



**HISTORY OF
ARCHITECTURE
AND CULTURE – I
AR-6101**

-AR. FAYIZA SHAKIR

**"ARCHITECTURE IS- THE MOST LASTING
EVIDENCE OF HUMAN CULTURE"
- BILL HILLER**

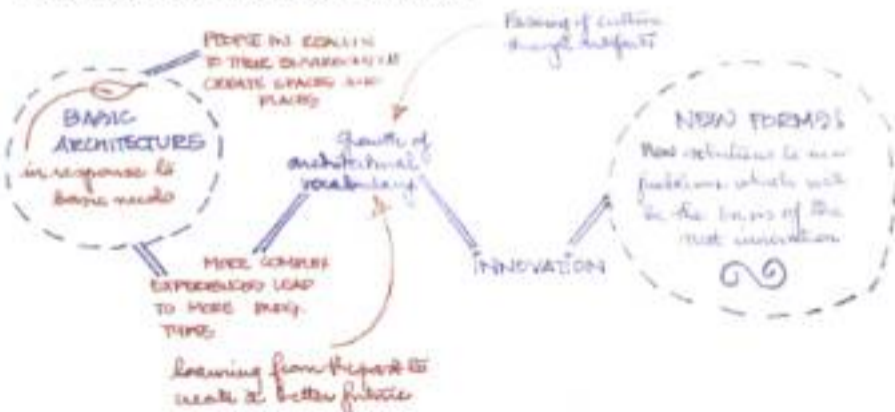
History is not a list of facts, it is a story that can
be told over and over
Try not to memorize, but to understand!



EVOLUTION OF FORM AND IDENTITY:

Architecture arises when there's a systematic intent within obedience of tradition and that it has successfully built. As we choose to fill a space with places as we give meaning to them, this conscious decision now creates a distinctive flavour to our structures.

INNOVATION IS DEEPLY ROOTED IN TRADITION:



*Are we passing on the right traditions
through the spaces and places we
build?*

*....OR are they mere fabrications of an
imagined past borrowed from a different
place and time?!*

HISTORY OF ARCHITECTURE:

It is a record of man's efforts to build beautifully. It traces the origin, growth and decline of architectural styles which have prevailed lands and ages

HISTORIC STYLES OF ARCHITECTURE:

The particular method, the characteristics, manner of design which prevails at a certain place and time.

SIX INFLUENCES OF ARCHITECTURE:

- Geographical
- Geological
- Climatic
- Religious
- Social
- Historical

FOUR GREAT CONSTRUCTIVE PRINCIPLES:

- Post and Lintel construction
- Arch and Vault construction
- Corbel and Cantilever construction
- Trussed construction

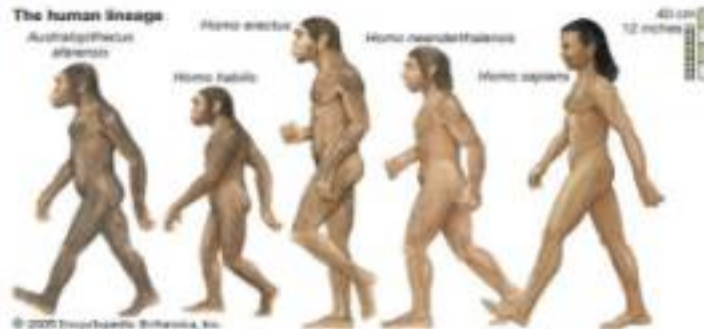
HISTORICAL TIMELINE OF ARCHITECTURE:



UNIT 1- PREHISTORIC AGE

- Introducing concepts of culture and civilization
- Paleolithic and Neolithic Culture
- Art forms
- Evolution of shelters
- Megalith
- Agricultural revolution and its impact on culture and civilization.

EARLY HUMANS- OUR ANCESTORS:



- Australopithecus afarensis
- Homo habilis
- Homo erectus
- Homo neanderthalensis
- Homo sapiens

INTRODUCING CONCEPTS OF CULTURE AND CIVILIZATION:

'**CULTURE**' is the 'key' to understanding human life and death, when it is understood as the concept of the way human life is organized. When it is possible to learn what culture (history, present, future) means, it may be possible to find out what meaning life can have for human beings.

Civilizations = Special forms of cultural organization.

Societies are social forms enabling people to live together.



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- Direct Human Ancestors evolved in Africa from 2.3 million years ago
- The success of the human race was largely due to the development of tools- made of stone, wood, bone
- Humans spread from Africa to Southern Europe, Asia
- Could not settle far north due to the cold climate
- From Siberia by foot into North America
- From Southeast Asia by boat into Australia

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- Before 9000 BC, Nomadic life of hunting and food gathering
- By 9000 BC, farming and agriculture was practised
- Fertile soil and plentiful food
- Animal domestication for work, milk, wool
- People wanted to settle down, live in communities
- First villages in the Middle East, South America, Central America, India and China
- Some people needed not farm, so they spent time on other work- pot-making, metal-working, art and... architecture

THE STONE AGE PERIOD:

- Occurred before the invention of written records
- Basically called the stone-age because of absence of metal implements
- Time period- Human habitation on Earth (with the advent of metal working) 9000 BC.



PALEOGEOGRAPHY & CLIMATE:

- The climate during the Palaeolithic consisted of a set of glacial and interglacial periods.
- The climate of the Palaeolithic Period spanned two geologic epochs known as
 - the Pliocene and
 - the Pleistocene,



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PALEOGEOGRAPHY & CLIMATE:

- Both of these epochs experienced important geographic and climatic changes that affected human societies.
- Climates during the Pliocene became cooler and drier, and seasonal similar to modern climates.
- The Pleistocene climate was characterized by repeated glacial cycles during which continental glaciers pushed to the 40th parallel in some places.



1. STONE AGE

THE OLD STONE AGE (PRE-ALITHIC)

The paleolithic period.
Paleo is Greek for old or ancient.
Lithic means stone.

Therefore Paleolithic means 'OLD STONE'
Up to 9000 BC.



THE MIDDLE STONE AGE (MESOLITHIC)

The mesolithic period.
It has different time spans in different parts of Eurasia.
It was originally post-Pleistocene, pre-agricultural material in Northwest Europe about 10,000 to 5,000 BC, but material from the Levant (about 20,000 to 9,500 BC) is also labelled Mesolithic.



THE NEW STONE AGE (NEOLITHIC)

The neolithic period.
Neo is Greek for NEW.
Therefore Neolithic means 'NEW STONE'.
began in the Middle East around 9000 BC to 3000 BC.



2. BRONZE & IRON AGES: CIVILIZATION

THE STONE AGE | PALEOLITHIC PERIOD

PREHISTORIC

SOCIAL CHARACTERISTICS:

- Ways of life differed between the Early Stone Age period and the New Stone Age
- Nomadic, always on the move.
- Move about in search of food, water, and good climate.

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THE STONE AGE | PALEOLITHIC PERIOD

PREHISTORIC

SOCIAL CHARACTERISTICS:

- Got their food through food gathering, hunting and fishing.
- They used simple stone tools and were the earliest people that we know of who had the ability to make tools.
- They learnt to lit fire by hitting two fire stones and rubbing sticks.
- Their lifestyle made them barely able to survive.

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THE STONE AGE | PALEOLITHIC PERIOD

PREHISTORIC

SPIRITUAL BELIEFS:

- Religious behaviour is thought to have emerged by the Upper Palaeolithic.
- Religious behaviour may combine (for example) ritual spirituality, mythology and magical thinking or **animism** aspects that may have had separate histories of development during the Middle Palaeolithic before combining into "religion proper" of behavioural modernity.

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SPIRITUAL BELIEFS:

- ANIMISM: Belief that spirits reside in objects, animals, dreams, etc.
- Worshipped EARTH MOTHER (GODDESS).
- Belief in After-life.



THE STONE AGE | PALEOLITHIC PERIOD

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SPIRITUAL BELIEFS:

- When they buried their dead, they buried tools and utensils along with the dead body as they believed that the dead person might need it in the afterlife.



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Burial is striking. DNA taken from 30,000 year old Cro-Magnon shows that the DNA is identical to the DNA sequence of certain modern Europeans. The DNA sequence has remained stable and unchanged for 30,000 years. This of course means that Cro-Magnon was a fully modern individual who perhaps was taller and also had a larger brain capacity.

If Cro-Magnon lived in Europe beginning about 30,000 years ago and it turns out that their "Modern" DNA is unchanged since that time, when did we do all that evolving?

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THE STONE AGE |

PALEOLITHIC PERIOD



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THE STONE AGE | NEOLITHIC PERIOD

AGRICULTURE

- By 6500 B.C.E., humans secured for themselves a dependable food supply by planting crops and domesticating animals. As a result, the human population increased, food surpluses allowed for economic specialization and exchange, and the emergence of civilization was made possible.
- As humans began practicing agriculture, it saved them the time they wasted roaming from one place to another in search of food.



THE STONE AGE | NEOLITHIC PERIOD

CULTURE

- Anthropologists define culture as a human's ability to adapt to his environment and pass his life's experience to future generations.
- While each region has a distinct culture, all cultures borrow from their neighbours, thus creating change over time.
- Culture is distinct from civilization, which is defined as a city-based society in which there are differing occupations and levels of wealth wherein elites exercise economic, political, and religious power.



THE STONE AGE | NEOLITHIC PERIOD

ART:

- Along with development in agriculture, this period was also marked by the use of refined weapons and tools.
- During the last phases of the Neolithic the use of jewellery made from the sea-shell Spondylus, as well as silver and gold jewellery (ring, idol pendants, earrings) worn by only a few members of the Neolithic community, suggests new social conditions had arisen and a desire for individual promotion.



THE STONE AGE | NEOLITHIC PERIOD

ART:

- Jewellery from precious materials, as well as arrow heads of obsidian and copper tools, were all objects of social prestige.
- Ground stone tools became important during the Neolithic period.
- All these developments in Neolithic art history opened the realms of art for mankind something which is followed even today.



