



Christian Architecture

History and theory of Architecture II

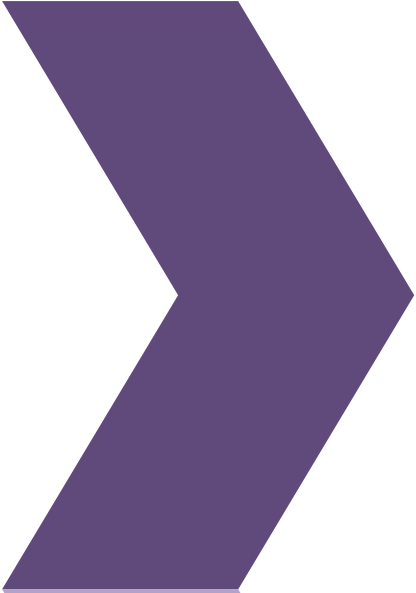
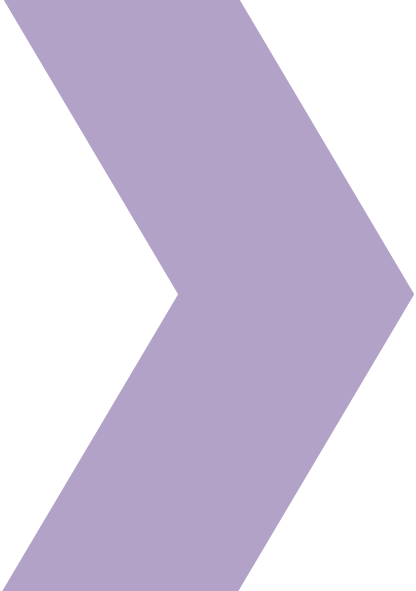
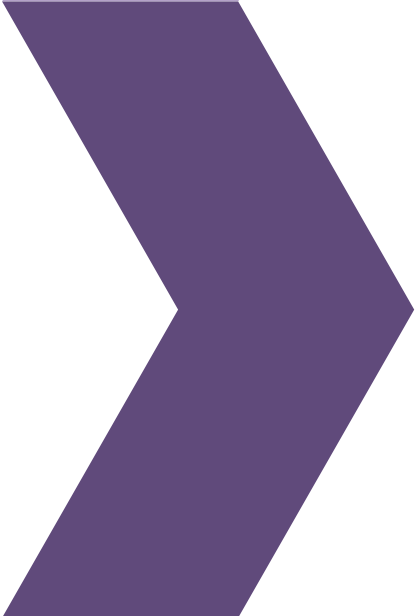
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	<i>Early Christian Architecture</i>	3
	<i>Byzantine Architecture</i>	20
	<i>Romanesque Architecture</i>	42



Early Christian Architecture

Early Christian Architecture

- *Early Christian architecture:*
 1. titulus (church assigned for the cardinals)
 2. catacombs (burial place)
 3. martyria (church built above a tomb)
- By the beginning of the fourth century Christianity was a growing mystery religion in the cities of the Roman world. It was attracting converts from different social levels. Christian theology and art was enriched through the cultural interaction with the Greco-Roman world. But Christianity would be radically transformed through the actions of a single man.
- Rome becomes Christian and Constantine builds churches:

In 312, the Emperor Constantine defeated his principal rival Maxentius at the Battle of the Milvian Bridge.

After that victory Constantine became the principal patron of Christianity. In 313 he issued the Edict of Milan which granted religious toleration. Although Christianity would not become the official religion of Rome until the end of the fourth century, Constantine's imperial sanction of Christianity transformed its status and nature. Neither imperial Rome nor Christianity would be the same after this moment. Rome would become Christian, and Christianity would take on the aura of imperial Rome.



Colossus of Constantine, c. 312-15 (Palazzo dei Conservatori, Musei Capitolini, Rome)

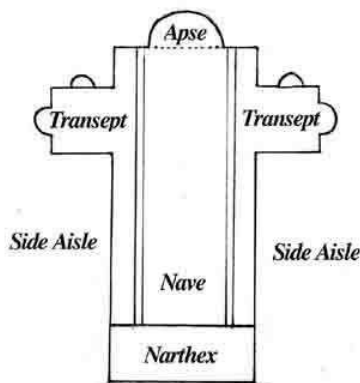
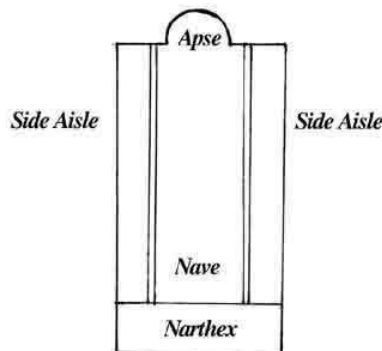
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- The transformation of Christianity is dramatically **evident** in a comparison between the architecture of **the pre-Constantinian church** and that of **the Constantinian and post-Constantinian church**.

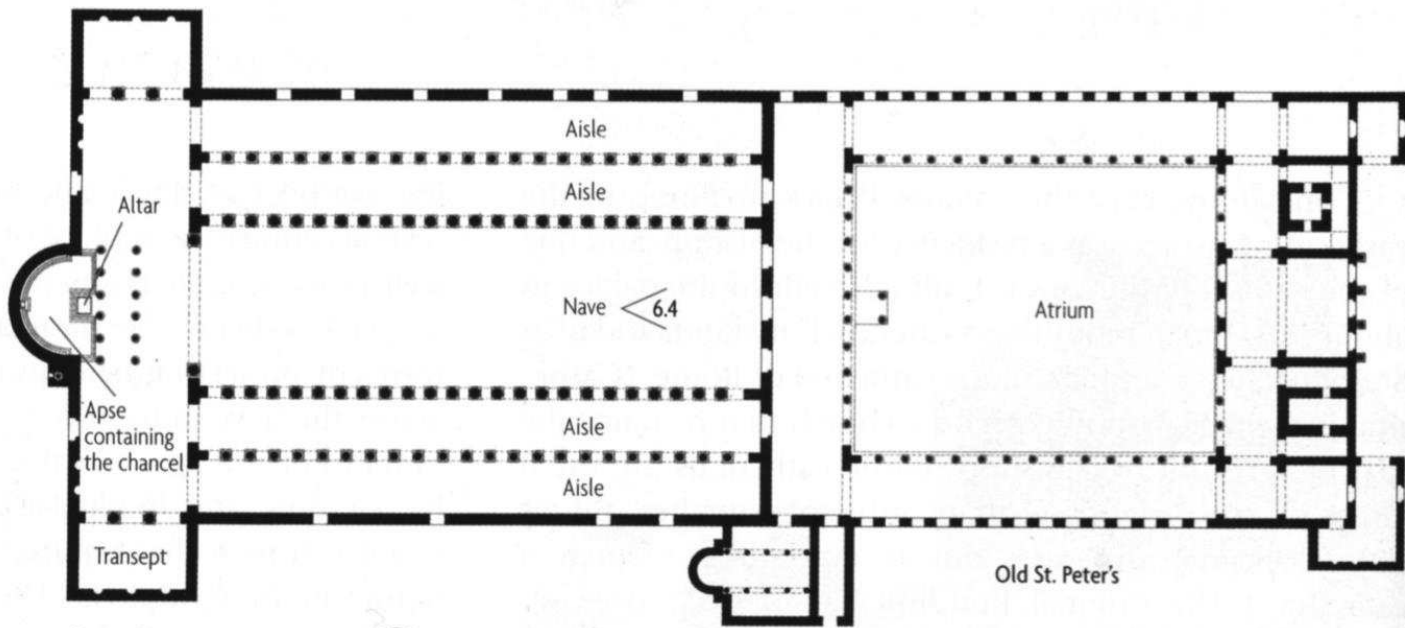
Basilica

- The **basilica model** was **adopted** in the construction of Old St. Peter's church in Rome. What stands today is **New St. Peter's church**, which **replaced the original** during the Italian Renaissance.
- Whereas the original **Roman basilica** was rectangular **with at least one apse**, usually **facing North**, the Christian builders made **several symbolic modifications**. Between the **nave and the apse**, they **added a transept**, which **ran perpendicular to the nave**. This addition gave the building a **cruciform shape** to **memorialize the Crucifixion**.
- The **apse**, which held the **altar** and the **Eucharist**, **now faced East**, in the **direction of the rising sun**. However, the apse of Old St. Peter's faced **West** to commemorate the church's namesake, who, according to the popular narrative, was **crucified upside down**.

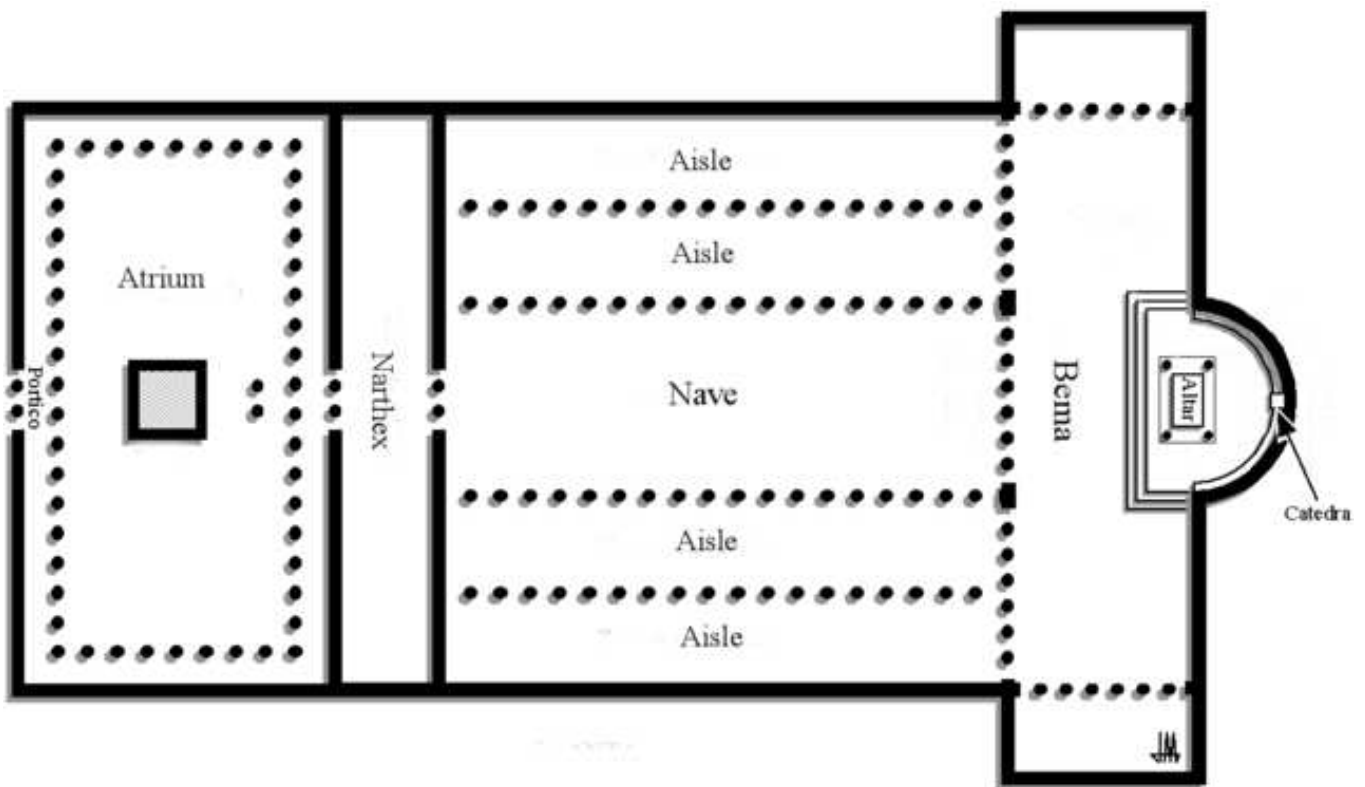
Roman Basilica Plan



Basilica with Transcepts Added



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Plan of Old St. Peter's Basilica

One of the first Christian churches in Rome, Old St. Peter's followed the plan of the Roman basilica and added a transept (labeled Bema in this diagram) to give the church a cruciform shape.

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- The most crucial period of Christianity was the first three centuries A.D.
 1. Officially recognized as the state religion of Rome in 326 A.D. by the Roman Emperor Constantine
 - Replaced Paganism
 2. First Christian architecture was modest in scope and served two needs:
 - Provided a space for spiritual needs of the living (عبادة)
 - Provided a burial place for the dead

- Early Christian meeting places were actually set-up in pre-existing apartments or homes:
 - These locations were known as titulus
 - Most were rebuilt into full scale churches

- Best known early Christian architecture are the burial places, known as catacombs:
 - Early Christians were quite poor
 - Burial was provided in individual “shelf” tombs or private family chambers
 - Usually located beneath churches
- Open air cemeteries were also in existence
 - Actually preferred over the dreary catacombs
 - Vatican Hill:
 - Modest monument of the late second century
 - Said to have marked the grave of Saint Peter
 - Now occupied by the church of Saint Peter

- Earliest art forms found in the catacombs , underground passageway
- Basilicas were built throughout the roman empire to accommodate the large numbers of Christian worship
- Technical advances from roman architecture made making larger structures possible
- Christian churches were seen as retreats from the real world as a spiritual experience seen in these churches
- Plain exterior but ornate interior:
 - The basilica was design with a large central aisle called a nave , at the end there was a semi-circular area called the apse.

