

Ancient Rome: the Master Builders

Ancient Roman Architecture

By 150 BC, ancient Greek Culture was in decline and the Romans had captured Greece—remained strong until 450 AD.

Roman architecture was markedly influenced by its Greek and Etruscan predecessors.

The Romans replaced Greek stonework with bricks and concrete.

The Forum 78BCE – 608 AD

City Center of an Empire

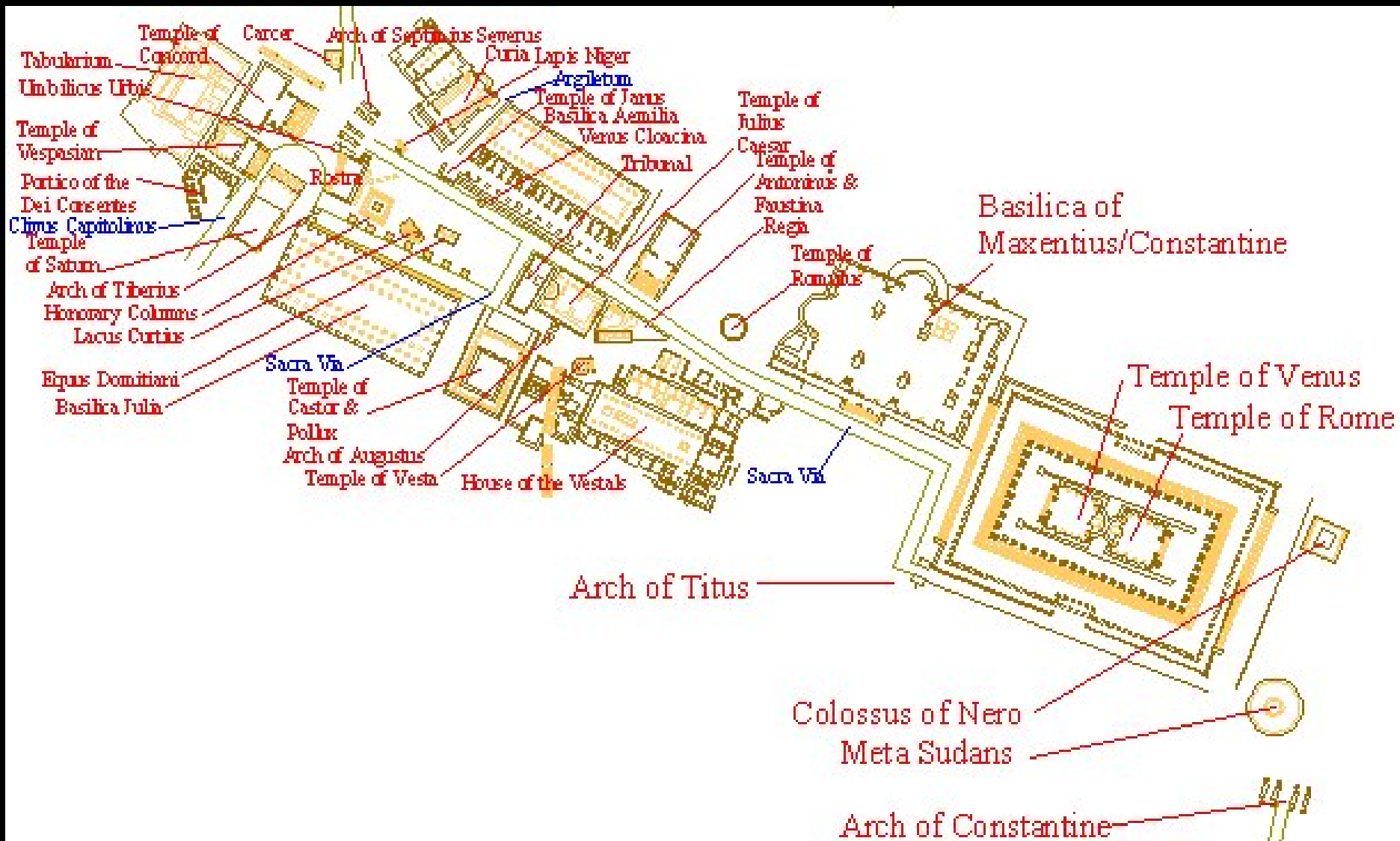
Collection of Temples, public buildings and statues

