INTRODUCTION

- At the peak of Roman Empire, it covered much of Germany, Spain, Italy and France, part of the Mediterranean region and North Africa.
- Most European cities grew up on the site of a Roman city and bear the grid system of Roman planning e.g. London, Paris, Cologne, Vienna, etc
- Rome ceased to play its major roles as a capital by the end of the 3rd century AD.
- This period coincided with the emergence and spread of Christianity by various Apostles.
- Emperor Constantine converted to Christianity in 313AD with the proclamation of the Edict of Milan which gave official freedom to open practice of the Christian religion.
- This led to the proliferation of Church activities and its architecture in Western Europe.
- However, throughout history, the Christian church has been subjected to divisions and heresies, quarrels and wars.
- Countless numbers of believers have suffered torture and have been cruelly put to death for their faith in Jesus.

INTRODUCTION (contd.)

- Although Jesus was put to death by the Romans, it was the Jewish authorities who rejected the claim that he was the Messiah – that mounted the first attacks upon the church.
- At first the Romans were unaware of the differences between Christianity and Judaism.
- They regarded Christianity as a Jewish Sect.
- It was the Roman policy to allow freedom of worship to the national religion of the peoples they conquered.
- Thus, Christians were granted the same rights and privileges as Jews.
- As the number of Gentile Christians gradually increased, differences between the two religions (Christianity and Judaism) began to emerge.
- The church was no longer seen as a Jewish ethnic group.
- The Romans eventually classed Christians as atheists due to the following suspicious reasons;
 - i. They had no gods they did not display any idols and they refused to worship the Romans' gods and the Emperor.

INTRODUCTION (contd.)

- ii. Believers kept themselves separate from the society hence they came under increasing suspicion.
- iii. They refused to attend the games at the circus because they started with procession of the gods.
- iv. They were difficult to trade with.
- Allegations were counted against them which made Christianity to be declared as a religio illicita (religion outlawed by the state) and Christians became outlaws. The Allegations made against them include:
 - i. Holding of weekly meetings at which they spoke of another kingdom.
 - ii. Partaking of a communal meal at which they were said to 'drink blood and eat flesh' - a practice which led to charges of cannibalism and witchcraft.
 - iii. Regarded as traitors because they refused to offer incense on an altar to the divine Emperor or to address him as 'Lord'
- Christians suffered severe persecution from various Roman Emperors but worse under Nero (54-68) and Diocletian (284-305), until succor came after the conversion of Constantine. 3

ARCHITECTURAL INFLUENCES

i. <u>Geographical</u>

- Christianity had its root in Judea, an eastern province of the Roman Empire.
- Christianity as a religion was propagated by Apostle Peter, Paul and other missionaries and was carried to Rome, being the centre of the World Empire.
- The spread of Christianity to Rome, the fountain-head of power and influence, was faced with stiff opposition and persecution from the pagan inhabitants of the Roman Empire.
- However, despite the opposition and persecution, the new religion took root and grew, till it was strong enough to become the recognized universal religion of the whole Roman Empire.
- Early Christian architecture in Rome was influenced by existing Roman art and it was modified to suit the geographical situation of the different countries in the old Roman Empire such as Syria, Asia Minor, North Africa and Egypt.

ARCHITECTURAL INFLUENCES (contd)

ii. Geological

- Most of the building materials Early Christian builders used were the ruins of Roman buildings.
- As a result of this, the materials e.g. columns, sculptures, mosaics and other architectural features, were worked into the construction and decoration of the basilica churches of the new faith.

iii. Climatic

- The climatic influences in the different provinces of the Roman Empire remained the same as under the Roman architecture (i.e. climatic conditions varied from region to region).
- Christianity was established in such Roman provinces as Egypt, Syria and North Africa, and as such, their climatic conditions naturally modified their architectural style.

ARCHITECTURAL INFLUENCES (contd)

iv. <u>Historical and Social</u>

- Early Christian period lasted from Emperor Constantine to the coronation of Charlemagne (800) by Pope Leo III in Rome.
- After the coronation of Charlemagne, the empire was known as the Holy Roman Empire, a title which survived until 1806.
- Constantine changed the capital of the Empire from Rome to Byzantine in 330, bringing to an end the old Roman political system.
- Consequent upon the division of the Roman Empire into eastern and western empires in 364, Christianity suffered further disabilities.
- There were various attempts at reuniting the divided empires by Theodosius the Great (379 395) Zeno and Theodoric the Goth (493 526).
- Kings were now elected for the separate states of Spain, Gaul (France),
 Northern Africa and Italy.
- The emancipation of Western Europe from direct imperial control facilitated the growth of new states and nationalities.
- As a result, a fresh impulse was given to Christianity and eventually strengthened the power of the bishops of Rome.

ARCHITECTURAL INFLUENCES (contd)

v. Religious

- In all human history, there is no record as striking as that of rise of Christianity.
- Likewise, there is no phenomenon as outstanding as the rapidity with which it was diffused throughout the civilized world.
- Over the ages and up till now, Christianity inspired the building of some of the greatest architectural monuments.
- Expectedly, many more ruins of early Christian basilicas are to be found in Christian communities established by the Apostle Paul in his missionary journeys round the Eastern Mediterranean, Syria, Asia Minor, Greece and Italy.
- However, unlike most of the Temples built by the Greeks and Romans to shelter the statue of the gods, the purpose of the Christian churches was to shelter worshippers who met for prayers and praise to an unseen deity.
- Before Christianity was accepted as an official religion, various places were adapted for worship, thus the building of pagan temples ceased before any conscious attempt was made to build Christian churches.
- In 313, Constantine and Licinius issued their celebrated Edict of Milan; giving Christianity equal rights with other religions and in 326, Constantine made it the official religion of the Roman Empire.

EARLY CHRISTIAN ARCHITECTURE (313-800) ARCHITECTURAL INFLUENCES (contd)

v. Religious

- The Church being saved from persecution from without, was freed from the need from unity within which led to its decision on doctrinal bases.
- Consequently, the council of Nicaea (325) was called by Constantine which was the first of several such councils for the settlement of disputes about heresies.
- The steady growth and progress of Christianity was temporarily arrested by a reaction (361-3) under Julian the Apostate, and then for several generations the religion suffered in European civilization and the whole continent was given over to war and anarchy.
- Pope Gregory the Great (590-604) employed the imperial army of Constantinople to defend Rome against the Lombard's and thus by making common cause with the people, early laid the foundations of the temporal power of the Papacy which steadily increased especially under Popes Adrian I and Leo II.
- Rivalry between East and West Empires led to a schism in the Church which culminated in the coronation of Charlemagne in 800, under the title of Emperor of the Romans.

ARCHITECTURAL CHARACTER

- Each age of human civilization inevitably modifies the art it has inherited, sometimes conscious and sometimes unconscious, to adapt the art of the past to express the outlook of the present.
- Thus in architecture one style is generally evolved from that preceding by a series of gradual changes and refinement.
- Therefore, the Early Christian adapted itself to existing pagan architecture of the Roman Empire.
- The architecture forms were not accidental but part of the continuation of Roman tradition in masonry, arches, vaults and the basilica plan.
- The early Christians as Roman craftsmen, continued old Roman traditions, but prosperity was declining and it was natural that for their new buildings they should utilize as far as possible the materials from Roman temples which had become useless for their original purpose.
- Subsequently, it created its own forms which varied according to local stylistic evolution.
- Emperor Constantine the Great (306-337) in the fourth century (c334) moved the capital from Rome to Constantinople (ancient Byzantium) now in present day Turkey which became an important center.
- This separated Christian Church into Greek East and Latin West; with Constantinople (Byzantium) and Ravenna as their respective capitals: each region with its own form of Christian architecture.

ARCHITECTURAL CHARACTER (contd)

- The art and architecture of Byzantium henceforth became known as Byzantine architecture and extended throughout the entire Christian east.
- The western or Roman (Latin) church developed on the concept more concerned with congregational participation in the mass preferred by the Roman basilica.
- The eastern or Byzantine church preferred a more contemplative form of popular worship focused on the venerations of icons i.e. a painted image of a religion figure.
- The end of early Christian architecture was closely tied to the Roman architecture which finished with the collapse of the empire at the end of the 5th century (476 AD).
- It later transformed into a multitude of regional styles; it also assimilated various influences from the east and from the barbaric peoples who superseded their Roman masters.
- Early Christian architecture is divided into two periods quiet unequal in length and in importance.
- The first period preceded the Edict of Milan (313 AD) which decreed official tolerance to Christian worship. Before then, Christians were often persecuted.
- The second period, Christianity soon became the state religion.
- Monuments of the first period were modest and few in number while those of the second period were numerous and splendid.

First Period (to 313 AD)

- Little was known about Christian places of worship before 313 AD.
- Christian architecture of this era was focused and restricted on decoration of hidden places of Christian worship such as catacombs or crypts and *titulae* (private houses converted to meeting houses).

i. Catacombs

- A catacomb is an underground cemetery consisting of passages or tunnels with rooms and recesses leading off them to burial chambers.
- Romans buried their dead in family catacombs, which were excavated outside the city walls and protected by law.
- Later, Romans had preference for cremation.
- However, Christians continued the practice of interring the dead in catacombs, called koimeteria or 'sleeping places'.
- This suggests that for a Christian, death was merely sleep before resurrection.
- During times of persecution, catacombs became places of refuge because burial places were sacrosanct by law.
- In the 3rd century, mobs and officials began to violate the catacombs. Thus, Christians destroyed the old entrances and made secret ones.
- The catacombs especially the tombs of martyrs became places of pilgrimage.
- During the unsettled periods when Rome suffered waves of barbarian invaders, the catacombs were filled in to prevent desecration, their entrances were sealed, and the remains of the martyrs transported to places of safety.

