name of the *Via Aemilia*, to Placentia (Piacenza). It was afterwards extended to Mediolanum (Milan), and farther north in Cisalpine Gaul.

The *Via Flaminia* started from the *Via Lata*, which issued from the Servian *Porta Batumena*, and passed along the line of the modern Corso out through the Aurelian *Porta Flaminia*, which was exactly on the site of the present Porta del Popolo, not higher up the Pincian Hill as was once believed on the strength of a misunderstood passage of Procopius; *Bell. Goth.* i. 23. The true site of this gate was discovered in 1879, when the Aurelian towers which flanked it were pulled down to widen the Porta del Popolo. The restoration of the *Via Flaminia* and its bridges by Augustus is mentioned in the Ancyrean inscription, thus—

*Via Lata.**Porta Flaminia.*

CONSUL · VII · VIAM · FLAMINIAM · AB · URBE
AD · ARIMINUM · FECI · ET · PONTES · OMNES
PRAETER · MULVIUM · ET · MINUCIUM

X. *Via Aurelia* issued from the gate of that name on the Janiculan Hill, passed northwards along the west coast to Pisa, and so on to the north of Italy and Gaul.

Via Aurelia.

XI. *Via Portuensis*, which also started from the Trans-tiberine side of Rome, issued from the Aurelian *Porta Portuensis*, and passed along the right bank of the Tiber to *Portus Augusti*, near its mouth.

Via Portuensis.

For an account of the roads of Rome see Bergier, *Histoire des grands chemins de l'empire Romain*, 1622; Nibby, *Vie degli Antichi*, in vol. iv. of his edition of Nardini, *Roma Antica*, 1820; Becker, *De Romae Muris et Portis*, Leipsic, 1842; and the article *Viae* by Mr. H. Perry in *Smith's Dictionary of Antiquities*, new edition, 1891.

THE BRIDGES OF ROME AND THE TIBER ISLAND.

Early
supersti-
tion.

Among the Romans, as among many other races, there existed in early times a belief that the erection of a bridge is an impious act—an injury done to the god of the river, who is robbed of a certain number of victims who would otherwise have been drowned while attempting to cross the river. For this reason the most primitive duty of the Roman *Pontifex* or *bridge-builder* was to propitiate Father Tiber by expiatory sacrifices—at first in the form of living human victims, and afterwards by throwing into the river every year thirty dummies made of rushes which were called *Argei*; see Ovid, *Fast.* v. 622.¹ Whenever the *Pons Sublucius*, the oldest of the Roman bridges, needed repair, special expiatory sacrifices had to be offered, and for similar reasons it was unlawful to use iron nails or other metal in any part of the woodwork of the bridge; see Plutar. *Num.* 9.

Use of
metal
forbidden.

Dionysius, iii. 45, speaks of it as τὴν ξύλινην γέφυραν ἣν ἄνευ χαλκοῦ καὶ σιδήρου θέμις ὑπ' αὐτῶν διακρατεῖσθαι τῶν ξύλων; and Pliny (*Hist. Nat.* xxxvi. 100) mentions as a matter of religious import its *contignatio sine ferreis clavis*.

So also it would have been unlawful to rebuild this earliest bridge in stone, the notion being that a slight and as it were temporary structure was less of an offence to Father Tiber than a solid piece of masonry. In historical times the real meaning of the rules and ritual connected with the *Pons Sublucius* had been forgotten, and the prevalent notion was that it was always repaired in wood only on account of the danger from which Rome had been saved by the cutting away of its timbers before the enemy were able to cross.

*Pons
Sublucius.*

The *Pons Sublucius*, which was so called from the *sublucæ* or wooden beams of which it was constructed, was for a long time

¹ Quoted below at p. 363. The meaning of the word *Argei* is very doubtful.

the only bridge across the Tiber. One of the chief reasons for its construction was to connect, with the help of "long walls," the outlying Servian fortress on the Janiculan Hill with the city on the other side of the river; Livy, i. 33. Livy (ii. 10) tells the familiar story of its destruction by the Roman garrison while the heroic Horatius Cocles kept back the Etruscan host under Lars Porsenna, who, after capturing the Janiculan fortress, were advancing upon Rome to reinstate the fallen dynasty of the Tarquins.¹

The construction of the *Pons Sublicius* was traditionally assigned to Ancus Martius; Livy, i. 33. In later times it was restored by several of the emperors, and its piers were rebuilt in stone, though the bridge itself was probably, for religious reasons, always of wood; see Livy, xl. 51; Varro, *Ling. Lat.* v. 15; and Plutarch, *Numa*, 9.

Tacitus, *Hist.* i. 86, records that in 69 A.D. the Sublician bridge was carried away by a flood. Ovid, writing in the time of Augustus, speaks of it as being then a wooden bridge—

*Tunc quoque priscorum virgo simulacra vicorum
Militis robora scirpea ponte solent.*

Fast. v. 622.

The site of the Pons Sublicius is not certain; the existing foundations of a bridge near the site of the *Porta Trigemina* by the *marmoratum* have been supposed to belong to it, but it is much more probable that the *Pons Sublicius* led out of the Forum Boarium not far from the existing circular temple: and that it is one of the two bridges mentioned by Ovid, *Fast.* vi. 477, in connection with the *Circus Maximus* and the *Forum Boarium*—

*Pontibus et magno juncta est celeberrima Circo
Arca, quae posito de bove nomen habet.*

The foundations near the *Marmoratum* are now believed to

¹ H. Cocles and the Sublician bridge are represented on a fine bronze medallion of Antoninus Pius; Froehner, *Méd. de l'Empire Rom.* 1878, p. 60.

be those of a bridge built about 288 A.D. by the Emperor Probus.¹

*Pons
Aemilius.*

The Pons Aemilius. The first stone bridge was not constructed till the time when the conquest of Etruria and the defeat of Hannibal had put an end to fears of invasion. This was called the *Pons Aemilius*, from the *Pontifex Maximus* and Censor M. Aemilius Lepidus, the builder of the *Basilica Aemilia*, who founded the bridge, together with his colleague M. Fulvius Nobilior, in 179 B.C.; Livy, xl. 51. This bridge is represented on *denarii* of the gens Aemilia of the first century B.C.

*First stone
bridge.*

Only the piers of the bridge were built by M. Aemilius Lepidus, and it was not completed till 142 B.C., when the arches were added by the Censors P. Scipio Africanus Nasica and L. Mummius, surnamed Achaicus; Livy, xl. 51, and Juv. vi. 32. It was sometimes called the *Pons lapideus*, as being for some time the only stone bridge in Rome; Plut. Num. 9. The name *Palatinus* is an invention of the mediaeval writers.