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	PALEOLITHIC AGE	MESOLITHIC AGE	NEOLITHIC AGE
TIME PERIOD	70,000 BC-12,000 BC	10,000 BC-8500 BC	9000 BC-1800 BC
TYPE OF HUMAN	Neanderthals & Cro-magnons	Early gatherers, hunters, developed language	ONLY Homo-sapiens
OBTAINING FOOD	Hunted animals, gathered nuts, berries, grains, May have eaten flesh of dead animals left behind	Hunted, gathered plants, stored food for later use, remained hunters but also gatherers of meat, fish etc.	Began farming in permanent villages, herded animals, made plow out of antlers, stone & wood and started cultivating land from seeds. Used stone mortar & pestle to grind grains and cereal

	PALEOLITHIC AGE	MESOLITHIC AGE	NEOLITHIC AGE
ADAPTING TO SURROUNDING	learned to make fire, created simple tools & shelters out of tree branches, leaves & stones	Settles villages located near rivers & lakes, used bows & arrows & other simple tools; began taming animals	built mud-brick houses & places of worship; had specialised jobs
TOOLS	Used stones for hunting with was already found in nature & already had cutting edge. Used simple tools. Fire as weapon.	Used bows & arrows & other simple tools. Sharpened their stone tools for hunting. Looked for stones (such as flint) that was harder & could be sharpened easily.	Learned to polish their stone tools. Created more complex tools out of copper & bronze.
ARTS & CRAFTS	Painted cave walls, usually painted animals, depicted life scenes.	Made pottery & more detailed cave paintings.	Pottery, carved objects from wood, built shelters & tombs.

	PALEOLITHIC AGE	MESOLITHIC AGE	NEOLITHIC AGE
MISCELLANEOUS	Made fire by rubbing stones together.	These early humans developed needles & thread for making animal skin clothes. Began to migrate from Africa to other parts of the world. Period of climatic instability. First small cemeteries.	built mud-brick houses & places of worship; had specialised jobs

PREHISTORIC ARCHITECTURE

This was the type of architecture invented by the primeval man to get shelter and protection:

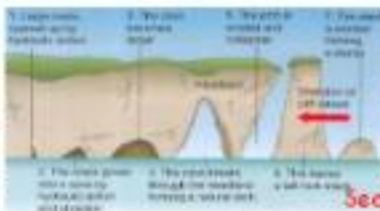
- From variable extreme weather conditions
- From wild beasts and enemies.

EVOLUTION OF SHELTERS

PALEOLITHIC DWELLINGS:

- Structures created in wood and stone.
- Fire used on paved hearths
- No buildings for any special purposes but dwellings.
- Categorized into 5 types:
 - CAVES
 - HUTS
 - LEAN-TO'S
 - TENTS
 - PIT HOUSES

- The oldest and most common types of dwellings
- Natural underground spaces, large enough for a human.
- Example: Rock shelters, Grottos, Sea Caves.



Grottos

SHELTER EVOLUTION | PALEO | HUTS

PREHISTORIC

TERRA AMATA, FRANCE:

- Located in Southern French cities.
- Oval in shape (8m-15m x 4m-6m)
- Built close to sea shores.
- Built using stakes with stones as support.
- Stout posts along axis.
- Floor made of organic matter and ash.

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TERRA AMATA, FRANCE

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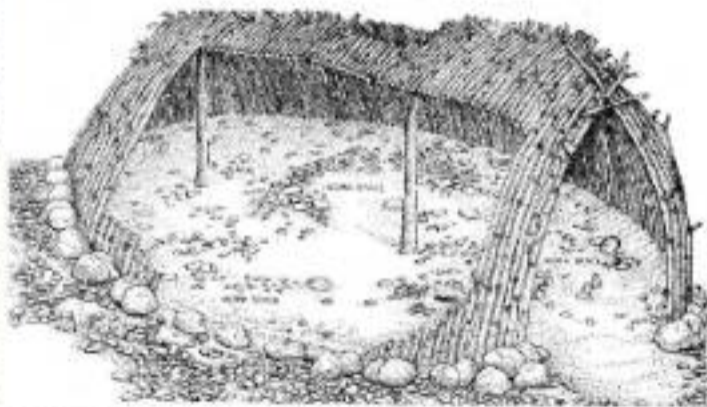


Fig. 2.2 Terra Amata (France), prehistoric hut, ca. 40,000 p.c.; reconstruction drawing.

SHELTER EVOLUTION | PALEO | HUTS

PREHISTORIC

MOLODOVA, UKRAINE:

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- More sophisticated.
- Wood framework covered with skins, held in place by rough oval mammoth bones, enclosing 15 hearths.

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RECONSTRUCTION DRAWING OF MAMMOTH-BONE HOUSES
GROUP 1, 10,000-10,500 B.P.

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Evolution de l'habitat
de Molodova, Ukraine

SHELTER EVOLUTION | PALEO | HUTS

PREHISTORIC

DOLNI VESTONICE, UKRAINE:

- Palisade of mammoth bones and tusks set into ground, filled with brush wood and turf.
- Oval shape (16m x 10m)
- Limestone used for walls.
- Central hearth capped with an earthen dome.
- Summer structure open to sky.

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DOLNI VESTONICE, UKRAINE:

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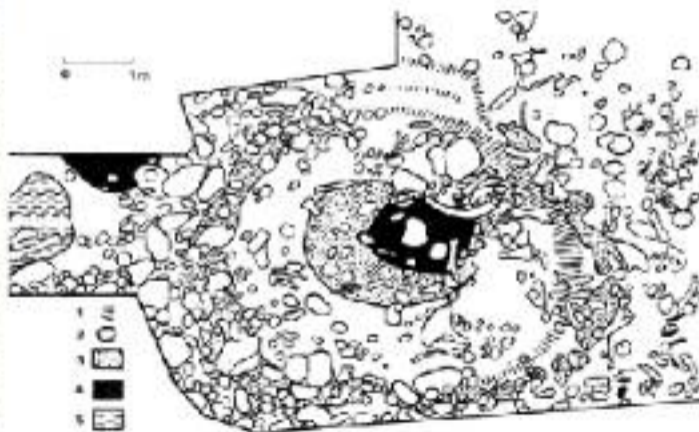
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SHELTER EVOLUTION | PALEO | HUTS

DOLNI VESTONICE, UKRAINE;

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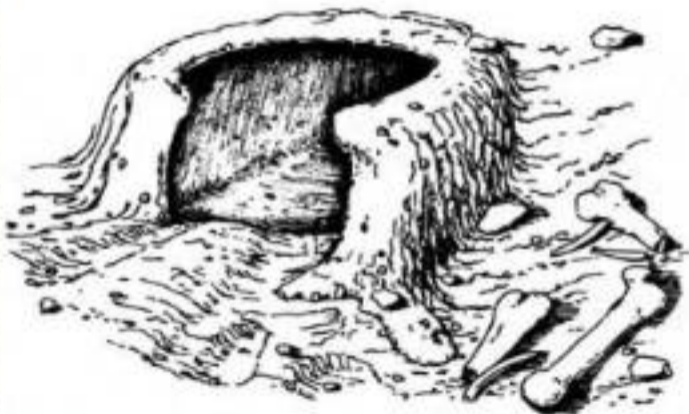
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PREHISTORIC

MEZHIRICH, UKRAINE

- Consisted of foundation wall of mammoth jaws and long bones capped with skulls.
- Roofed with tree branches, overlaid by tusks.

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SHELTER EVOLUTION | PALEO | LEAN-TO'S

- Portable lean to which was both roof and wall, suited the lifestyle of the nomads
- Erected against one wall of cave.
- Defined at base by stones (12m x 4m)
- Skin curtain and roof draped over posts.
- May have 2 compartments, each having an entrance on the longer side.



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SHELTER EVOLUTION | PALEO | LEAN-TO'S

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SHELTER EVOLUTION | PALEO | TENTS

- Framework of wood posts/animal bones driven into earth
- Skirts of animal skin covering the framework weighed down with pebbles
- Paved interiors
- Open air hearths
- At a later stage, posts were exchanged with reindeer antlers.



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SHELTER EVOLUTION | PALEO | PIT HOUSES

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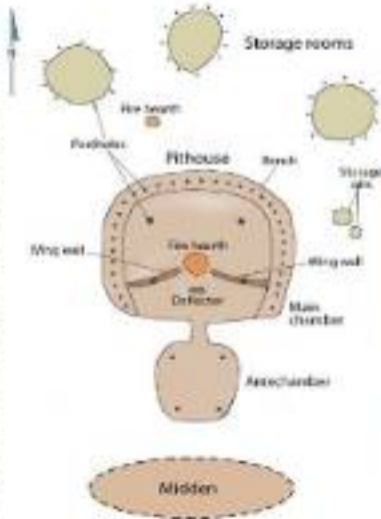
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- More common in eastern Europe with severely low temperatures.
- Oval trapezoidal pear shaped size (5m-8m x 2.5m-3.5m)
- Central post holes indicating existence of roof
- Constructed by making shallow depressions in the ground surrounded by a ring of mammoth bones & tusks.