First Period (to 313 AD) (contd)

ii. Titulae (Meeting Room)

- Well-to-do Christians gave their private homes "domus ecclesiae" or Roman palace in form of tenement (renting or buying) to the Christian communities.
- "Titulae" which means community center or meeting house were also often used.
- These types of houses were acquired or rented and altered to fit congregational needs of the churches.
- There was usually a spacious room, already existing or fitted out for the occasion which served as a chamber of worship, while other rooms were allotted for the activities of the Christian community which include charity work, study, funeral services, and living quarters for the clergy.
- The meeting room usually contained a longitudinal sanctuary, a baptistery and four smaller rooms grouped around an interior courtyard.
- The sanctuary usually stripped of decoration, was distinguished only by a small cupola set in the ground near the platform.
- The general characteristics of these meeting houses seem to have been the same everywhere and they must have been rather numerous.
- The names of the 25 Christian basilicas in Rome today are in fact, the names of the private houses in which these congregations were first established.

Second Period (after 313 AD)

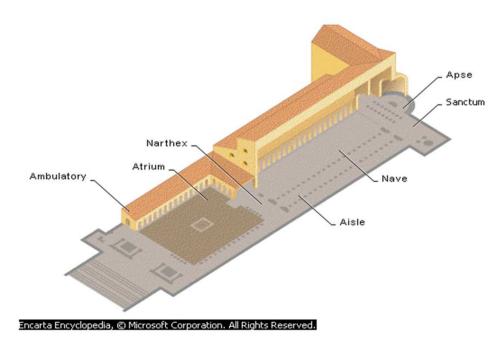
- The practice of renting or buying "Domus Ecclesiae" continued until basilicas sprung up about 400 AD.
- The term basilica means a covered, large rectangular meeting hall; in modern usage, a basilica is a Roman Catholic Church that has been granted certain privileges by the pope.
- The Roman basilica—a civic hall—became the model for churches since it could readily accommodate the congregational worship of Christians.
- The basilica plan was adopted by architects when Constantine officially recognized the Christianity in 313 AD.
- The principal shrines in Rome became the sites of enormous timber-roofed basilicas.
- Constantine in order to give a tangible expression to his new Christian faith commissioned the construction of three enormous Christian basilicas all erected in the 4th and 5th centuries; St. Peter's Basilica, Rome; St. Paulo Fuori le Mura, Rome and St. Giovanni Basilica in Laterano.
- The plan often included an *atrium*, or forecourt; a *narthex*, or porch; a long nave (central hall) flanked by side aisles; a transept hall crossing the nave; a semicircular or polygonal apse (east end of a chapel, reserved for clergy) opposite the nave; and the altar in front of the apse, was set directly over the shrine.

Basic Characteristics of a Basilica.

- A basilica was usually erected over the burial place of the saints to whom the church was dedicated.
- A basilica is a large, covered, rectangular meeting hall for public administration and business.
- It is a hall with three or five longitudinal aisles.
- The central one known as the nave has its walls raised than the others and lit directly by clerestory windows piercing the high walls (clerestory wall) to let light into the central part of the building.
- The straight nave is either roofed with a barrel vault or groined vault, or more often a trussed timber roof.
- A semicircular protrusions on the shorter side of the wall opposite the entrance known as an apse, contains the votive altar, seats of assessors and the praetor's throne.
- The apse was first on the west side but later on the east side, or on both sides, was covered over with a half-dome vault.
- A small wing (transept) was usually added flanking the nave on each side at right angle, to make more space for the priests giving the church its cruciform plan.
- The side aisles were separated from the central nave by rows of columns.

Basic Characteristics of a Basilica (contd)

- In earlier construction, the columns were very close together being connected by rectilinear stone entablature or solid horizontal section.
- They were later replaced by a series of arches resting on capitals so that they could be spaced more widely.
- The hall itself had a wooden frame roof.
- Men usually stood on one side aisle and the women on the other.
- The basilica was usually erected over the burial place of the saint to whom the church was dedicated.



Terminologies

- Ambulatory an aisle at the end of a choir or chancel in a church, or a covered walkway of a cloister.
- Atrium the open central courtyard of an ancient Roman house. in modern terms - a central hall usually with a glass roof or skylight and extending the full height or several storey of a building.
- Narthex an entrance hall at the west end of a Christian church between the porch and the nave.
- Aisle an area of a church separated from the nave or central area by pillars, especially one forming a passage between seats.
- Nave the long central hall of a cross-shaped church, often with pillars on each side, where the congregation sits.
- Sanctum a sacred place inside a church, temple, or mosque.

EASTERN CHRISTIAN (BYZANTINE ARCHITECTURE) 450-1453 & later INTRODUCTION

- Also known as Byzantine Architecture
- Originated in ancient Greek town of Byzantium (Constantinople), which the Roman emperor Constantine chose in 330 as his new capital and named after himself.
- Characterized by worship focused on the veneration of icons while western Christian is characterized by congregational participation in the mass.
- The basic architectural character of the Byzantine architecture is the novel development of the dome to cover polygonal and square plans.
- The domical system of roof construction of the Byzantine is in contrast to the Early Christian timber trusses and the Romanesque system of stone vaults.
- The basilica type of plan belongs to early Christian architecture and the domed, centralized type of plan to the Byzantine.

BYZANTINE ARCHITECTURE (450-1453 & later)

Early Byzantine Period (330 – 726)

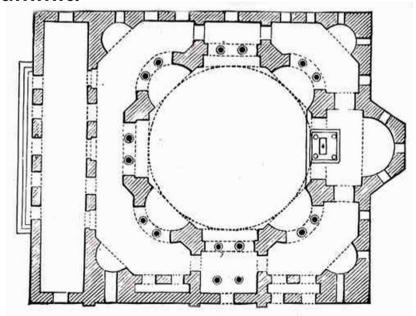
- Majority of the artisan's that begun to build in Byzantium were drawn from Rome.
- The official art was early Christian in style or infact was basically Roman e.g. the classical basilica was adopted as the usual type of Christian church.
- However, change was already in the air even before the capital was moved from Rome.
- For instance, Greek post-and-lintel construction in stone was taken over by the Romans and gave way to architecture of arches, vaults and domes in bricks.
- Constantinople was carefully laid out and boasted an important series of secular buildings - walls, hippodrome, forums, public buildings, arcaded streets and an imperial palace – all of great magnificence.
- The public buildings erected in the new capital included a university, two theaters, eight public and fifty-three private baths, fifty-two covered walkways, four law courts, fourteen churches, and fourteen palaces.
- In summary, most of old Byzantine architecture owed much of its growth to Roman influence including influences from the Mediterranean and oriental cultures such as Persia, Chinese and India which were within its orbit.

Development of the Characteristic Byzantine Church.

- They had two types of religious structures: the longitudinal basilica plan (i.e. Early Christian architecture) and the centralized church plan (Byzantine).
- The former usually with three aisles were intended for congregational worship while the latter were circular, square, or even octagonal, and they were for burial or commemorative usage.
- Byzantine church developed on the central church concept, assembled around a central dome like the Pantheon.
- It emerged through a subtle combination of the two principal church types after some experiments in the 5th century.
- The Byzantines adopted the hand-laid, regular brick-work construction of the Romans.
- The carcass of brickwork was first completed and allowed to settle before the interior surface cladding of marble slabs was added.
- The Byzantines therefore took great pains in the manufacture of bricks, since brickwork lent itself externally to decorative impulsive patterns, and internally it was suitable for covering with marble, mosaic and fresco decoration.
- This general use of brickwork necessitated special care in making mortar.

Byzantine Architecture Under Justinian

- The process of development of Byzantine architecture was advanced further by emperor Justinian.
- Justinian was one of the greatest builders of all times.
- He was responsible for building of four major churches in Constantinople
- i. SS. Sergius and Bacchus, Constantinople (525-530)
- Nearly square in plan measuring
- Interior arrangement has only four colonnaded niches to the central octagon.
- The dome over the central space measures 16m in diameter and 21m high.
- The dome is visible externally, and has a peculiar melon-like form with ridges and furrows from base to summit.

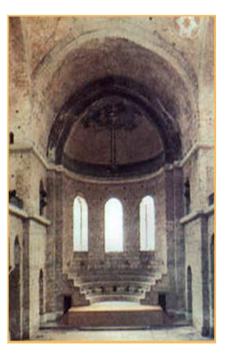


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ii. The Church of St. Eirene (Irene), Constantinople.

 First built in 532 on the site of a former church and later rebuilt in 564 and again in 740.





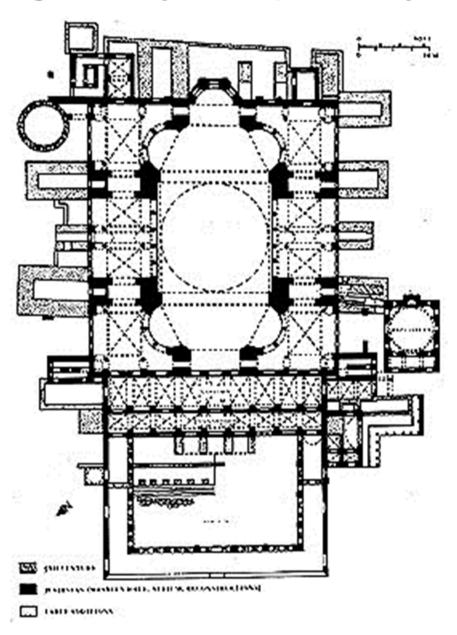
iii. The Church of the Apostles, Constantinople.

- Founded by Constantine the great and later rebuilt by Justinian.
- Destroyed in 1463 to make way for the mosque of Sultan Mohammad II.
- It has a cruciform plan surmounted by five domes and was said to have been the prototype for St. Mark, Venice.

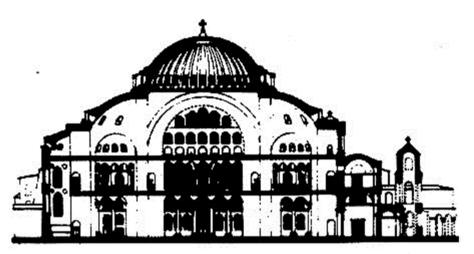
iv. Great Cathedral of Hagia Sophia, Constantinople (532-537).