The *Fasti Caprunici* describe it as being *ad theatrum Marcellum*, and the *Cosmographia* of Aethicus as *ad Forum Boarium*. The Pons Aemilius is the second of the two bridges mentioned by Ovid in the above-quoted passage; *Fast.* vi. 477.

The modern *Ponte Rotto* is on the site of this bridge, and part of the ancient basalt-paved road leading on to it is still visible near the *House of Crescentius*. This road was on the inside of the Servian wall, and led immediately out of the *Forum Boarium*.

*Existing
remains.*

In 1886, during the construction of the new Tiber embankment, the start of the *Pons Aemilius* was exposed, constructed of large blocks of tufa; *Bull. Com. Arch.* 1886, p. 368.

The existing remains are mainly of mediaeval date, as the bridge was rebuilt or refaced after its partial destruction by a flood in the Pontificate of Honorius III. 1216-27. In 1598 about half the bridge was destroyed by another flood, and the

¹ See Becker, *De Romae muris et portis*, Leipzig, 1842, p. 78; and Mayerhöfer, *Die Brücken in alten Rom*, 1884.

gap was for some years bridged over by a modern iron structure. In 1890 all that remained of this fine bridge, with the exception of one arch, was destroyed, and a hideous iron bridge was erected by the side of it. This single arch, which stands in the middle of the river, will probably soon disappear.

The Insula Tiberina. Livy (ii. 5) gives the fable of the formation of this island from the corn which was cut in the *Ager Tarquiniorum* (*Campus Martius*) and thrown into the Tiber after the expulsion of the Tyrant Tarquinius Superbus.

*Tiber
Island.*

The *Insula Tiberina* seems to have been devoted to sacred purposes. Its principal building was the *Temple* and *Porticus of Aesculapius*, whither the deity was supposed to have come from the Asclepieion, near Epidaurus, in the form of a serpent; Livy, xxix. 11, and xliii. 6.¹ To this temple the Romans resorted for cure in all kinds of diseases. Sick slaves were often deposited in the *porticus* on the island, and left to the care of the god and his priests.

*Temple of
Aesculapius.*

In case of recovery the slave became a sacred attendant at the temple; see Val. Max. *De Men.* i. 8; Plut. *Quæst. Rom.* 94; and Suet. *Claud.* 25.

*Sacred
hospital.*

The whole arrangement and worship carried on at the sacred hospital on the Tiber Island appears to have been very similar to the *Asklepieia* at Epidaurus, in Athens, and other Greek cities. Great numbers of votive offerings were presented by patients who had been cured by Aesculapius and his priests.

*Votive
offerings.*

In 1885, close by the approach to the Pons Fabricius, while digging foundations of the new embankment, remains were found of one of the shops where cheap votive offerings were sold for presentation in the temple.²

These offerings consisted chiefly of models in painted terra

¹ The sacred enclosure of Asclepios near Epidaurus in the north-east of the Peloponnese has, during recent years, been excavated, and large groups of very interesting and handsome buildings have been discovered.

² A large collection of these votive offerings is preserved in the Museo delle Terme.

cotta, wax, or plaster, of various parts of the human body. More costly thank-offerings were made of gold or silver, or carved in marble, as, for example, a very curious representation of a human body, cut open, so as to display the *viscera majora*, which is in the Vatican sculpture gallery.

*Smaller
temples.*

On the same island there were smaller shrines of Faunus and Veiovis. These temples are mentioned by Vitruvius as examples of *Prostyle* buildings; that is, of temples with columns at the end but not at the sides.

*Gigantic
ship.*

The whole island was cut into the form of a colossal ship, the prow, stern, and sides of which were represented by a massive quay wall of *travertine*, cut into the necessary form.

On one side of the ship there existed till recently a relief of an ox's head, and a serpent coiled round a stick as an emblem of Aesculapina.¹

In the centre of the island a tall obelisk represented the mast of the ship; its pedestal was found in 1676 in the Piazza of S. Bartolomeo.

*Recent
destruction.*

All the interesting stonework of this immense ship has recently been destroyed during the wholesale alterations of the Tiber banks, which has done so much to destroy the beauty of this part of Rome. Even the shape of the island has been altered, and little of interest now remains in what used to be one of the most picturesque and interesting places in Rome.

The Church of S. Bartolomeo, built on the site of the Temple of Aesculapinus, contains a number of fine monolithic granite columns taken from the ruined temple.

¹ The serpent was originally associated with Asklepios to mark his special *Chthonian* character. Aid was in early times given to his votaries in the form of advice suggested in dreams, dreams being, in the Greek mind, closely connected with the realms below the earth. In later times Asklepios gradually lost his original *Chthonian* character, and became connected with the celestial Healer Apollo. The serpent was then explained as being a symbol of renewal of health on account of its habit of casting its skin, and thus apparently gaining every year new youth and strength.

The *Pons Fabricius*, which united the island to the left bank of the Tiber, was built by L. Fabricius, one of the *Curatores Viarum*, in 62 B.C.; Dion Cass. xxxviii. 45.¹ This is recorded by an existing inscription, repeated on both sides, deeply cut in large letters, across one of the arches—L · FABRICIVS · C · F · CVR · VIAR · FACIVNDVM · COERAVIT · EIDEMQ · PROBAVIT. The latter part, in smaller letters over the intermediate arch for storm water, is now illegible; it ran as follows—Q · LEPIDVS · M · F · M · LOLLIVS · M · F · COSS · S · C · PROBAVERVNT. The whole is given by Pirro Ligerio in his MS. book of notes in the Bodleian library, *Canonici MSS.* 138.² Q. Aemilius Lepidus and M. Lollius were consuls in 21 B.C., when they repaired the bridge of Fabricius, built about forty years earlier.

*Pons
Fabricius.*

The *Pons Fabricius* consists of two semicircular arches, with an opening for flood water over the central pier; like the other Roman bridges it is built of peperino and tufa, faced on both sides with massive blocks of travertine. Travertine corbels, to support the wooden centering, are built in at the springing of the arches, a frequent Roman custom, used not only in bridges but also in aqueducts and other lofty arches, where it would have been difficult or expensive to support the centering by tall posts resting on the ground; this method was especially convenient for repairs or partial rebuilding; see vol. i. p. 69, fig. 12.