Subterranean Pit House
Sketch courtesy of Peter Perle National Park



- Villages arranged systematically
- Houses aligned in rows
- More regular plans
- Artefacts came into existence
- Settlements began around water bodies
- Fishing, cultivation of cereals and vegetables began
- Animals were domesticated, farming tools were developed
- Dwellings were more durable as compared to that in the Paleolithic age

SHELTER EVOLUTION | MESO | HUTS

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- The structure mainly comprised of bamboos
- Plans were trapezoidal in shape
- The size varied from 5.5m-30m
- They had wide entrances facing the water bodies (rivers)
- Floors were plastered with lime
- Posts were reinforced with stones



LEPINSKI VIR

PREHISTORIC

- Shallow oval pits 6m-9m long and 2m-3m wide
- Roofs were made of timber
- Stone hearths were used as working slabs

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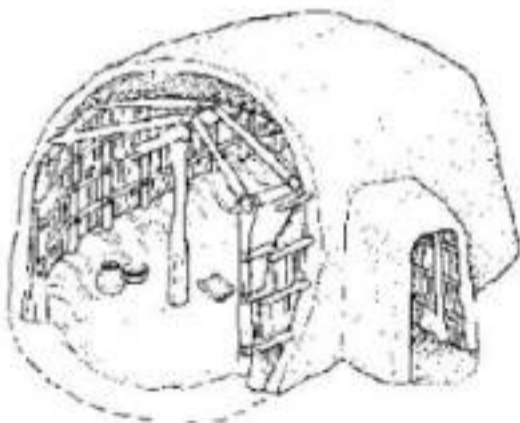
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- Many changes took place
- Production of food
- Developments in agriculture lead to settling down
- Dwellings became more sustainable
- Houses were built with square/rectangular plans, with sections divided with animal skins

SHELTER EVOLUTION | NEO | TIMBER FRAMED HOUSES

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- Square plans: 25' x 25'
- Mud walls with 3' deep footings
- These were more durable as compared to the earlier ones
- Pitched and thatched roofs with overhanging eaves
- Interiors raised, plastered with sunken hearths



SHELTER EVOLUTION | NEO | LONG HOUSES

- Rectangular plans (20'x26'-150')
- Oak posts made the framework covered with clay;
- Floors were defined with layers of clay over a base of logs
- It consisted of 3 types of plans:
 - Tripartite
 - Bipartite
 - Single Bay Houses



The three types of long houses are:

- Tripartite
 - Entrance facing the east
 - Central part being the living room
 - The third part containing deep storage area
- Bipartite
 - Entrance
 - Living room combined with storage
- Single Bay Houses
 - Having living rooms only

SHELTER EVOLUTION | NEO | DRY STONE HOUSES

PREHISTORIC

- Stone built houses with 3m thick cavity walls
- Inner, outer caves were made of dry stones and the interiors were covered with domestic refuse
- Rectangular plan with circular corners
- Thatched roofs with a smoke hole at the top positioned over a central hearth.

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REMAINS OF SKARA BRAE

SHELTER EVOLUTION | NEO | CATAL HUYUK

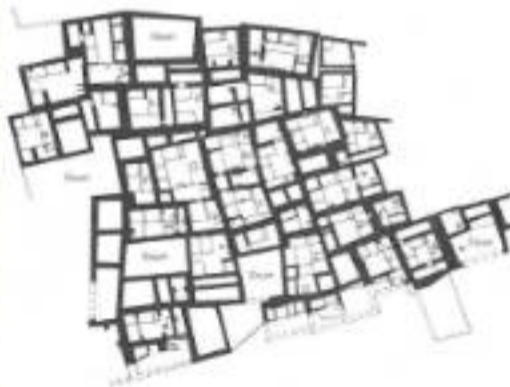
Some of the most remarkable architectural evidence pointing to the evolution of a highly complex society has come from Neolithic sites in Anatolia.

The dwellings, especially at Catal Huyuk, displayed an unusual degree of standardisation, and the inhabitants seem to have taken part in highly organised rituals.



SHELTER EVOLUTION | NEO | CATAL HUYUK

- 6250-5400 B.C.
- Continued over 32 acres
- Population: 4000-6000 people
- Approx. 138 buildings excavated, densely packed & contiguous
- Mainly rectangular, single-roomed houses, each 25 sq. ft.
- Houses have plastered walls and floors



- Occasional open courtyards
- Floors covered with straw mats
- Walls decorated with simple geometric designs.
- Access-ladder from the roof

PREHISTORIC

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GREEK

EARLY CHRISTIAN

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ROMANESQUE

GOTHIC

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GREEK

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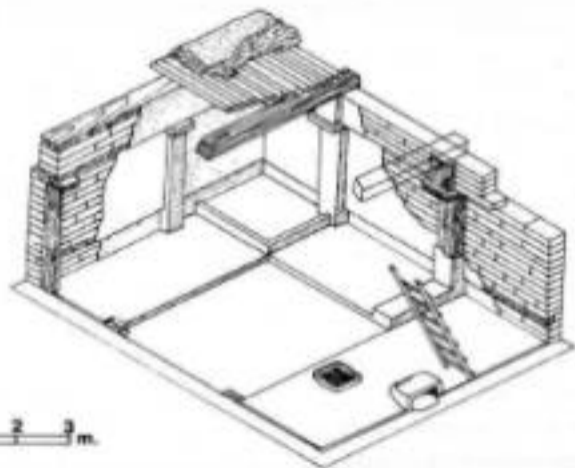
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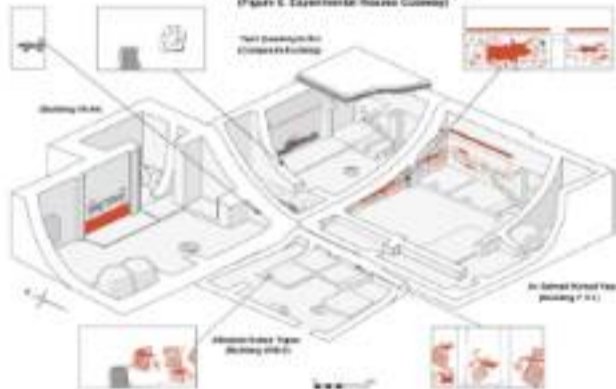
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RENAISSANCE

18TH-19TH CENTURY
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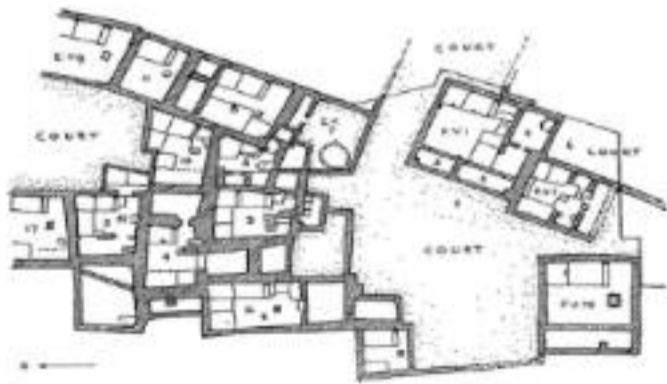
20TH CENTURY
MODERN

Figure 6. Deneysel Evler in Düzen Planı
(Figure 6. Experimental House Complex)



NEO | CATAL HUYUK | SHRINE

- Excavations revealed highly furnished and decorated buildings
- These seemed to have been shrines
- They were similar to the residences, were even connected to them
- Only difference was that these shrines were decorated with paintings and art based on theme of 'fertility and death'.



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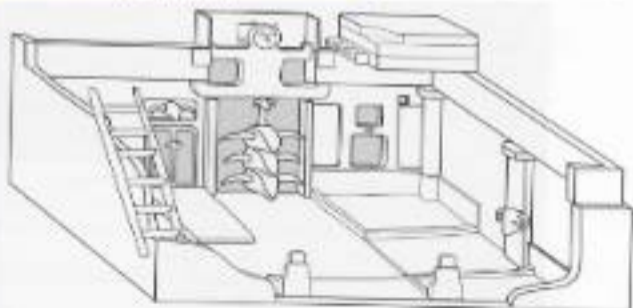
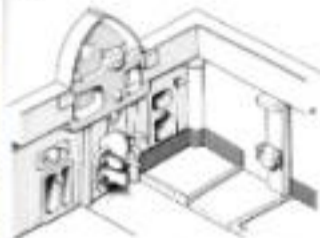
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Catal Huyuk Cave (Spain)



MONUMENTS

PREHISTORIC

These were mainly collective tombs.

- MEGALITH PASSAGE GRAVES
- MEGALITH GALLERY GRAVES
- EARTHEN LONG BARROWS

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Settlements lead to building of monumental stone architecture,

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Max Höpfer, Section Drawings



Top view, Section



Northwest Section



Eastward Section



Westward Section



■ Clay Plaster

- Covering mound (38m x 32 m) surrounded by wide space with wide ditch beyond.
- Entrance passage 1m wide and 1.5m high burial chamber (5 sq. m.)
- Smooth walls built with rectangular blocks and fine joints.
- Three cells at three sides of the chamber.
- Built mainly with masoned walls and corbelled roof.

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MONUMENTS | MEGALITHIC GALLERY GRAVES

- 23 m long chamber divided into twelve sections.
- Covered with a rectangular mound.



MONUMENTS | EARTHEN LONG BARROWS

- Trapezoid mound (40m x 6m approx.)

- Wide entrance and porch with 4 posts.

- Earthen mound surrounded by a bedding trench over 1 m deep and 0.5 m wide.

- Timber retaining wall 2m high.

- Mortuary houses exactly behind entrance, constructed using three split tree trunks (600 mm dia approx.) placed 1m apart from each other supporting a ridge post.

- Sloping timber formed triangular framework (1.5 m high, 2.4 m wide) at ground level.

MEGALITH MONUMENT:

- Monumental construction of Neolithic Man (particularly in Europe).
- Megalith_Ancient Greek_ 'Megas' meaning GREAT. _ 'Lithos' meaning STONE.
- Denotes a large stone that has been used to construct a structure or monument, either alone or together with other stones. Also a structure made of large stone, utilizing inter-locking system without the use of mortar or concrete.



- This construction system involves setting up large stone blocks alone or leaning against each other.
- Sometimes post & lintel construction is used.

METHODS OF MEGALITHIC CONSTRUCTION:

- Stone is quarried from rocks, transported by rollers pulled by people.

- Lever action is used to lift and place stone in position.

- The secret of the construction lies in

- Abundance of labour
- Endurance of effort
- Availability of unlimited time

- Other featured Prehistoric Construction Techniques:
Featured Masonry Techniques.

- Folded stone corners

- Multi-faceted stone

- Metal 'block ties'

- Quarry marks

- Mortise and Tenon joints

- Drilling

- Manoeuvring Protuberances.