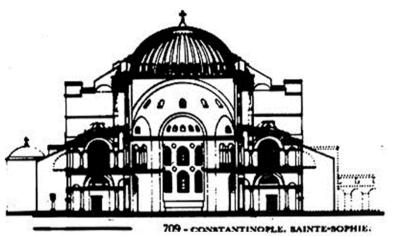
- Hagia Sophia means divine wisdom.
- Built by Justinian by the architects Anthemius of Tralles and Isidorus of Miletus.
- It was the most important church in Constantinople.
- The imposing narthex (61x9m) is in two storeys, the lower was used by catechumens and penitents, while the upper forms part of the gallery of the church.
- The plan consist of a central space (32sq.m), with four massive stone piers (each measuring 7.6 x 18.3m) supporting four semicircular arches (pendentives) upon which rests a dome (32m in diameter and 54.8m above the ground).
- The gigantic pendentives to the central dome overhang about 7.6m and are over 18.3m high above which the dome itself rises only 15.2m high.
- The dome is constructed of bricks with mortar joints of 50mm thickness.
- Walls and piers were covered with marbles while the floors were finished with rectangular marble paving slabs.
- The brick walls of the exterior are less impressive than the interior and create a drab effect at close quarters.
- The lofty minarets were added by the Turks after the capture of Constantinople in 1453.
- St. Sophia is the supreme monument of Byzantine architecture, and provided the model for many of the great mosques which were built after the Turkish capture.
- The building is now a museum.

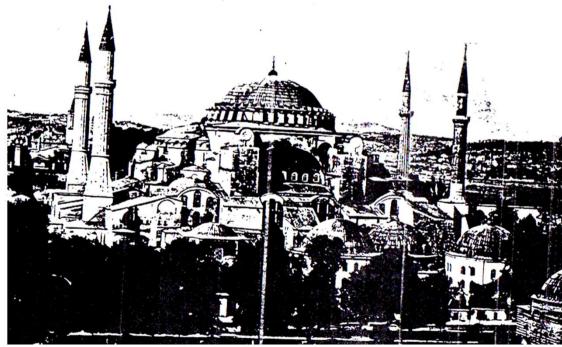
Hagia Sophia (floor plan)



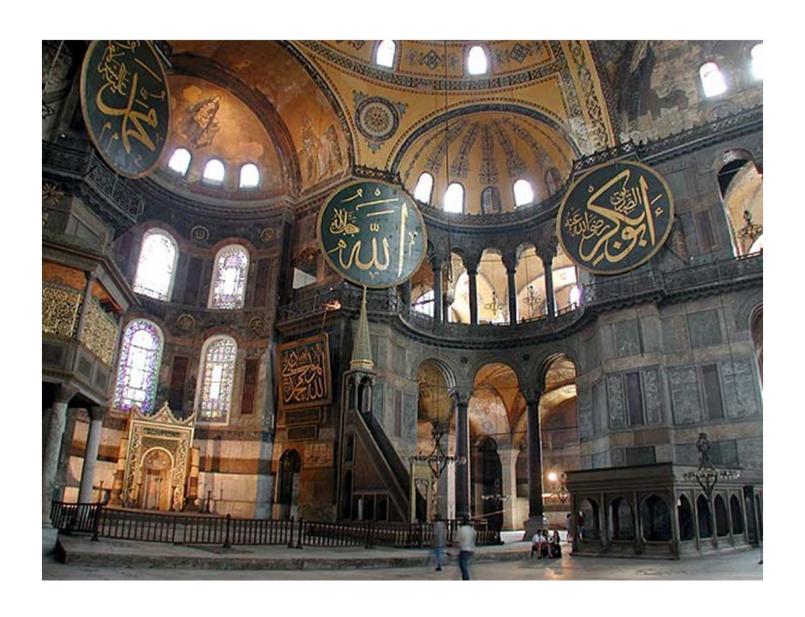
Hagia Sophia







Hagia Sophia Gallery

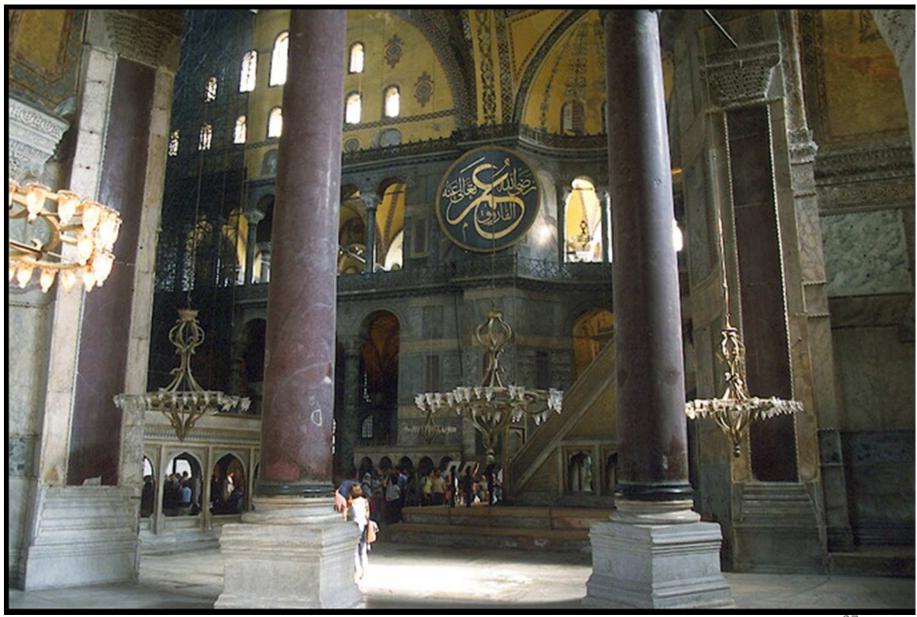


Hagia Sophia Gallery

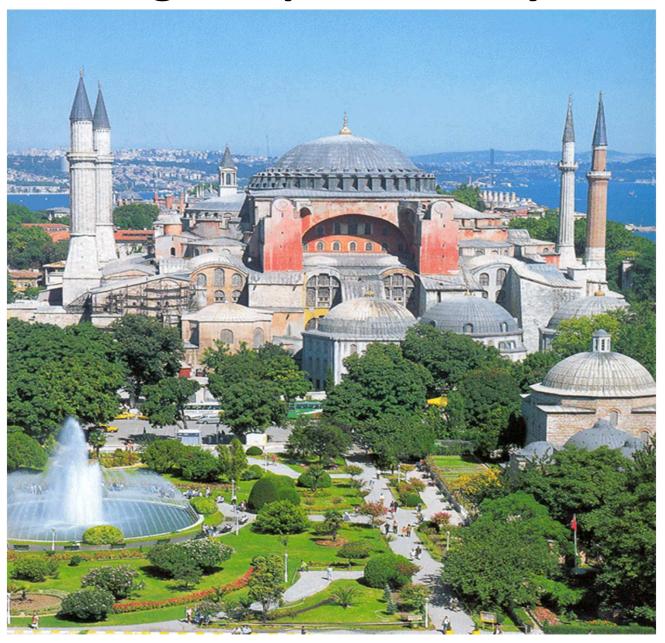


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Hagia Sophia (interior columns)



Hagia Sophia Gallery



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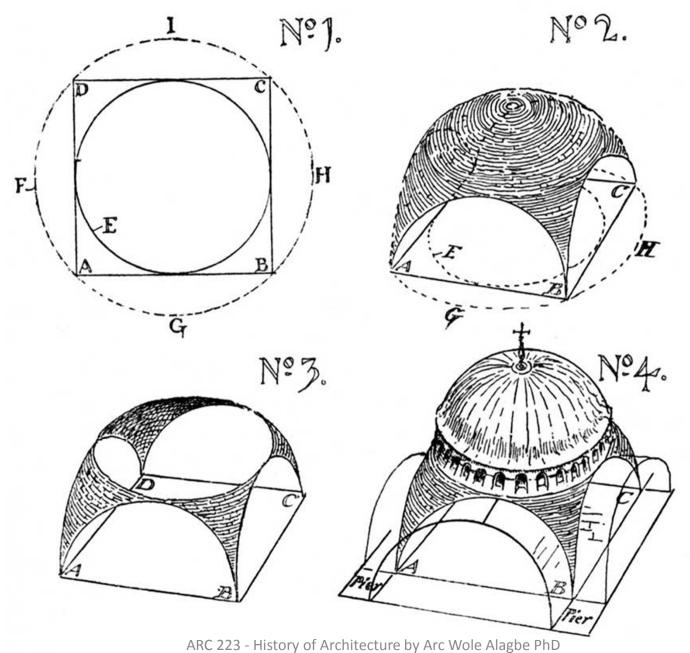
Byzantine Architecture Under Justinian (contd)

- The distinctive feature of all these structures was the roof (the dome) which became the prevailing motif of Byzantine architecture.
- In SS. Sergius and Bacchus, the dome stood on an octagonal base so that no great problems were involved in converting the angular ground plan to a circle on which the dome could rest.
- In the others, the dome stands above a square and the transition from the one to the other was complicated.
- This was achieved using two separate processes:
- i. The squinch a niche or arch in the corner of the square, which transformed it into an octagon, over which the dome could be placed without great difficulty.
- ii. The pendentive a spherical triangle fitted into the corners of the square, its vertical sides corresponding to the curves of the arches supporting the dome and its upper side corresponding to the circular base of the drum. This served to brace and support the weight and to transfer it downward to the ground at the same time.

Byzantine Architecture Under Justinian (contd)

- Domes of various types were placed over square compartments by means of pendentives, whereas in Roman architecture domes were only used over circular or polygonal structures.
- The squinch served its purpose well enough and continued in use for many centuries, but it had certain weaknesses.
- The pendentive was one of the great architectural inventions of all time.
- It serves to transform what had been mere buildings, where stress was counteracted by mass into organic architecture, where thrust was compensated by thrust and strength depended on balance.
- The squinch was first used in Persia and the pendentive in Syria.
- Byzantine architecture developed from models of Justinian's domed basilicas but Hagia Sophia remained unique.
- No attempt was made by Byzantine builders to emulate it.