*Existing
bridge.*

Part of the ancient balustrade or screen along the sides of

¹ See a bronze medallion of Anton. Pius; Froehner, *Méd. Rom.* p. 53. The Fabrician bridge is also shown on a *denarius* of about 60 A.C., with the legend L · FABRICIVS, and a snake to indicate the proximity of the Temple of Aesculapius on the island, and the story of the advent of the god from Epidaurus in the form of a serpent.

Aesclepius is also said to have taken up his abode in Sicyon in serpent form; see Pausan. ii. 10 and iii. 23.

² See a paper by the present writer in *Archaeologia*, vol. ii. 1888, pp. 489-508.

Bronze
screen.

the bridge still exists, namely, one of its upright pilasters crowned by a quadruple head or *Janus Quadrifrons*; from this is taken the modern name of the bridge, *Ponte dei quattro capi*. The pilaster is grooved to receive a bronze open screen, which filled up the intermediate space between the pilasters.

In the same way the whole line of the ancient river embankment was fenced by massive upright blocks of travertine (*cippi*) placed at regular intervals; the intermediate spaces being filled in by bronze or marble screens. On these *cippi* were cut the inscriptions mentioned in vol. i. p. 146.

During the Middle Ages the *Pons Fabricius* was commonly known as the *Pons Judaicus*, from its proximity to the Ghetto or Jews' quarter, which is now destroyed.

Pons
Cestius.

The *Pons Cestius*, which unites the island with the opposite or Janiculan side of the river, has only one arch, with an opening for flood water on each side of it. It was probably built by L. Cestius, Praefect of the city in 46 B.C.; see Dion Cass. xxxvii. 45.

On one of the large marble slabs which form the parapet of the bridge, is a long inscription recording its restoration in 370 A.D. by Valentinianus, Valens, and Gratian. There are remains of an earlier inscription over one of the arches. The bridge is now called after the adjacent Church of S. Bartolomeo.

Both these bridges to the Tiber island must have occupied the place of much earlier wooden structures. On account of the two bridges the Tiber island was known as the *Insula inter duos pontes*; see Plutar. *Publ.* 8.

Pons
Agrippae.

The *Pons Agrippae*. In 1887 the foundation of a hitherto unknown three-arched bridge, built of massive blocks of travertine, was found about 130 yards above the Ponte Sisto. Near it a *cippus* was found recording that the *Curatores alicui* had repaired a piece of the embankment wall a *Trigarium ad Pontem Agrippae*. The *Trigarium* was a part of *Regio IX.* of unknown extent; this inscription shows that it bordered the Tiber; it is cut on a great block of travertine which is now

placed in the cloister of the Museo delle Terme. The newly-found bridge appears to have been destroyed during Imperial times, probably in the reign of Severus and Caracalla, when a great part of the river embankment was rebuilt; and the river-bed widened in certain places.

*Pons
Agrippæ*

There can be little doubt that the newly-discovered bridge is the *Pons Agrippæ* of the *cippus*; see *Notiz. d. Scavi*, 1887, pp. 322-327; *Bull. Com. Arch.* 1887, p. 307; *Bull. Com. Arch.* 1888, p. 92, and Tav. iv. and v.

The *Pons Aelius* (modern Ponte di S. Angelo) was built in 135 A.D. by Hadrian, to connect his *mausoleum* with the *Campus Martius*; see Dion Cass. lxi. 23, and Spartian. *Hadri.* 19. It is shown on the reverses of bronze coins of Hadrian dated from his third consulship.¹ As is mentioned above, vol. ii. p. 292, the bridge originally reached not only across the river but right up to the central door of the *mausoleum*. The *Einsiedler* MS. gives the dedicatory inscription over the arches of the bridge which is now lost—IMP · CAESAR · DIVI TRAIANI · PARTHICI · FILIVS · DIVI · NERVAE · NEPOS · TRAIANVS HADRIANVS · AVG · PONT · MAX · TRIB · POT · XVIII (135 A.D.) COS · III · P · P · FEKIT. The name of the bridge was taken either from Hadrian's praenomen *Aelius*, or else from that of his son, who died during his father's lifetime, and was the first person interred in the *mausoleum*.

*Pons
Aelius.*

*Inscription
on the
bridge.*

The five arches of this fine bridge are of peperino faced with travertine; near it, along the left bank, were extensive remains of the ancient embankment wall, built of massive blocks of peperino; this wall is now being rapidly destroyed to make the new river embankment.

*Extensive
remains.*

The *Pons Aelius* is now called after the adjoining Castle of S. Angelo; it is mentioned by Dante in one of his most vivid similes, in which the coming and returning procession of sinners scourged by demons in the eighth circle of hell is

¹ The medallion with this *reversæ* is a forgery, but genuine coins of this type are known.

Dante's simile.

said to resemble the crowd which thronged the bridge in the year of Jubilee 1300, half of the people being on their way to S. Peter's, and the other half, separated by a wooden barrier, passing in the opposite direction towards the Mount,

*Come i Roman, per l'esercito molto,
L'anno del Giubbileo, su per lo ponte
Hanno a passar la gente modo tolto,
Che dall' un lato tutti hanno la fronte
Verso il castello, e vanno a Santo Pietro;
Dall' altra sponda vanno verso il monte.*

Infer. xviii. 28-33.

The Mount mentioned by Dante is probably that on which the Lateran Basilica stands, which, after S. Peter's, was the greatest attraction to the pilgrims who crowded to Rome. Like most, if not all the Roman bridges, the *Pons Aelius* formerly had an arched gateway at both ends. These gateways existed till the mediæval period; they are shown in various drawings published by Mariano, *Castel Sant Angelo*, Rome, 1890.

Pons Aurelius.

The *Pons Aurelius*, mentioned in the *Notitia*, was probably on the site of the modern *Ponte Sisto*. The date of its founding is not known, but Marlianus (*Topogr. Rom.* cap. cxxi.) gives an inscription, now lost, which recorded its restoration in the time of Hadrian. The names *Janicularis* and *Antoninianus*, which are sometimes given to this bridge, appear to be inventions of the mediæval topographers.

Pons Vaticanus.

The *Pons Neronianus* or *Vaticanus* was begun by Caligula and completed by Nero, to give an approach to the *Horti Agrippinae* and the great *circus* which stood by the Basilica of S. Peter. Some foundations of this still exist, a little way below the *Pons Aelius*, and are visible when the river is low.

Pons Triumphalis.

The *Pons Triumphalis* was probably not a separate bridge but a title given to the *Pons Neronianus*.