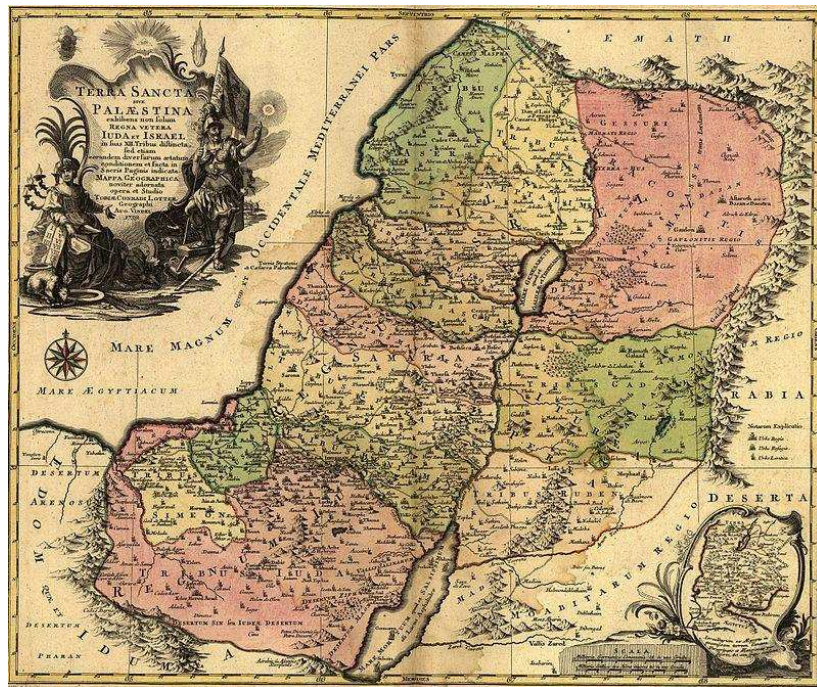
Roman Structures:

- Lateran:
 - Constantine donated this structure to be seat of the Bishop of Rome (The Pope)
 - Built around 313 A.D., prior to the official establishment of Christianity in Rome
 - The first important Christian structure in Rome
 - Has been rebuilt, leaving only its foundations and historical evidence as to its original form
- Emperor Constantine
 - 313 AD edict of Milan
- New forms in architecture
 - old forms, new function
- Christian mass
 - evolved as an indoor event
- Rome
- San Giovanni in laterano
 - prototype – roman – basilica
- Old saint peter's , Rome 320 AD
 - most important
 - atrium , narthex , transept

Holy land

- Church of the nativity
- Church of the holy sepulcher
- Central plan martyria
 - based on roman heroes (shrine)

The Holy Land: is an area roughly located between the Jordan River and the Mediterranean Sea that also includes the Eastern Bank of the Jordan River.

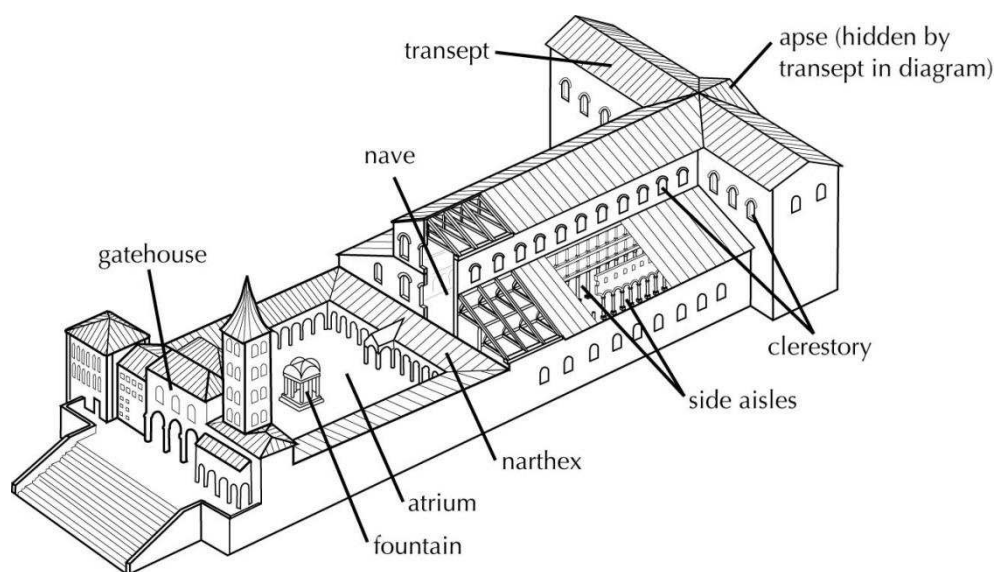


A 1759 map entitled The Holy Land showing not only the Ancient Kingdoms of Judah and Israel in which the 12 Tribes have been distinguished, but also their placement in different periods as indicated in the Holy Scriptures by Tobias Conrad Lotter

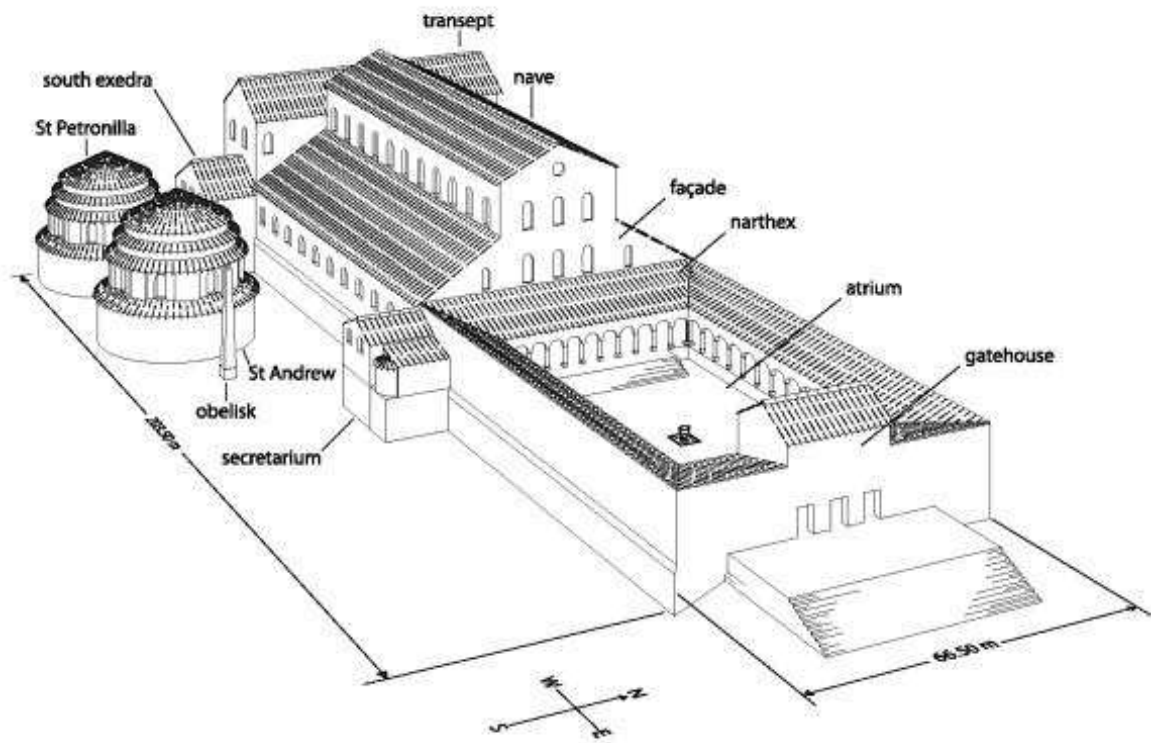
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(Old) St. Peters Church

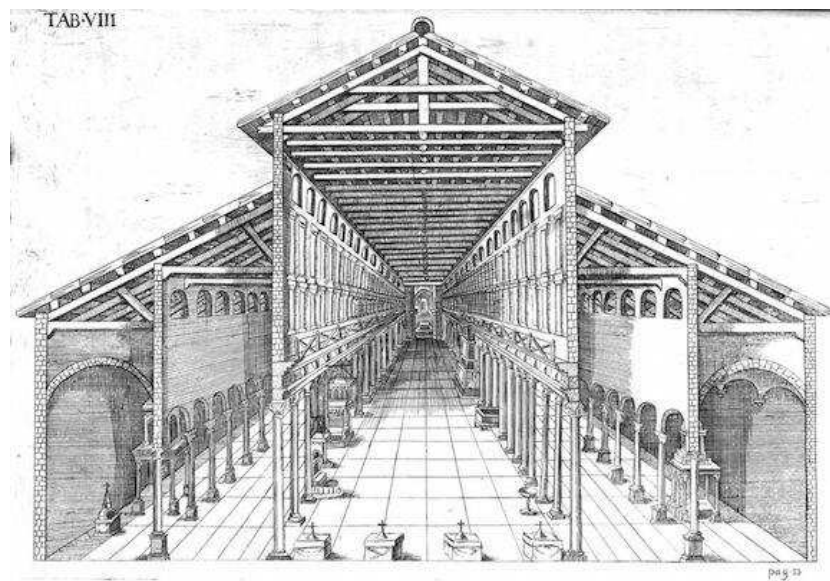
- Considered the most important basilican church built by Constantine
- Building began around 333 A.D.
- Located on the slope of the Vatican Hill in Rome
- Covers a cemetery and features a shrine to Saint Peter, whom is presumably buried there



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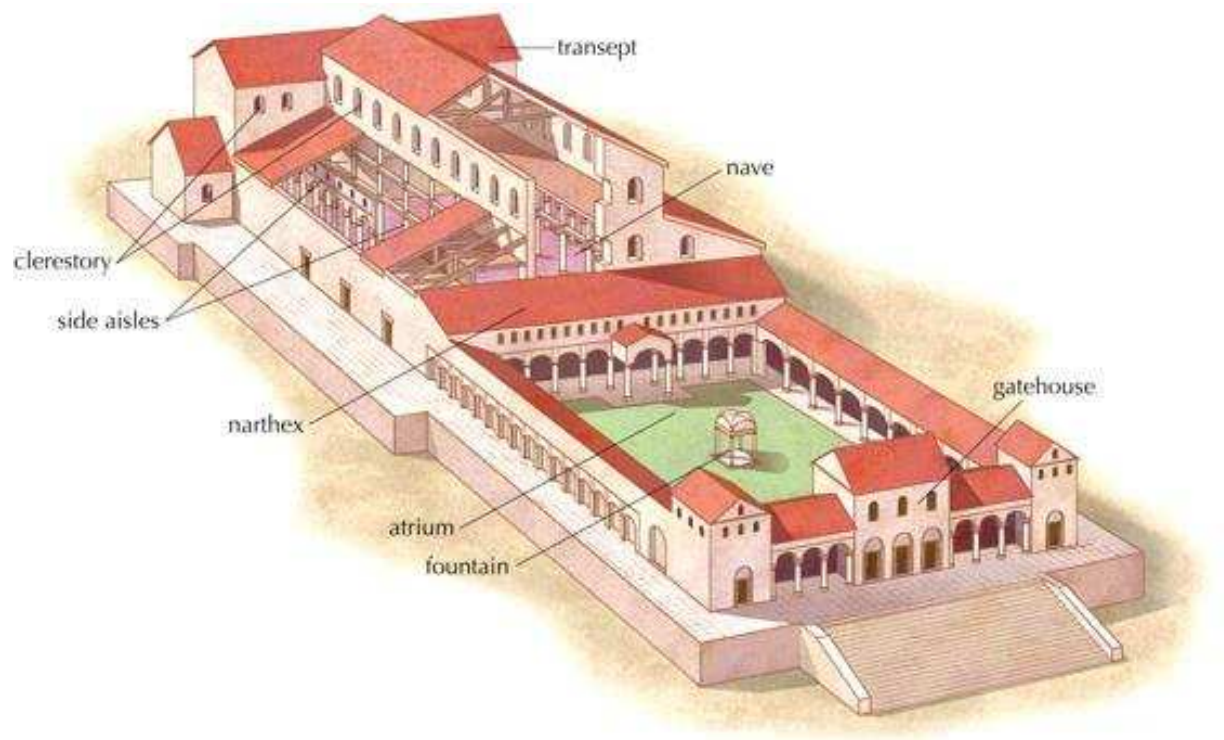


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Old St. Peter's Basilica, Rome, from: Giovanni Ciampini, *De sacris aedificiis a Constantino Magno constructis: synopsis historica*, 1693, p. 33

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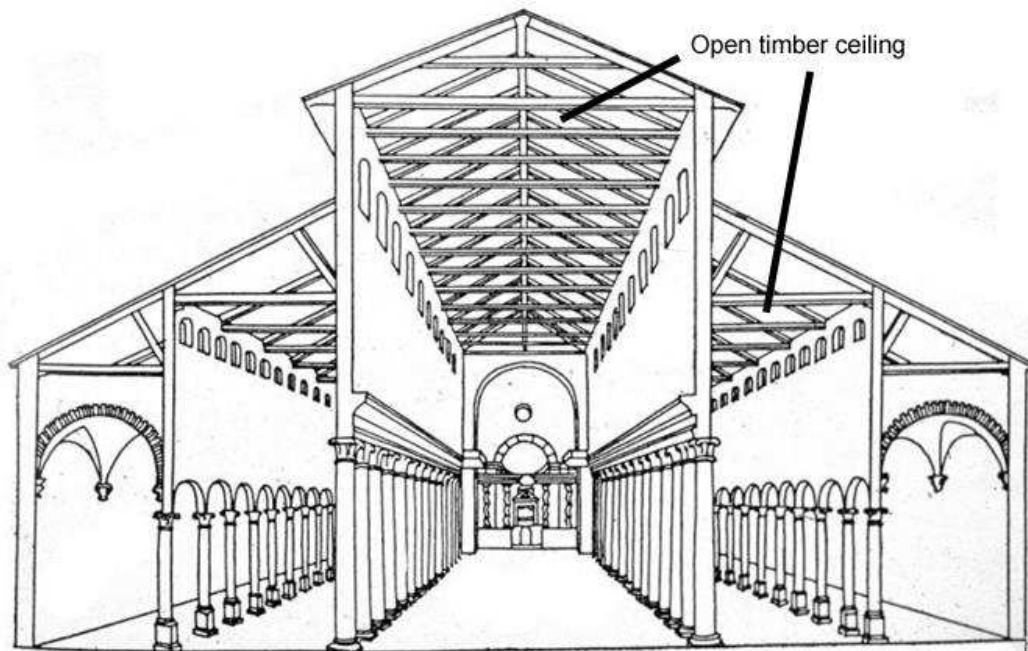
Exterior reconstruction of Old St. Peter's

This reconstruction depicts an idea of how the church appeared in the fourth century.