Different shapes, styles and arranged without order

West side = Politics East side = Religious Sides = shops



The Forum 78BCE – 608 AD



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Basilica of Maxentius 4th century AD

Very large, vast interior – 280' x 88' x 120' high

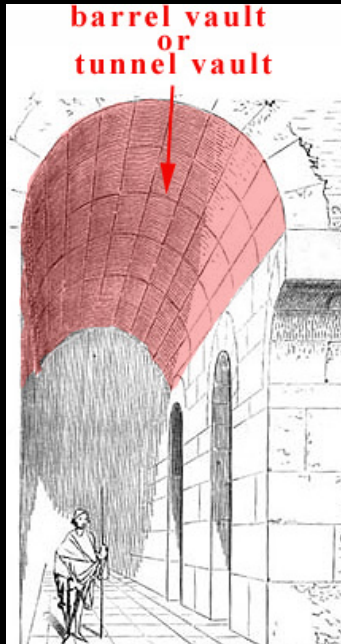
Destined for commercial and administrative activities

Covered with vaults, not the typical flat roof as most basilicas

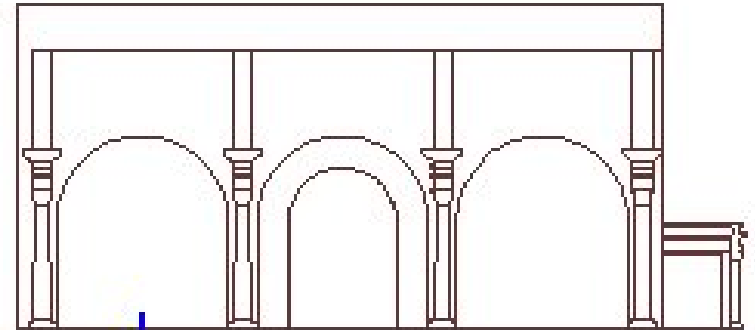
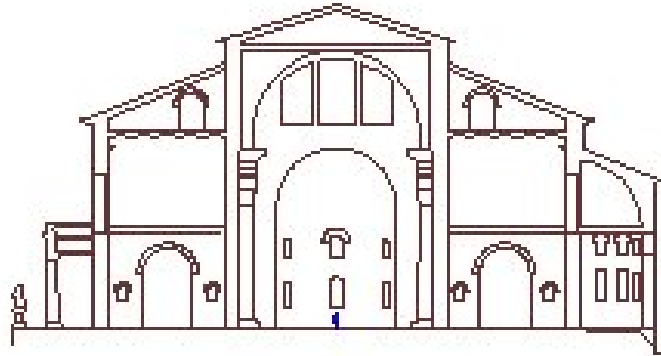


Basilica of Maxentius 4th century AD

Covered by 3 groin vaults (two intersecting vaults with ribbed intersection)