Pons Probi.

The *Pons Probi* was the last of the Roman bridges. It was built by the Emperor Probus about 280 A.D. Foundations of

its piers exist near the *utrumoridum* at the foot of the Aventine Hill.

The *Pons Molvius* (or *Mulvius*), modern *Ponte Molle*, is about a mile and a half outside the Aurelian Wall of Rome, higher up the river, where the *Via Flaminia* crosses the Tiber. It was built by the Censor M. Aemilius Scaurus in 109 B.C.; see Aur. Victor, *Vir. illus.* xxvii. 8, and Livy, xxvii. 51. It was on this bridge that Cicero arrested the ambassadors of the Gaulish Allobroges during the Catiline conspiracy; see Cic. *In Cat.* iii. 2. And in 312 A.D. it was the scene of the death of Maxentius and the utter defeat of his army by means of the superior strategic talents of Constantine.

*Pons
Mulvius.*

As it still is at the present day, the *Pons Molvius* was, under the Empire, a favourite holiday resort for the lower classes of Rome; see Tac. *Ann.* xiii. 47.

A good account of the Roman bridges is given by Becker, *De Rom. Mur. et por.* p. 78 seq.; Piale, *Antichi ponti*, in the *Atti. d. Pont. Acad.* 1831; and especially by Mayerhöfer, *Die Brücken in allen Rom*, 1884.

CHAPTER XII

THE WALLS OF AURELIANUS.

*Security of
Rome.*

DURING the long period when the Roman power existed almost without a rival, and quite free from any dread of attack at home, no fortifications were needed to defend the city. Even under the Republic Rome had far outgrown the limits of the Servian enclosure, and under the Empire the greater part of the primitive wall had been pulled down and its very site obliterated by the buildings of the rapidly growing city. Thus Dionysius (iv. 13) speaks of the Servian wall as being in his time (first century B.C.) *δυσεύρετον*, *hard to find*, on account of the houses built over it.

*Regiones of
Augustus.*

The fourteen *regiones* of Augustus included not only the thickly populated area of Rome as it was in his time, but also in some directions a wide extent of suburb beyond the houses which, under the later Empire, became the site of still farther extension of the city.

The boundaries of these *regiones* appear to a great extent to have determined the line of the great wall which Aurelianus planned and partly carried out in 270-275 A.D., his circuit being formed, at least on the left bank of the river, to skirt the outer limits of the Augustan *regiones*; see *Plans of Rome*. But on the Transtiberine side the Aurelian wall only included a small part of *Regio XIV.*, or *Transtiberina*.

*Decline of
Roman
power.*

Towards the end of the third century A.D. not only was the Roman power on the decline, but the city of Rome itself was beginning to be in danger from the invasions of the

Germans and other northern races—especially dangerous at a time when the great armies of the Empire were fully occupied with campaigns in distant Oriental countries.¹ It was on this account that Aurelianus constructed the wonderfully strong and extensive line of fortification which resisted all the attempts of the Goths to destroy it, and has in great part lasted down to the present day.

*Scheme of
Aurelian.*

After the speedy death of Aurelianus in 275 A.D., the work was carried on by Probus and completed by him in 280 A.D.; see Zosimus, i. 49. About a century later the walls were restored and strengthened by the addition of a number of gate-towers, replacing in many places the original towers of Aurelian. This was mainly the work of Arcadius and Honorius, 395-425 A.D., as is recorded by existing inscriptions over several of the gates; see Procop. *Bell. Goth.* i. 19. These inscriptions mostly run thus—S · P · Q · R · IMPP · CAESS · D · D · INVICTISSIMIS · PRINCIPIBUS · ARCADIO · ET · HONORIO · VICTORIBVS · AC · TRIUMPHATORIBVS · SEMPER · AVGG · OB · INSTAVRATOS · VRBIS · AETERNAE · MVROS · PORTAS · AC · TVRRES · EGESTIS · IMMENSIS · RVDERIBVS · . . . ; the rest of the inscription records the erection of honorary statues to Arcadius and Honorius to commemorate the work.

*Completion
by Probus.*

*Inscription
on towers.*

One of these inscriptions can most conveniently be examined outside the *Porta Maggiore*. The gate itself was pulled down in 1838, partly with the object of exposing the *Tomb of Euryaces*; and its upper part, with a row of arched windows from the upper story of the tower, is now set up by the side of the road.

The Aurelian walls suffered much injury from the repeated attacks of the Goths (see Procop. *Bell. Goth.* iii. 23, 24), and were frequently restored, especially by Theodoric about 500-512 A.D., and by Belisarius about 560 A.D., as well as by many of the Popes in the eighth and ninth centuries, and in fact throughout the Middle Ages.

*Attacks of
the Goths.*

¹ See Vopiscus, *Aurel.* 21 and 39; Zosimus, i. 37, 49; and Eutrop. ix. 15.

Ninth-century
description.

An interesting and minute account of the wall and its gates is given in the *Einsiedlen MS.*, the unknown writer of which appears to have visited Rome in the ninth century. He gives a description of the complete circuit, counting, from gate to gate, the number of towers, the windows, the *necessaria*, and even the battlements, in the following way—*A Porta Latina usque ad Appiam, turres xii., propugnacula cxxx., necessaria vi., fenestree majores forissecus lxxx., minores lxxv.* He numbers 14 gates in all and 383 towers; the 14 gates still exist, but many of the towers have disappeared.¹

Existing
wall.

With the exception of the part where the wall skirted the Tiber, most of the circuit of the main city still exists, but a great part of the line round the Transtiberine quarter has now disappeared; see Becker, *Handb.* i. p. 192.

By far the most perfect piece of wall is that which is near the hideous modern suburb of "jerry-built" stuccoed houses, which now occupy the site of the once lovely gardens of the Villa Ludovisi,² near the edge of the Pincian Hill. Other well-preserved parts are those near the *Amphitheatrum Castrense*, and between the *Porta Latina* and *Porta Ostiensis*.

Most perfect
part.

In most cases the towers have been cut down from their original height, but two or three still exist near the site of the Ludovisi Gardens, almost perfect, together with the stairs leading to the top of the wall and the upper chambers in the towers.

Figs. 100 to 102 show the most perfect of the towers and the adjacent arcade. With but little variation this form of wall and tower was repeated round the whole circuit of the city.