Byzantine Domes & Pendentives



THE ICONOCLASTIC AGE (726 – 843)

- Byzantine period ended with the onset of the Iconoclastic controversy.
- Iconoclastic controversy was the violent debate over icons (sacred religious images) that devastated much of the empire for over 100 years.
- The Byzantine Church's unique devotion to icons was nourished by monasticism.
- Monasticism flourished in the Mid Byzantine era, guiding the course of theology, and religious practices of Byzantium.
- Icons (sacred images) were brought out for special occasions, carried in processions, and were even used to protect cities in wartime.
- They were bowed to, prayed to, sung to, and kissed; they were honored with candles, oil lamps, incense, precious-metal covers, and public processions.
- Iconoclasm was derived from two Greek words 'eikon' (image) and 'klaien' (to break).
- Iconoclasm movement against the religious use of images in worship.
- An iconoclast is a person who destroys religious images or opposes their veneration.

THE ICONOCLASTIC AGE (726 – 843) (contd)

- Emperor Leo III promulgated a decree in 726 & 730 which placed a ban on the representation of saintly or divine personages in Constantinople.
- The decision was condemned by the pope, but the action was rigorously enforced by Leo and even more by his son and successor Constantine V, who had the worship of images condemned as idolatry at the church council held in the suburban palace of Hieria in 754.
- The accession of Empress Irene brought with it a change in policy, and the iconoclasts were condemned in turn at the second Council of Nicaea, in 787.
- Iconoclasm sprang up again in the first half of the 9th century but was finally condemned at the Council of Orthodoxy held in 843 under the patronage of Empress Theodora II.
- The consequences of the iconoclastic controversy i.e. the effort to remove images from the church failed, but it helped bring about the split from the western church in 1054.
- The period was also characterized by a reduction in the prosperity of the state.
- Despite all these shortcomings, churches still continued to be built including the Church of Assumption at Nicaea and Hagia Sophia at Salonika.

THE MID-BYZANTINE PERIOD (843 -1204)

- The mid-Byzantine period succeeded iconoclasm.
- This period was more of consolidation rather than of experimentations of the Justinian age.
- The most understanding emperor of this period was Basil 1 (867-886).
- His most interesting contributions to church buildings were the New Church and the Church of the Theotokos of the Pharos.
- Both were typical of what was to be the mid-Byzantine style i.e. the cross-in-square.

Mid-Byzantine Church Type (Cross-in-Square)

- Made up of three aisles which terminates at the chapel in the east.
- Has a transverse nave, known as the exonarthex at the west.
- Over the central aisle was a dome supported on four columns, with four vaults radiating from it to roof the central aisle to the west, the sanctuary to the east, and the central portions of the side aisles to the north and south, with subsidiary domes over the lower roofed area between the barrel vertical arms.
- The central vault rose above the roofs of the other portions of the building so that the church was cruciform at roof level.
- The churches had their plans virtually a square.
- The Byzantine church was adorned with mosaics and frescoes.
- Human figures were arranged in a precise hierarchy on dome, drum, pendentives and apse and the eye was drawn not along the nave towards the altar but up into dome, where Christ was depicted as judge.
- The most surviving example is the main church at the monastery of St. Luke near Delphi in Greece (c.1050).

THE LATE BYZANTINE PERIOD (1204-1453)

- Lasted from 1204 until the fall of Constantinople in 1453 to the Ottoman Turks.
- The looting of Constantinople in 1204 led to continuous shrinking in its territory and resources until the state became so impoverished and was no longer able to exercise independence from outside powers.
- Meanwhile, the Byzantine church increased in prestige and authority as the emperors weakened.
- Churches of this era were on a smaller scale and follow the plan of those of the mid-Byzantine period.
- However, the appearance changed considerably with the domes much smaller and higher, while the exterior walls surfaces were usually elaborately decorated.
- Exterior brickwork was often treated ornamentally with herringbone designs, niches and blind arches.
- The decoration was done either with intricate patterns in brickwork or by setting glazed pottery vessels into the wall to form friezes similar to work in tile.
- Building materials varied with locality though brick generally was preferred to stone.
- Grandeur was generally lacking but all the buildings have considerable charm.
- Other major Byzantine churches include: San Vitale, Ravenna, St. Mark, Venice, San Theodore, Constantinople, The church of the Holy Apostles, Salonica. 36

BYZANTIUM AND ITS INFLUENCE ON NEIGHBORING PEOPLES KIEVAN RUS AND RUSSIA

- Kievan Rus, Ukraine capital was converted to Christianity in 988.
- About 1045, Byzantine craftsmen brought mosaic into Kiev.
- They also worked intermittently in the area founding Russia art on a Byzantine basis.
- Thus, the characteristics of Russian ecclesiastical architecture followed the Byzantine pattern.
- The standard scheme of the Greek Church i.e. the cross-in-rectangle or cross-in-square and the dome supported on piers or on pendentives became the accepted type for Orthodox churches.
- The principal theme of Russian architecture was the design and support of the central dome or cupola, together with the number and disposition of the subsidiary cupolas.
- The main monuments of Kiev were: The Church of the Tithes (989-996), The Cathedral of St. Sophia (1037-46), The Church of the Assumption in the Monastery of the Caves (1073-78).

Developments in Novgorod

- Novgorod was the center of a unique and quiet original art.
- fundamental features of late Russian architecture was developed in this city.
- These features were exemplified in the Cathedral of St. Sophia, Novgorod (c.1045-52) built to follow its Kievan namesake in plan, but with apparent divergence from the Byzantine pattern.
- Modifications came to the Byzantine architectural forms of the north due to severe climate and heavy snowfalls.
- i. Windows were narrowed and deeply splayed;
- ii. Roofs became steeper and
- iii.Flat domes profiles assumed the bulbous form, which in different varieties, eventually became the most notable feature of the Russian church architecture.
- Moscow aspired to rival the older centers of cultures (having become the '3rd Rome' by launching a building programme commensurate with its international importance.

Changes in Church Design in Russia

- i. Introduction of the tiered tower and the tent-shaped roof developed in wood by Russia's carpenters.
- ii. The bulb-shaped spire was replaced with the traditional Byzantine cupola.
- iii. Dynamic exterior articulation and especially Russian national characteristics.
- Examples of the boldest departure from Byzantine architecture are the Churches of the Ascension at Kolomenskoye (1532) and the Deccopitation of St. John the Baptist at Dyakovo (c.1532), the Cathedral of St. Basil (Vasily), the Blessed (the Pokrovsky Cathedral) in Moscow (1554-60).





The Churches of the Ascension at Kolomenskoye, Russia



St. Basil's Cathedral, Moscow



Cathedral of Saint Sophia, (Hagia Sophia of Kyiv) Ukraine 40

ROMANESQUE ARCHITECTURE (9th to 12th century)

INTRODUCTION

- 5th century Medieval Europe became vulnerable to occupation by the barbarians after fall of the Roman Empire.
- 7th century threat of Arab advances which resulted in isolation of Europe on the edge of the ancient civilized world.
- 11th century Europe witnessed a revival in civil and economic life, thus they once again began to grow.
- Romanesque is the name given to the architectural and artistic style current in Europe from about the 9th to mid-11th century until the advent of Gothic architecture.
- The term Romanesque was coined by Charles-Alexis-Adrien de Gerville in 1818 from two Latin words (romanico, romanisch) meaning 'romance'.

Definition of Romanesque Architecture

- Romanesque is Roman, but with difference i.e. differences which brought about richness of expression which varied from region to region.
- Collapse of the Roman Empire led to eco-political crisis in Europe.
- Consequence: decay of some cities and dispersal of their inhabitants into rural areas where they were isolated in walled communities known as monasteries.
- Monastic buildings were one of such finest creations which arose as a consequence of the collapse of the Roman Empire.

Definition of Romanesque Architecture (contd)

- The countryside was divided naturally into neighborhoods, due to difficulties and hazards in communication and transportation either by land or by sea.
- These neighborhoods were large estates and contained hundreds of farms.
- Under these conditions, a monastery serves a considerable surrounding area as an administrative, intellectual and spiritual center. It could also serve as a workshop, granary and refuge.
- Infact the Romanesque period had a unifying theme in monasticism.
- Monasteries were islands of civilization in a very much-disturbed world, which consists of brotherhoods that lived the ideal Christian life as it was understood at the time.
- Increasing prosperity of this time made monastic building complexes became better organized, better built and more impressive.
- The great patrons of monasteries were the abbots, including the bishops and magnates.
- The owner's residence was located at the center of the monastery, usually with a cathedral, an abbey and castle.
- The estates each section is controlled by a manor.
- It was in this environment that Romanesque architecture was born and thrived.
- Emperor Charlemagne contributed to the glory of the further development of Romanesque architecture.
- He gathered artists and artisans around him and re-established monasteries and institutions of learning.

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Monasticism

- Monasticism institutionalized religious movement whose members attempt to practice works that are beyond those required of both the laity and the spiritual leadership of their religions.
- Monasticism flourished in the Mid-Byzantine era, guiding the course of theology, the veneration of icons, and the piety and religious practices of Byzantium.
- Monasticism is derived from the Greek word monachos 'living alone' in the sense of being unmarried (monk).
- Monks are generally celibate; the monastic individual separated himself or herself from general society either by living as a hermit or anchorite.
- Monasteries played an important role in the social system of the middle ages as they formed the connecting link between the ecclesiastical hierarchy on one hand and the secular life on the other.
- In the cities monasteries administered orphanages, craft schools, poor houses, rest homes, and hospitals. In the countryside, monasteries functioned as agricultural communes.
- These monastic settlements were factors in the development of medieval architecture.
- There were various monastic orders each with different pursuits under Christendom and they played a vital role in the progress of Romanesque architecture.