Basilica of Maxentius 4th century AD



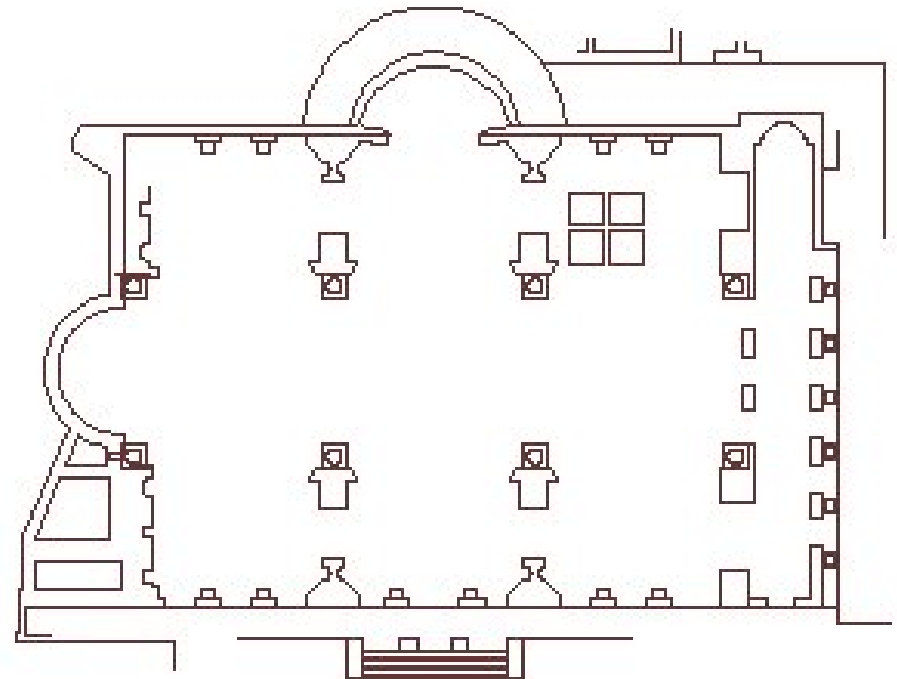
300 Roman Feet



100 Yards



100 Meters



Triumphal Arch of Septimius Severus 203 AD

It is build out of brick and travertine, clad with marble slabs

Built to celebrate the victories of emperor Septimius Serverus and his sons



Trajans Market 2nd Century AD

Located on the hills behind the Forum

Streets of Shops

Includes a covered market



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Colosseum: 70AD

Largest Roman Amphitheater (could seat 50,000)

6 tiers of seats supported by a structural brick and concrete façade of 80 arches on four levels – 600' end to end



Colosseum 70AD

Begun by Vespasian on Nero's Lake of his Golden House

2 complete passageways encircling it with ramps from seating areas – allowed for handling of large audiences

Used as late as 523 AD



Temples:

Often for 3 gods – individual chambers (Cellas)

Divine accommodations were pushed back on high podium

Viewed from only one viewpoint – the front

Ideal position was at the end of the open space / axis

Flat, frontal view

1st Century Augustus and Tiberius rebuilt most of the temples in Rome – Retained base, but changed the exterior to meet current Hellenistic and Roman style

Pantheon: 25 BCE -213 AD

One of the last great Pagan Temples

Portico: Corinthian granite columns by Agrippa (25 BCE)

120-124AD Hadrian built the rotunda, with an oculus at the highest point, an opening through which the sun shines



