LECTURE 011

SOCIETY, CULTURE AND BUILT ENVIRONMENT

Course objective: To introduce the various aspects of different social, cultural forms and built environment.

BUILT ENVIRONMENT

Introduction to history and theory of built forms - Geographical location, politics, religion, materials and construction techniques with examples in different contexts. Understanding human cultural development, built form and cultural context, expression of the under lying value systems and relationship with the built form.

Objective:

To understand the built environment along with the history with respect to the locations, religion and the materials used in that period along with the construction techniques with examples from each period. To brief the student about the meaning of environment and its relationship with society and to make them understand the concept of ecology and environment.

Methodology:

Introduction to history and theory of built forms- Geographical location, politics, religion, materials and construction techniques with examples in different contexts	Visual presentation and Discussion
Understanding human cultural development, built form and cultural context, expression of the under lying value systems and relationship with the built form	Power point Presentation
Examples of history and theory of built forms	Group discussions

Introduction to history & Built environment:

History (from Greek historia, meaning "inquiry, knowledge acquired by investigation") is the study of the past, particularly how it relates to humans. The history of architecture traces the changes in architecture through various traditions, regions, overarching stylistic trends, and dates.

Relationship between Architecture and Art

Ever since Antiquity, architecture - the art of designing and constructing buildings - has always been closely intertwined with the history of art, for at least three reasons. First, many public works (especially religious buildings) were designed with aesthetics in mind, as well as functionality. They were built to inspire as well as serve a public

function. As a result, they involved the services of a wide range of 'artists' and decorative craftsmen as well as laborers. Second, in many of these buildings, the exteriors and interiors acted as showcases for fine art painting (e.g. Sistine Chapel), frieze and relief sculpture (eg. The Parthenon, European Gothic cathedrals), stained glass art(eg. Chartres Cathedral), and other artworks like mosaics and metalwork. Thirdly, public building programs typically went hand in hand with the development of visual art and most major 'arts' movements (eg.Renaissance, Baroque, Rococo, Neoclassical) influenced both architecture and the fine arts.

Ancient Architecture:
Early architecture had two main functions:

- To consolidate security and power
- To please the Gods.

The richer the society, the more important these functions became

Before recorded history, humans constructed earthen mounds, stone circles, megaliths, and structures that often puzzle modern-day archaeologists.

Ancient Egypt
History of Egyptian Art

Art has existed in Egypt for about as long as it has anywhere else in the world, with prehistoric carvings and artifacts dating back thousands and thousands of years. Egyptian civilization first began to really develop under the Early Dynastic period of roughly 3000-2680 BCE, when the first kings rose into power. But ancient Egyptian civilization really begins with the advent of the Old Kingdom, which lasted from 2680-2259 BCE. This is where Egyptian art really first appeared as the Pharaoh Djoser expanded Egypt into a major civilization.

The Old Kingdom is time when many of what we think of as traditional Egyptian styles appeared. The pharaohs began building large tombs for themselves in the shapes of pyramids in the Old Kingdom, starting with the smaller step pyramids of Djoser and leading to the Great Pyramids of Giza. Old Kingdom artists carved reliefs into temples, palaces, and tombs using a mixture of hieroglyphs and images, recording scenes of history, mythology, and even poetry.
Following the Old Kingdom was the Middle Kingdom, which lasted from 2258-1786 BCE. In this period, architects refined the designs of temples and pyramids, but overall, most art remained roughly the same. Artistic styles of carving and painting also remained consistent into the New Kingdom of 1550-1070 BCE. However, in this era, the pharaohs stopped building pyramids, possibly because they had become too expensive, and started building massive tombs hidden underground.

They compensated by making the temples even larger, adding massive stone entryways. Throughout the three different kingdoms, Egyptian art remained pretty consistent, but after that, Egypt was invaded and conquered by other nations, first

Persia and then the Macedonian Greeks. Each of these introduced new cultural influences, leading to a decline in traditional artistic styles.