- Vitrification of large stone.

CATEGORIZATION OF MEGALITHIC MONUMENTS

PREHISTORIC

- TOMBS- also called DOLMEN.
- NON FUNERAL STRUCTURES:
 - Single stones- MENHIRS
 - Stones composed in groups- HENCE MONUMENTS

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MEGALITH MONUMENTS- TO BE STUDIED IN DETAIL:

- DOLMEN TOMB, CARNAC
- STONE ALIGNMENT, FRANCE
- STONEHENGE, SALISBURY, ENGLAND.



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- Types of Dolmen

- Great Dolmen
- Passage grave
- Polygonal dolmen
- Simple Dolmen
- Rectangular, enlarged or extended dolmen

- Arrangements

- The granite stones- megaliths
 - sizes- 1m in height to 6.5 m
 - Weight upto 25 tonnes
- These were removed, not quarried
- Moved using levers and rollers

MEGALITH MONUMENTS | DOLMEN TOMB, CARNAC, FRANCE

PREHISTORIC

- Stones arranged in various ways:

NEAR EAST

- MENHIRS: single free standing stones

EGYPTIAN

- MOUNDS: individual tombs called 'tumulus'

GREEK

- DOLMENS: collective tombs composed of upright stones, topped with a horizontal 'capstone'

EARLY CHRISTIAN

- ENCLOSURES: a circle or defined space bordered by stone and topped off by adjoining or closed megaliths

BYZANTINE

- ALIGNMENTS: Parallel rows of single upright stones sometimes stretching for several hundred metres

ROMANESQUE

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- CAIRNS: piles of smaller stones, typically built over a burial site

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From British Archaeology Nov/Dec 2013



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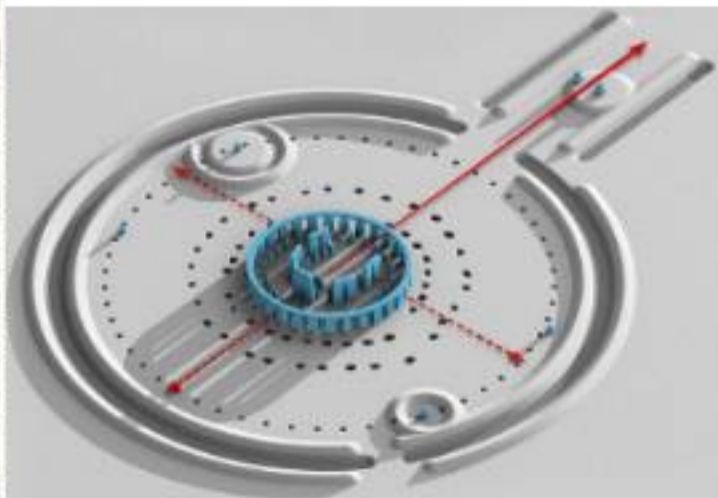
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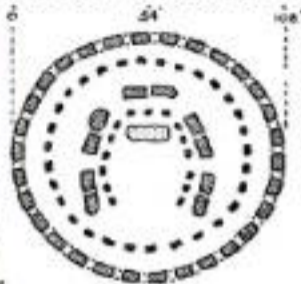
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MEGALITH MONUMENTS | STONEHENGE, SALISBURY



The Lithology of Stonehenge.



- = Syenite and other foreign stone.
- ▣ = Sarsen—local Wiltshire stone.
- = Fine grained micaceous sandstone.

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MEGALITH MONUMENTS | STONEHENGE, SALISBURY

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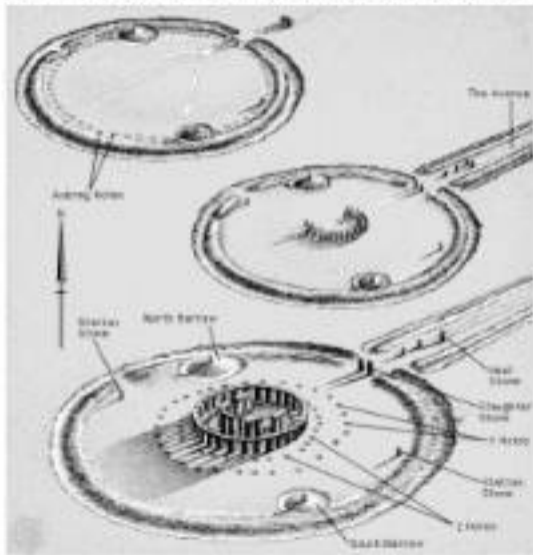
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HISTORICAL TIMELINE OF ARCHITECTURE:



UNIT 2- ANCIENT RIVER VALLEY CIVILIZATIONS: EGYPTIAN

- Landscape and culture of Ancient Egypt
- History _ religious and funerary beliefs and practices
- Monumentality _ tomb architecture
- Evolution of the pyramid from the Mastaba
- Temple architecture _ mortuary temples and cult temples
- Great pyramid of Cheops, Gizeh
- Temple of Ammon Ra, Karnak
- Temple of Abu Simbel (Rock cut)

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FOUR EARLY RIVER VALLEY CIVILIZATIONS:

- MESOPOTAMIAN CIVILIZATION- Tigris & Euphrates Rivers
- EGYPTIAN CIVILIZATION- Nile River
- INDUS VALLEY CIVILIZATION- Indus River
- ANCIENT CHINA- Huang He (Yellow River)



	MESOPOTAMIA (3500-1600 BC)	EGYPT (3000-2000 BC)	INDUS VALLEY (2500-1700 BC)	CHINA (3950-1000 BC)
ENVIRONMENT	<ul style="list-style-type: none"> Tigris & Euphrates flooding unpredictable No natural barriers Limited natural resources 	<ul style="list-style-type: none"> Nile flooding predictable Natural barriers: deserts Nile an easy transportation link 	<ul style="list-style-type: none"> Indus flooding unpredictable Natural barriers: mountains, deserts Monsoon winds 	<ul style="list-style-type: none"> Huang He flooding unpredictable Natural barriers: mountains, deserts Geographically isolated
POWER AND AUTHORITY	<ul style="list-style-type: none"> Independent city-states governed by monarchs City-states united into first empires 	<ul style="list-style-type: none"> Pharaohs rule kingdom as gods Pharaohs built pyramids 	<ul style="list-style-type: none"> Strong centralized government Planned cities 	<ul style="list-style-type: none"> Community and family important Sharp social divisions Mandate of Heaven
SCIENCE AND TECHNOLOGY	<ul style="list-style-type: none"> Cuneiform Irrigation Bronze Wheel, sail, plow 	<ul style="list-style-type: none"> Hieroglyphics Pyramids Mathematics Geometry Medicine 	<ul style="list-style-type: none"> Writing (not yet deciphered) Cities built on precise grids Plumbing and sewage systems 	<ul style="list-style-type: none"> Writing Silk Coined money Cast iron

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Why did CIVILIZATIONS start around RIVERS?!

- Good farming conditions
- Fresh food and water
- Fresh fish
- Mode of transport
- Easy to trade (exchange of ideas and goods)

FACTORS INFLUENCING DEVELOPMENT OF EGYPT:

- GEOGRAPHICAL INFLUENCE
- GEOLOGICAL INFLUENCE
- CLIMATIC INFLUENCE
- RELIGIOUS INFLUENCE
- HISTORICAL INFLUENCE
- SOCIAL & POLITICAL INFLUENCE
- SOCIAL CHARACTERISTICS



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INFLUENCES | GEOGRAPHICAL INFLUENCE

Egypt is located in Africa
on the northern edge of
the Sahara



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INFLUENCES | GEOGRAPHICAL INFLUENCE

- Egypt was known as "The land of the Pharaoh" and "desert land"
- Egypt has natural barriers of protection:
 - Deserts in the East and West of the Nile River
 - Mountains to the South.
- Steep cliffs form dangerous and fast-moving waters called 'cataracts' which made ship travelling difficult
- DUALITIES, such as desert and river valley, Upper and Lower Egypt- were important organizing principles



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THE GIFT OF THE NILE

- The 'NILE RIVER' is a seasonal river that bisects the land from the South to the North and overflows its bank yearly to create a fertile valley- flood plain.
- SOUTH has MOUNTAINS
- NORTH has LOW LYING PLAINS

The Nile delta (formed while the Nile river branches out into the Mediterranean)



It is shaped like a Lotus Flower, often seen in Egyptian art.

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INFLUENCES | GEOGRAPHICAL INFLUENCE | RIVER NILE

- Civilization started along the Nile about 5000 years ago
- Each spring, water run off the mountains and the Nile would flood.
- As flood water receded, black rich fertile soil was left behind
- The ancient Egyptians called this rich soil- THE GIFT OF THE NILE.
- The area after flooding is called "kemet" which means "black land" (because silt is black.)
- It was their means of communication, highway, lifeline.
- Egypt's greatest wealth- FERTILE SOIL



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INFLUENCES | GEOGRAPHICAL INFLUENCE | RIVER NILE



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INFLUENCES | GEOGRAPHICAL INFLUENCE | RIVER NILE

- Fresh water for drinking and bathing
- The Nile supported transportation and trade
- Provided materials for building, making cloth for clothes, and even for making paper from the wild papyrus weed, that grew along the shores of the Nile.



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INFLUENCES | GEOGRAPHICAL INFLUENCE | RIVER NILE

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- Representation of how LIFE existed on the NILE: LOTUS bearing ISIS



Predominant building materials- STONE AND SUN BAKED MUD BRICK

PRE-HISTORIC

WHY?

