Roman Imperial Architecture

• The Roman Forum
• The Colosseum
• Trajan’s Market
• The Pantheon
• Baths, City Planning and Aqueducts
Extent of the Roman Empire at 14 CE and 117 CE
The City of Rome

- By the start of the empire, Rome was the largest city in the ancient world, having a population of about 1,000,000.
PAX ROMANA
The Roman Empire
27 BC - 193 AD
The Pax Romana

• The Roman Peace
• Long period of relative peace in the Roman Empire.
• During this time the Romans still fought a consistent number of wars against neighboring states and tribes, most notably the Germanic tribes and Persians.
• Nonetheless, the Pax Romana was an era of relative tranquility, in which Rome endured neither major civil wars, nor serious invasions.
• This period is generally considered to have lasted from 27 BCE, when Augustus Caesar declared an end to the great Roman civil wars of the first century, until either 180 CE, when emperor Marcus Aurelius died, or the death of his son, Commodus, in 193 CE.
• It was a time in which Roman commerce thrived, unhampered by pirates. or marauding enemy troops. It was not always peaceful; rebellions frequently appeared, but were quelled.
• It was also a time when a great many impressive buildings were built.
After the Death of Augustus

- Augustus succeeded by his step son Tiberius.
- His dynasty, the Julio-Claudian, produced a few good leaders, but overall this period of Roman history was marked with suspicion, intrigue and terror.
- Julio-Claudian dynasty ended with crazy Nero, who committed suicide.
- Civil war followed, until a powerful general, Vespasian, seized control, starting the Flavian dynasty.
- The Flavians, practical military men, straightened out Roman finances and stabilized the frontier.
- Securing the empire for the period of the “Good Emperors”: – Nerva, Trajan, Hadrian, Antoninus Pius, and Marcus Aurelius,
Around the start of the new millennium, the Romans were in control of an enormous land area. They used their building and engineering skills to unify the empire and at the same time satisfy the citizens. Using lessons learned from the Etruscans and the Greeks, the Romans created buildings and cities like the world had never seen throughout the empire.
Forums

• Found in most Roman cities across the empire.

• Place people went to socialize, shop, worship or conduct business.

• Contained temples state buildings basilicas and monuments.
Meeting places, called forums, were central to Roman society and are found at many Roman sites. These are the ruins of a forum in Libya, which is in North Africa.
Model of Imperial Rome indicating several forums
Remember Trajan one of the good emperors?

Trajan built the last Imperial Forum in Rome.
Trajan’s Column

- Marble, completed in 116 CE, stands 131 ft high.
- Was part of a large area called Trajan’s Forum or Market.
- A 700 foot spiraling band of carved reliefs tells the tale of Trajan's battles in Dacia, present day Romania.
- The broken columns in front of Trajan’s column are the ruins of the Basilic Ulpia, which bordered.
What is a basilica?

• A large rectangular building used for general administrative purposes.
• The design provided a large interior space with easy access in and out.
• Some basilicas were used for army drills.
• The space consists of a large central area, the nave, with a semi circular apse at either end.
• The nave was flanked by two colonnaded aisles topped with open galleries or clerestory windows.
• Central space was taller than the two side sections and was lit by the clerestory windows or the open gallery.
• The roof was timber and spanned about 80 feet.
Floor plan of Basilica Ulpia
Basilica Ulpia
The name Ulpia was Trajan’s family name. The basilica was used as a courthouse.
The Basilica Ulpia, as all other Roman public basilicas, could be used as a court, a commodity exchange, a business place and a nice place for a stroll. The interior was stupendous.
auteur inconnu
During the construction of Trajan’s Forum an existing shopping area had to be demolished. To make up for the loss, Trajan ordered the construction of a very large public market.
• The market was comparable in size to a modern shopping mall.

• Held over 150 stores on several levels.

• In compliance with Roman building codes, almost the entire building was made of stone and brick with very little wood detailing.
Meeting places, called forums, were central to Roman society and are found not just in Rome, but throughout the empire. These are the ruins of a forum in Libya, which is in North Africa.
Piazza Narvano, Rome
Romans today still enjoy meeting to socialize in large open areas.
- Piazza Navona follows the plan of an ancient Roman circus, the 1st century *Stadium of Domitian*, where the Romans came to watch the *agones* ("games")
- It was known as 'Circus Agonalis'.
- It is believed that over time the name changed to 'in agone' to 'navone' and eventually to 'navona'.
The Roman Forum