Classical

850 BC to 476 AD - From the rise of ancient Greece until the fall of the Roman Empire, great buildings were constructed according to precise rules. The Classical Orders, which defined column styles and entablature designs, continue to influence building design in modern times.

Characteristics of Classical Architecture:

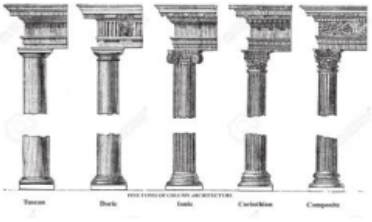
Classical Architecture is different from other architecture because the buildings were all built to have exact symmetry. The architects during this era tried to make everything symmetrical from the doors to the windows to the decorations inside and outside the building. Another thing that set this era apart from the others is their use of floral decorations. They often used flowers on the outside of the building as well as human sculptures and animals.GREEK Architecture PARTHENON the Parthenon was built in the 5th century BC, and despite the enormous damage it has sustained over the centuries, it still communicates the ideals of order and harmony for which Greek architecture is known.

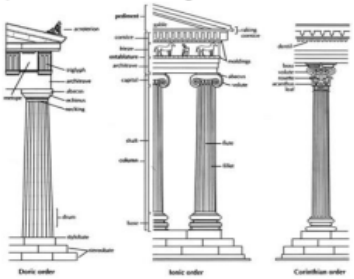
Classical architecture was also often built on a grand scale, with imposing columns and large arches to demonstrate the skills of the builders. Classical Architecture is the simple yet breath-taking, complex yet elegant foundations and figures. The buildings are so symmetrical right down to the bare details. The architects of that time period tried to have everything symmetrical.

Caryatids on the Erechtheion, (Athens), an example of a Greek architectural element taken up by later classical architecture.

Why was it Important?

This type of architecture was either for one or two things. One of the reasons that houses were built were for a basic need, shelter. Or, they could have built that home for a god(s), a place to worship a god(s), or a gathering place (ex. Town Hall). As time passed, the buildings became more elaborate and more detailed. Some civilizations grew from stone and mud huts to huge temples as well as tombs like the Egyptians. There is a possibility that the reason the buildings got more and more elaborate was because each city or race was fighting against each other -by buildings. That could explain why these buildings were so elaborate and so time consuming. The most logical reason is that they wanted their buildings to be so elaborate to please their gods as well as please themselves.



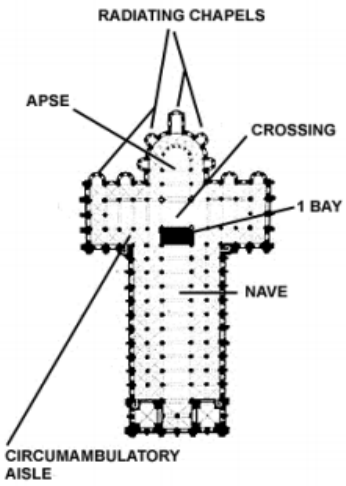


Byzantine

527 to 565 AD. After Constantine moved the capital of the Roman Empire to Byzantium (now called Istanbul) in 330 AD, Roman architecture evolved into a graceful, classically-inspired style that used brick instead of stone, domed roofs, elaborate mosaics, and classical forms. Emperor Justinian (527 AD to 565 AD) led the way.Buildings increased in geometric complexity, brick and plaster were used in addition to stone in the decoration of important public structures, classical orders were used more freely, mosaics replaced carved decoration, complex domes rested upon massive piers, and windows filtered light through thin sheets of alabaster to softly illuminate interiors. Most of the surviving structures are sacred in nature, with secular buildings mostly known only through contemporaneous descriptions.

Justinian, Architect of the Byzantine Golden Age Before we take a closer look at Byzantine architecture, it behooves us to look at the man behind the movement: Emperor Justinian. Justinian was following in the footsteps of Constantine, the Roman emperor who converted to Christianity and elevated it to the level of a state religion. Justinian wanted to realize Constantine's vision of a united Christian empire. Yet Justinian was not content to unify his empire by force of arms. The last century had made it clear that swords alone could not hold the empire together. So Justinian took a page from Constantine's book and began an ambitious building project, constructing churches all over his empire.