- Due to scarcity of wood
- The Nile created deposits of clay, granite, limestone, sandstone.
- STONE: Abundant building material except on temples and pyramids
 - SOFT STONE: Limestone, Sandstone, Alabaster
 - HARD STONE: Granite, Quartzite, Basalt, Porphyry

NEAR EAST



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- SUN DRIED BRICKS: Made of clay and chopped stone for pyramids and temples



- DATE PALM and PALM LEAVES: for roofing



- PAPYRUS: A wild plant which grew along the riverbanks- used to make paper, boats, sandals and baskets

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INFLUENCES | GEOLOGICAL INFLUENCE

- ACACIA: For their boats
- SYCAMORE: mummy cases



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INFLUENCES | CLIMATIC INFLUENCE

- Structures have no downspout, drainage, gutters due to absence of rain.
- No windows to cut heat penetration and sandstorm.



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INFLUENCES | RELIGIOUS INFLUENCE

- Pyramids were built because they believed in 'Life after Death' and for the preservation of the dead body.
- The Pharaoh was considered not only the King, but also the 'GOD'.
- He is both, political and religious ruler, when he dies, he becomes 'OSIRIS'- 'God of the Dead'.
- They are 'POLYTHEISTIC' in practise.



Tutankhamen-
King Tut
Pharaoh

*Osiris is the
'God of the
Underworld',
AKA 'God of
Death'*



HISTORY
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INFLUENCES | RELIGIOUS INFLUENCE

PRE-HISTORIC

- Ancient Egyptians were religious people
- Different symbols were used to represent the God and temples were built dedicated to them.

NEAR EAST

Different Egyptian GODS:

EGYPTIAN

- AMUN RA- Chief God
- RAH- symbol of the sun, hope for eternal life, sun God for Heliopolis
- ATUM- World creator
- OSIRIS- God of the dead
- ISIRIS- Wife of Osiris
- HORUS- Sky God, Son of OSIRIS, also reincarnation of 'RA' himself
- SET- dread God of evil, brother of pleasure
- THOT- ibis headed God of Wisdom
- ANUBIS- Jackal headed God of Death
- PTAH- God of Craftsmen
- SERAPIS- Bull God

GREEK

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ANUBIS BASTET HATHOR NAKET RA ISIS KHNUM RE



MAAT NEITH NEPHTHYS NUN OSIRIS PTAH SELKET



SET SOBEK TEFNUT THOTH

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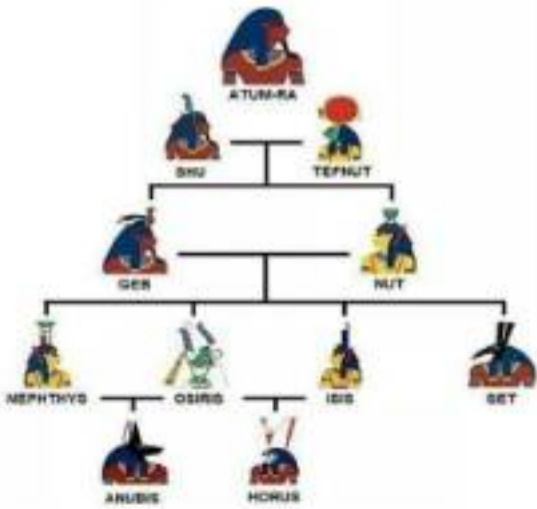
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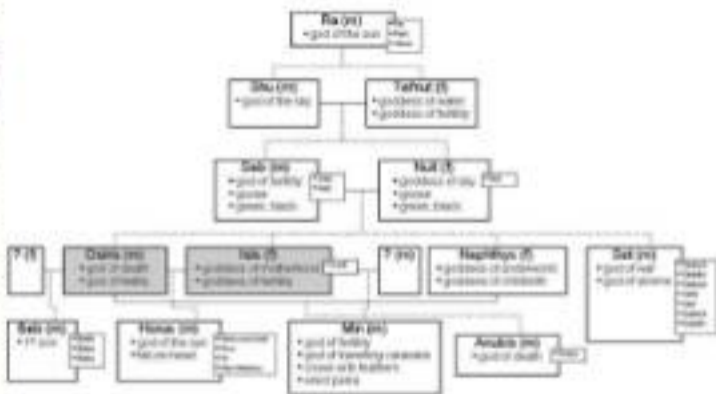
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INFLUENCES | RELIGIOUS INFLUENCE

EGYPTIAN GODS FAMILY TREE





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INFLUENCES | RELIGIOUS INFLUENCE | Mummification

- They believed that when they die, their souls called Ka would live forever.
- For the Ka to live, it needed either the body of the dead person or a copy of it in the form of a statue.
- The Ka will return each night to the body/statue. If both the body and statue are destroyed, the Ka will die.
- To ensure the availability of the body of the Ka of a dead person, the Egyptians developed a process of preservation called 'MUMMIFICATION'.



HISTORY OF ARCHITECTURE

INFLUENCES | RELIGIOUS INFLUENCE | Mummification

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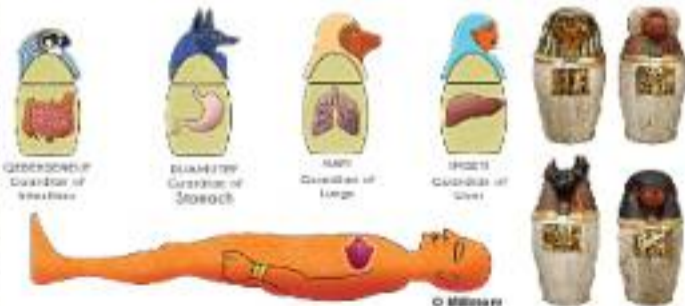
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INFLUENCES | RELIGIOUS INFLUENCE | Mummification

- The process involves cutting open the body and removing all the internal organs and the brain out.
- The body is then packed in natron to dry it out.
- It is then soaked in oil to preserve it.
- Next it is wrapped in a special cloth called mummy cloth
- The mummy is then coated with wax and a face is painted onto its wrapped head.
- The mummification of the Pharaoh took around 72 days
- Once mummification is completed, burial ceremonies are performed and the body is ready for burial.



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INFLUENCES | RELIGIOUS INFLUENCE | Mummification

The Egyptian Mummification Process

1. The mummification process prepared the deceased for entry into the afterlife by removing the organs and drying the body. These were placed in 70 jars containing natron, a natural salt, and placed in 40 jars to dry the body. To pass the mummification process by the 4th century.



2. The mummification process took 70 days.



3. The body was placed in a coffin. The body was placed in a coffin and wrapped in linen. The body was placed in a coffin and wrapped in linen. The body was placed in a coffin and wrapped in linen.



4. The body was placed in a coffin. The body was placed in a coffin and wrapped in linen. The body was placed in a coffin and wrapped in linen. The body was placed in a coffin and wrapped in linen.

5. The body was placed in a coffin. The body was placed in a coffin and wrapped in linen. The body was placed in a coffin and wrapped in linen. The body was placed in a coffin and wrapped in linen.

6. The body was placed in a coffin. The body was placed in a coffin and wrapped in linen. The body was placed in a coffin and wrapped in linen. The body was placed in a coffin and wrapped in linen.



7. The mummification process took 70 days. The mummification process took 70 days. The mummification process took 70 days.

8. After 70 days, the mummy was placed in a coffin. After 70 days, the mummy was placed in a coffin. After 70 days, the mummy was placed in a coffin.



9. The mummification process took 70 days. The mummification process took 70 days. The mummification process took 70 days.



HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

INFLUENCES | HISTORICAL INFLUENCE

- The history of ancient Egypt started with the land being divided into upper and lower Egypt.
- Around 3000 BC, King Menes united the two into a single nation
- Unification brought about peace that led to the development of ancient Egyptian Civilization



The history of ancient Egypt is divided into periods based on ruling dynasties. Seven periods can be identified

- 1450 to 2000 BC
Early Dynastic
- 2250 -2200 BC
Old Kingdom
- 3200-1600 BC
First Intermediate period
- 4160 -1717 BC
Middle Kingdom
- 51350 -612 BC
Second Intermediate Period
- 6612 -539 BC
New Kingdom
- 7539 -330 BC
Greek-Roman Period

HISTORY OF ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY REVIVAL

20TH CENTURY MODERN

INFLUENCES | HISTORICAL INFLUENCE

- 30 Dynasties: started from the 3rd Millennium BC. To Roman period. Egypt was part of the Persian Empire for 2 Centuries before the invasion of 'ALEXANDER' the Great.
- ANCIENT KINGDOM: (1st to 10th DYNASTY). Development of 2 types of Tombs:
 - Mastaba
 - Pyramid
- MIDDLE KINGDOM (11th - 17th DYNASTY). Important Personalities:
 - MENTUHETEP II
 - SENUSRETS
 - AMENEMHAT I
- THE PTOLEMAIC PERIOD. Important Personalities:
 - PTOLEMY I
 - PTOLEMY III
- ARCHITECTURAL CHARACTER:
 - Simplicity
 - Monumentality
 - Solidity or Massiveness

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

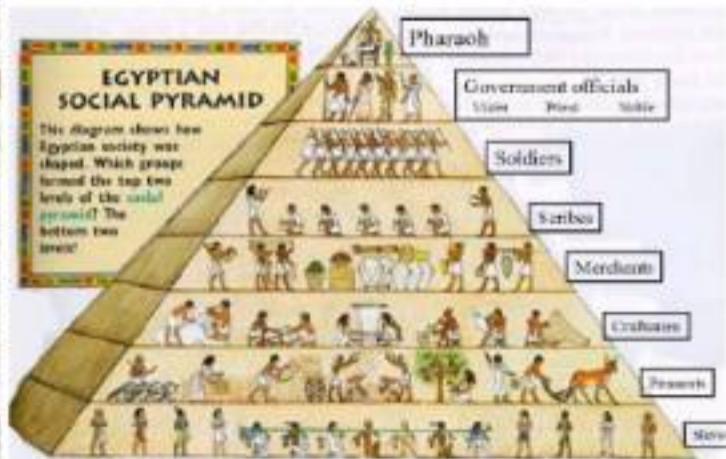
GOTHIC

RENAISSANCE

18TH-19TH CENTURY REVIVAL

20TH CENTURY MODERN

Pharaoh was considered the 'God king', the supreme power and authority, who would make all the decisions.