- Located in a valley that is between the Palatine hill and the Capitoline hill. It originally was a marsh, but the Romans drained the area and turned it into a center of political and social activity.
- The Forum was the marketplace of Rome and also the business district and civic center.
- It was expanded to include temples, a senate house and law courts. Julius Caesar is buried in the forum.
- When the Roman Empire fell, the Forum became forgotten, buried and was used as a cattle pasture during the middle ages.
- It was eventually used as a dump, until excavations began.
The Roman Forum today looking toward the Colosseum
Reconstruction of the Roman Forum
The Temple of Saturn located in the forum was one of the most respected monuments of ancient Rome and the Saturnalia, a celebration to honor the god, made it the most important center of religious celebration of the city. The Temple of Saturn was also called Aerarium, because the Roman national treasure was kept there. The temple marks the beginning of the Clivus Capitolineus, the old road that takes you up the hill of the Capitol.
The Temple of Antoninus and Faustina was built in 141 CE by Antonius Pius, to commemorate his wife, Faustina. She was an empress, who had died that year and officially canonized. Since 161 CE Antoninus himself was also honored here. The temple was changed into a church, which prevented later destruction.
Tabularium
The Tabularium contained the Roman Public Records Office. The function of Tabularium was administrative. It supported the aerarium of the temple of Saturn. In the 16th century three new stories were built upon the second floor of the old tabularium. Today it is used as the Rome’s town hall! On the other side of the building is the Equestrian statue of Marcus Aurelius.
Tomb of Julius Caesar in the Forum
• Roman architecture may be not as beautiful as Greek architecture, but it served their purposes well.
• As we have seen, Roman buildings tended to be large and practical.
• Roman buildings were the first structures in history to have huge interior spaces, that were meant for public use and occupation.
• Very different philosophy from the Greeks. How?
• An excellent example of Roman public building philosophy is the Colosseum.
The Colosseum

• The Romans were great sports fans, not unlike the Americans of today.
• In the Colosseum Roman audiences could watch a variety of athletic events.
• Animal hunts, fights to the death between gladiators, gladiators and beasts, acrobats and mock naval battles.
• The opening performances in 80 CE lasted 100 days.
  – Claimed that 9000 wild animals and 2000 gladiators died for the amusement of the spectators.
The Colosseum 72-80 CE Rome

- The Colosseum is the most famous monument of Ancient Rome.
- Its original name is Flavian Amphitheatre.
- It was started by the Emperor Vespasian, of the Flavian dynasty, between 70 and 76 CE.
- Was completed by his son Titus in 80 CE.
- The Colosseum was dedicated the year after Vespasian's death by Titus.
- Called the Colosseum after a colossal statue of Nero, which was once stood outside the amphitheater.
• Arena: Latin word for sand which covered the floor.
• Built for lavish spectacles and games.
• Gladiator matches and animals versus beasts.
• Held 50,000 spectators.
• Outer wall is 16 stories high.
• The massive outer wall held poles from which a canvas awning, called a velarium, could be spread to shade the spectators.
• Roman sailors operated the velarium with a system of roped and pulleys.
Style of Columns

• Note the typically Roman arrangement of columns from bottom to top.

• Composite, Ionic and Corinthian
• Constructed with concrete arches, vaults and decorative plaster and marble.
• An arch is a curved architectural element used to span an opening more efficiently than a lintel.
• An arch is capable of supporting great weight and pressure.
• A vault is an arched roof or covering made of brick stone or concrete.
The intersection of the barrel vaulted entrance tunnels and the ring corridors create what is called a groin vault.
Interior of Colosseum
Oval shape based on two theaters, (amphitheater) facing each other.
• The Colosseum is a masterpiece of planning, organization and engineering.
• Through an ingenious arrangement of ramps and exits all 50,000 spectators could exit the building in 15 minutes through 76 entrances!
• Many modern day stadiums are based on the design of the Colosseum.
• During Roman times, the Colosseum was faced with beautiful white marble, most of which was looted to use in other Roman buildings, for example St Peter’s Basilica at the Vatican.
• The Romans built many other amphitheatres throughout the empire, some of which are still in use today.
Arenas like the Colosseum were constructed in many cities across Europe, like this one in Croatia.
Lucca, Italia
Location of Roman Amphitheater now a residential and shopping area.
The Pantheon

The Pantheon is the most remarkable ancient building surviving in Rome, and a marvel of architecture in any age. It was built as a temple to all the Olympian gods.

Get ready to be impressed.
The Pantheon 118-125 BCE

- Temple originally built by the Emperor Marcus Agrippa, friend and son-in-law of Augustus, to commemorate the victory over Cleopatra.

- Reconstructed by Hadrian after the first temple was destroyed by fire.

- The outside of the building reveals very little of the splendor found inside.

- Notice the Egyptian obelisk out front.
Façade Appears to be a Greek Temple
What’s that behind the “temple”?
Check out that dome,  
Definitely Not A Greek Temple!
If you didn’t know and had to guess, when would you say this dome was constructed?
The Pantheon Dome

• The Dome is a perfect hemisphere – half a sphere..