¹ Other accounts of the wall and its gates are given by Procopius, *Bell. Goth.* i. 19; by William of Malmesbury (eleventh century), and in the *Graphia Aureae Urbis* (thirteenth century), the latter mentions 362 towers as then existing; see Ulrichs, *Cod. Topogr. Rom.* p. 114.

² The Ludovisi Gardens, which were among the loveliest in the world and the most charming spot in all Rome, were destroyed by the speculating builder in 1856-57.

The only omission in these drawings is the parapet with *Battlements.* battlements which crowned the top of the wall. These battlements are missing on the otherwise perfect piece of wall which is here represented.

The whole of the wall and the towers are built of tufa

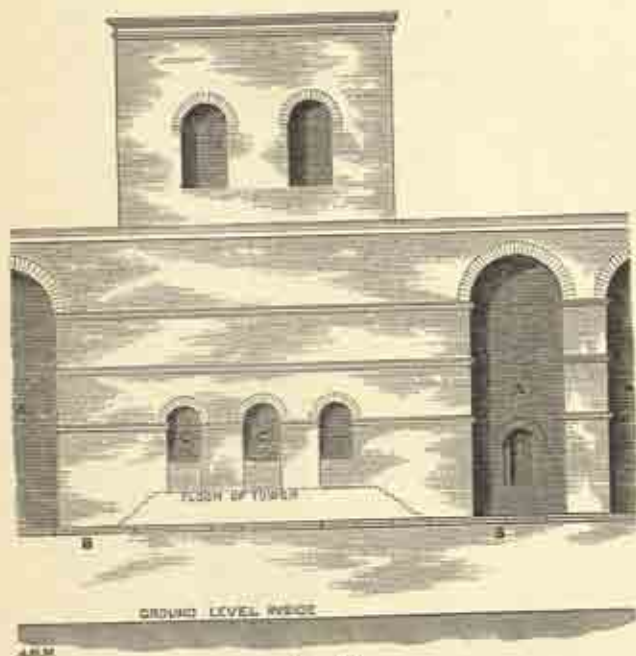


Fig. 100.

Elevation of part of the Wall of Aurelian, showing one of the towers as seen from the inside of Rome.

concrete, mixed with some broken brick, with the usual facing of triangular bricks from $1\frac{1}{4}$ to $1\frac{3}{4}$ inch thick, and joints $1\frac{1}{4}$ to $1\frac{1}{2}$ inch. The curtain wall between the towers is about 12 feet thick, with a vaulted sentinels' passage running all round the circuit of the city, a length of about 12 miles; see A, B on figs. 100 and 101, and the general plans of Rome. *Construction of wall.*

Sentinels' passage.

This passage, which is formed in the thickness of the wall,

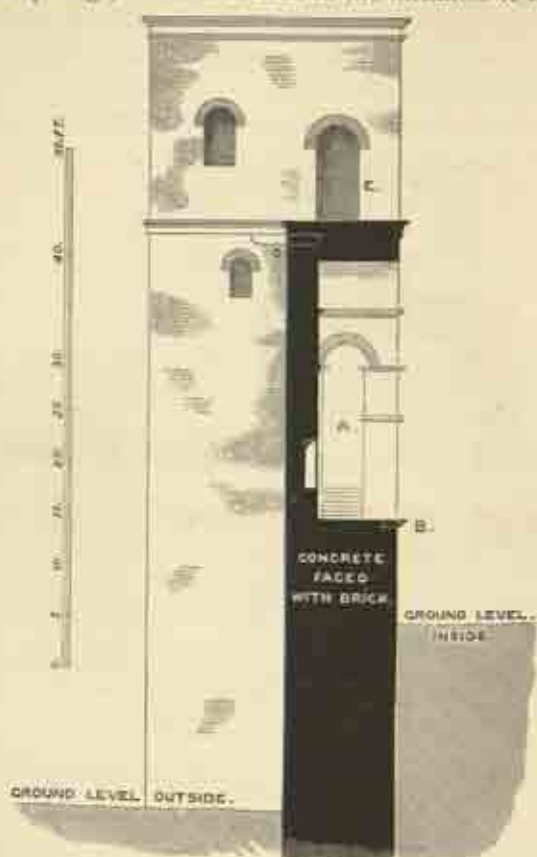


Fig. 101.

Section of the Wall of Aurelian. The references refer both to figs. 100 and 101.

AA. Sentinels' passage.

B. Stone string-course.

CCC. Windows into the lower room in the tower.

D. Travertine corbels to support the necessaria at the top of the wall.

E. Door opening from the tower on to the top of the wall.

is open on the side towards the city with a row of tall semi-

circular arches; there are usually six of these arches between each pair of towers.

The floor of the passage is in most places 8 to 10 feet above the ground inside. On the outside the ground is in many places much lower than on the interior, owing to the wall being built along the edge of a cliff or slope. Thus the wall is in parts about 60 feet high on the outside, and only 40 feet on the inside.

At regular intervals of about 45 feet¹ tall square towers Towers.

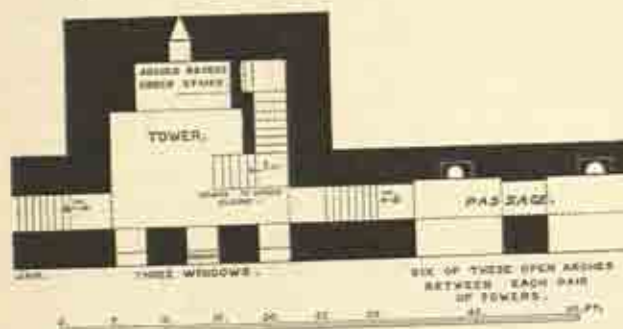


Fig. 102.

Aurelian's Wall: plan showing one of the towers and the passage in the thickness of the wall. This is taken from that part of the wall which skirts the site of the destroyed Ludovisi Gardens.

were built, with their projection on the outside of the wall, so as to give a flank attack on the enemy while working their battering-rams. Arched doorways high up in the towers opened on to the top of the wall, so that its summit formed a continuous walk for the garrison over the vaulted roof of the sentinels' passage below; see E on fig. 101. The top of the wall was once defended on the outside with a battlemented parapet, but this has almost wholly disappeared. Each tower was divided by vaulted floors into three stories, with a

¹ That is, the distance in the clear from tower to tower is about 45 feet.

narrow stair winding round two sides of the tower (see plan on fig. 102) leading to its upper chambers and so on to the top of the wall.

Small slits for shooting through, set in semicircular niches, are formed in the walls of the towers and all along the sentinels' passage.