Prime examples of early Byzantine architecture date from Justinian I's reign and survive in Ravenna and Istanbul, as well as in Sofia (the Church of St Sophia). One of the great breakthroughs in the history of Western architecture occurred when Justinian's architects invented a complex system providing for a smooth transition from a square plan of the church to a circular dome (or domes) by means of pendentives. Byzantine architecture shared many of the qualities of early Christian architecture: the use of mosaic to decorate surfaces, the focus on the apse, or half domed alcove at the front of the church, and the use of clerestory, or windows at a high level to bring in light. All of these trends carried over from Christian times. In these respects, the main difference between early Christian and Byzantine art and architecture can be summarized in two words: bigger and more. Byzantine churches featured more clerestory windows and mosaics on every conceivable surface.



Central-Plan Style

In the mid sixth century, the architectural style of churches began to diverge sharply. The long, narrow basilica, which had been Constantine's favored form of church, continued to be the dominant form of church in the West, while rounder, domed, central-plan styles of churches, like the early Christian circular baptisteries, became more popular in the Byzantine East. You can remember these differences between the Eastern and Western styles of church by looking at the differences between the Eastern and Western renditions of the cross. The Western cross, or Latin cross, is long, just like the Western basilica is long. It also has a small cross-section, just like the Western basilica is crossed by a transept, or bema, at the eastern end, giving the whole building the appearance of a cross if seen from above. The Eastern cross, or Greek cross, is as wide as it is long - just as the Eastern central-plan church is round.

This central-plan style reached its apex in the Hagia Sophia, which is indisputably the greatest work of Byzantine architecture. Sadly, most of this immense church's glorious mosaics were destroyed or covered by the Turks, whose Islamic religion forbade any images whatsoever. As they turned the Hagia Sophia into a mosque, the Turks whitewashed over these beautiful images. Yet the lack of mosaic art allows us to notice some of the more architectural advancements of the Byzantines. First, let's look at this dome.

Romanesque

Early Christian architecture started with the vision of Emperor Constantine. Byzantine architecture was part of a building project started by Emperor Justinian. Carolingian architecture got its start with Emperor Charlemagne

800 to 1200 AD As Rome spread across Europe, heavier, stocky Romanesque architecture with rounded arches emerged. Churches and castles of the early medieval period were constructed with thick walls and heavy piers.

Romanesque architecture is different. The Romanesque architectural movement was not one of these top-down imperial building projects. It was more like a grassroots movement that took off independently in a variety of places from Italy to England, each with its own unique take on this new form.

Yet they all have a few things in common. They all seem fixated on the semicircular arch. They all had intricately decorated exteriors, especially on their western entrances. Unlike their predecessors, they decked out their buildings out with decorative sculpture, towers, and arcades. They all make use of a vaulted masonry ceiling rather than a wooden one. This heavy masonry ceiling required heavier construction. This meant thick walls with few windows and little light. It also meant supplementing or replacing delicate round columns with sturdier square piers. Let's have a look at each of these elements.

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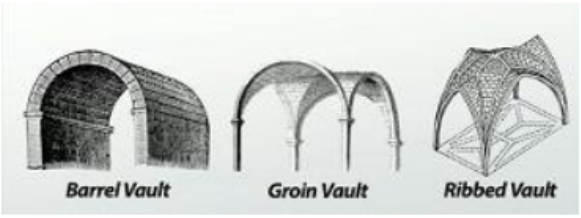
The Semicircular Arch

The semicircular arch was very popular in the Roman Empire. This similarity is likely where the term 'Romanesque' originated. The semicircular arch is strong and durable. Romanesque architects love this arch, and they use it everywhere: doors, windows, ceilings, arcades.