HISTORY
OF
ARCHITECTURE

INFLUENCES | SOCIAL AND POLITICAL INFLUENCE

PRE-HISTORIC

- GOVERNMENT and RELIGION were inseparable in ancient Egypt.
- The PHARAOH was the head of State and the divine representative of the gods on earth.

NEAR EAST

- Religion and government brought order to society through:
 - The construction of TEMPLES
 - The creation of LAWS
 - TAXATION
 - The ORGANIZATION OF LABOR
 - TRADE with neighbours
 - The DEFENCE of the country's interests

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

- MONARCHY- Form of Government
- PHARAOH- King of Egypt, Ruler, Highest Priest in Egypt
- SON of PHARAOH- normal successor to the throne
- VIZIER- King's most powerful official
- CHANCELOR- he controls the royal treasures, granaries & supervises the census.
- CHIEF STEWARD- in charge of the King's personal estate & household

PRE-HISTORIC

To reinforce their image as powerful divine rulers, the PHARAOHS represented themselves in writings and sculptured reliefs on temple walls. They often DEPICTED THEMSELVES AS WARRIORS who single-handedly killed scores of enemies and slaughtered a whole pride of lions.

NEAR EAST

EGYPTIAN

GREEK



EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

HISTORY
OF
ARCHITECTURE

INFLUENCES | SOCIAL CHARACTERISTICS & BELIEFS |
ACHIEVEMENTS

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

- Ancient Egyptians had many achievements
- This included a developed system of government, a belief system and art of mummification
- They also left a legacy of tombs and temples
- The Egyptians develop a system of irrigation to improve agriculture
- The ancient Egyptians invented the hieroglyphics systems of writing
- Historians were able to read hieroglyphics following the discovery of the Rosetta stone



HISTORY
OF
ARCHITECTURE

INFLUENCES | SOCIAL CHARACTERISTICS & BELIEFS |
ACHIEVEMENTS

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



HISTORY OF ARCHITECTURE

INFLUENCES | SOCIAL CHARACTERISTICS & BELIEFS | ARCHITECTURAL IDEAS FROM RELIGION

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY REVIVAL

20TH CENTURY MODERN

- Ancient Egyptians viewed earthly dwellings as temporary
- During the old Kingdom, the Pharaoh and his court lived in Memphis
- When they died they were buried at the Necropolis at Saqqara
- They paid little attention to house construction
- The tomb was seen as the permanent dwelling of the afterlife
- Tremendous effort was exerted into tomb construction
- The mummified dead body was buried in a stone called the 'sarcophagus' in the tomb.
- They believed that a dead person needs all his worldly goods
- The tomb was usually packed with all the treasures of the dead person
- If there was something that couldn't be provided, it was painted onto the walls of the tomb.
- Tombs also have charms to protect the dead person and his property. The dead were buried in cities of the dead, called Necropolis, located in the desert.

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

• FEATURES OF EGYPTIAN ARCHITECTURE:

- BATTERWALL- inclination from base to top of the façade
- HEIROGLYPHICS- use as ornaments, pictures & writings from the walls



• SYSTEMS OF
CONSTRUCTION:

- Post and Lintel
- Columnar or Trabeated



PRE-HISTORIC

- EXAMPLE OF STRUCTURES
 - MASTABA
 - PYRAMID
 - TEMPLES

NEAR EAST

EGYPTIAN

GREEK

Mastaba

- Flat top
- Tapered solid

Pyramid

- Step pyramid
- Bent or Blunt
- Slope

Temples

- Mortuary
- Cult

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY REVIVAL

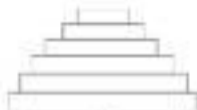
20TH CENTURY MODERN



Old Burial Site



Mastaba



Stepped Pyramid



Bent Pyramid



The Great Pyramid of Giza

EARLY KINGDOM TOMBS- MASTABAS

- The earliest method of burial in ancient Egypt was in shallow pits in the desert
- The desert dried the bodies and preserved them
- When animals preyed on bodies, the people dug deeper
- In the end they built a bench-like structure over graves to create first burial structure called MASTABAH

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

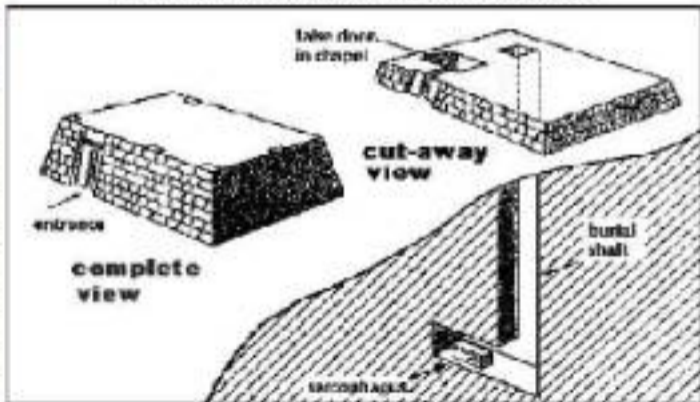
GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

A typical Old Kingdom simple mastaba tomb



PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

EARLY KINGDOM TOMBS- MASTABAS

- The name mastabas derived from podiums found in the front of traditional houses
- In the Old Kingdom, rich and noble person built mastaba for their burial in the city of the dead
- Above ground the Mastabas a large bench of sun-baked bricks rising 9 meters high
- It had a flat top and slanting walls
- The earliest royal tombs were decorated with painted patterns in brilliant colours



EARLY KINGDOM TOMBS- MASTABAS

PRE-HISTORIC

- Internally, a mastaba consists of three important parts

NEAR EAST

- A BURIAL CHAMBER: where offerings were placed
- A SERDAB: chamber containing statues of the deceased member
- A CHAPEL: chamber containing the 'coffin' reached by an underground shaft

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

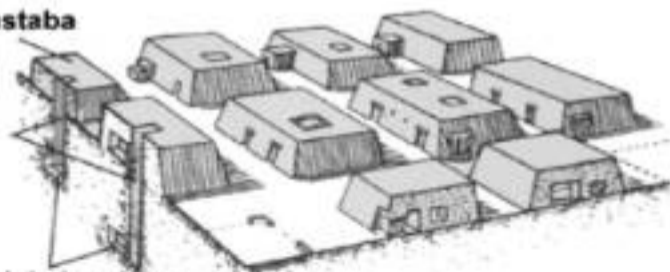
Mastaba

ROMANESQUE

Shafts

GOTHIC

RENAISSANCE



Burial chambers

18th-19th CENTURY REVIVAL

20th CENTURY MODERN

EARLY KINGDOM TOMBS- MASTABA

PRE-HISTORIC

The burial chamber

NEAR EAST

- Located 30 feet below ground
- It is connected to the outside chamber above ground through a shaft

EGYPTIAN

GREEK

- In the chamber is found the sarcophagus where the dead body was placed

EARLY CHRISTIAN

- It is packed with all the necessary things needed in the after life

BYZANTINE

- After burial, the shaft to the burial chamber is sealed

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



THE MASTABA OF KHUFU IN THE NECROPOLIS OF GIZA

EARLY KINGDOM TOMBS- MASTABA

PRE-HISTORIC

Serdab and Chapel

NEAR EAST

- Are located above ground
- The Serdab is a room where the statue of the dead person is kept
- The statue acts as a substitute for body in case it is destroyed

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



EARLY KINGDOM TOMBS- MASTABA

PRE-HISTORIC

Serdab and Chapel

NEAR EAST

EGYPTIAN

GREEK

- The chapel is where the ka is supposed to live for ever
- It is a colourful room meant to deceive the gods into letting the ka enter the next world
- Had a false door leading to the land of the dead
- Some mastabas had fence walls, and chambers for burial of servants
- Mastaba served as an embryo for the evolution of the pyramid

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



PRE-HISTORIC

- Evolved from Mastaba- with 4 sides facing the cardinal points, they were made by 100000 men for 100 years

NEAR EAST

- STEPPED PYRAMID- evolved from Mastaba

EGYPTIAN

- BENT/BLUNT PYRAMID- 2 degrees of inclination of slope

GREEK

- SLOPE PYRAMID- Parts of the sloped pyramid

EARLY CHRISTIAN

- King's chamber
- Queen's chamber
- Subterranean chamber
- Grand Gallery
- Air shafts

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY
KINGDOM TOMBS | PYRAMIDS | STEPPED PYRAMIDS |
STEPPED PYRAMID AT SAQQARA

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

- The stepped pyramid was built for KING ZOSER by IMHOTEP
- King Zoser was the powerful pharaoh of the third dynasty of the old kingdom
- It was built as a funeral complex in the NECROPOLIS of Saqqara
- Imhotep initially conceived of the tomb as a LARGE MASTABA OF STONE
- Dissatisfaction with the result led to the stacking of mastaba one on top of another
- The result was the stepped pyramid with 5 sloping setbacks
- It is an intermediate between mastaba and geometric pyramid



Step Pyramid at Saqqara

HISTORY
OF
ARCHITECTURE

TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY
KINGDOM TOMBS | PYRAMIDS | STEPPED PYRAMIDS |
STEPPED PYRAMID AT SAQQARA

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



PRE-HISTORIC

Stepped pyramid was 200 feet high with 6 giant steps

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

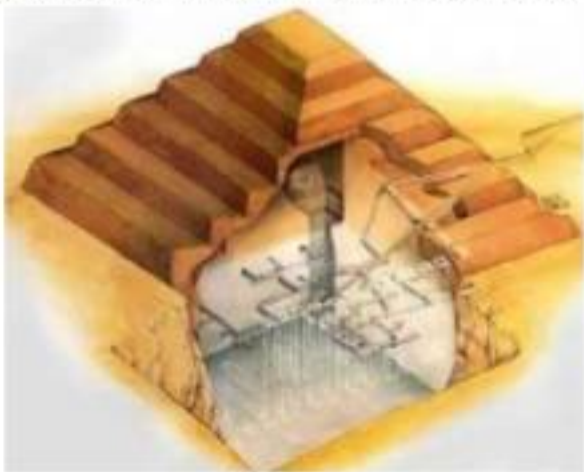
ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY KINGDOM TOMBS | PYRAMIDS | STEPPED PYRAMIDS | STEPPED PYRAMID AT SAQQARA