*Lower part
solid.*

The lower part of the wall, which was most exposed to the battering-rams of assailants, was formed of solid concrete 12 feet thick, unweakened by any cavity; see section on fig. 101. The upper portion of the wall, which is weakened by the sentinels' passage running along it, is sufficiently high above the ground to be out of reach of all battering machines.

In a similar way the lower part of the towers is quite solid, while the upper portion contains the three stories of chambers, each about 11 feet 6 inches by 13 feet, not counting the space occupied by the stairs. The lowest chamber opens with round arches into the sentinels' passage, which is thus not interrupted, but passes behind the towers without a break all along the circuit.

Windows.

On the side towards the city the towers are lighted by arched windows, of which three, each 3 feet 10 inches wide, open into the lowest chamber. In some cases the floor of this chamber is raised a few steps above the passage, while in other parts of the wall both floors are at the same level.

At some places on the outside, in the angle between the tower and the wall, at its highest point, long travertine corbels are built in to support *necessaria*; see fig. 101, D.

*Battle-
ments.*

The battlements appear not to have been corbelled out; they still exist on some of the towers and over the *Porta Latina*, where they are formed of slabs of travertine; they are mostly plain square battlements, exactly like those which were commonly used in mediæval times, but those on the tower above the *Porta San Lorenzo* have triangular or pointed tops.

CIRCUIT OF THE EXISTING WALL AND ITS GATES.

The best way to study the walls of Rome is first to walk round on the outside, starting from the Ostian Gate, and re-entering Rome by the Porta del Popolo. The interior of the wall, with its passage and tower chambers, can best be examined at the Ludovisi site mentioned above, and near the Lateran Gate from the Basilica to the *Amphitheatrum Castrense*.

How to study the wall.

Beginning by the left bank of the Tiber on the south of the city, there is a long well-preserved piece of wall, with all its internal rows of arches, as far as where it abuts against the Pyramid of C. Cestius, close by the Ostian Gate.

The *Porta Ostiensis* is one of the finest and best preserved of all the gates. The central part, with its arched doorway, is of travertine. The outer arch is grooved to receive a portcullis (*catraca*), and from the inner and higher arch two travertine corbels project, which received the upper pivots of the doors; the lower ones being let into holes in a massive travertine threshold.

Ostian gate.

Above this stone archway is a battlemented wall of brick-faced concrete pierced with a row of seven arched windows, opening into a gate chamber with similar windows on the inside. On each side are two brick-faced towers; each is built with semicircular projection on the outside.

The top story of these towers is pierced with arched windows, and over one of them a brick cross, inlaid in the facing, marks that it was built by the Christian Emperor Honorius.

Christian symbol.

Then comes a long piece of well-preserved wall of Aurelian's time, with the internal arches very perfect, but the external facing a good deal patched and restored.

In many places the modern road, which encircles the main part of Rome outside the walls, is cut below the level of the

foundations, and has exposed the soft tufa rock on which the wall is set; ¹ see fig. 89, in vol. ii. p. 235.

Older
building.

Earlier House. At one point between the Ostian and Appian gates, where the wall makes a sharp angle, a very fine bit of an older building is included in the line. This was an archway flanked by two engaged Corinthian columns with enriched architrave and capitals, all neatly moulded in terra cotta; the brick facing, which is of extraordinary beauty and neatness, appears to date from the first century A.D.

Little now remains of the Corinthian columns, but their outline and parts of the capitals can be traced.

When this archway, probably part of some suburban villa, was included in the wall, it was blocked up, and it was certainly not the gateway of an older line of defence, as was stated by Mr. Packer, who calls it the *Porta Metronia*, the real site of which was probably where a long piece of wall was rebuilt in the sixteenth century by Ant. Sangallo, at a point a little farther on.

Projection
to the line
of wall.

It will be observed from the *Plan of Rome* that the wall of Aurelian projects outward, forming a sort of "promontory," with the *Porta Appia* and the *Porta Latina* in its most projecting part. This great loop appears to have been formed beyond the general line of the circuit of Rome so as to include the *Thermae of Caracalla* and the populous quarter which had grown up near it.

Many marble tablets let into the external face of the wall near here, record repairs by Alexander VI., Innocent X., and other Popes.

Appian
gate.

The *Porta Appia* is the finest of all the existing gates; it appears to be of the time of Honorius.

The central archway and the lower part of the two flanking towers are of large blocks of fine white marble, backed with concrete. These blocks have evidently been taken from

¹ Much injury is being done to the walls at many places by this careless undermining of the foundations.

some earlier building; possibly the *Temple of Mars*, which stood outside the *Porta Capena*. The keystone of the inner arch is incised with a cross within a circle, and the words *XAPIC·ATIE·KONON·ATIE·ΓΕΡΡΙΤΙ*, "*Mercy, Saint Konon, Saint George!*"

On one of the marble jambs is an incised figure of St. Michael and the devil, with a fourteenth-century inscription recording a conflict which took place at this gate. As in the *Porta Ostiensis*, the wall over the marble gate is of brick-faced concrete, and has five windows.

Medieval figures.

The third and uppermost story of the towers has a semicircular projection pierced with windows. The second story, which is also faced with brick, except part of one tower which is of tufa, is square like the lower marble stage. This gate also had a portcullis.

Next comes a piece of Aurelian's wall, with many external repairs of various dates, and some slabs with the arms of Pius IV. (Medici) and Urban VIII. (Barberini).

The *Porta Latina*, now blocked up, is built of travertine, between two semicircular brick-faced towers. It also is of the time of Arcadius and Honorius, as was recorded in an inscription under its row of five windows; see Nibby's edition of Nardini, *Roma Antica*, i. p. 68, where a similar inscription from the *Porta Portuensis* is quoted.

Latin gate.

The semicircular arched window-heads, like those in some of the other gates, are cut out of one slab of travertine. The keystone of the inner arch has an incised cross within a circle, and had corbels with pivot-holes on which the door swung. The outer keystone has the Christian monogram $\text{X}\text{P}\text{I}\text{S}$ between A and Ω .

The next piece of wall is much restored, but some of Aurelian's towers are well preserved, except that they have lost the story which rose above the top of the wall.

Between the *Porta Latina* and the Lateran Basilica an open

stream, the *Crabra*, passed under the wall in its course towards the *Circus Maximus*, round which it flowed, forming a *cunipis* or open channel enclosing the central space. Over this stream there is an archway in the wall, now blocked up; this was merely a postern gate.