Vaulting

Romanesque architects were nothing if not ambitious. Not only did they want to build huge new churches, but they also wanted to roof those churches with masonry, not wood. Now, you can't just run masonry horizontally; you can't build a ceiling like you would a wall. The pieces would fall out. To tackle this problem, Romanesque architects turned to their favorite form: the semicircular arch. An arch allows you to build unsupported openings out of masonry. It only took a little bit of cleverness to stretch this arch out, making a sort of tunnel. When this arched tunnel is used to roof a building, it's called vaulting. There were three sorts of vaulting popular in Romanesque times. First was the barrel vault next came the groin vault, which was later improved to ribbed vault.



Barrel Vault

The **barrel vault** is the simplest sort of vaulting. It's just a semicircular arch stretched along a single axis. The barrel vault had been around for a very long time. We see its use in ancient Egypt and Rome. Earlier Medieval churches had also made use of this technique, but its use was modest, and, with a few exceptions, underground. With the Romanesque, we see barrel vaults get pushed to their limits.

Groin Vault

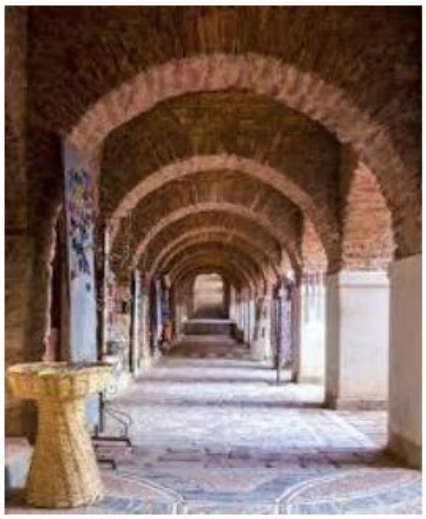
Barrel vault worked nicely for covering a long hall, like the basilicas of old. But by this time, churches didn't just have one axis but several axes. The use of a transept, or a crossing part of a church, had become a standard in the West during Carolingian times. So what happens when two barrel vaults meet at a right angle? The solution is the groin vault.

The **groin vault** is where two barrel vaults meet. It vaults the intervening space with a sort of square dome. The groin vault has the added bonus of setting the weight more vertically, on pillars, rather than horizontally on walls. Like barrel vaults, groin vaults are very old. The Romans used them in their baths and their indoor markets. Carolingians used them in their crypts. Romanesque architects made groin vaults even larger, grander, and more beautiful.

Ribbed Vault

Toward the end of the Romanesque era, a new form of vaulting was invented: the ribbed vault. Unlike the groin vault, which is essentially two barrel vaults meeting at a right angle, with the **ribbed vault**, you're essentially building little arch frames or ribs and then filling in the gaps between them. These ribs do an even better job of focusing

the weight of the vaulting onto a few small places. With ribbed vaults, Romanesque architects could make their churches wider, taller, and even more impressive.



Barrel Vault

Ribbed Vault

Groin Vault

Bulkier Construction

Vaulted ceilings mean that there's a lot heavy masonry hanging over your head. All that weight has to go somewhere. Romanesque architects came up with some very creative ways to handle this new burden. Probably the most mundane solution was big fat walls with few windows. Yet these fat walls severely limited the amount of light that entered the cathedral. Another solution was to alternate columns, which are good at handling vertical force, with piers, which are large, usually square supports that are much better at handling horizontal force. This alternation might be horizontal (as at Mainz Cathedral), vertical (as at Malmesbury Abbey), or both (as at Durham Cathedral). At Durham we also see another solution: the combination of piers with fake surface columns.

Sculptural Decoration

So far we've been focusing on the interiors of these churches. Yet there were other huge changes occurring on the exterior of Romanesque churches as well. Where earlier churches had plain exteriors and only decorated the interior, the Romanesque architects brought some of that beautiful interior decoration outside.

One way in which Romanesque architects jazzed up their exteriors was with sculptural decoration, especially around the main entrance of the church. This round, highly decorated portals, known as **tympanum**, became increasingly popular in Romanesque architecture. We also see the addition of decorative statues and some incredibly fancy columns. We'll cover these developments in more depth in our lesson on Romanesque art.