Monastic Orders

- a. Religious Orders
- The Benedictine Order ('Black Monks')
- The Cluniac Order
- The Carthusian Order (the Knight of St. John)
- The Cistercian Order ('White Monks')
- **Secular Canons**
- **b.** The Orders of Canons Regular
- Augustinian Canons ('Black Canons regular')
- Premonstratensian Canons ('White Canons regular')
- **Gilbertine Canons**
- Franciscan Friars (Jesuits) or the Orders of Friars.
- c. The Military Orders
- the Knights Templar
- The Knights Hospitallers ARC 223 History of Architecture by Arc Wole Alagbe PhD

The Benedictine Order

- Monks and lay brothers who follow the rule of life of St. Benedict of **Nursia in France (c.480-c.547).**
- The Benedictine was the chronicler and most learned of all monks.
- Monastic activities: life of contemplation and celebration of the liturgy; education, scholarship, parochial and missionary work, in addition to carefully integrated prayer, manual labour and study.
- Daily routine involves 4 8 hours of celebrating the divine office and 7 or 8 hours to sleep; the remainder of the day was divided equally between work (usually agricultural) and religious reading and study.
- The early Benedictines wore white (natural color of undyed wool).
- Later, they wore black cloaks and scapula with a hood to cover the head over their white habits.
- Called "Black Monks" due to wearing of black as a prevailing color.
- Benedictine houses were commonly sited in towns, part of the church being devoted to offices for the laity. 45

The Cluniac Order

- Founded by Abbot Odo (William of Aquitaine) in 910 at Cluny in France, as a revival movement based on the Benedictine order.
- It stressed biblical scholarship and elaborate church ceremony.
- The order's reforms extended to other monasteries in Germany, Italy, Spain, and England.
- The order ended in 1790, though its influence persisted.

The Carthusian Order

- Founded by St. Bruno of Cologne in 1084 with six companions in the solitude Valley of Chartreuse in France.
- Monastic rules: They combine the solitary life of hermits with a common life within the walls of a monastery.
- They wear rude clothing and eat vegetables and coarse bread.
- Carthusians were divided into two classes, fathers (*patres*) and lay brothers (*conversi*).
- Each father occupied a separate cell, with a bed of straw, a pillow, a woolen coverlet, and the tools for manual labour or for writing.
- Monks left their cells only on festivals and on days of the funeral of a brother of the order.
- Three times a week they fasted on bread, water, and salt; and several long fasts were observed during the year.
- Meat was forbidden at all times and so was wine, unless it was mixed with water.
- Unbroken silence was enforced except on rare occasions.

Character of Romanesque Architecture

- Characterized by deliberate articulation of structure in which each constructive part played a design role in establishing equilibrium.
- The new system was achieved by using dressed stones of comparatively small size connected by thick beds of mortar.
- The Romanesque style which was current from 1000 lasted till 1150 by which time it gave birth to Gothic system of architecture, in which elasticity and equilibrium were jointly employed.
- Romanesque art resulted from the great expansion of monasteries in the 10th century and 11th centuries.
- Several large monastic orders notably the Cistercian, Cluniac, and Carthuisian, sprang up at the time and quickly expanded, establishing churches all over Western Europe.
- The Romanesque builders were faced with such challenges such as:
 - i. Their churches had to be made longer than the previous ones in order to accommodate increased numbers of priests and monks.
 - ii. The churches had to be made bigger to allow access to pilgrims who wished to view the relics of saints kept in the churches.
 - iii. Frequent conflagrations in timber-built towns and in basilica churches.

Character of Romanesque Architecture (contd)

- By 1000AD, the monastic builders had begun to solve these problems by:
 - i. Romanesque builders built their churches with the extensive use of a semicircular (Roman) arch for windows, doors and arcades.
 - ii. They employed the use of barrel vaults (arches forming a half-cylindrical vault over a rectangular space), groin vaults (formed by the intersection of two arches).
- The vaults were used to support the roof of the nave.
- Massive piers and walls (with few windows) were used to contain the extremely forceful outward thrust of the arched vaults.
- The early Christian basilica plan (longitudinal with side aisles and an apse) was expanded to accommodate the expanding functions of large churches.
- The modifications involved a system of:
 - i. Radiating chapels to accommodate more priests during mass
 - ii. Ambulatories arcaded walkways for visiting pilgrims around the sanctuary apse and
 - iii. Large transepts transverse aisles separating the sanctuary from the main body of the church.

Character of Romanesque Architecture (contd)

- A typical Romanesque church had side aisles along the nave with galleries above them, a large lantern tower over the crossing of the nave and transepts, and small towers at the church's western end.
- The barrel vaults of Romanesque churches were typically divided by shafts (engaged columns) and diaphragm arches into square bays, or compartments.
- This compartmentalization was an essential characteristic that distinguishes Romanesque architecture from its predecessors.
- Romanesque attempts to vault the great basilica naves safely with elements of Roman or Byzantine origin proved unsatisfactory.
- The Romanesque invented the ribbed groin-vault, using pointed arches to distribute thrust and improve the shape of the geometric surfaces.
 - i. Barrel Vault: a continuous series of arches deep enough to cover a three-dimensional space. It exerts the same kind of thrust as the circular arch and must be buttressed along its entire length by heavy walls with limited openings.
 - ii. Groin Vaults: two barrel vaults that intersected at right angles formed a groin vault, which when repeated in series, could span rectangular areas of unlimited length. Its supporting walls need not be massive because the groin vaults thrusts are concentrated at all four corners.

Character of Romanesque Architecture (contd)

- iii. Rib Vault: a skeleton of arches or ribs on which the masonry could be laid. Comprises of pointed arches, which could be raised as high over a short span as over a long one.
- An example of modern vault constructed iron skeletons as frameworks is the glass-vaulted Crystal Palace of the 1851 Great Exhibition in London.
- Romanesque architecture is represented by five magnificent churches also known as 'Pilgrimage Churches"
 - Saint Martin at Tours
 - Sainte Foy at Conques (c.1052-1130)
 - Saint Marshal at Limoges (c.1062-95)
 - Saint Sernin at Toulouse (1077 or 1082-1118)
 - Santiago de Compostella at Languedoc, Spain (c.1075-1211)
- Others are Westminster Abbey, England (1050-65), Saint Etienne, Caen, France (c.1067-1081), Piazza del Duomo with the baptistery, cathedral and Leaning Tower, Pisa, Italy.

Cathedral Group at Pisa

• This group of Romanesque buildings in Pisa, including the baptistery (left), cathedral (centre), and campanile (bell tower), better known as the Leaning Tower (rear right), date from between 1053 and 1272. The tiers of blind arches that recur throughout the group are characteristic of Romanesque architecture. Settling of the foundation caused the campanile to lean even before its construction had been completed.



London's Westminster Abbey

Westminster Abbey in London is the oldest and most famous of the city's great churches.
 Many British monarchs have been crowned in the abbey since Harold II's coronation in 1066. The abbey honours poets, politicians, and war heroes, including the Unknown Soldier who fought in World War I.



Cathedral in Pécs, Hungary



ARC 223 - History of Architecture by Arc Wole Alagbe PhD

GOTHIC ARCHITECTURE (1140 to end of 16th century)

INTRODUCTION

- The style applies to religious and secular buildings, sculpture, stained glass, and illuminated manuscripts and other decorative arts.
- The term "Gothic" was used derogatorily by Italian Renaissance writers as a term for all art and architecture of the Middle Ages, which they regarded as comparable to the works of barbarian Goths.
- In late times, the term was restricted to the last major medieval period, immediately following the Romanesque style.
- The Gothic Age is now considered one of Europe's outstanding artistic eras.

Characteristics of Gothic Architecture

- Found expression and reached its greatest height in church architecture, although a number of secular monuments were built in the style.
- Differences between Gothic and Romanesque architecture are as follows:
 - i. Romanesque was heavy while Gothic was characterized by elegance and graceful dematerialization.
 - ii. Romanesque was earthbound while Gothic was characterized by verticality.
 - iii. Romanesque was described as being fearsome while Gothic was described as being transparent.
 - iv. Romanesque style is characterized by round arches while Gothic is characterized by pointed arches.
 - v. Romanesque buildings have a sturdy structure while Gothic buildings are characterized by delicacy of structure and soaring spires.
 - vi. Romanesque structures have small windows while Gothic structure are characterized by large tracery windows.
 - vii. The aesthetical qualities and delicacy of structure of a Gothic building depended largely on a structural innovation: the pointed ribbed vault while the Romanesque depended on ribbed groin-vault.

Gothic Pointed Ribbed Vault

- Preceding medieval churches had extremely heavy, solid stone vault roof which tended to push the walls outward, which could lead to the collapse of the building.
- As a result, medieval churches had walls that had to be thick and heavy enough to bear the weight of the vaults.
- Gothic builders around the 12th century developed the pointed ribbed vault, which consists of thin arches of stone, running diagonally, transversely, and longitudinally.
- The new vault was thinner, lighter, and more versatile, and allowed a number of architectural developments to take place.
- Gothic Cathedral architects found out that the outward thrusts of the vaults were concentrated in the small areas at the springing of the ribs and were also deflected downwards by the pointed arches; therefore the pressure generated was readily countered by narrow buttresses and by flying buttresses, which slanted away from the wall to form an arch.