PRE-HISTORIC

- The burial chamber is entered from the north side and is 92' down

NEAR EAST

EGYPTIAN

GREEK

- On either side of the chamber are store rooms for the king's treasures

EARLY CHRISTIAN

- All the treasures buried with Zoser have long been stolen

BYZANTINE

- A stone statue of Zoser was also recently found staring out through peep holes in his Serdab

ROMANESQUE

GOTHIC

- The Serdab is located on the North side, along with the funerary temple

RENAISSANCE

- The stepped pyramid stands at the middle of a large complex

18TH-19TH CENTURY REVIVAL

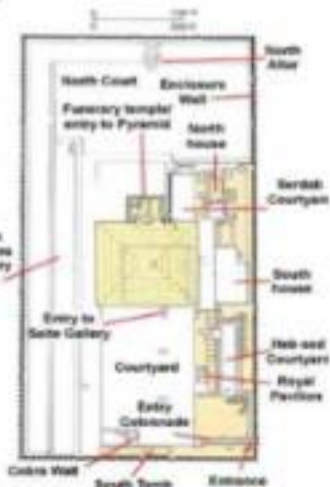
20TH CENTURY MODERN

1:1000

60' x 40'



Western Staircases and Gallery



Plan Zoser's Funeral Complex

TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY
KINGDOM TOMBS | PYRAMIDS | STEPPED PYRAMIDS |
STEPPED PYRAMID AT SAQQARA

PRE-HISTORIC

- The funeral complex consisted of palaces, temples and the stepped pyramid

NEAR EAST

- They were all surrounded by a fence wall 33 feet high
- The fence wall of the funeral complex has a breaking pattern of about 200 projections and recessions

EGYPTIAN

GREEK

- 14 of these were larger than the others and 13 out of the 14 had false doors

EARLY CHRISTIAN

- The false doors were for the use of the pharaoh's ka

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE



Fence Wall, Zoser's Funeral Complex

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY
KINGDOM TOMBS | PYRAMIDS | STEPPED PYRAMIDS |
STEPPED PYRAMID AT SAQQARA

PRE-HISTORIC

- The entrance door leads to a long hall having 2 rows of columns
- This is one of the first uses of columns in history

NEAR EAST

- The columns were designed to look like bundles of reeds and had flutes

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



ENTRANCE, ZOSER'S FUNERAL COMPLEX



- In the north palace is also found stone columns with capitals
- They were designed to look like the papyrus plant
- Zoser's funeral complex was designed as a model of his palace, city and kingdom
- The shape of the pyramid suggest a stairway to the sky to join the sun God Amon Ra

HISTORY
OF
ARCHITECTURE

TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY
KINGDOM TOMBS | PYRAMIDS | STEPPED PYRAMIDS

PRE-HISTORIC
NEAR EAST

After the stepped pyramids, there were several attempt at building a pure geometric pyramid. Among the prominent attempts were

EGYPTIAN

- THE PYRAMID AT MEDUN AND
- TWO PYRAMIDS BUILT BY SNEFRUAT DASHUR

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY KINGDOM TOMBS | PYRAMIDS | STEPPED PYRAMIDS | PYRAMIDS AT MEDUN

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

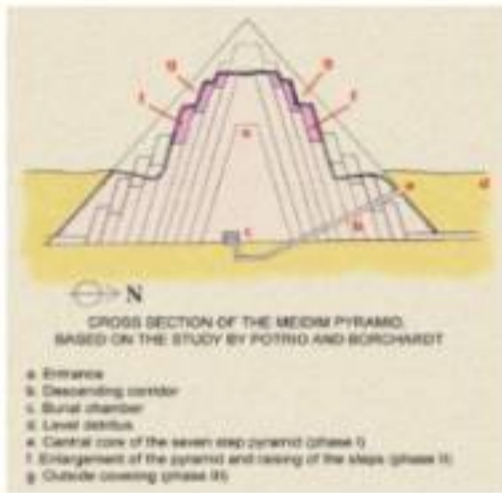
GOTHIC

RENAISSANCE

18TH-19TH CENTURY REVIVAL

20TH CENTURY MODERN

- King Huni made the first attempt at building a pure pyramid at Medun
- He constructed a 7 stepped pyramid with a square plan and height of 90 meters and an angle of incline of 51 degrees
- The pyramid did not have a mortuary temple



TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY
KINGDOM TOMBS | PYRAMIDS | STEPPED PYRAMIDS |
SNEFRU'S PYRAMIDS | BENT PYRAMID AT DASHUR

PRE-HISTORIC

- Pharaoh Snefru made two attempts at pyramid construction
- His first pyramid, the Bent pyramid at Dashur had

NEAR EAST

- square plan
- height of 102 meters

EGYPTIAN

- The pyramid had a change of angle midway

GREEK



EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE



18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

- Snefru's second pyramid, the north pyramid, is the place he was buried

- It had a low pitch of 43 degrees instead of 52 degrees making it look stunted

- A true pyramid has an incline angle of 52 degrees



TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY
KINGDOM TOMBS | PYRAMIDS | SLOPED PYRAMID |
PYRAMID COMPLEX AT GIZA

PRE-HISTORIC

The construction of a true geometrical pyramid was achieved during the reign of Cheops, son of Snefru. This was the Pyramid at Giza (It is called the Great Pyramid because of its size)- 482 ft high on a square plan of 760 sq. ft. Two additional pyramids were subsequently built.

NEAR EAST

EGYPTIAN

The pyramid complex:

- The largest, Pyramid of KHUFU (Cheops)- built by Cheops, son of Snefru
- The second largest in the centre, Pyramid of KHAFRE (Cephren)- built by Cephren, the son of Cheops
- The third and smallest, Pyramid of MENKAURE (Mykerinus)- built by Mykerinus, the son of Cephren

GREEK

The great Sphinx, offering chapels and other valley pyramids; all together are referred to as the pyramid complex at Giza.

EARLY CHRISTIAN

BYZANTINE

These 3 pyramids are testimony to the engineering skills of ancient Egyptians.

ROMANESQUE

GOTHIC

RENAISSANCE



18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY
KINGDOM TOMBS | PYRAMIDS | SLOPED PYRAMID |
PYRAMID COMPLEX AT GIZA

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



The Pyramids at Giza

- The complex takes up 13 acres and the three pyramids are aligned diagonally along the projection of the diagonal of the great pyramid
- The 4 sides facing the cardinal points of the compass are nearly equilateral triangles, making an angle of 52 degree with the ground.
- Of the 3 pyramids, the original polished limestone casing is seen at the base of the Cephren, the top of Mykerinus, but not on the Mykerinus.
- The small pyramids close to them were built for their Queens

- The great pyramid has a unique internal arrangement
- First it has a chamber built below the base of the pyramid
- Another chamber was built above it known as the queen's chamber
- A larger burial chamber known as the king's chamber was built at the centre of the pyramid

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

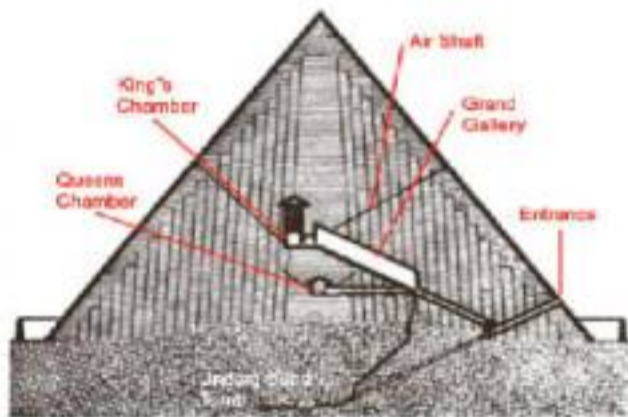
ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



Section of The Great Pyramid of Cheops

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN



A: Pyramid Funeral Complex

B: View of Giza

TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY KINGDOM TOMBS | PYRAMIDS | SLOPED PYRAMID | PYRAMID COMPLEX AT GIZA | PYRAMID OF CHEPHREN

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY REVIVAL

20th CENTURY MODERN

- a. Pyramid of Khafre
- b. Remains of satellite pyramid
- c. Mortuary Temple
- d. Causeway
- e. Sphinx
- f. Valley Temple
- g. Temple of the Sphinx



The burial process:

- At the end of 72 days, an opening of the mouth ceremony was performed
- A procession carried the pharaoh's body along the causeway to the pyramid mortuary temple
- Prayers performed to God Osiris
- Body is lowered through the secret opening on the north side to his burial chamber.
- There he was laid in his stone Sarcophagus
- Rich treasure was heaped on him
- The passage was filled with rock and sealed forever
- Now it was time for the pharaohs 'ka' to pass to the land of the dead

The funeral complex shows the earliest development of the components of the new kingdom temple

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

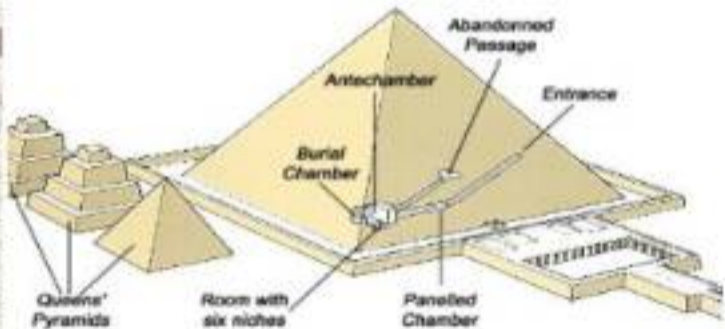
ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY REVIVAL

20TH CENTURY MODERN



203 ft OR 109 m. High
339' square base

TOMB ARCHITECTURE | EVOLUTION OF TOMBS | EARLY
KINGDOM TOMBS | PYRAMIDS | SLOPED PYRAMID |
PYRAMID COMPLEX AT GIZA | THE GREAT SPHINX

PRE-HISTORIC

- The Great Sphinx is located North East of Cephren's Valley temple, which was the site of the quarry from which the stones for the pyramids came. It was carved out of the remaining spur of rock by his workers 4500 years ago.

