

CHAPTER
6

Section 5

SCIENCE & TECHNOLOGY *Roman Construction Technology*

The Colosseum was not the only example of Roman architectural genius. The Romans fashioned other buildings that were both monumental in size and contained new advances in structural engineering.

Around A.D. 126, Emperor Hadrian sought to honor the Roman gods by building a great temple in their honor. He constructed the Pantheon, which comes from the Greek word *pantheon*, meaning place for all gods. It was actually built from a much smaller temple that had been erected in 27 B.C. by Marcus Agrippa, the nephew of Emperor Augustus. The Pantheon is a marvel of Roman engineering, and many of the techniques pioneered in its construction are still used today.

The front of the building includes three rows of massive Corinthian columns. Each column weighs 60 tons and is 41 feet high and five feet across. On top of these supports sits a huge triangular roof.

The masterpiece of the building is one of the largest domes made of stone and concrete ever built. It covers a circular chamber, or rotunda, that is proportioned like a perfect sphere. The chamber is 142 feet across, and the top of the ceiling is 142 feet high. The dome is massive. It weighs over 5,000 tons and has walls 20 feet wide at the base that taper to five feet at the top.

The dome was constructed by pouring increasingly smaller rings of concrete, one on top of another, into a series of wooden molds. In the Middle Ages, a popular story was told about how Hadrian schemed to have this temple completed as fast as possible. The story said that the Pantheon was built around a big mound of dirt, which gave the temple support during construction. Hadrian supposedly mixed gold coins in with that soil in order to speed the workers through the final stage of building. In an attempt to find the money, the workers would quickly remove the earth from inside the temple.

Hadrian left a 29-foot wide round opening at the top. This opening, called an oculus, let sunlight

stream into the chamber and illuminate the 140 shiny bronze panels set into the ceiling. One historian stated, “[The] opening. . . doubtlessly symbolized the all-seeing eye of heaven. The building is an exemplary statement of Hadrian’s world, ideated and symbolized—earth, sky, cosmos, empire—with all the Greco-Roman gods looking benevolently on Rome.”

Questions

Determining Main Ideas

1. What was Hadrian’s purpose for building the Pantheon?
2. What is the great architectural achievement of the Pantheon?
3. **Making Inferences** What aspect of the Pantheon might give you the feeling that it was a temple to honor the Roman gods?

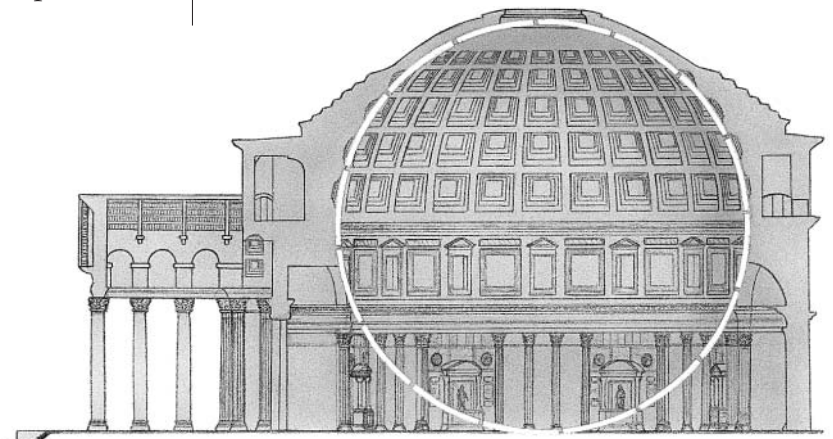


Illustration by Patrick Whelan.

Shown above is the Pantheon. The opening in the roof is the oculus, which floods the room with light. The chamber was proportioned like a perfect circle.