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Structures in the Holy Lands

- Constantine also built many structures in the Holy Lands
- Church of the Nativity (كنيسة المهد)
 - Built in Bethlehem as a shrine to honour Christ
 - Replaced in the sixth century A.D. with the modern structure
 - Very similar to St. Peters but on a much smaller scale



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At the Church of the Nativity, three rival Christian groups use their caretaking duties to maintain their claims to the basilica. (Remi Benali / Corbis)

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The interior of the Church of the Nativity as photographed by Lewis Larsson of the American Colony, Jerusalem

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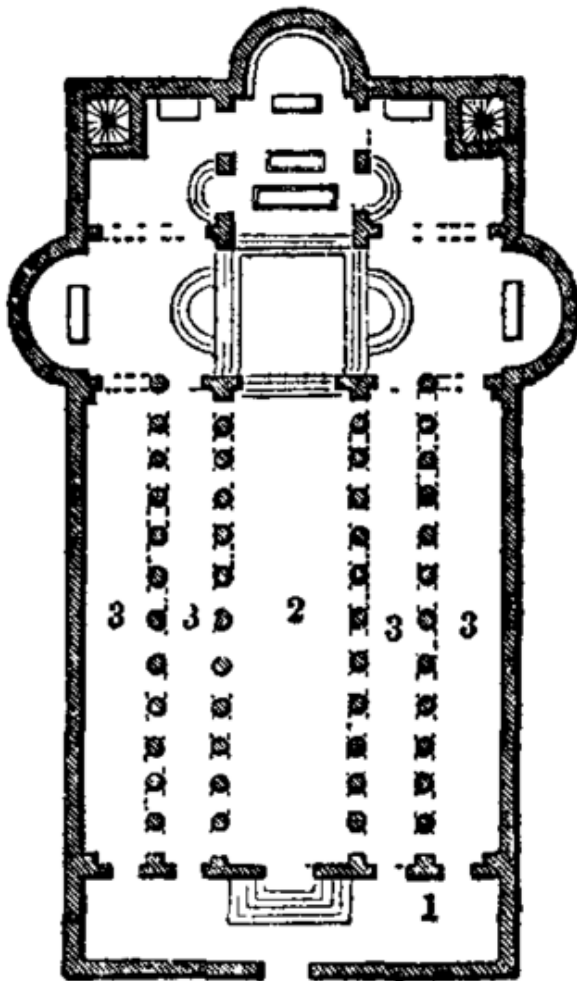
The basilica and grounds as they were depicted to appear in a work published in 1487

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The interior of the Church of the Nativity as it was depicted to appear in 1833

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An illustration from 1911 Britannica depicting the plan of Church of the Nativity, Bethlehem. (1) Narthex; (2) nave; (3) aisles.

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كنيسة القيامة \ القبر المقدس (Church of the Holy Sepulchre)

- Built to honour the burial place of Christ
- More elaborate than the Church of the Nativity
 - Had been instructed by Constantine to be “ a basilica more beautiful than any on Earth”
- Surrounded the Holy Sepulchre
- Believed to be the burial place of Christ



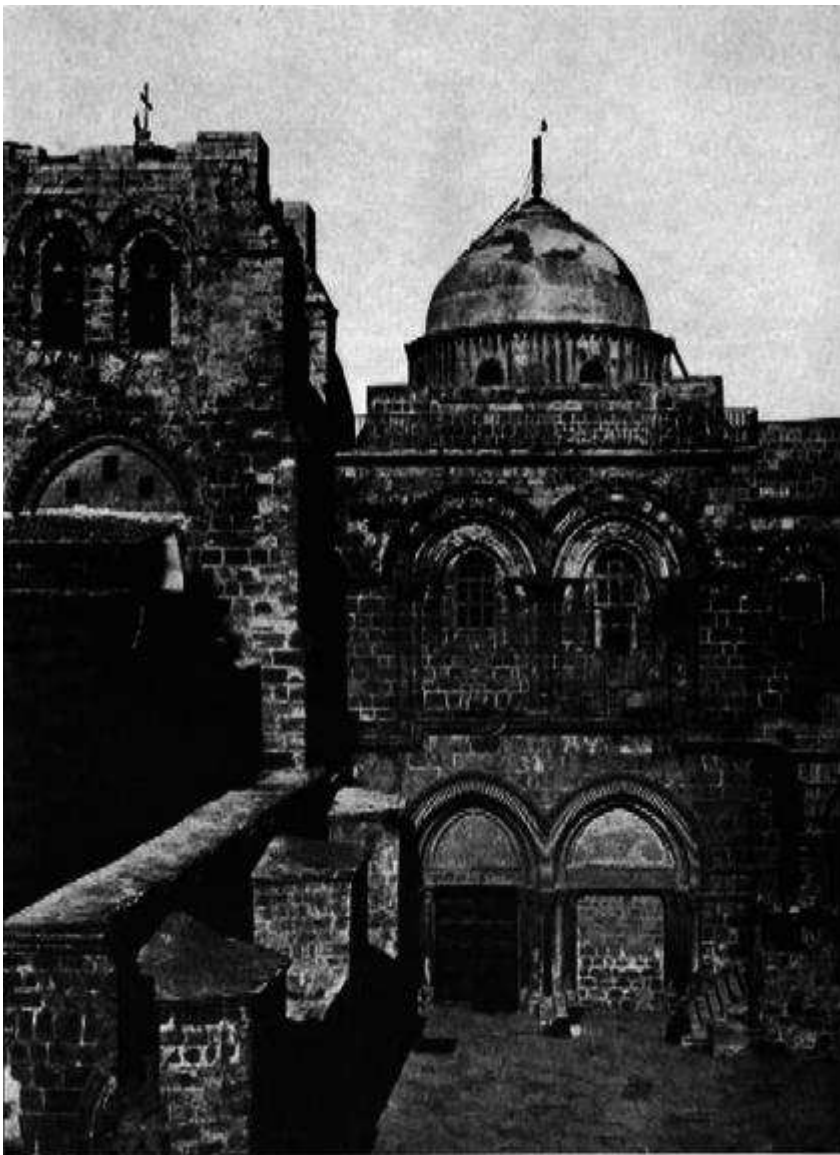
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View of Holy Sepulchre

Courtyard

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THE CHURCH OF THE HOLY SEPULCHER

Church of the Holy Sepulchre (1885). Other than some restoration work, its appearance has essentially not changed since 1854. The Immovable Ladder, the small ladder below the top-right window, is also visible in recent photographs; this has remained in the same position since 1854 over a disagreement to move it.

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A view into the Jesus tomb through
a newly created window, Church of
the Holy Sepulchre, Jerusalem,
October 30, 2106

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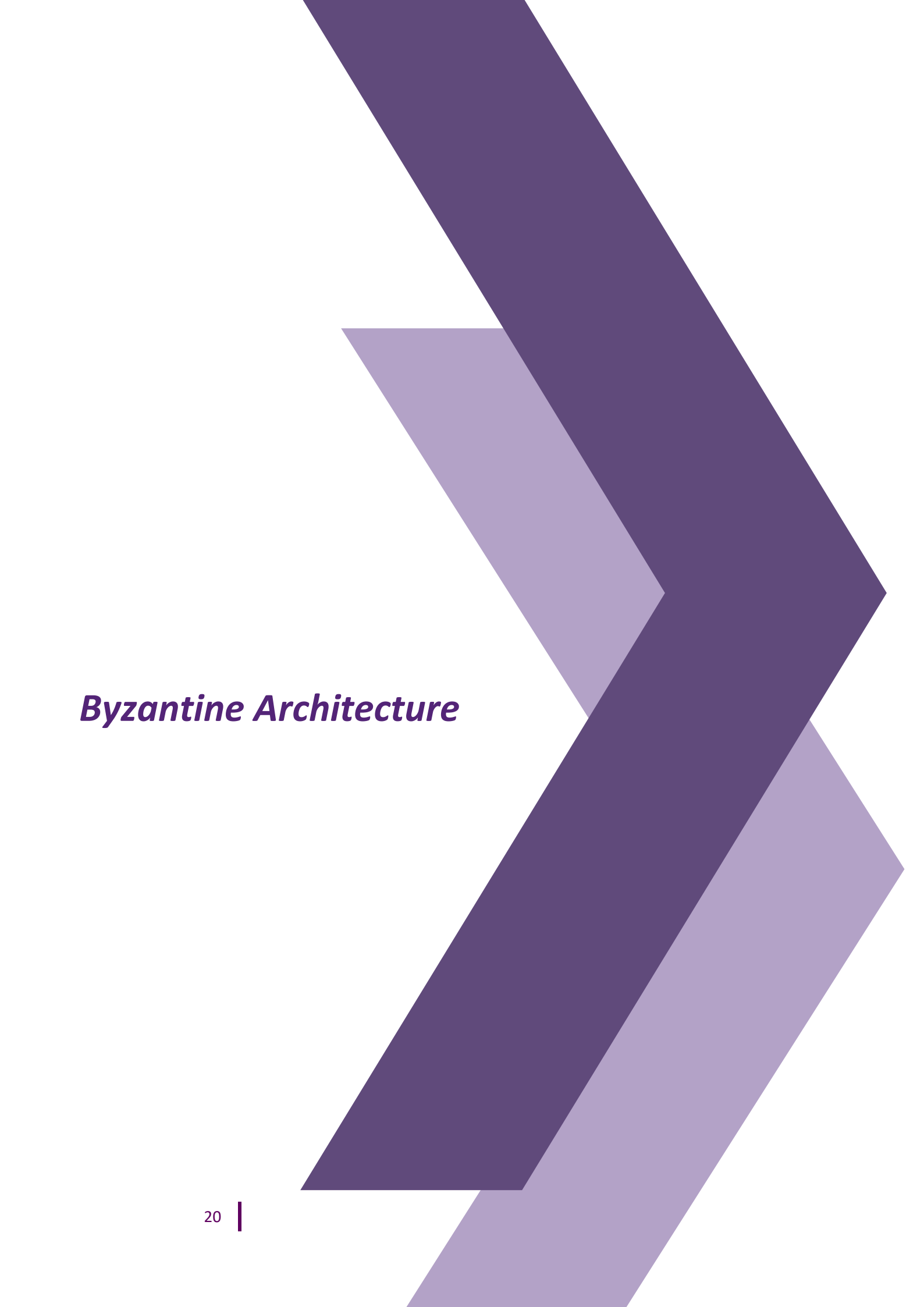
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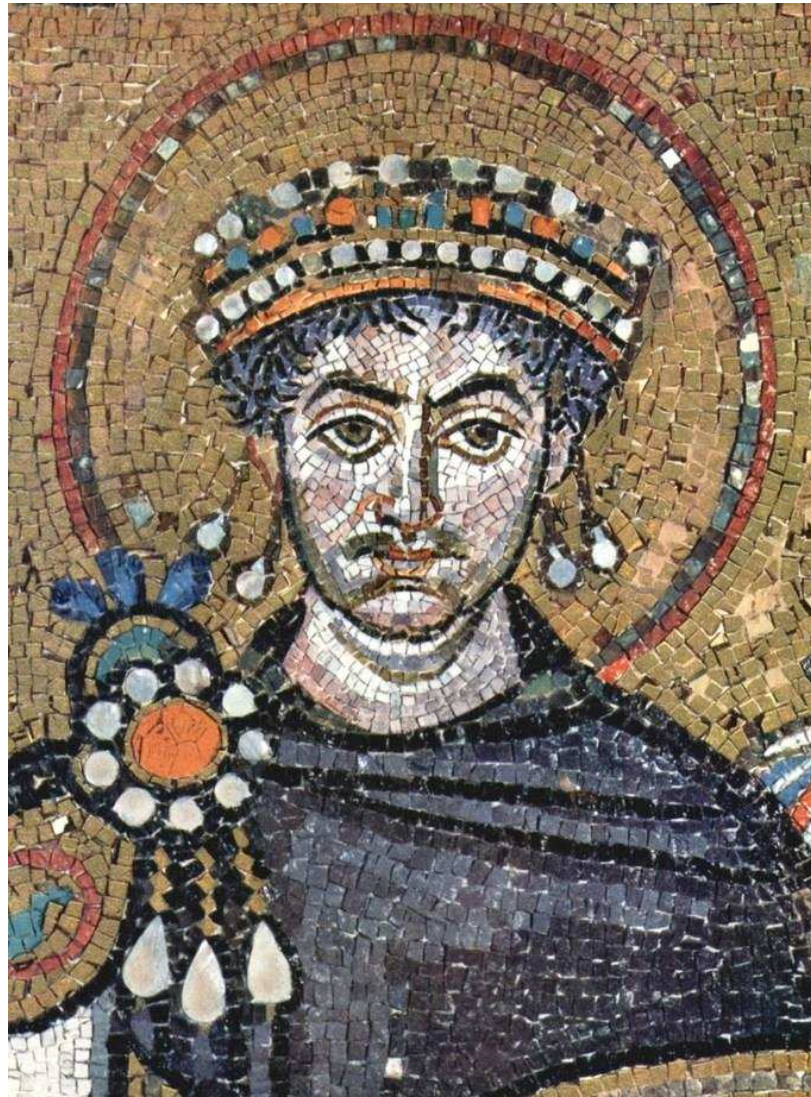
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Byzantine Architecture

Early Byzantine Architecture

- Justinian I devoted much of his reign (527–565 CE) to reconquering Italy, North Africa, and Spain. During his reign, he sought to revive the empire's greatness and reconquer the lost western half of the historical Roman Empire. This attempt at restoration included an ambitious building program in Constantinople and elsewhere in the empire, and is the most substantial architectural achievement by one person in history.



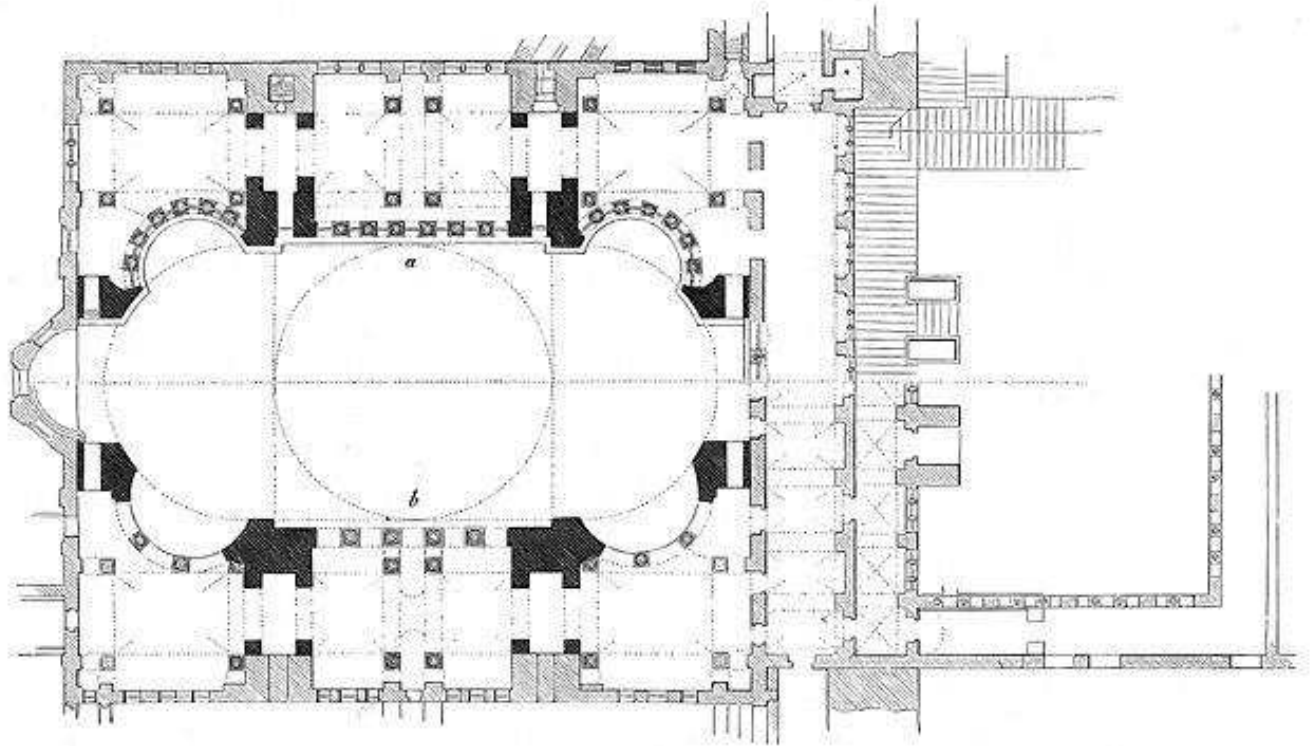
Justinian I from San Vitale in Ravenna

Byzantine Emperor Justinian forcefully pushed for the spread of Christianity along with the expansion of his empire.