Pantheon: 25 BCE -213 AD

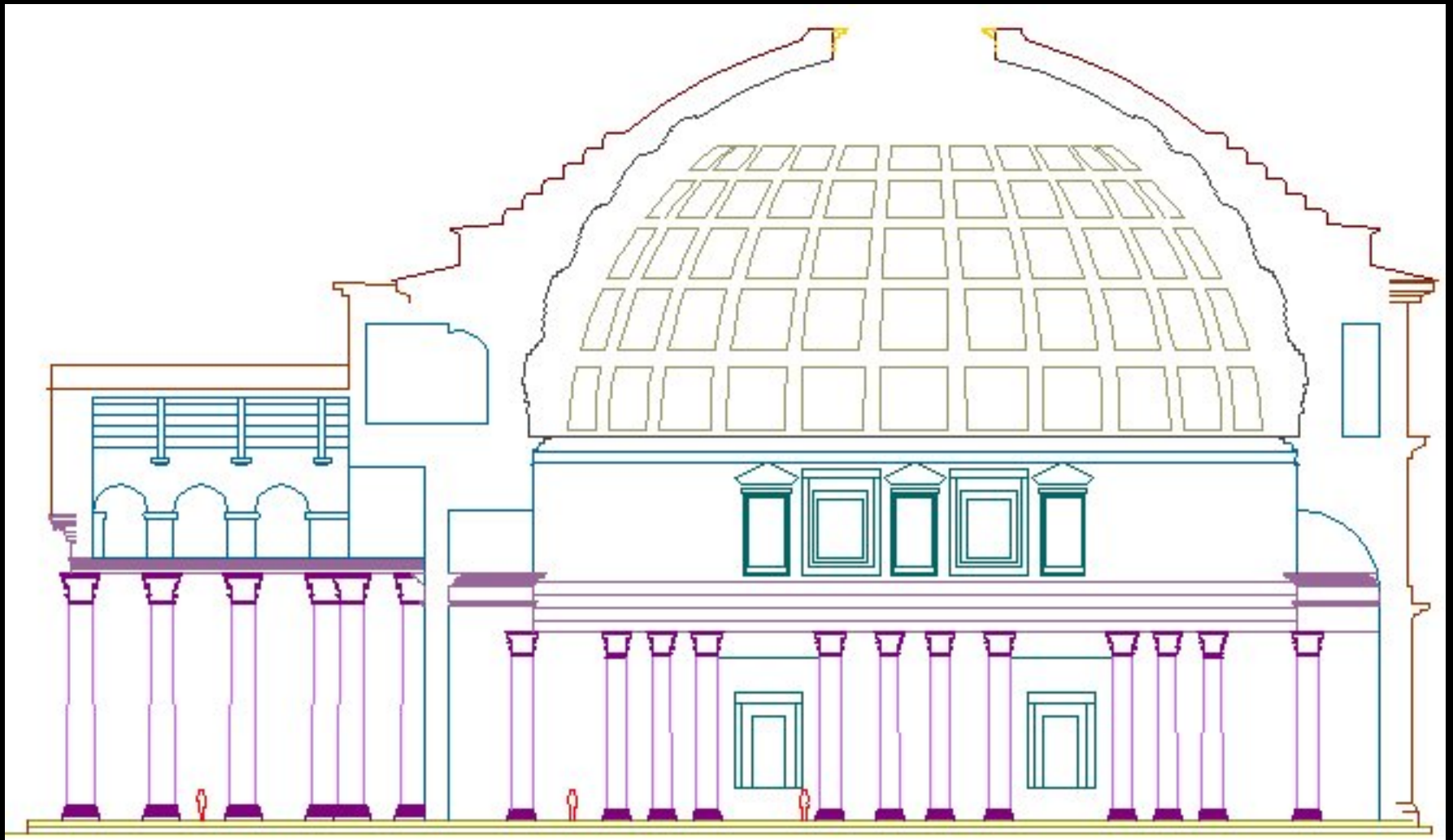
142' spherical rotunda with a 30' oculus, height of dome equals diameter of the floor plan (in theory could hold a sphere).

Coffered ceiling: once embellished with stucco, was introduced to reduce weight.



Pantheon: 25 BCE -213 AD

21' walls built of concrete sandwiched between layers of brick, sheathed in marble veneer