*Lateran
House.*

Domus Laterana. A little farther on, the wall abuts against extensive remains of the ancient Lateran villa (*Domus Laterana*), one angle of which projects some distance beyond the Aurelian line of circuit. The original house on this site was built by Plantius Lateranus, a senator who was put to death by Nero; see *Juv.* x. 15. It afterwards came into the possession of a later Lateranus, a member of a different family, to whom it was presented by Severus in 197 A.D. This house was finally given by Constantine to the Bishop of Rome (Sylvester) as a site for the new church, which was hence called the *Lateran Basilica*.

*Existing
remains.*

The existing building, which is of great height and solidity, appears to date from the early part of the third century A.D. Some of its rooms extended much farther beyond the line of Aurelian's wall, but were destroyed, leaving only that part which could be worked in with the new circuit wall round the city. The start of some of the cross walls of this destroyed part can still be traced; they were 15 feet thick, made of massive concrete faced with brick.

In the upper part of the existing wall of this great house there are rows of arched windows, and above them a number of travertine corbels which once carried projecting battlements. Another part of the wall has a series of buttress-like pilasters, and the whole building was one of unusual strength and adaptability for defence, on account of which it was in part preserved as a link in Aurelian's wall. That part of the house which was not included in the Aurelian circuit was probably destroyed in the reign of Constantine, when the Lateran Basilica was built. Remains of the walls and mosaic pavements of this large house were exposed in 1880, while

excavations were being made for the foundations of the new apse of the Basilica.

The *Porta Asinaria* (now closed) is a few paces beyond the remains of the *Domus Laterana*; the origin of its name is unknown. It is a fine and well-preserved gate, wholly faced with brick, and, like the former gates, is probably of the time of Honorius. On each side is a massive tower, with semi-circular projection of unusual size.

*Porta
Asinaria.*

On the inside this gateway is exceptionally well preserved, although buried in accumulated earth to above the top of the entrance. It had large vaulted rooms in the towers behind the circular projection, as well as the usual long narrow chamber over the gate, two stories high, lighted by rows of arched windows.

Though so much buried in rubbish on the inside, the outside of this stately gateway is exposed to its full height.

A few yards farther on is the sixteenth-century *Porta San Giovanni*, which is now used instead of the blocked-up *Porta Asinaria*.

*Modern
gate.*

Next comes a long piece of very well preserved Aurelian wall, with its sentinels' passage and rows of inner arches in a very complete state of preservation.

The Amphitheatrum Castrense. Near the Basilica of S. Croce in Gerusalemme the wall includes in its circuit the *Amphitheatrum Castrense*, the arches of which were built up at the time when Aurelian included it in his wall; see vol. ii. p. 110.

*Amphi-
theatrum
Castrense.*

Here again the wall makes a sharply projecting angle, evidently in order to include some important buildings, of which the supposed *Sessorium* is one.

Passing on from the *Amphitheatrum Castrense*, after a long piece of wall which has been mostly rebuilt in mediæval and modern times, a place is reached where the Aurelian wall is built along the line of the great Claudian Aqueduct, as far as the double archway built by Claudius to carry the water-channels of the *Anto Novus* and *Claudius* over the fork of the

roads leading to Praeneste and Labicum, the modern Porta Maggiore; see vol. ii. p. 345.

*Double
gateway.*

Porta Praenestina and Labicana. By this aqueduct gate is set the inscription in honour of Arcadius and Honorius, which used to stand over the entrance; the gate of Honorius, destroyed in 1838, was built of travertine, and resembled the *Porta Latina*.

Its upper row of five arched windows, with the letters S · P · Q · R between them, is set by the road-side. The inscription is cut under the sills of the windows.

*Claudian
Aqueduct.*

Many of the tufa piers of the Claudian Aqueduct are embedded in Aurelian's wall near this gate. Some of the great blocks of the aqueduct are incised with masons' marks, especially a monogram made of the letters A · L, which is repeated several times.

The next length of wall is much restored on its outer face, and is cut through by the modern railway arch. A good deal of restoration is done with blocks of tufa taken from older buildings, probably the work of Belisarius in the sixth century.

*Unknown
gate.*

At some distance from the Porta Maggiore a flat-arched gate has been at some time inserted in the Aurelian wall. It is built with travertine quoins, and long lintel stones meeting in the middle with a small keystone. The name and date of this gate are unknown; it has for long been blocked up, and was probably not one of the main entrances of the city.

Reservoir.

Castellum Aquarum. Next comes an older building which has been included in the Aurelian line of wall. This is a large reservoir or *Castellum* of the *Aqua Tepula* of the time of Severus Alexander, about 230 A.D.

At the south angle the opening for the *specus* of the aqueduct which supplied it can be seen: it has a triangular top, formed by two large tiles leaning together, as shown in vol. ii. p. 323. It is now blocked up.

The upper part of this great *Castellum* has several door-openings, which appear to have opened on to wooden galleries

running along the outside of the wall. The lower of these floors was partly supported by a long row of travertine corbels; the upper floor had wooden joists projecting from the wall, the holes for which are visible immediately below the doorway at the higher level. Reservoir.

After that the Aurelian walls skirted the triple aqueduct of the *Aqua Julia*, *Tepula*, and *Marcia*; many of the tufa piers of this fine structure were destroyed in 1884, see vol. ii. p. 254.

The *Porta Tiburtina* (modern P. S. Lorenzo) is flanked Tibur gate. on the outside by two of the original square towers of Aurelian. The central part, which is of travertine, with six round-headed windows over the entrance, resembles the *Porta Latina*; this part is of the time of Arcadius and Honorius, as is recorded by an inscription below the windows, like that given in vol. ii. p. 373. Honorius also added two towers, partly built of massive blocks of travertine, on the inside of the gate. These towers were destroyed in 1869 by Pius IX. in order to use the materials for a monument on the Janiculan Hill to commemorate the Ecumenical Council, the erection of which was prevented by the entrance of the Italian army in the following year.

Close against the inside of the existing gateway is the fine travertine arch shown in vol. ii. p. 349, which was built by Augustus to carry the three *specus* of the *Aqua Julia*, *Tepula*, and *Marcia*. Aqueduct arch. The base of this arch is at a much lower level than the adjoining one, owing to accumulations of earth and rubbish during the four centuries which had elapsed between the time of Augustus and that of Honorius.

By the side of this interesting old gateway a new gateway has been broken through the walls of Rome in order that there might be an opening at the end of one of the new boulevards for the tram-cars to pass through.

Then follows a long piece of wall much patched and restored, from the time of Belisarius downwards, reaching

as far as the *Prætorian Camp*, which is described in vol. ii. p. 233.

Closed gate.

Porta Clausa. In the angle where the Aurelian wall joins the camp, there is a gateway known as the *Porta Clausa* or *closed gate*. It appears to have been blocked up as early as the ninth century, as it is not mentioned in the list given in the *Einsiedlen MS.* This gate is built of massive blocks of travertine, with six round-headed windows over the entrance archway, like the *Porta Latina*, and is evidently the work of Honorius. Its ancient name is unknown.

Porta Nomentana.

The *Porta Nomentana*, now blocked up, comes a little way beyond the *Prætorian Camp*. It was flanked with two semicircular projecting towers, one of which remains, and appears to be of the time of Aurelian. Close by is the modern *Porta Pia*, so called after Pius IV. Two of Aurelian's towers were destroyed to make room for it. By the side of the *Porta Pia* is the modern filling up of the breach made by the Italian army when they entered Rome on the 20th of September 1870.

Porta Salaria.

The *Porta Salaria*, which is a little beyond the *Porta Pia*, was flanked with two semicircular towers like those of the *Porta Nomentana*, but these have been recently destroyed, and a new gateway built, the modern *Porta Salaria*.

The tombs which were found here embedded in the towers are described in vol. ii. p. 277. According to Varro, *Re Rur.* i. 14, 3, the name *Salaria* is derived from the salt which was exported from Rome through this gate to Tibur and the Sabine Mountains.

Beyond the *Porta Salaria* first comes a much-restored length of wall, and then the best preserved piece of all, that which skirts the site of the Ludovisi Gardens, with its inner arcade quite complete, and some of the towers nearly so, up to their full height. At one point a piece of the moulded brick cornice, which ran along the top of the wall below the battlements, still remains.

The *Porta Pinciana*, now closed, comes next. This pic-

turesque gate is set in an angle of the wall, so that the semi-circular towers, which project on each side of it, are set askew in plan. These are partly faced with brick, and partly with mixed brick and tufa.

Pincian gate.

The entrance archway is of massive travertine. The keystone of the arch has a cross within a circle incised upon it, like those on the *Porta Appia* and *Latina*. Unlike the other gates of Honorius, this has no row of windows over the entrance, but only small slit-holes. Then follows a long piece of much-restored wall.

Muro torto. At the most northern point of the circuit, the Aurelian wall runs into the massive remains of a very lofty building faced with beautifully neat *opus reticulatum*, dating probably from about the middle of the first century B.C. The walls are of tufa concrete, of immense height and thickness, and on the outside were decorated with a series of semi-circular niches, high above the ground. Owing to the failure of the foundation, part of this wall has sunk and fallen forward, probably soon after it was built. It is mentioned by Procopius as the "broken wall," *περίβολον διεφθαρτότα*; see *Bell. Goth.* i. 24; hence it is now called the *muro torto*. These remains evidently belonged to the substructures of some important building on the *Collis Hortorum* (Pincian Hill), but nothing more can be asserted about them.¹

Fine construction.

The greater part of this noble wall, with its carefully fitted *opus reticulatum* and rows of niches, has recently been concealed by a modern stuccoed wall along the eastern edge of the Pincian Gardens—an utterly needless piece of barbarism.

The part which still remains visible is well worth careful examination. A considerable part of this enormous structure is set against a scarped side of the Pincian Hill, thus acting as a "retaining-wall," as well as a substructure to the lofty building above it. The face of this retaining-wall is studded

¹ These remains have been said to belong to the *Tomb of the Domitii*, but without sufficient reason.

Weep-holes. with pipes as "weep-holes," to carry off safely any water which might otherwise lodge behind the wall, and so endanger its stability. Many a modern retaining-wall has given way owing to the omission of this precaution. These drain-pipes are made of clay, in two halves, and are square in section, set lozenge-wise so as to range with two squares of the very neat reticulated facing. They are set at intervals of about 2 feet 6 inches.

After passing round the angle of the *muro torto*, but little remains of the Aurelian wall for some distance.

One piece of wall appears to have been wholly rebuilt at the founding of the Church of S. Maria del Popolo, which stands close to the line of the old wall.

Flaminian gate. The *Porta Flaminia*, now the *Porta del Popolo*, was flanked by two towers of Aurelian, which have been recently destroyed. That this is the exact site of the *Porta Flaminia* is mentioned in vol. ii. p. 361. Thence to the Tiber the wall is much injured and the towers mostly destroyed.

After reaching the bank the wall skirted the river for some distance, following the curve of the Tiber all along the *Campus Martius*. Of this part nothing remains but the foundations, parts of which are sometimes visible when the water is low. At a point nearly opposite the Theatre of Pompey, the wall passed to the other side of the Tiber, forming a great loop, including the Janiculan Hill, and the plain between it and the Tiber.

Porta Septimiana. The *Porta Septimiana* is near the river-bank; only part of the side walls exist, and they are in a much-mutilated state. The present arch was built about 1500 A.D., and has a row of small machicolations over it.

The original archway was probably the entrance to the *Thermae of Sept. Severus*, which was included by Aurelian in the circuit of his wall; and hence came the name of this gate. The *Porta Septimiana* is not included in the sixth-century list of Procopius or in the ninth-century *Einseidlen MS.*, possibly

because, at that early time, it still led into the enclosure of Severus' Baths, and was not one of the exits from the city.

From this gate the wall runs up a slope of the Janiculan Hill to the modern *Porta S. Pancrazio*, which is on the site of the ancient *Porta Aurelia*. Little remains of this piece of wall, and what does exist is much hidden by houses.

From the *Porta Aurelia* issued the *Via Aurelia vetus*. Hence the wall makes a sharp angle and again descends to the river. Very little of this part now exists. *Porta Aurelia.*

Near the bank of the Tiber is the site of the Aurelian *Porta Portuensis*, which was destroyed by Urban VIII. A drawing of this lost gate is given in Nardini, *Roma Ant.* 1818, vol. i. p. 68. The modern wall and the *Porta Portese* are not in the place of Aurelian's wall and gate, but some distance from them on the inside.

The wall then recrossed the Tiber, and recommenced on the other side near the great *Emporium*, an immense building with wharfs along the river, used to store goods which were brought to Rome by water. Thence it again skirted the left bank till it reached the south-west angle of the city, the point at which this short account of the Aurelian circuit started. But little exists of this piece except the lower parts and foundations of the walls and towers. *Emporium and Horrea.*

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