• Rests on a mammoth drum creating an unbelievable interior space.

• Floor is 144 ft in diameter and from floor to dome is also 144 ft.
The Pantheon’s Geometry and Mass

These illustrations of the Pantheon (from 17th century records) show the proportional relationships of the large cylindrical drum that supports the semi-spherical dome. A complete sphere could fit within the space created by the interior ceiling of the dome and the flat floor of the rotunda. A rectangular solid makes the transition between the curve of the drum and the triangular-pediment porch and clearly articulates the connection with a simple geometric form. The elevation on the right has been inscribed with a circle to emphasize the spherical volume within the structure.

Ancient Rome
- The lower supporting walls are over 20ft thick.
- Necessary to support the weight of the dome.
- The dome is designed in such a way that its walls are thin at the top and heavy at the base, which is a very thick drum.
- The dome covers a round interior space called a rotunda.
The Innovative Pantheon

- The development of the dome allowed vast areas of interior space to be built for public gatherings.
- Prior to this, people congregated outdoors or in the smaller basilicas.
- The Romans conceived the dome as a series of arches turned around a central point.
- The dome is an example of the vision the Romans had when it came to using an existing form, like the arch, and bringing it to its fullest potential.
Coffer and Oculus

- Dome is coffered decorated with receding rectangular panels.
- Coffer is a rectangular panel.
- The Oculus round eye like opening at top of dome provides the only light.
- 30 ft in diameter.
- Rain is carried away by a complex system of drains.
The Interior

• The interior is decorated with columns some made of rare marble and arches.

• There are several tombs in the Pantheon including the tomb of the great Renaissance artist Raphael as well as the tombs of two Italian kings.
• Still has the original, nearly 2000 year old, doors, and they still work!
• Originally had been gilded.
Christian Church of Saint Mary and the Martyrs

- In 609 CE, Pope Boniface IV dedicated the Pantheon as a Christian church.
- This ensured its survival throughout the Middle Ages - when many “pagan” temples were destroyed - to the present day.
- Notice the cross on the obelisk
Roman Baths
Romans also built public baths in many cities. This one is in Bath, England.
Roman Baths

- Many Romans often visited the *Thermae* or the public baths, as we know them.
- They went to the baths for entertainment, healing in the case of some baths, or just to get clean.
- There were 170 baths in Rome during the reign of Augustus and by 300CE that number had increased to over 900 baths.
http://www.pbs.org/wgbh/nova/lostempires/roman/

Interesting site on Roman baths
Bath in Pompeii
• The baths were huge buildings built at public expense or by rich emperors who wished to impress their subjects.

• Sometimes rich Romans who were trying to gain popularity paid entry for a whole day for anyone wishing to visit the baths.

• Most of the Roman baths were free
Roman Civil Engineering and City Planning
2000 years ago
Roman Cities were equipped with:

- City squares
- Shopping districts
- Residential areas
- Paved roads
- Warehouses
- Running water
Roman Engineering, Roman Ingenuity

Rome’s urban development is decidedly a result of its engineering accomplishments. The arch was initially used to support aqueduct and bridge structures throughout the city, bringing water directly from the mountain source and spanning the Tiber River for better communication and growth.

Ancient Rome
Aqueducts

- Composed of arches and vaults.
- Some above ground, some below.
- Eleven aqueducts supplied water to Rome.
- It is safe to assume that Rome received an impressive supply of water, and that the rich and influential received a disproportionate amount.
- But the water supply for the common Roman was still sufficient.
- By historic standards, Roman's water supply was a very impressive accomplishment.
- Many are still visible today.
The elaborate water system that served Rome remains a major engineering achievement.

Over a period of 500 years, 312 BCE to 226CE, 11 aqueducts were built to bring water to Rome from as far away as 57 miles (92 kilometers).

Some of these aqueducts are still in use.

Only a portion of Rome's aqueduct system actually crossed over valleys on stone arches (30 miles out of a total of about 260 miles); the rest consisted of underground conduits made mostly of stone and terra cotta pipe but also of wood, leather, lead, and bronze.

Water flowed to the city by the force of gravity alone and usually went through a series of distribution tanks within the city.
Spain
France
North Africa
Egypt
One of the eleven aqueducts, which brought gallons of water a day to Rome.
• Generally water was not stored, and the excess was used to flush out sewers. Rome's famous fountains were also supplied in this way.

• Roman aqueducts were built throughout the empire, and their arches may still be seen in Greece, Italy, France, Spain, North Africa, and Asia Minor.

• As central authority fell apart in the 4th and 5th centuries, the systems also deteriorated.

• For most of the Middle Ages aqueducts were not used in western Europe, and people returned to getting their water from wells and local rivers.
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