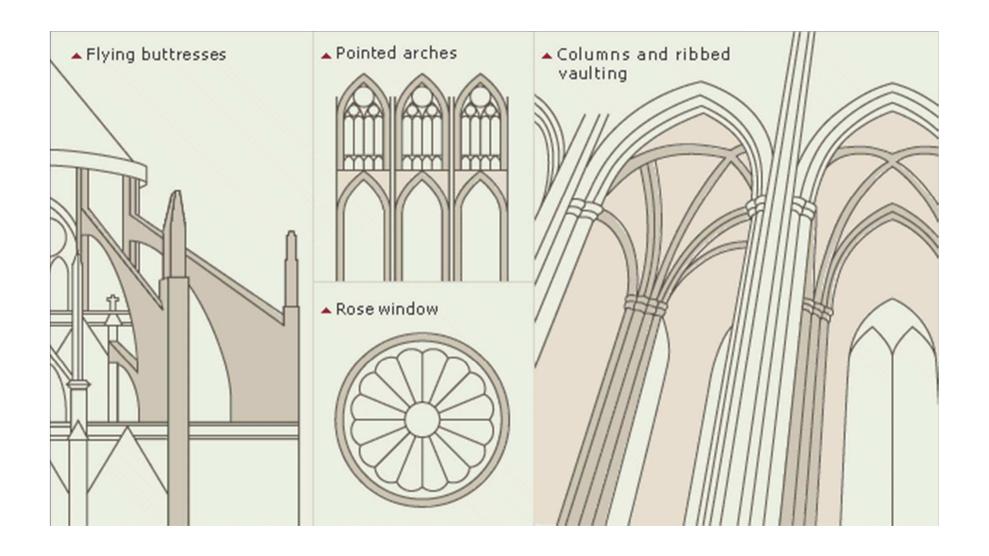
Advantages of Gothic Pointed Ribbed Vault

- i. Thick walls of Romanesque churches were replaced by thinner walls with glazed windows
- ii. Buildings could reach unprecedented heights.
- iii. Walls became mere panels or as they later became, screens of glass and stone tracery.
- iv. The skilled use of flying buttresses made it possible to build taller buildings and to open up the intervening wall spaces to create larger windows.
- v. Their structure became a system of vaults, supports and buttresses, which formed a skeleton structure, and the stability of this structure was maintained by a perfect equilibrium of thrusts.
- vi. The light created from the stained glass screen became a medium of transition that transfers natural light into heavenly Christian light.
- vii. It provided a novel lighting effect within the environment to create the existence of God.
- viii. The ratio of the length to the width is 4:1 and the height to size of the nave is about 3:1.

Gothic Cathedral

- The Gothic period was characterized by a tremendous movement of stylistic currents and counter currents through all the countries of Europe.
- This resulted in the development of several strong independent local traditions and civic rivalry of the growing towns led them to enlarge their cathedrals further.
- Gothic cathedrals also retained and expanded the loveliest creation of French Romanesque architecture, the chevet—the complex of forms at the east end of the church that includes the semicircular aisle known as the ambulatory, the chapels that radiate from it, and the lofty polygonal apse curving around the end of the building.
- Great civic pride was developed in the construction of these magnificent churches and this pride was the unifying force for the town and the church.
- The building of a cathedral often took several generations.
- The extensive use of the flying buttresses crowned with pinnacles, towers at the west end crowned with spires, all draw the attention upwards toward heaven.
- The use of these elements throughout the whole edifice all contribute to the loftiness and soaring effects that constitute Gothic architecture's most dynamic expression.

Flying buttress, Pointed Arches, Pointed Ribbed Vaulting & Rose Window



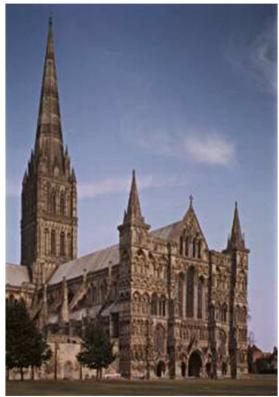
Gothic Cathedral Planning

- The primary purpose of the outer walls of the Gothic cathedral, with their tall buttresses and elegant flying buttresses, was to support the vaults.
- The west front, on the other hand, was designed to produce a dramatic and dignified effect.
- The typical Gothic western façade is also divided vertically into three sections, corresponding to its three portals at ground level and reflecting the three aisles of the interior.
- The façade is usually surmounted by twin spires, and the large rose window (tracery window) set above the central portal provides a magnificent focus for the whole west front.
- The structural innovations of the Gothic style were its complete deviation from other architectural periods in term of scale, proportion, space and also visual refinement.
- Some great examples of Gothic cathedrals in the different local regions are;

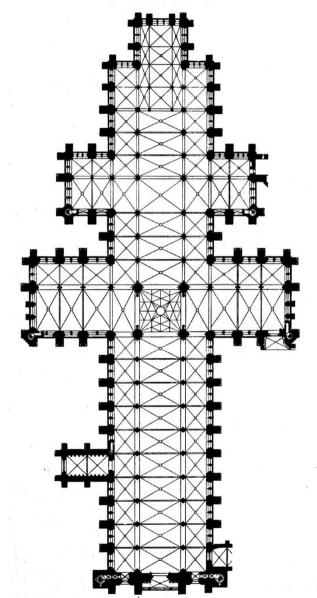
Salisbury Cathedral

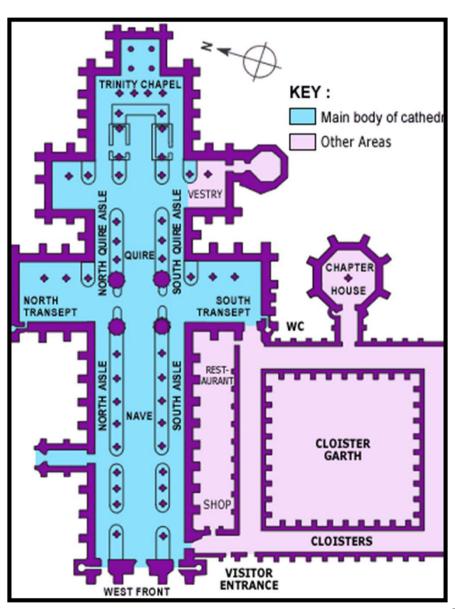
• Salisbury Cathedral is one of the finest examples of English Gothic architecture. It was built between 1220 and 1266, but the spire over the crossing and the flying buttresses were added in the 14th century. The two sets of transepts on the north and east sides are unusual for Gothic buildings.





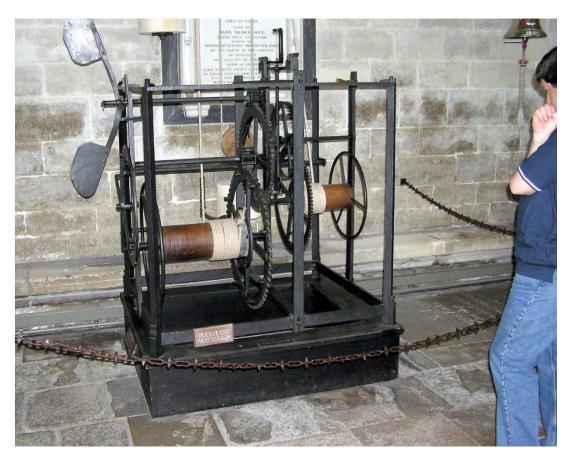
Salisbury Cathedral





Salisbury Cathedral





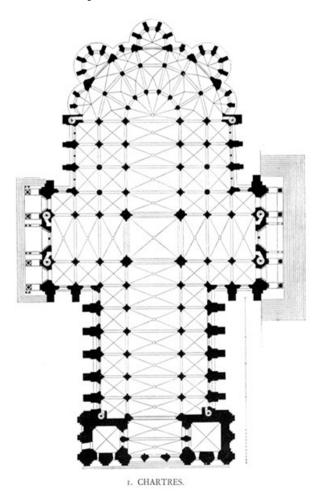
Interior View

Clock Mechanism

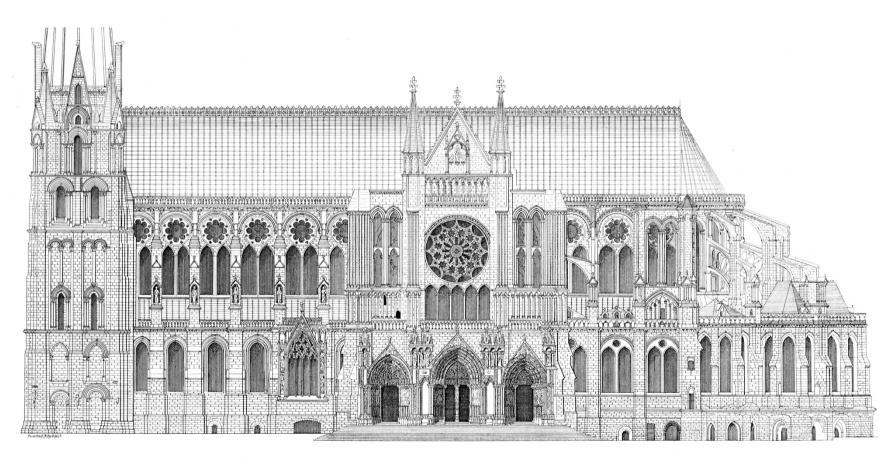
Chartres Cathedral

 Chartres Cathedral, in northern France, is one of the most celebrated Gothic cathedrals in the world It is particularly notable for its sculptural decoration and stained-glass windows.
 The cathedral was begun in 1194 and completed about 60 years later.