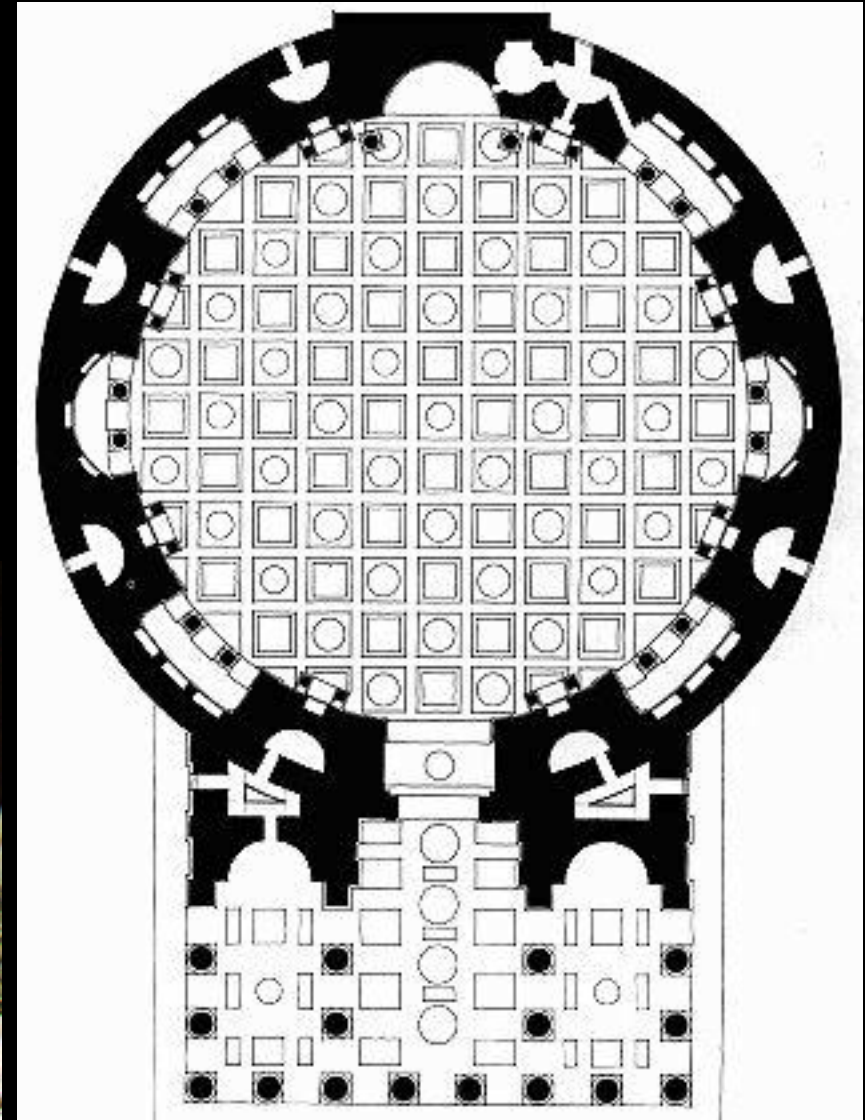


Pantheon: 25 BCE -213 AD

Built with 8 great recesses – 7 for major gods and 1 for the entrance



Pantheon: 25 BCE -213 AD: Its monumental size is unparalleled by any other masonry structure up to now



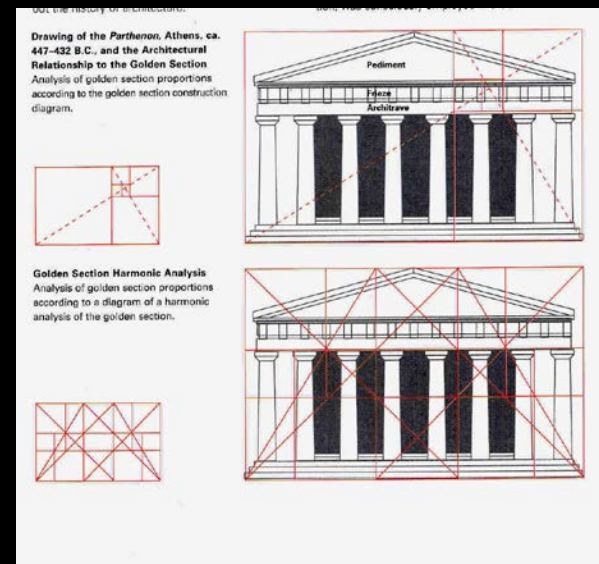
Pantheon: 25 BCE - 213 AD

Impressive and fascinating
Monumental
Focus on interior



Parthenon: 470-437 BC

Beautiful and elegant
Not monumental
Oriented to the exterior



Roman Engineering Advances:

Invented concrete (2nd century BC), which allowed huge spanning of volumes of interior space (Pantheon) and arched construction (Colosseum)

Indoor plumbing, hot water, heat, public lavatories, and sewers creating a highly developed urban infrastructure

Expanded use of arches and vaults: developed groin vaults and rotundas

Invented paved roads

Roman Architectural Innovations:

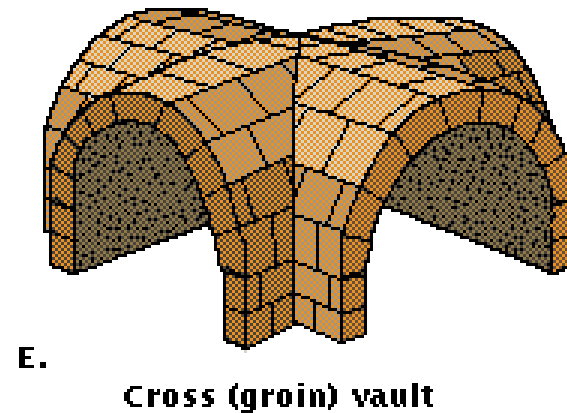
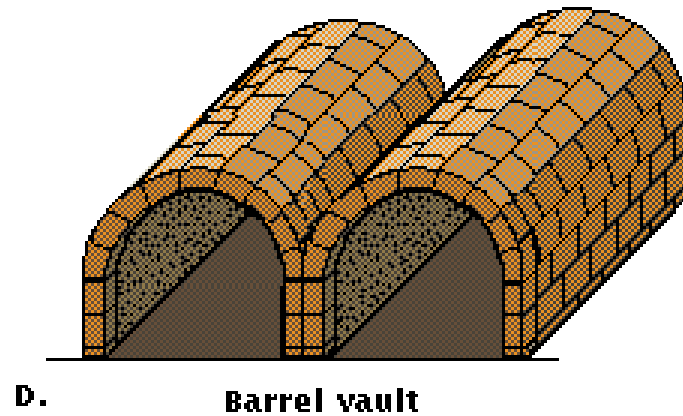
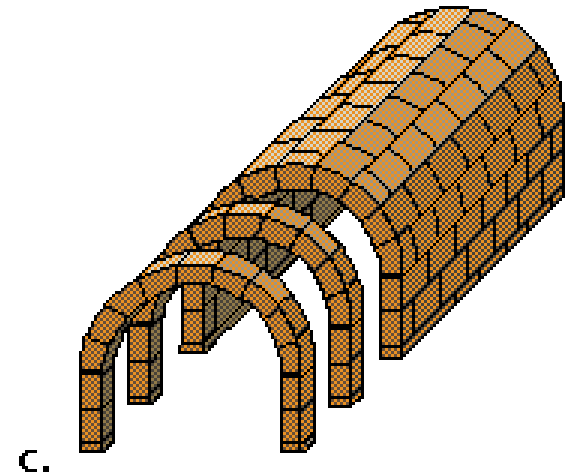
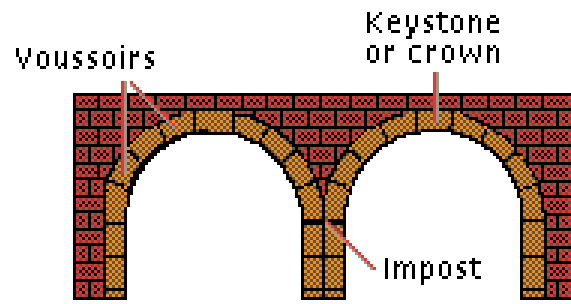
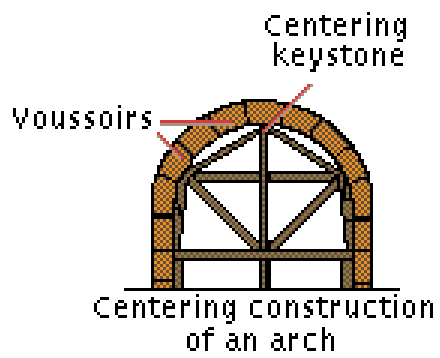
Apart from the engineering innovations, the Romans:

Created urban developments of a large scale, such as the forum, and blocks of apartments using concrete, rising eight stories high.