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Hagia Sophia, Constantinople 537 C.E.

- One notable structure for which Justinian was responsible is the Hagia Sophia, or Church of Holy Wisdom, built by Isidorus of Miletus and Anthemius of Tralles, both of whom would oversee most building projects that Justinian ordered within Constantinople. Like most Byzantine churches of this time, the Hagia Sophia is centrally planned, with the dome serving as its focal point.



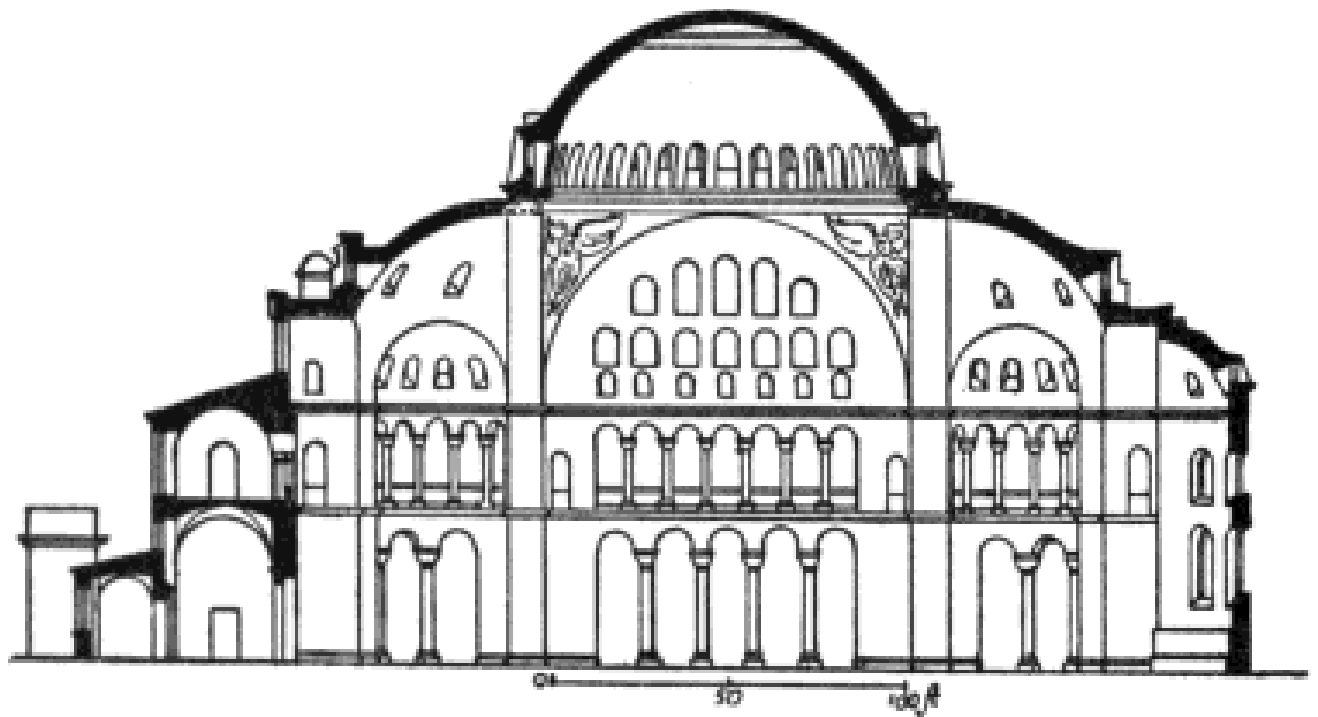
Isidorus of Miletus and Anthemius of Tralles plan for the Hagia Sophia

a) Plan of the gallery (upper half); b) Plan of the ground floor (lower half).

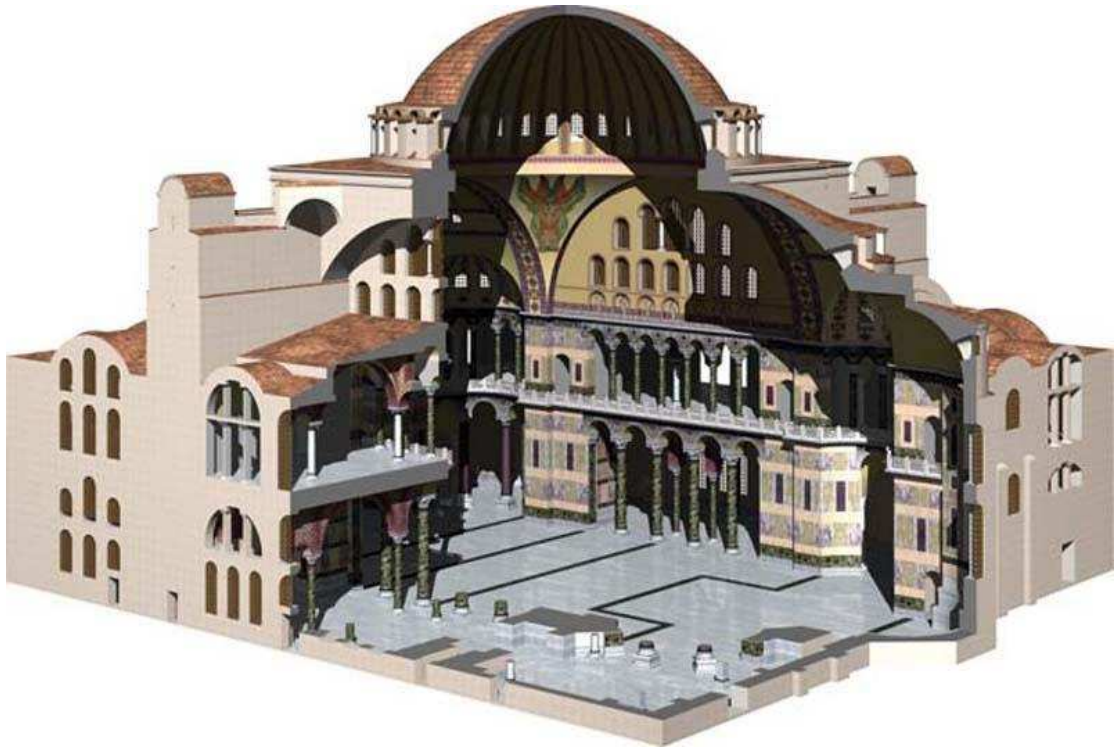
- The vast interior has a complex structure. The nave is covered by a central dome that at its maximum is over 180 feet from floor level and rests on an arcade of 40 arched windows. Although the dome appears circular at first glance, repairs to its structure have left it somewhat elliptical, with its diameter varying between 101 and nearly 103 feet.
- Hagia Sophia is considered the ideal Byzantine model. Built by emperor Justinian of the Eastern Roman Empire, He hired Isidorus of Miletus and Anthemius of Tralles to construct this building.
- The building is a 230 foot by 250 foot rectangle with a 100 foot square centered upon it. The pendentive dome rises 70 feet before the less the full hemispherical dome. Within the arch of the pendentive domes, half domes were created on the long side of the rectangle to create the nave. This was new for the time.



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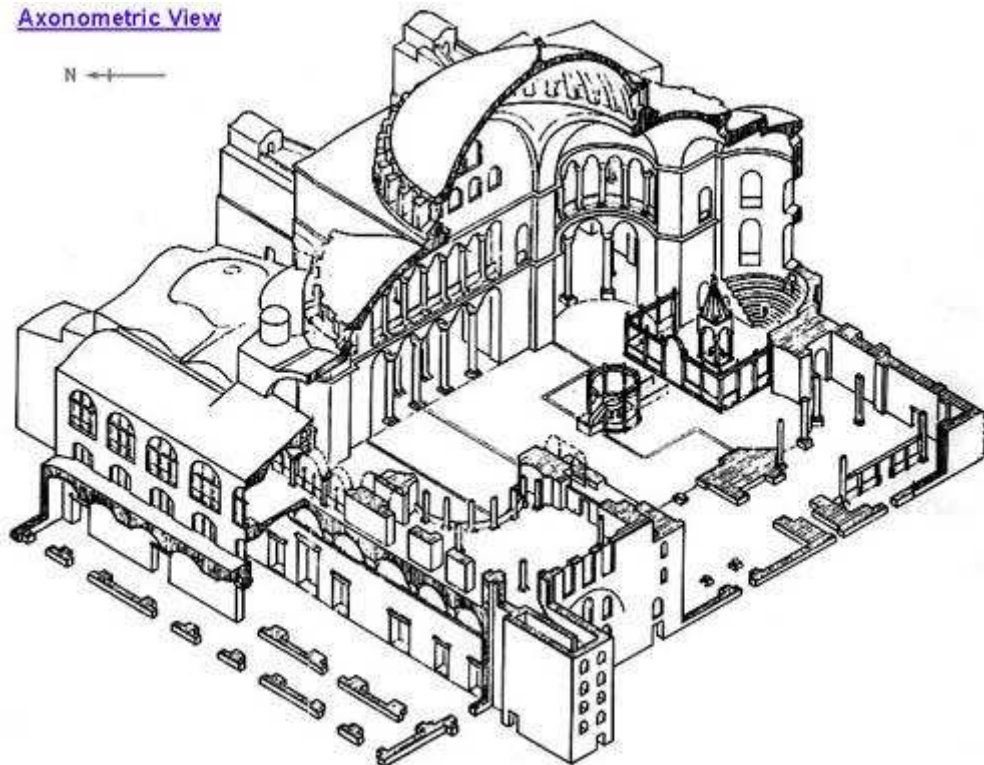


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Axonometric View



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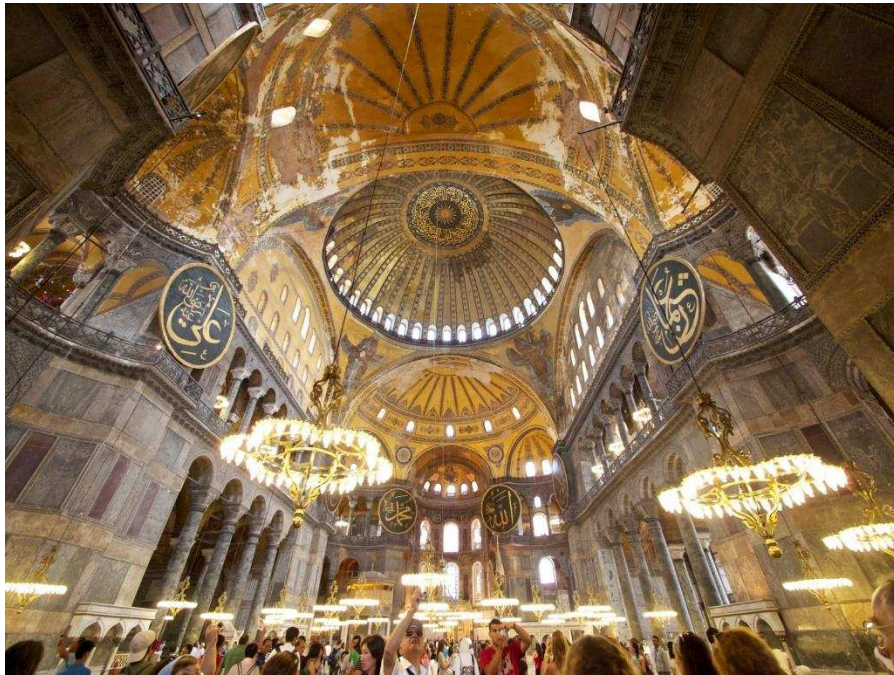
An interior view of Hagia Sophia

The Emperor Justinian ordered the construction of Hagia Sophia in 532 CE.

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- The dome of Hagia Sophia has spurred particular interest for many art historians, architects, and engineers because of the innovative way the original architects envisioned it. The cupola is carried on four, spherical, triangular Pendentive, an element that was first fully realized in this building.
- The Pendentive implement the transition from the circular base of the dome to the rectangular base below to restrain the lateral forces of the dome and allow its weight to flow downwards. They were later reinforced with buttresses.
- At the western entrance side and the eastern liturgical side are arched openings that are extended by half domes of identical diameter to the central dome, and carried on smaller semi-domed exedras. A hierarchy of dome-headed elements creates a vast, oblong interior crowned by the central dome, with a span of 250 feet.

- The Imperial Gate, reserved only for the emperor, was the main entrance of the cathedral. A long ramp from the northern part of the outer narthex leads up to the upper gallery, which was traditionally reserved for the empress and her entourage. It is laid out in a horseshoe shape that encloses the nave until it reaches the apse.
- After the Ottoman conquest of Constantinople, the plan of the Hagia Sophia would significantly influence the construction and design of the Süleymaniye Mosque (1550–1557).



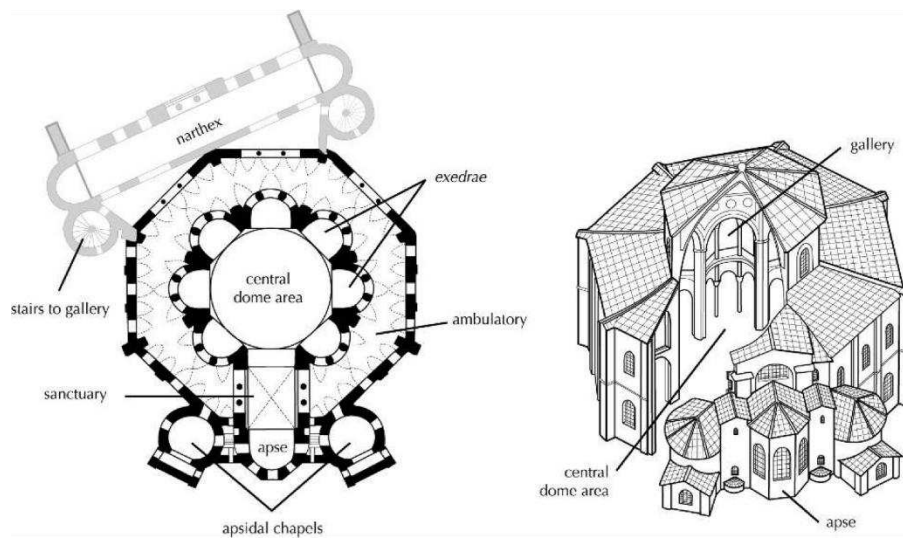
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St. Vitale, Ravenna, 532 C.E.

- Emperor Honorius I moved the Capital of the Roman Empire from Milan to Ravenna on the Northwest Coast of Italy. So Ravenna too was then built up to house an Empire.
- St. Vitale is an engineering marvel.
- Early Christians determined that domes were too heavy if solid so they built hollow ceramic units to create the dome. This reduced the weight and allowed the structure to go higher by reducing the mass of the surrounding walls.
- The Octagonal building housed a circular nave with a series of niches for relics and other ritual events.
- The sanctuary sat behind the altar which was the space for precious relics & for special rituals.
- The Apse at the end was opened up to bring in light to shine behind the priest, giving him a “heavenly glow” The interior had stone tile flooring plaster walls painted or with Mosaic tiles patterns or sculpture.
- The church due to its height could support two levels of clerestory windows.



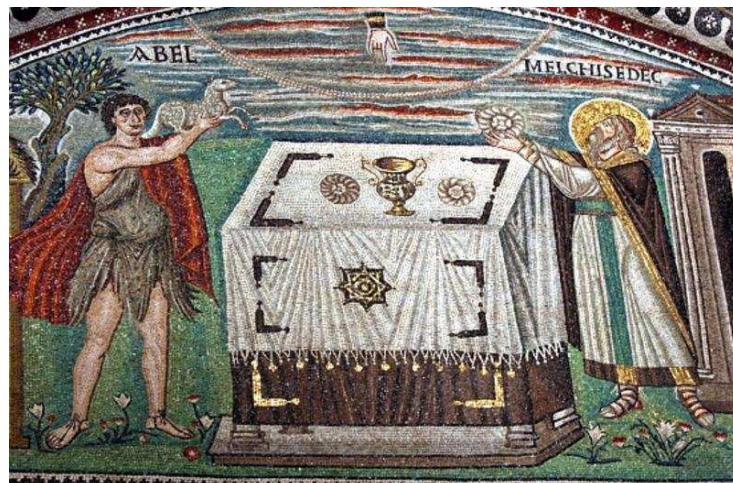
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Abel and Melchizedek make their offerings to God, foreshadowing the offering of the Eucharist made on the high altar just below this mosaic.

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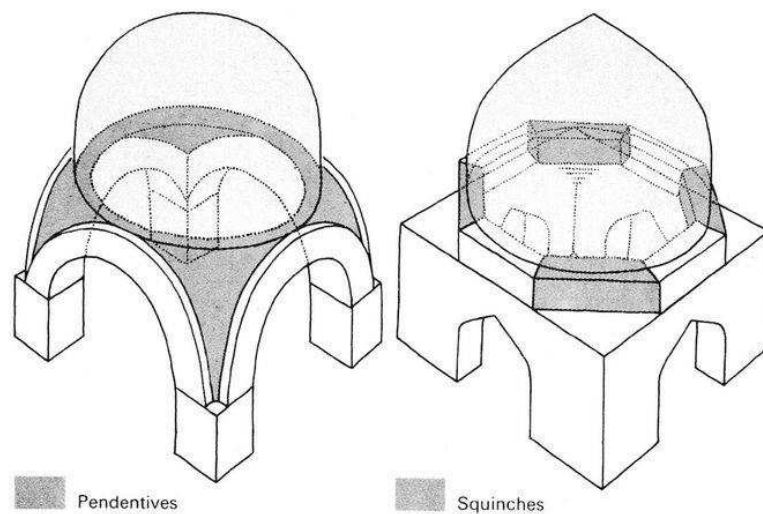
Pendentive

- In architecture, a triangular segment of a spherical surface, filling in the upper corners of a room, in order to form, at the top, a circular support for a dome. *The challenge of supporting a dome over an enclosed square or polygonal space assumed growing importance to the Roman builders of the late empire.* It remained for Byzantine architects, however, to recognize the possibilities of the Pendentive and fully develop it. One of the earliest examples of the use of the Pendentive is also one of the largest—that of Hagia Sophia (completed ad 537) at Istanbul.



Interior view of Hagia Sophia – Istanbul
– showing Pendentives.

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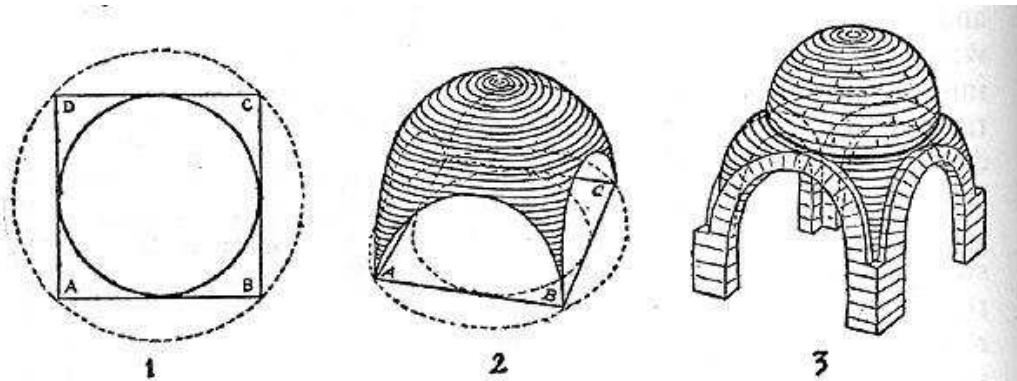
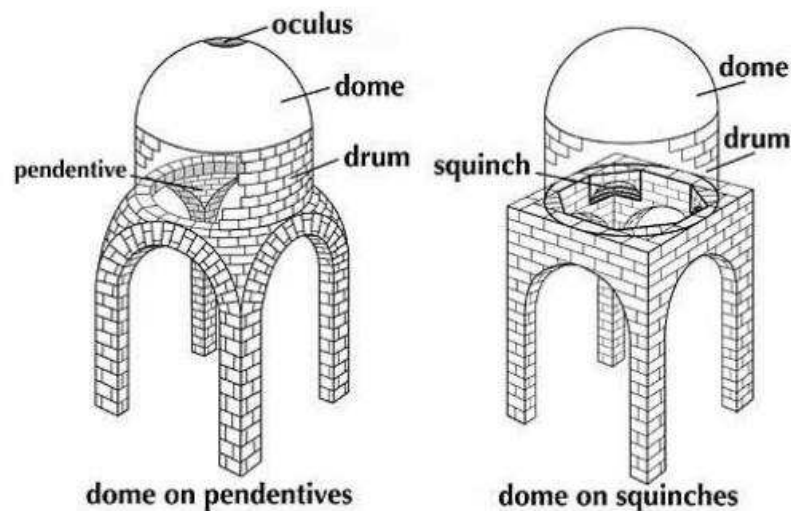
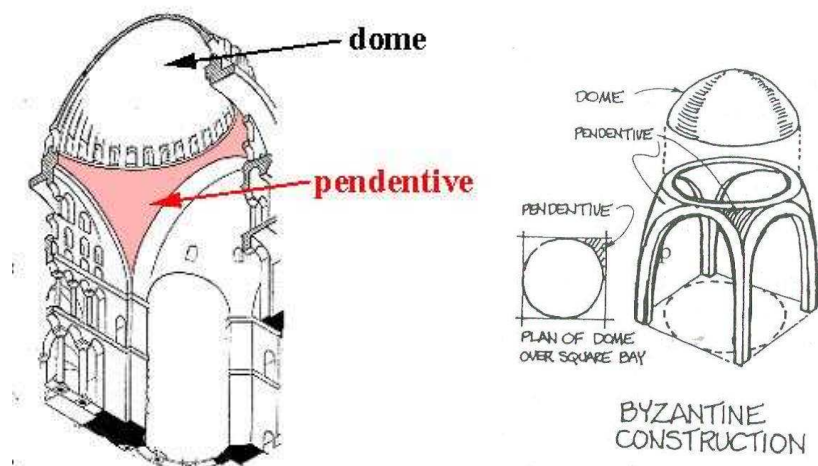


Fig. 80. A Dome on Pendentives. *ABCD* is the square area over which a dome is to be erected. If the diameter of the dome is equal to one side of the square, the area will not be covered; if it is equal to the diagonal of the square, the dome will project beyond the sides (1). The latter diameter was sometimes used and the sides of the dome cut off vertically so that the square was exactly covered; but the result was an imperfect dome (2). To secure a perfect dome the Byzantine builders conceived the idea of slicing this imperfect dome off horizontally just above the arches made by the vertical cutting, thus securing a circular base upon which to erect a true dome (3). The triangular segments of the original dome are the pendentives.



- SQUINCH has same function as PENDENTIVE (transition weight of a dome onto a flat wall)
- Architects designed pendentives and squinches so that artists could later use these broad surfaces as painted spaces



San Marco 11thC

- The basilica's interior is decorated throughout with mosaics on gold ground and with many varieties of marble;
- The floor is of inlaid marble and glass. In the restricted light their colors glow.
- The screen separating the choir from the nave has marble statues
- Saint Mark's Basilica in Venice, Italy, was first built in the ninth century and rebuilt in the eleventh century in its current form following a fire. The basilica is a grand building, built next to the Doge's Palace. It initially functioned as the doge's private chapel, then a state church, and in 1806 became the city's cathedral. The basilica houses the remains of Saint Mark, which the Venetians looted from Alexandria in 828 and prompted the building of the basilica.



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St. Mark Basilica location

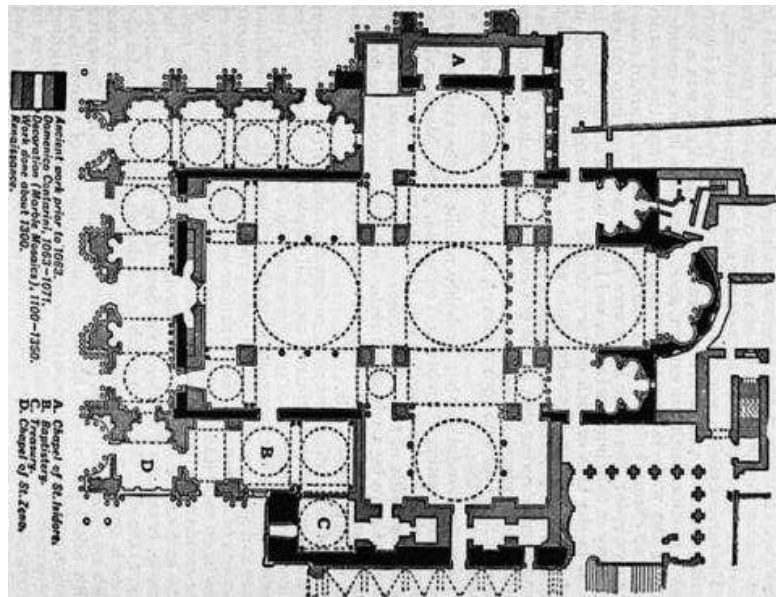
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St. Mark Basilica location

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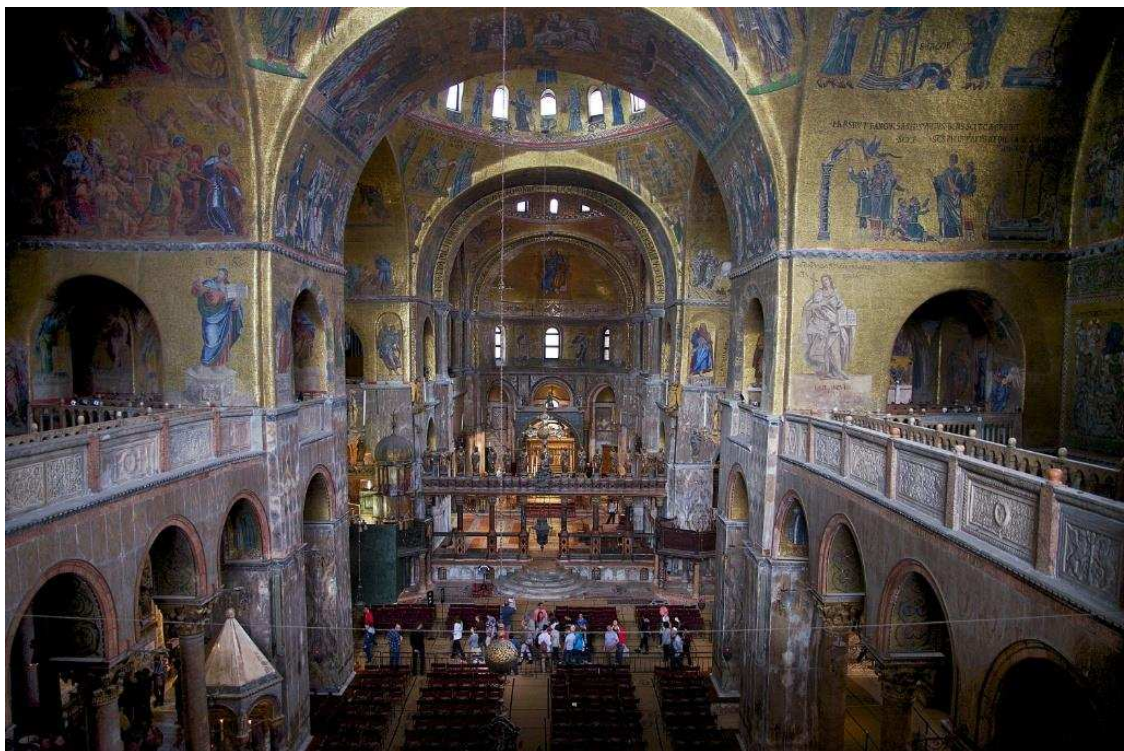
- Saint Mark's Basilica was built in the Byzantine Greek-cross plan. Each arm is divided into three naves and topped by a dome. At the crossing is a large central dome. The main apse is flanked by two smaller chapels. The narthex of the basilica is U-shaped and wraps around the western transept. It is decorated with scenes from the lives of Old Testament prophets.



Plan of St. Mark's Basilica

The circles mark the location of each dome.

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St. Mark Basilica location

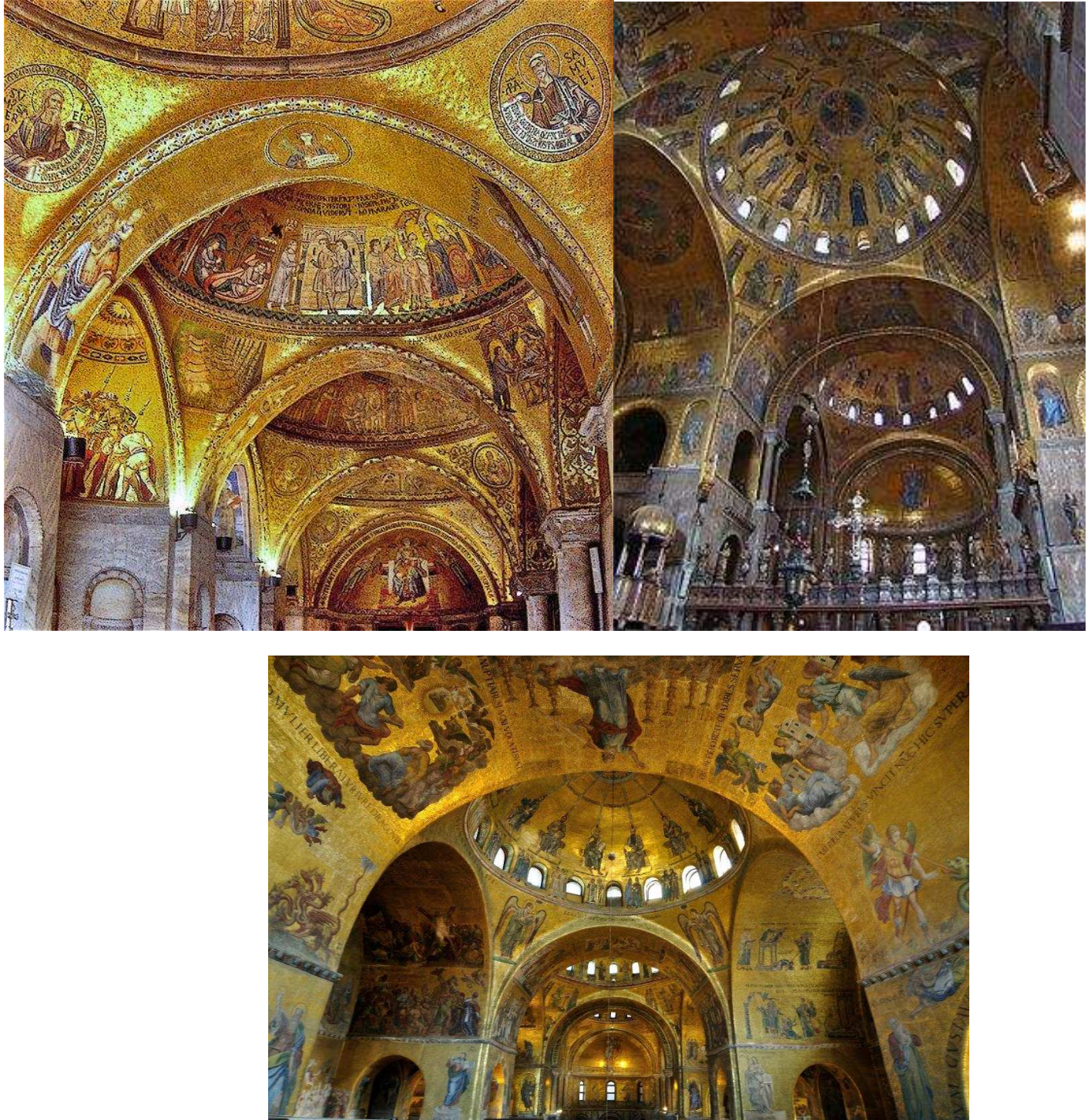
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- The entirety of the basilica is richly decorated. The floor is covered in geometric patterns and designs that use the Roman decoration techniques known as *opus sectile* and *opus tessellatum*.



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- The lower walls and pillars are covered in marble polychromatic panels, and the upper walls and the domes are decorated with twelfth- and thirteenth-century mosaics. The central dome depicts an image of Christ Pantocrator, and the overall decorative program depicts scenes from the life of Christ and images of salvation from both the Old and New Testament.



The interior of St. Mark's Basilica in Venice, Italy

A view from the clerestory-level walkway shows its richly decorated mosaics and marble, polychrome panels.

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Middle Byzantine Architecture

Background:

- Renaissance (842 –1204)
- Follows period of the Dark Ages (610-842)
- Culminated in Iconoclasm
- Empire reduced from Justinian's rule
- Relatively stabilized
- Reached a peak in a flowering of the arts

Architectural Plans:

- Cross-in-square
- Domed central core
- Radiating cross-arms
- Barrel-vaulted
- Vaulted corner units

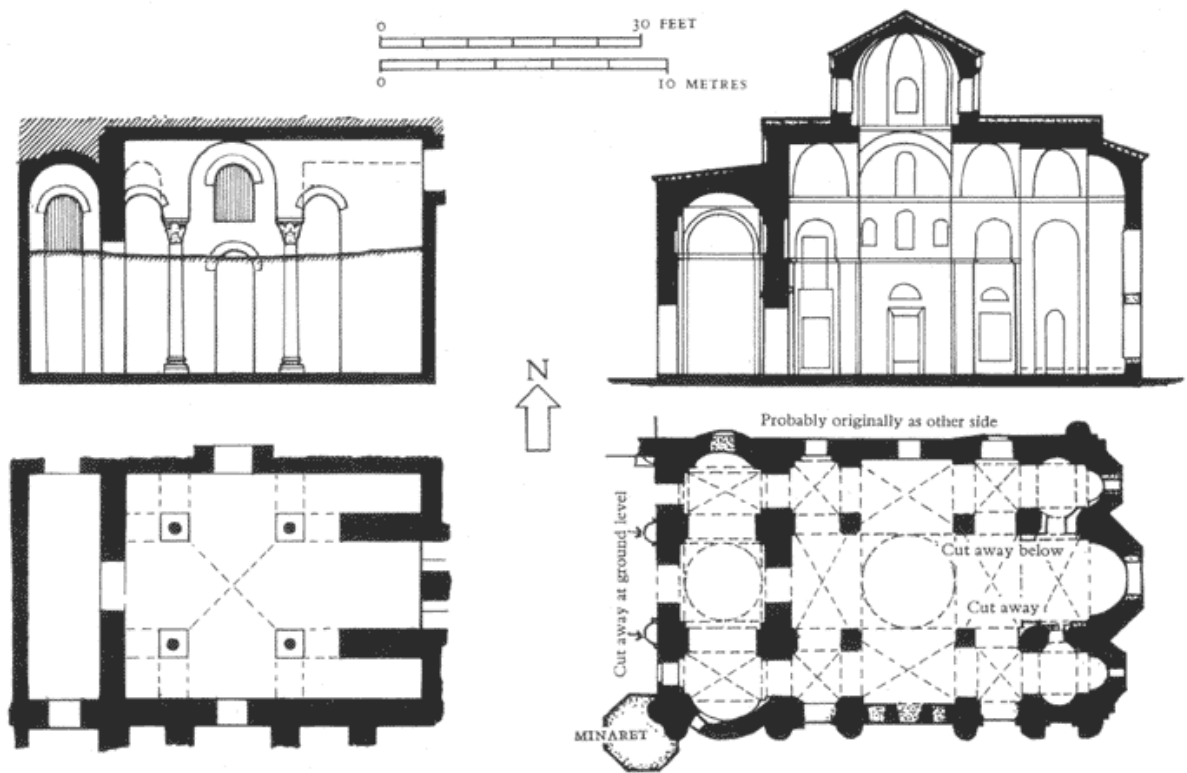
Octagon-domed:

- Triple-domed
- Double-apsed outer narthex
- Inner narthex with a single dome
- Barrel-vaulted aisles

Bodrum Camii (the Myrelaion)



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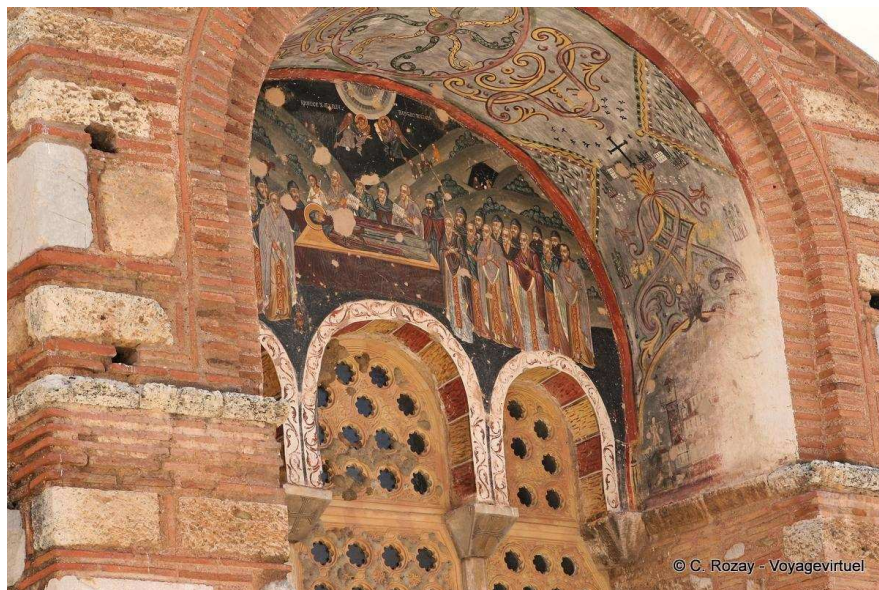
Theotokos Church, Hosios Loukas



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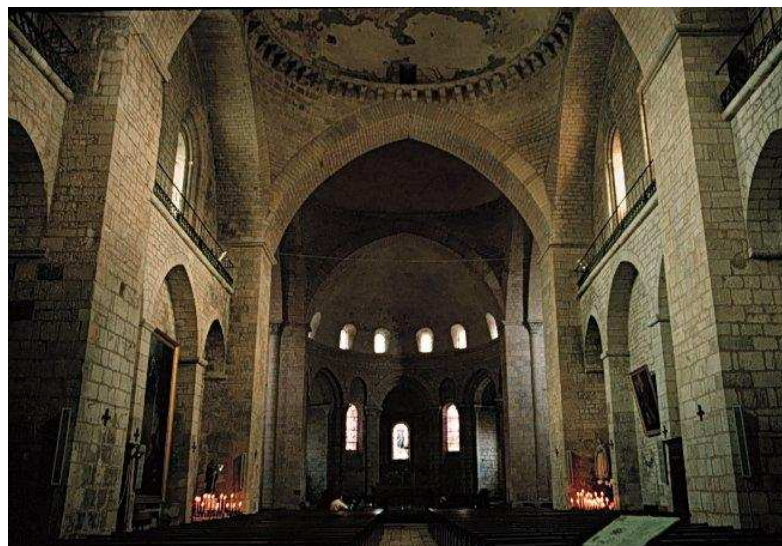
Romanesque Architecture

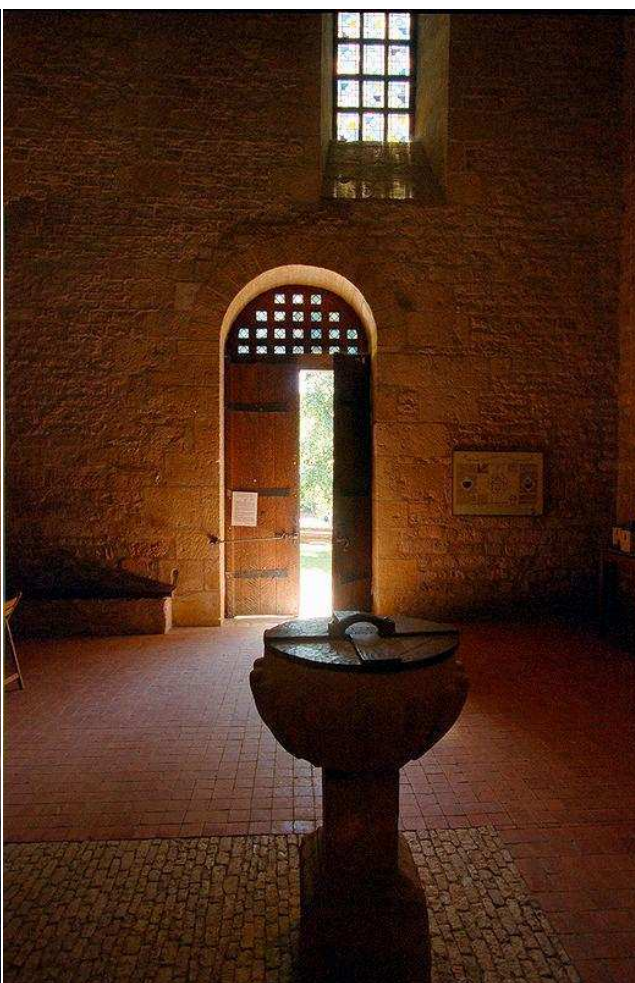
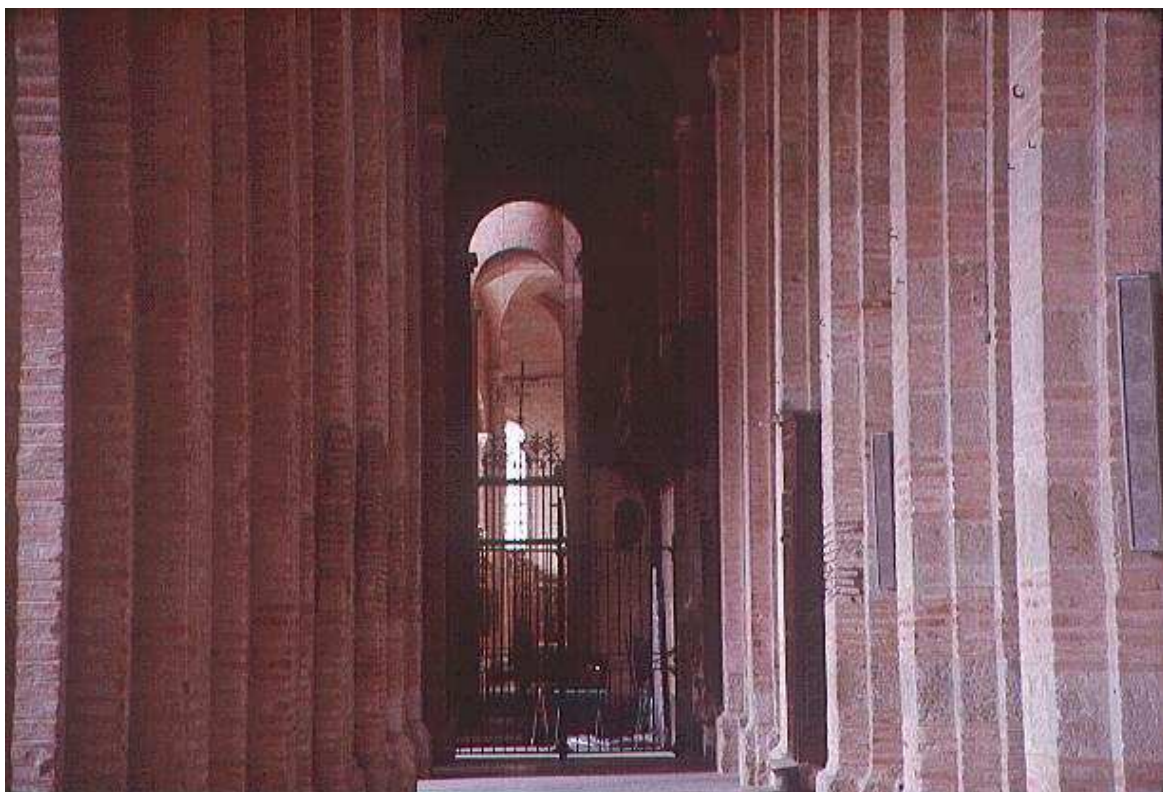
Romanesque Architecture

- The term "Romanesque" means "like Roman". It refers to the architecture of the 11th and 12th centuries in medieval Europe to Roman Architecture, based on similarities of forms and materials.
- General Appearance:
 1. Dark, solemn spaces
 2. Exterior is simple, severe
 3. Modest Height
 4. Horizontal lines
 5. Multiple Units
- Architectural Elements:
 1. Round arches
 2. Barrel Vaults
 3. Piers supporting vaults
 4. Groin vaults

Dark, solemn spaces

- Romanesque churches and castles were dark, with few openings.
- Wars and invasions were commonplace, so windows and doors were kept to a minimum.
- With stone and masonry buildings, buildings were safe from fire and invaders, but required large supports for the weight of walls and vaults.





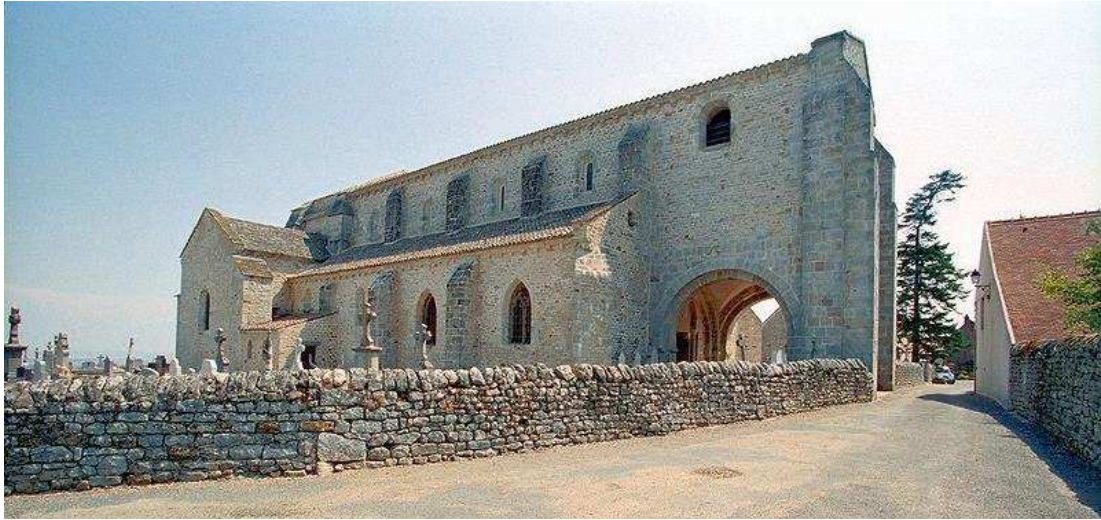
Exterior is simple, severe

- A combination of masonry, arches and piers are the basis of the Romanesque style.
- The main concept for buildings was the addition of pure geometrical forms.



Modest Height, Horizontal lines

- Romanesque churches have an emphasis on horizontal lines, similar to those of Greek & Roman public buildings.



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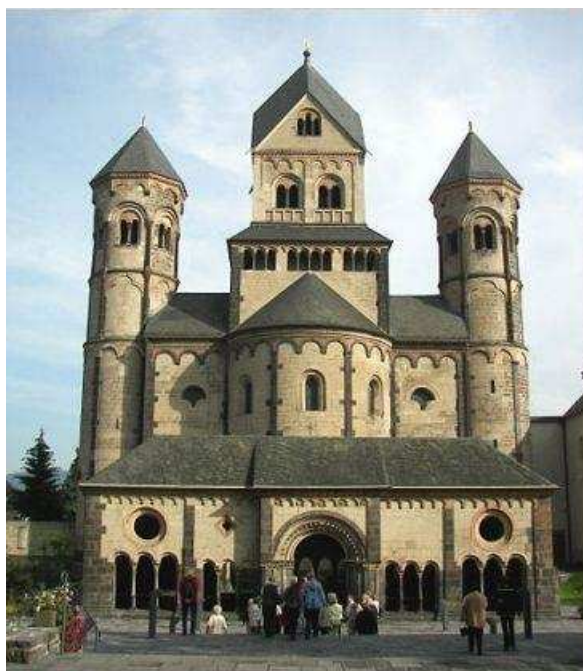


Multiple Units

- Several geometric forms make up the building, rather than one shape. This changes in the Gothic era to one large cross shape.



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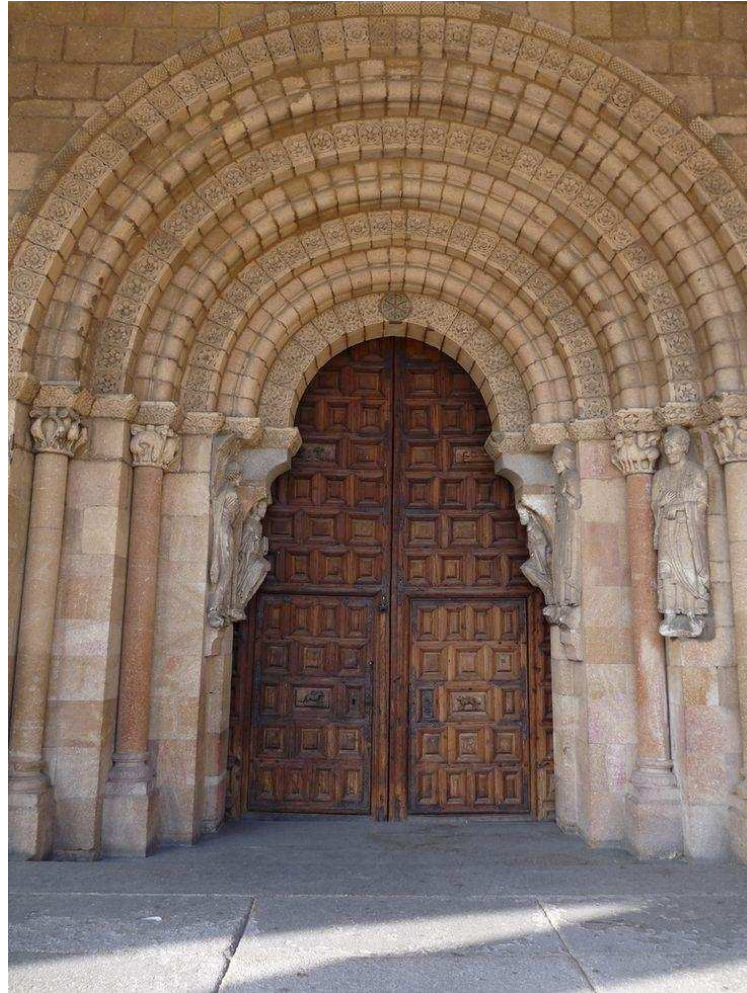
Architectural Elements:

1. Round arches
2. Barrel Vaults
3. Piers supporting vaults
4. Groin vaults

Round arches

- Round arches are similar to those of the Romans.

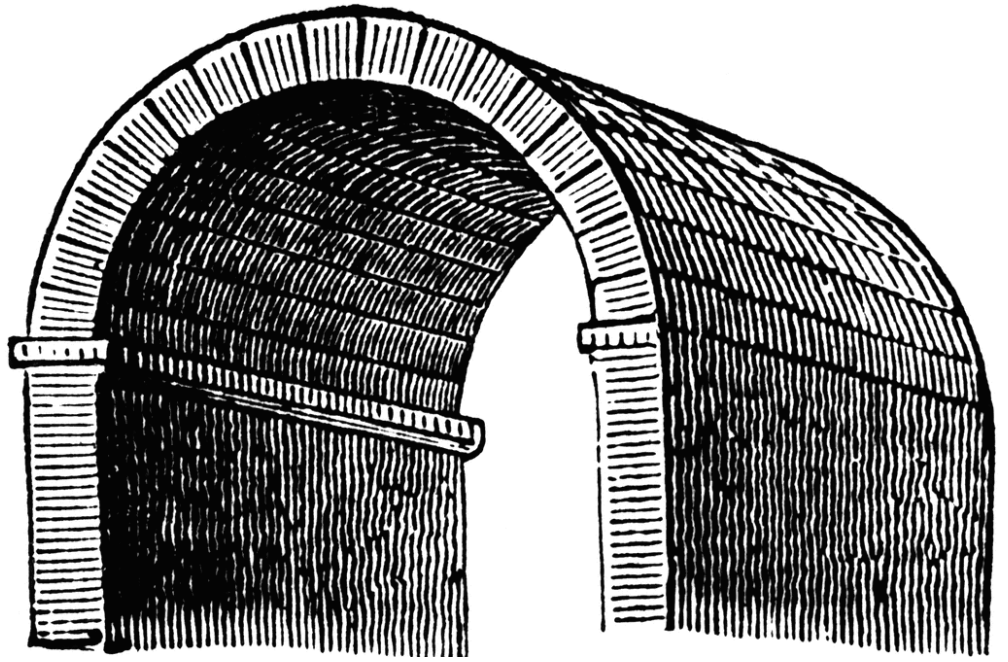




Barrel Vaults

- Also called Tunnel Vaults, Barrel Vaults replace the flat roofs commonly used in Roman architecture. This is the simplest vault, created by combining a series of round or Roman arches.



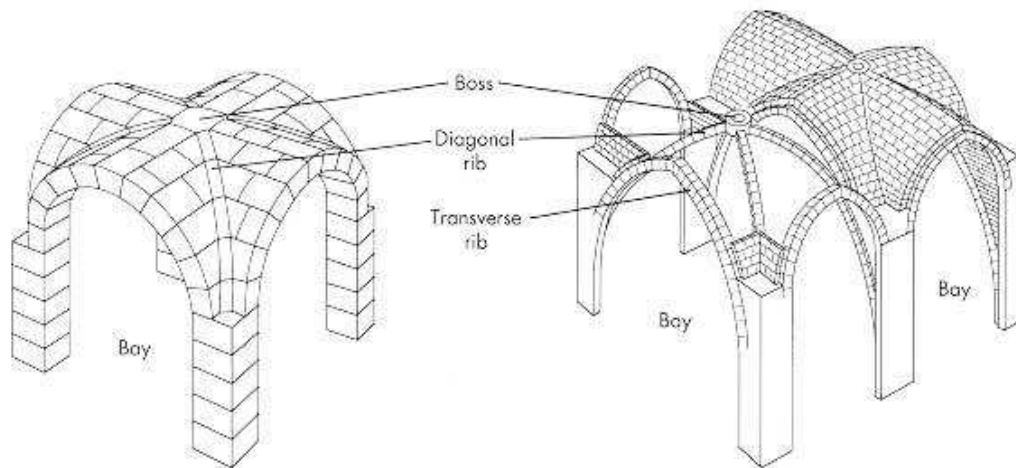
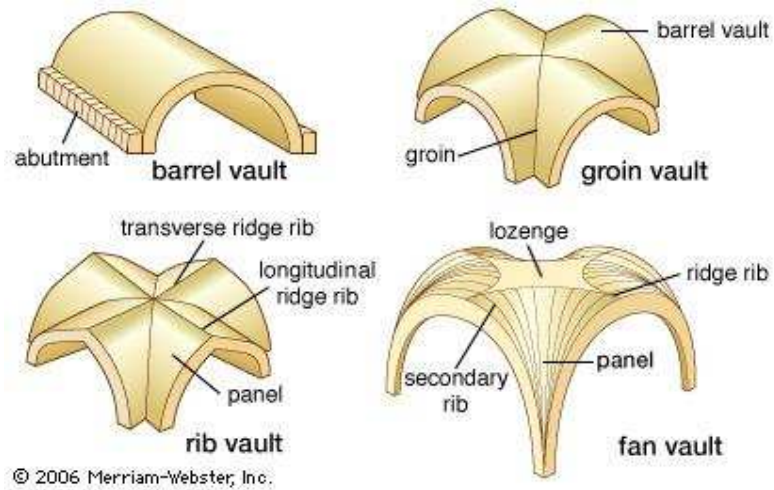


Piers supporting Vaults

- The Pier (an upright support generally square or rectangular in plan) is a better solution for heavy masonry walls than the column.



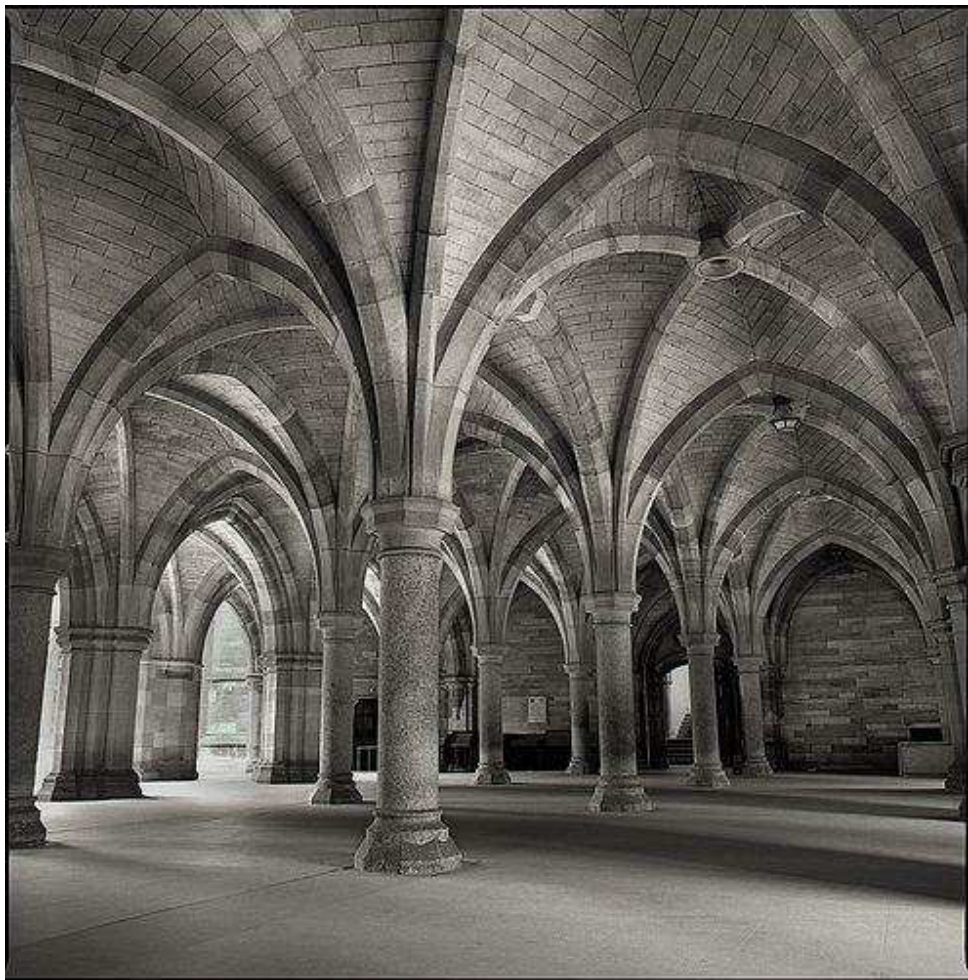
Groin Vaults



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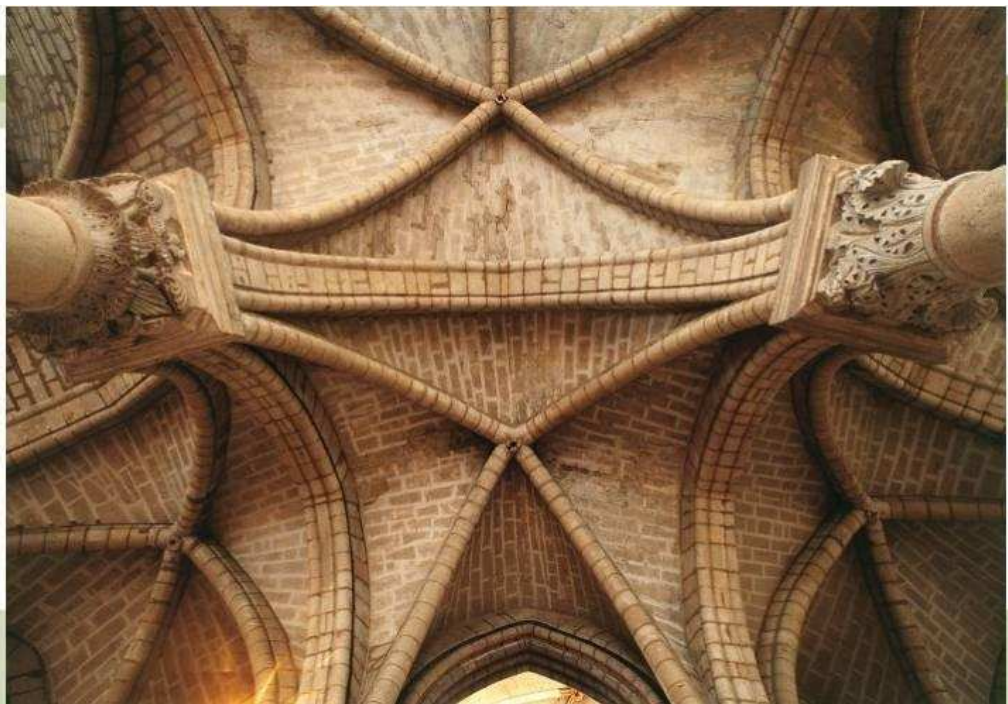


Figure 18-3 Vaults of the ambulatory and radiating chapels of the choir, abbey church, Saint-Denis, France, 1140-1144.

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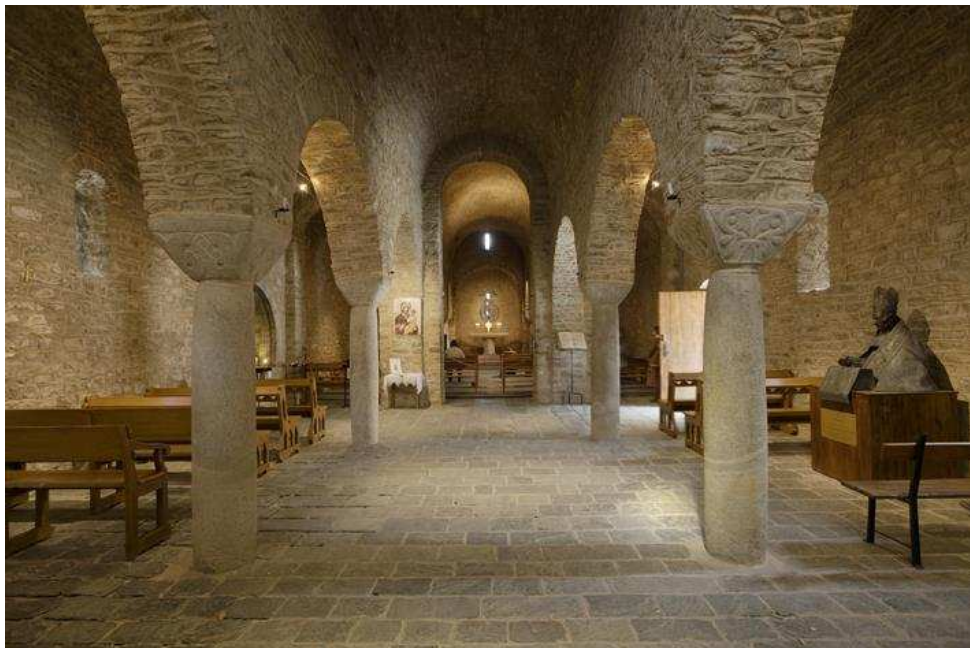
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Abbey Church of St. Martin du Canigou

- c. 1001 – 1026
- Built on a steeply falling site in the French Pyrenees
- Two stories
- Both three-aisled and barrel vaulted
- Small, dark, and plain
 - Illustrates considerable skill in handling a difficult site



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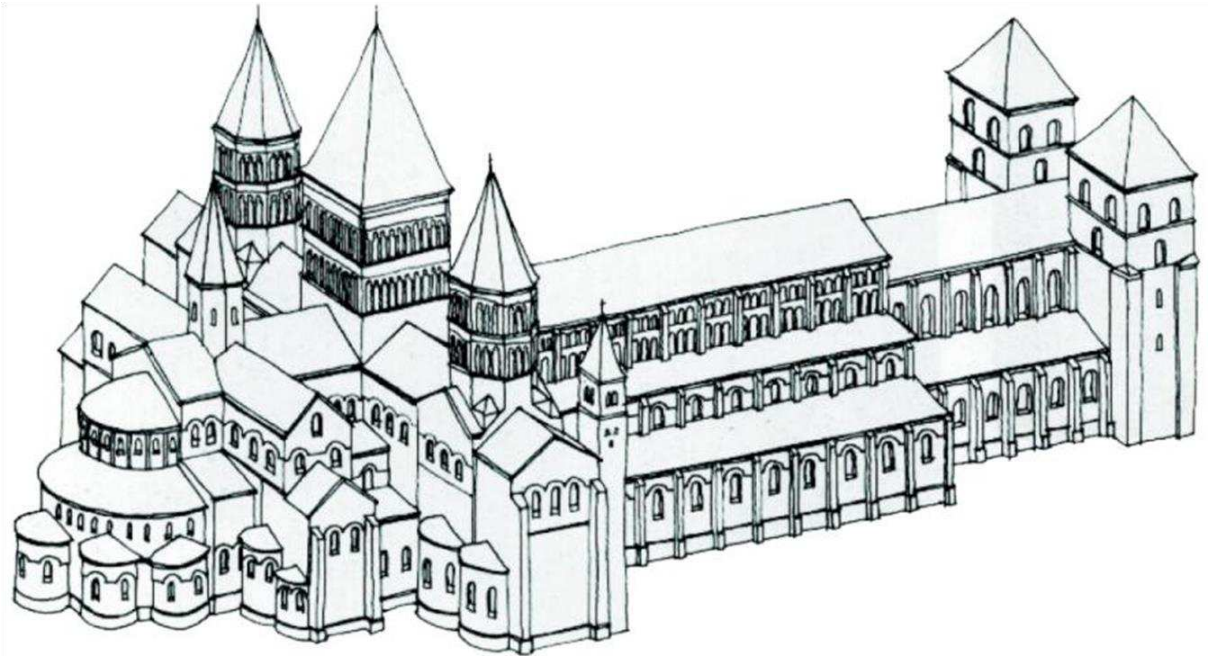
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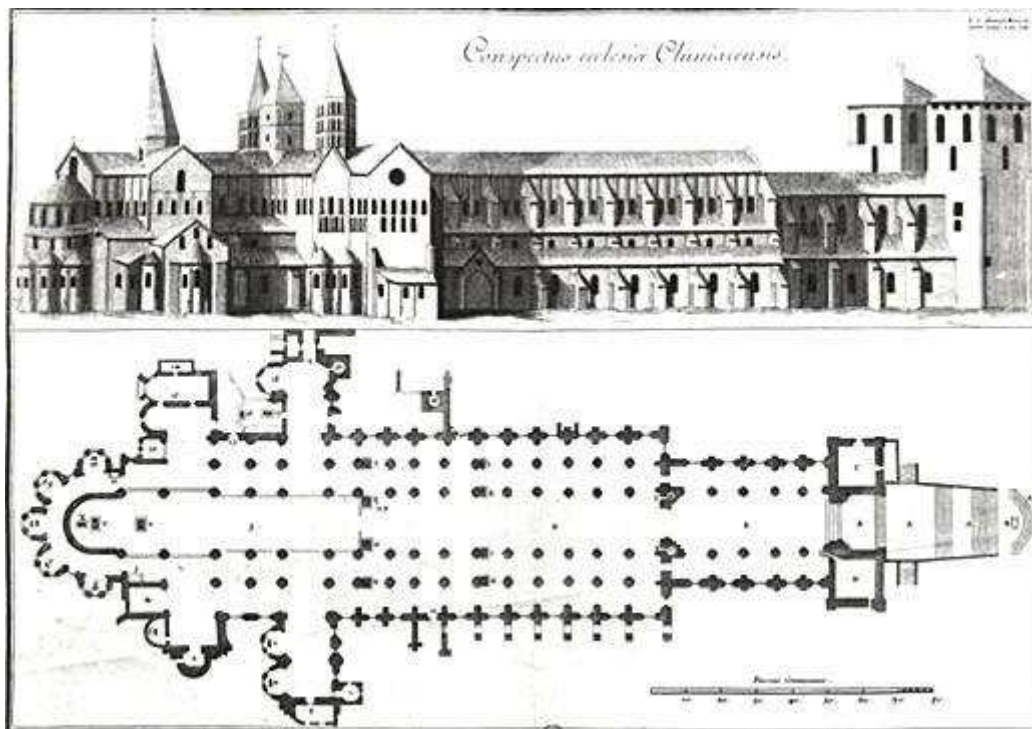
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Abbey Church of Cluny

- c. 910
- Originally a small, timber-roofed construction
 - Called Cluny I
- Replaced in 955 – 981
 - Called Cluny II
 - Almost completely barrel vaulted



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Abbey Church of St. Philibert

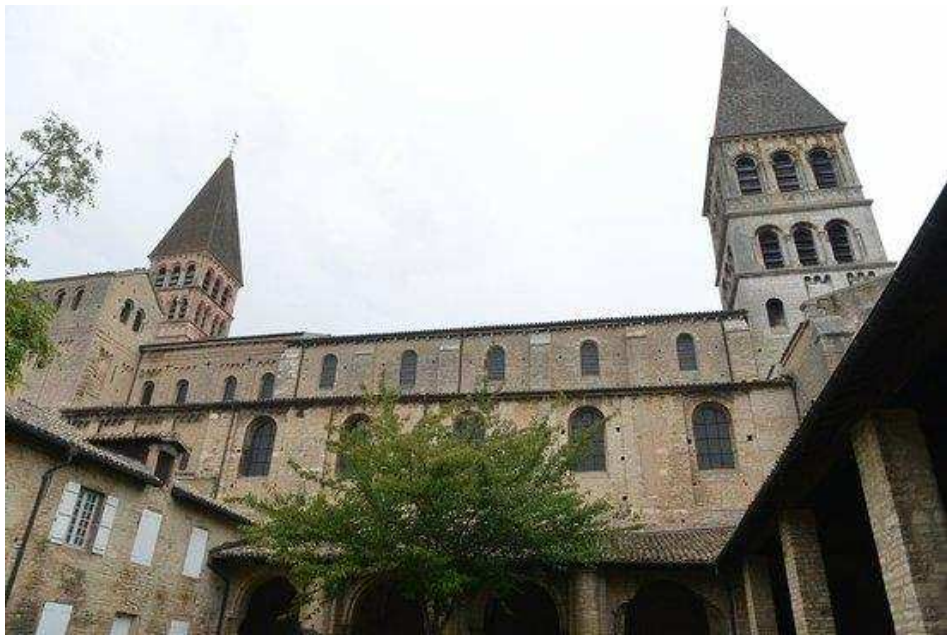
- Located at Tournous, Burgundy, France
- Twin towered exterior
- Facade balanced by pyramidal buildup of the eastern group
- Body of the church had a normal basilican plan
- Radiating chapels allowed for the display of relics at different altars



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