Chartres Cathedral



3. CHARTRES: KATHEDRALE. 1:400.

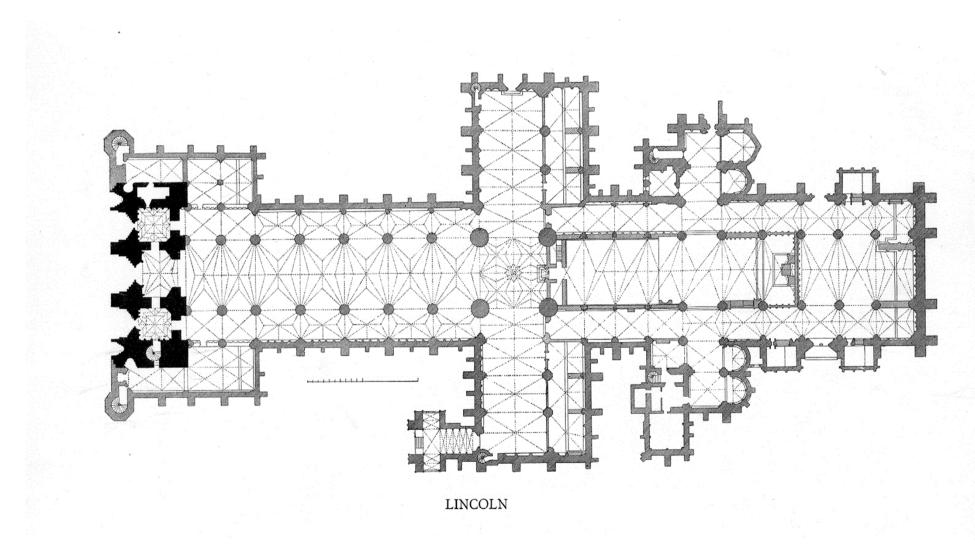
Lincoln Cathedral

 Lincoln Cathedral, completed in the late 14th century, is among the most important examples of Gothic architecture. The Angel Choir, seen here, dates from between 1256 and 1280 and is in the Decorated Style, a medieval English style that paid particular attention to ornately patterned windows. The traceried window of the east front, visible beyond, is the focal point of the interior.





Lincoln Cathedral



Lincoln Cathedral

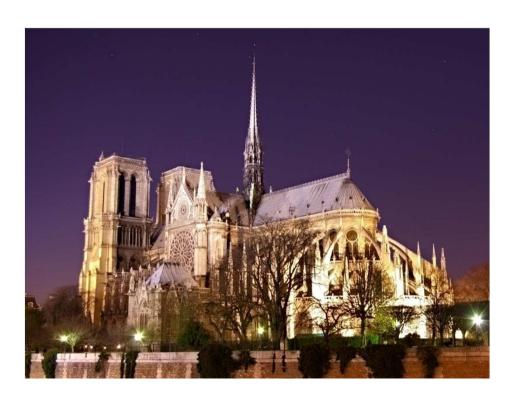


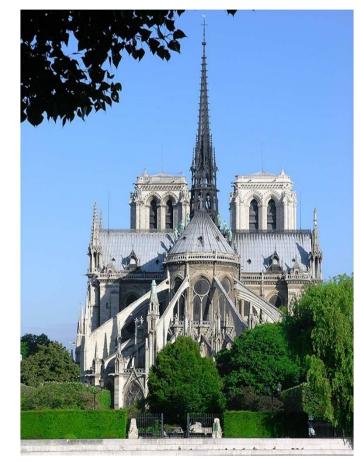


Notre Dame Cathedral, Paris

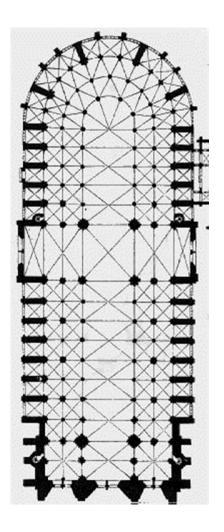
Notre Dame Cathedral, in Paris, was begun in 1163 and virtually completed in 1250. It is one
of the best-known Gothic cathedrals in the world. The view here is of the south side,
overlooking the River Seine, displaying the dramatic flying buttresses and one of the famous
rose windows. Although Notre Dame is considered a Gothic structure, it incorporates

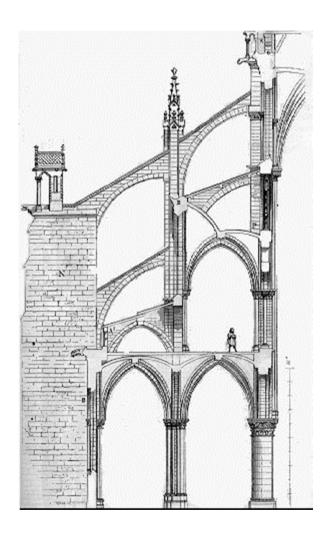
remnants of the earlier Romanesque style.

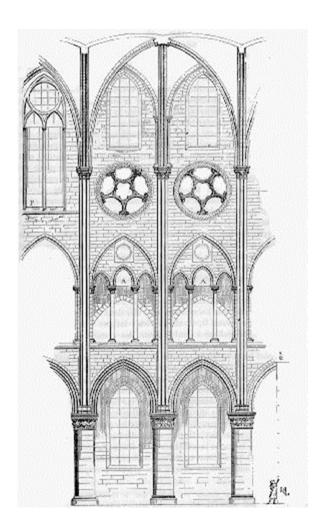




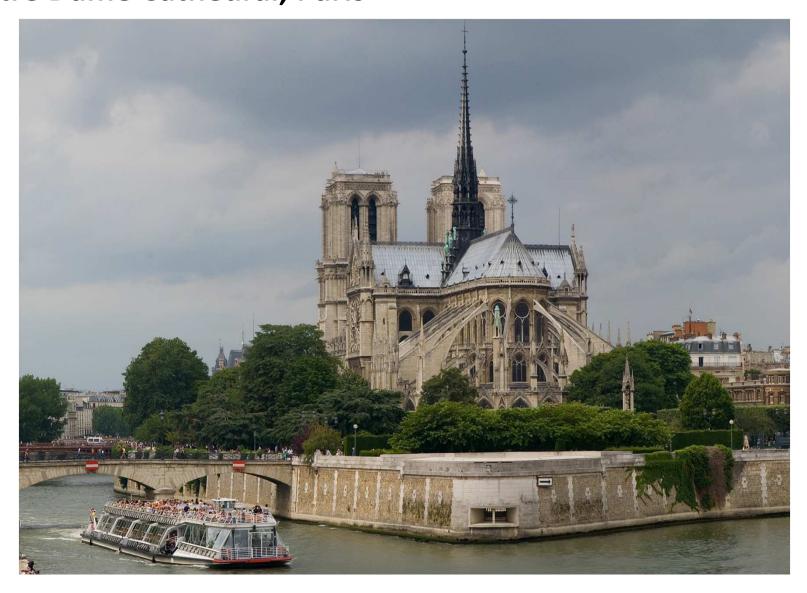
Notre Dame Cathedral, Paris







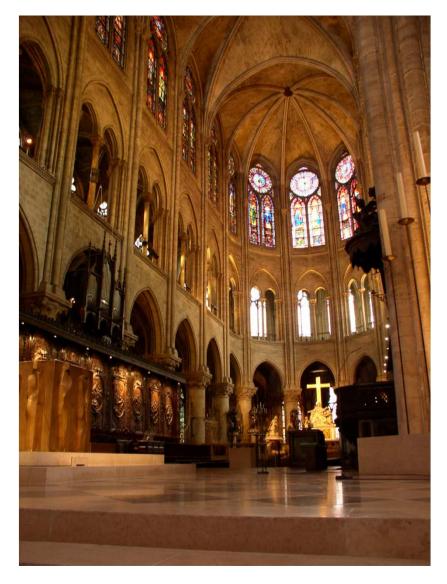
Examples of Gothic Cathedrals Notre Dame Cathedral, Paris



Examples of Gothic Cathedrals Notre Dame Cathedral, Paris



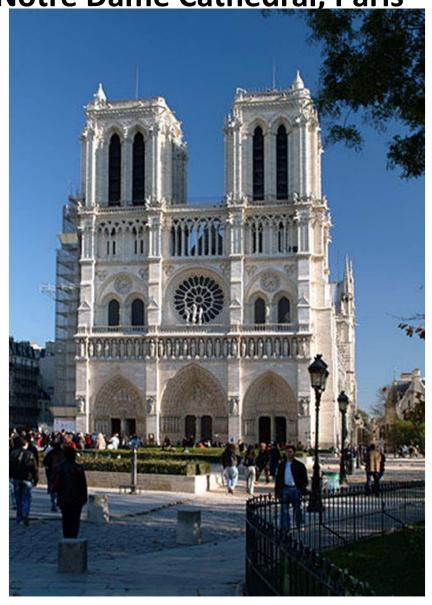
Examples of Gothic Cathedrals Notre Dame Cathedral, Paris

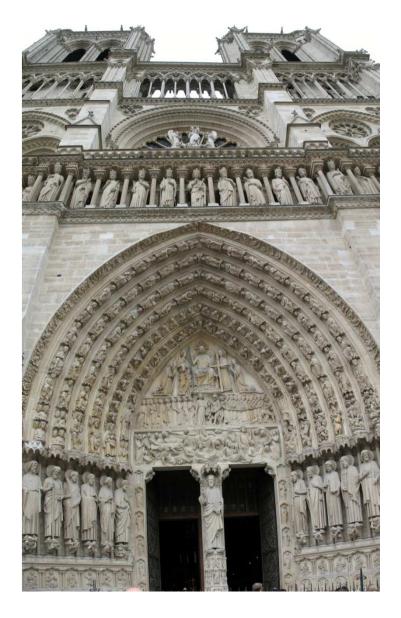




Examples of Gothic Cathedrals

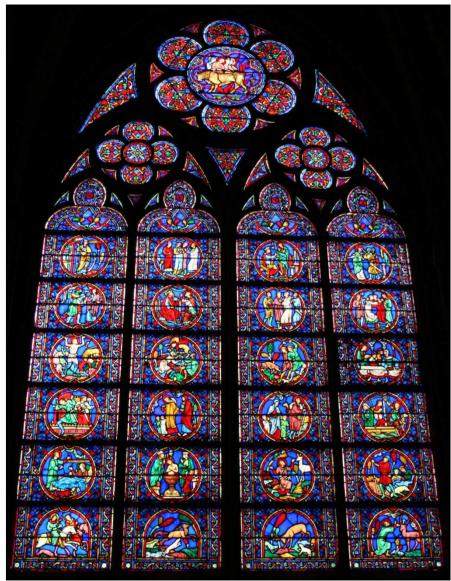
Notre Dame Cathedral, Paris

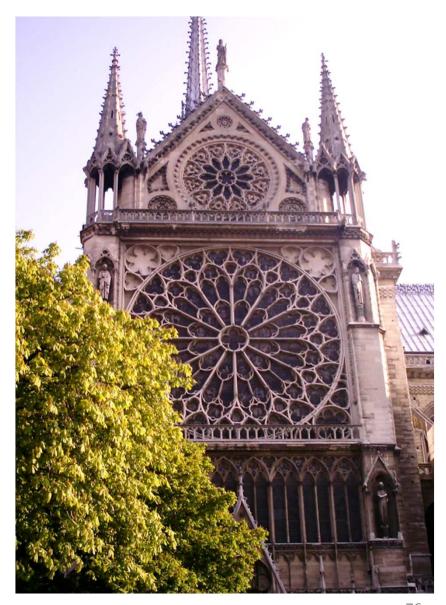




Examples of Gothic Cathedrals

Notre Dame Cathedral, Paris





A. INTRODUCTION

- Islam is the third great monotheist religion.
- It was established in the seventh century of the Christian era by the prophet Mohammed who died at Medina in 632 AD.
- By the end of the 7th century, the religion had spread to the western Mediterranean and into Central Asia.
- Islamic rulers and their peoples created various distinct styles of building with many important common characteristics.
- This style is generally known as Islamic, Moslem and Mohammedan, Saracenic and Moorish.