Established triumphal arches.

Invented use of pilasters (half columns that were embedded as part of the wall) and Tuscan and Composite column orders.

Forms:



Baths of Diocletian: 302 AD

Largest and most sumptuous of the imperial baths

Remained in use until the aqueducts that fed them were cut by the Goths in AD 537.

Barrel vaults, groin vaults and domes



Plazza di Termini
35
Rovine delle Terme Diocleziane. a Chiesa di S. Maria dell'Angelo e Convento de' Monaci Certosini. b Sito della Cinesa A. fatta nell' an. 1750. c Granari della R. Camera.

Aquaducts

Sloped to have water travel from source to city

Built first using wood frame-removed once keystone was placed



Pont du Gard at Nimes: 25 AD

Aqueduct – water supply

Three tiers of stone arches 160' high bringing water from over 25miles away

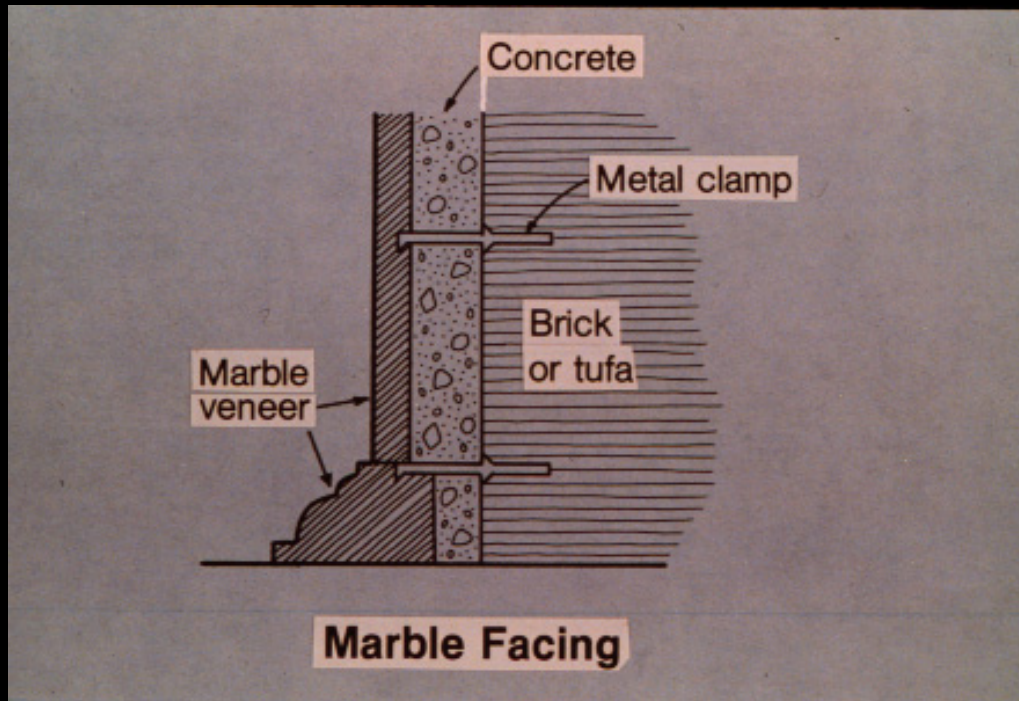


Concrete:

Was not liquid, but a mixture of sand, lime, water and aggregate.

Poured into wood or brick forms – was strong, waterproof, light and monolithic.

Covered with brick or marble veneer, or a decorative stucco



Concrete:



Concrete:

