



## Imperial Rome and Ostia

### *The Pantheon Temple*

#### **Colin Chant**

In another area of Rome, the Campus Martius or Field of Mars, had been developed in the early imperial period by Agrippa, the right-hand man of the first emperor, Augustus. At its heart is one of Rome's most famous imperial temples, the Pantheon. The temple we know is the one rebuilt by the Emperor Hadrian in brick and concrete, originally covered with stucco and marble. The main body of the temple was most unusual in being round, and also in being dedicated to all the gods – which is what Pantheon means. Statues of these gods were placed in niches around the interior wall and the whole temple was lavishly decorated both inside and out.

#### **Mark Wilson Jones**

We have to remember that temples were not used as we use churches today, they were not for group worship. The prime act of worship took place outside the sacrifice on the altar in front of the building or in front of religious buildings in general, and so that the interior's the home for the god or the gods in this case. To talk of use is actually perhaps a rather misleading idea, it's really just a big building celebrating through its space and through its marbles, through its decoration, this idea of this connection between the imperial family and the gods. We must remember that the Pantheon we see is really the third Pantheon on the same site. The first Pantheon was built by Agrippa, hence the inscription on the front of the building, it survived until around eighty AD when it burnt down. Then the Emperor Domitian rebuilt the Pantheon, but that too burnt down some time later in the beginning of the second century AD, and then finally the building we see was restored by Hadrian. Looking up at the dome we see this magnificent simplified prismatic construction of coffers going round the entire three sixty degrees, but we don't see anything else there's no decoration. Of course this would have been elaborated with stucco gilding paint and no doubt flowers or rosettes within the centre of each of these coffers.

The step dome is now covered with lead, but originally they would have been gilded bronze tiles, but these were stripped off for their great value early on in the Christian phase. The rotunda is really a great ring of concrete. The brick facing is but the lining within which the concrete was poured. Now I say poured here within inverted commas because really the Romans did not pour concrete as such, but layered it rather like we lay bricks but in a much more quick fashion, so they would go in horizontal courses. So you have a great big casing of brick taking up all of the profile of the shape with its curves and setbacks and projections and so on, and then the concrete was placed inside and they both come up together, the bricks slightly leading the concrete and so on as you go up through the elevation, and inside the materials changed very slightly to take account of the structural factors at play. So at the bottom of the structure the aggregate in the middle of the concrete mix is basalt, and this grades up through a travertine or other types of stone and brick and so on all the way up to pumice at the top of the dome, and this is one of the essential secrets of its success because you have a very light structure at the top, and a very heavy one at the bottom.

At the very top of the cupola of course, there is just air, because there is the oculus just a hole open to the sky, and this is again an important structural point, because at the point where the dome would be weakest at the middle of its great span prone to falling in, there is nothing to fall in at all. ... The oculus is only one of the structural voids within the building, because within the ring of the rotunda as a whole there are tiers of different structural voids going round within the thickness of the wall because the wall is twenty feet thick, so that leaves us quite a lot of room for relatively small chambers.

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Given the great thickness of the walls, these chambers allowed the concrete to cure more quickly and to gain strength more rapidly. These cavities also helped to direct the loads to the right places along with the series of relieving arches built into the wall and now visible in the brick where the marble facing has been removed. On the outside, this is seen more dramatically.

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The construction of the dome in concrete is still something of a mystery. Huge timber scaffolding would have been necessary to support the intricate wooden form work that moulded the coffering as the concrete was laid. The precise changing perspective of each diminishing ring of coffering gives a rhythm to what might otherwise be a plain heavy surface. Coffering was not a Roman invention, the Greeks had used coffering before them, but they did not use coffering in the same way that is to say built out of concrete and covering these great expanses of curved surfaces, it stands for the Roman approach to architecture as a whole, because they took the vocabulary of Greek architecture, but they exploited it in new more powerful ways. If we observe that the structure of the Pantheon is their greatest achievement or at least the greatest one of which we know with any certainty, that is not to say it was without its problems. In fact the Pantheon has enormous structural cracks running from halfway up the rotunda all the way down to the ground, which we still be seen at various points, and these appeared quite early on in the construction because at some points they're filled with bricks that were contemporary. So, in other words the structure was already beginning to flex right at the very beginning .. ..

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The Pantheon was an extraordinary mixture of a very innovative concrete dome and rotunda - and traditional temple-building, as in the impressive portico, which consists of a Greek-style pediment supported by granite columns of the Corinthian order. In some sense the portico functions as a preparation for the interior but it should not be ignored as a technical feat in its own right. The structure was on a tremendous scale.

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It brings monolithic column shafts, weighing fifty tons or so all the way from Egypt in the remote eastern desert, and these shafts were brought up the Nile first of all, then across sea on special column boats, and finally of course up the Tiber to the this particular site - and they in a sense still remain an object of awe in themselves. Then there are several monumental pieces of stone in other parts of the portico. The main cornice block over the doorway is the biggest piece of Pentelic marble known, so this is sort of biggest and best in several different ways. The threshold itself is one of the biggest blocks known if not the biggest block of marble called Africano, one of which the Romans were passionately fond . The importance of the marbles is perhaps even more clear on the interior because there you have a collection of not only the most expensive and the prettiest marbles, but ones that come from all over the Roman world.

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The rich pattern of discs and squares of the paved floor displays nearly all the top range imperial marbles and granites. Here a yellow square of giallo antico from Numidia in North Africa encloses an Egyptian porphyry disc. The floor was therefore an eloquent statement of imperial power. In the late nineteenth century the floor was relaid to its original design. But the rest of the interior has been considerably altered. One section however has been restored to look like the Hadrianic original. Though the interior continues to inspire awe, there were aspects of the exterior which didn't seem quite right.

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The portico is in fact one of the most extraordinary puzzles of the whole of architectural history. First of all there is this rather curious if not to say incompetent junction between the portico and the rotunda itself, where the entablature, that is to say the stonework, meets the rotunda in a in a rather random way, it just butts up against it. There is a discontinuity between the brickwork of the rotunda and the portico and generally the pediment would seem to be extraordinarily heavy for columns of this size. .. .

We might speculate that really Hadrian and his architects intended quite a different solution. Can we not imagine that they really wanted to have taller columns, and this would have the effect that the entablature going round the building would have harmoniously met the appropriate cornice going round the rotunda. In other words, what I'm saying is that the present building might be a sort of compromise. So Hadrian and his architects wanted taller columns a taller portico, and they ended up having to choose second best, perhaps because the columns never arrived from Egypt - because we should remember there are only two other buildings in the whole Roman world which would have had that particular size of monolithic columns, ones which would have weighed one hundred tons. So for whatever reason - columns sinking at sea or problems at the quarries, disputes of some kind - we can imagine these columns never arriving and Hadrian at some point taking the uncomfortable decision to get his building open on time.