B. ARCHITECTURAL INFLUENCES

- i. Geographical
- Islam flourished principally in the countries of southern Asia and North Africa.
- Countries and regions governed by Islamic rulers and largely populated by Islamic peoples include:
 - North Africa: Morocco, Algeria, Tunisia, Libya, Egypt. (7th century upwards)
 - Eastern Africa: Mauritania, Mali, Northern Nigeria, Niger, Chad,
 Sudan, Somali.
 - Asia and Asia Minor: Saudi Arabia, Syria, Israel, Jordan, Lebanon, Iraq, Iran, Turkey, Afghanistan, South Russia, Mongolia (Pakistan and north Indonesia)
- The spread of Islam has been frequently associated with military conquests, racial movements, and in some cases with the consequent displacement of established populations.

B. ARCHITECTURAL INFLUENCES

ii. Geological

- Building work and trade in building materials had long been established in countries into which Islam first expanded.
- The building materials that gave Islamic architecture character included:
 - Brick making and pise walling in the alluvial plains.
 - The arts of selecting and working stones were strong in stone-bearing areas.
 - Marble was generally available as an article of trade if not native to the locality.
 - Limes for manufacture of mortars and plaster were readily procurable.
 - There was a long tradition of ceramic production.
 - Use of gypsum plasters.
 - Glass manufacturing.
 - Various forms of metalwork needed for building.
 - Timber was generally of limited type and quantity and scarce, however its use in building was universal and frequently skilled.
- The prevalence of earthquakes in the near and middle-eastern countries resulted in the employment of some long established, specialized structural techniques.

B. ARCHITECTURAL INFLUENCES

iii. Climatic

- The greater part of the Islamic world lies within extremes of temperature and modest rainfall with the exemption of some important areas that fall within the Mediterranean climatic region (with warm moist winters and hot dry summers).
- Intense sunshine produced a tendency towards wide eaves and sheltering arcades.
- Window openings are minimized and rain water disposal neglected.
- Very heavy walls and high rooms have been widely exploited to aid the cooling effect of structures.

B. ARCHITECTURAL INFLUENCES

iv. Historical

- Moslem chronology dates back to 622 AD, the year of the Hijrah i.e. when Mohammed moved from Mecca to Medina.
- Ten years after, Mohammed established the framework of the religion and began the military organization charged with spreading the faith.
- Mohammed died in 632 but the concerted efforts of the Arabian tribes carried the religion into central Asia and westwards towards the Atlantic.
- Islam spread more slowly into Africa and along the trade routes through the Indian Ocean.
- The spread of Islam was given impetus by the conversion of group of Turks and Mongols.
- It is enjoined on every Muslim as a sacred duty to be performed at least once in his lifetime to go on an annual great pilgrimage to Mecca which helped to establish a cultural tie with any nation it penetrated and its Arabian heartland.
- The cultural concentricity did much to unify the thought and architecture of the Islamic peoples.

B. ARCHITECTURAL INFLUENCES

v. Social

- The Arabs spearheaded the advance of Islam.
- Social pattern of public life was reserved for men.
- Women played a secondary role and most significantly concerned with domestic and sometimes of the agricultural burden.
- It was only among the nomadic groups that the Muslim world accepts any degree of equality between the sexes in public life; for the rest, the woman's place was in the private part of the household the harem.
- In public she was protected by the anonymity of the veil.
- Men performed the significant public duties and controlled all public affairs, and this social structure had direct architectural consequences in the layout of domestic and public buildings.
- Islamic states made provision for the existence within them of selfcontained groups of different religions.
- Such peoples were entitled to a protected status, in which they retained freedom of worship and internal self-government.
- Government was normally direct, by a despotic ruler or his deputy, and the law was based on the teachings of the Prophet, interpreted by a theologically-trained judiciary.

B. ARCHITECTURAL INFLUENCES

- vi. Religious (contd)
- The Islamic faith produced a way of life and a set of attitudes which had great influence on their architecture. These attitudes include;
 - i. An acceptance of the transitory nature of earthly life.
 - ii. Personal humility.
 - iii. An abhorrence of image-worship.
- The effects of these attitudes on Islamic architecture are as follows;
 - No difference in techniques between secular and religious buildings.
 - Important architectural endeavour is normally expended on buildings having a direct social or community purpose, including that of worship.
 - Decorations are abstract, using geometric, calligraphic and plant motifs, with a preference for a uniform field of decoration rather than a focal element.
 - A basic conservatism discouraged innovations and favoured established forms.

C. TERMINOLOGY

C1. **Building Types**

- Masjid (Persia, India), Jami: mosque: principal place of worship. The word Jami indicates the use of the building for Friday prayers.
- Mesjid (Turkey):- small prayer house.
- Madrassah (Egypt), Medrese (Turkey):- religious college and mosque.
- Saray, Serai: palace.

C2. <u>Personnel</u>

- Muezzin: caller who summons the faithful to prayer.
- Imam: man who leads the congregation at prayer.
- Caliph: successor to the Prophet as military, judicial and spiritual leader of Islam.

C. TERMINOLOGY

C3. **Building Components**

- Mihrab: a concave niche oriented towards Mecca occupied by the Imam leading prayers.
- Mimber: raised platform for ceremonial announcements.
- Iwan, Ivan (Persia):- open-fronted vault facing on to a court.
- Bab: gateway.
- Sahn: courtyard of a mosque, also described as "ablutions court".
- Minaret: tower from which call to prayer is made.
- Harem: women's or private quarters of a house or palace.
- Selamlik: men's or guest quarters.
- Kiblah: axis orientated towards Mecca.
- Chattri (India):- kiosk.

D. ARCHITECTUAL CHARACTER

- Islamic architecture is a product of the rapid conquest of diverse territories by a people with no architectural tradition, and the consequent synthesis of styles under one philosophy but in many different circumstances.
- Islamic buildings are fundamentally related to a principal axis and secondary axes which is frequently extended into a formal landscape which is an integral part of the design.
- The principal axis is the kiblah planning concept which was derived from the line of balance and symmetry implicit in the concept of perfect creation.
- This was the basis of the formal disposition of the gardens, buildings, parts of buildings and of articles as small as rugs.
- Most common elements employed in Islamic architecture were arcades, domed spaces, courts and very large portals, perhaps incorporating the Iwan.
- The fundamental building of the Islamic world centered upon God in the mosque.

D. ARCHITECTUAL CHARACTER contd

- The mosque is an inward-looking building whose prime purpose is contemplation and prayer.
- The mosque is not designed to be spiritually uplifting, or to produce a sense of exaltation, and there is no positive object of attention or of adoration.
- The mosque is particularly democratic: i.e. all inside it have equal rights.
- Other innovations such as minaret and mihrab were later added to it.
- A mimber is normally provided a platform approached by a steep flight of steps from which formal pronouncements can be made.
- A part of the prayer space may be railed-off or fitted with a balcony for special uses e.g. dignitaries or rulers, or of Muezzins or women.
- In a mosque, four minarets is the normal maximum, however six is exceptional, while the Ka'aba at Mecca is unique with seven.

D. ARCHITECTUAL CHARACTER contd

- The most used Islamic architectural features are;
- Arcading: both timber and masonry.
- The pointed arch
- The true dome
- Columns, similar in proportions to Graeco-Roman models.
- Squinches, stalactite corbelling and pendentives.
- Decorative techniques of the Moslems include:
- Banded or striated masonry (including brick and stone coursing).
- Decorative bonding for brickwork.
- Interlocked and inlaid stone masonry.
- Metal or timber ties to arches.
- Bas-relief in stone, timber and plaster.
- Ceramic cladding and facing.
- Interlocking paneled geometric timber construction.
- Screens or pierced grilles in marble, metal or timber for window openings, internal window lights in stained glass set in plaster.
- Colonettes, particularly at quoins.
- Stalactite decoration.

D. ARCHITECTUAL CHARACTER contd

- The influence of Islamic architecture had consequences in Europe, particularly in the introduction and development of the pointed arch and vault, in various aspects of military architecture, in types and techniques of ornament and in plan forms such as the cloister.
- Examples of fundamental Islamic structures are Kubbet es-Sakhra (the Dome of the Rock), Jerusalem; the Great Mosque, Damascus; the Madrassah of Sultan Qaytbay, Cairo; the Great Mosque, Cordoba, spain; the Alhambra, Granada, Spain; the Mosque of Sultan Ahmed, Istanbul; the Selimiye Mosque, Edirne, Turkey; the Suleymaniye Mosque, Istanbul; the Tomb of Humayun, Delhi; the Taj-Mahal, Agra.

THANK YOU ALL. THE ONLY LIMITATION YOU HAVE IS YOURSELF.

BELIEVE IN YOURSELF

AND REACH FOR THE SKY