NEAR EAST

EGYPTIAN

- The sphinx is carved out of sandstone and its body is 200 feet long and 65 feet tall. The face is 13 feet wide.
- It was buried in the desert sand until a Pharaoh of the 5th dynasty excavated it. The pyramid is widely considered to be a depiction of the royal power of the Pharaoh.

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN



PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

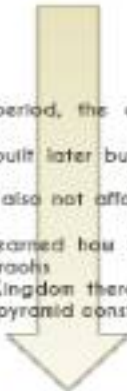
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RENAISSANCE

18TH-19TH CENTURY
REVIVAL

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MODERN

TOMB ARCHITECTURE

- 
- After the Mycenaean period, the era of pyramid construction ended
 - More pyramids were built later but they were smaller and less complex
 - Later pharaohs could also not afford the cost of huge pyramid construction
 - Grave robbers also learned how to break into and steal the goods buried with pharaohs
 - The end of the Old Kingdom therefore marked the end of the great era of Egyptian pyramid construction.

TEMPLE ARCHITECTURE

- The Middle Kingdom began when pharaoh Mentuhotep united Egypt again after the first intermediate period
- During the middle kingdom, the practice of pyramid construction disappeared
- Focus in architectural development was however still on tombs and burial chambers
- Two categories of structures came into use

1. MORTUARY TEMPLES

- served as the place for the burial and worship of pharaohs
- Temples dedicated to Gods were also located in them
- Mortuary temples owe their ORIGIN TO THE PYRAMID FUNERAL COMPLEX, particular the valley and pyramid temples

2. UNDERGROUND TOMBS

- became popular because of the belief that they could not be robbed
- Many powerful and wealthy pharaohs and noblemen carved their tombs directly into rock cliffs and underground tombs during the Middle and New Kingdoms
- Most of the tomb and burial chamber construction was carried out at Del Al Bahari

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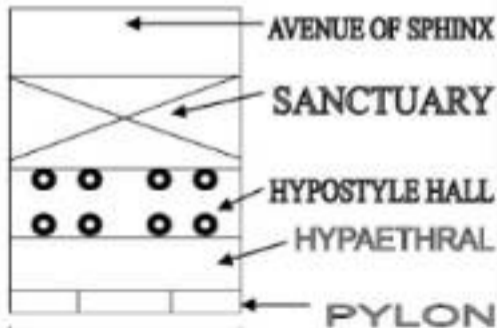
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PARTS OF AN EGYPTIAN TEMPLE:

- ENTRANCE PYLON: massive sloping towers fronted by an obelisk known as gateways in Egypt.
- HYPAETHRAL COURT: large outer court open to sky
- HYPOSTYLE HALL: a pillared hall in which roofs rest on column
- SANCTUARY: usually surrounded by passages & chambers used in connection with the temple service
- AVENUE OF SPHINX: where mystical monsters were placed.



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Two mortuary temples were built at
Del al Bahari;

- Mortuary temple of Mentuhotep
- Mortuary temple of Hatshepsut
- Mentuhotep was the first
Pharaoh of the middle kingdom
- He built the first mortuary temple
at Del-al Bahari
- The temple is terraced in two
levels
- The upper terrace is faced with
double colonnades
- At the centre is a core believed
to have a small pyramid on top
- The pyramid is believed to be a
dummy burial chamber



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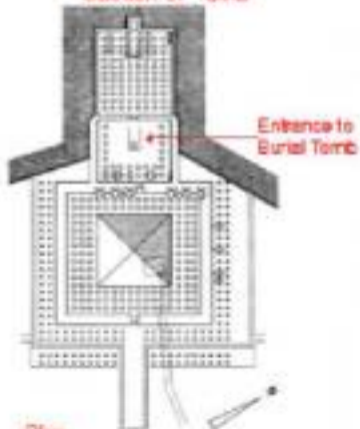
Tomb Detail

Entrance to the real tomb is found at the rear from the western courtyard.

The burial tomb is accessible through a ramp leading down at the centre of the court yard. The temple of Mentuhotep also has a causeway leading to a valley temple.



Section of Tomb



Plan

HISTORY
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TEMPLE ARCHITECTURE | MID & NEW KINGDOM | MORTUARY TEMPLES | TEMPLE OF HATSHEPSUT

- Queen Hatshepsut's temple was built 500 years after that of Mentuhotep during the new kingdom
- Hatshepsut was the only female pharaoh to rule Egypt. She dressed as a pharaoh, wearing men's cloth with a false beard attached to her chin.
- Her temple was inspired by the design of the Mentuhotep's temple.
- The architect of her temple is believed to be Senmut, who is also buried in the temple.



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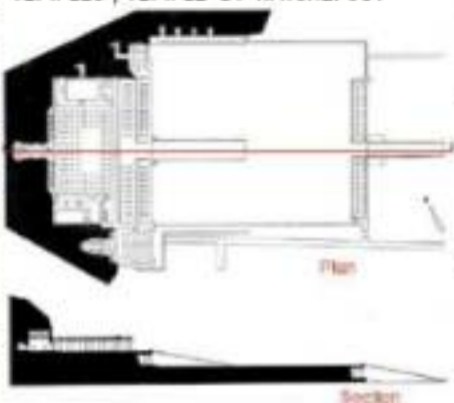
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- The temple of Hatshepsut is like a giant stage on three levels. Each of the three levels was connected by a ramp
- It has no dominant mass. Instead, there was a strong horizontal axis, strong horizontal axis running across the set of terraces and perpendicular to the mountains
- It was rather a play of the emptiness of terraces, ramps and courtyards against the busy background of the cliffs
- The chapel was dug out of the rock cliff

On the top level is her chapel dedicated to the goddess Hathor. Hatshepsut hid her tomb in the deep rock cliffs to stop robbers but her tomb was also plundered and smashed into a thousand pieces. But Archaeologist believe that her son Tutmosis III poisoned her to death & erected her tomb. Her temple was not a construction of stone masses as in the pyramids. Her temple captures the shift from the compact geometry of the old kingdom pyramids to the linear composition of the New Kingdom temples.

TEMPLE ARCHITECTURE | MID & NEW KINGDOM | UNDERGROUND TOMB

Two types of Underground tombs were built by pharaohs and nobles during the Middle and New Kingdom periods

- ROCK CUT TOMBS: tombs carved out of rocks, many of are found along the cliff of the Nile
- SHAFT TOMBS



TEMPLE ARCHITECTURE | MID & NEW KINGDOM | UNDERGROUND TOMB | ROCK CUT TOMBS | BENI HASSAN

Beni Hassan consists of 3 elements.

- A colonnade entrance portico for public worship
- Behind the portico, a chamber or hall with columns supporting the roof serving as a chapel
- A small recess towards the back of the chapel where the person is buried



G EXTERIOR



H INTERIOR



J PLAN



K LONG-SECTION

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- The columns on the exterior were shaped like a prism with 8 or 16 sides
- The columns in the interior were designed as a bundle of reed tied together by rope



Fig. 26. Temple of Beni-Hassan.



Tomb Chamber

TEMPLE ARCHITECTURE | MID & NEW KINGDOM | UNDERGROUND TOMB | SHAFT TOMBS

Shaft tombs were a complex series of underground corridors and rooms cut out of the mountains in the valley of the King at Del-Ai-Bahari

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Underground Shaft Tomb.

- The large number of rooms & their complicated arrangement is deliberately done to create a maze or puzzle. It is designed to make it difficult for robbers to determine where a dead person is buried
- A dead pharaoh or nobleman is buried in one of the many underground rooms
- Once the burial is finished, the entrance is sealed permanently and hidden from everybody

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TEMPLE ARCHITECTURE | NEW KINGDOM | CULT TEMPLES

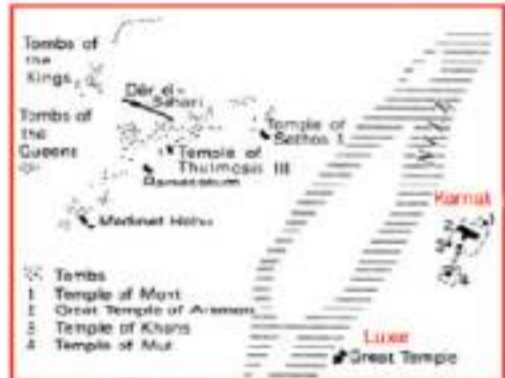
- The Middle Kingdom lasted for 275 years
- The New Kingdom started after the end of second Intermediate period
- The New Kingdom lasted for 500 years
- During the New Kingdom, the capital of ancient Egypt moved from Memphis to Thebes
- The most important and common architectural elements of the New Kingdom were temples
- Several temples were built dedicated to Egyptian Gods
- The New Kingdom Temples borrowed a lot of elements from the funeral complexes at Giza
- They also borrowed elements from the Mortuary temples at Del-Ai-Bahari
- The borrowed elements include:
 - LONG APPROACHES
 - GUARDIAN SPHINXES
 - COLONADED VESTIBULES AND INNER COURTS
 - DARKENING SHRINES
 - INTRICATE LINEAR PROGRESSION OF CONSTRUCTED SPACE

- The New Kingdom temples allow a series of experiences passing in stages from openness and light in the exterior to interior closure and darkness - This feeling was deliberate as only the Pharaoh and priest were allowed into the inner part of temple



TEMPLE ARCHITECTURE | NEW KINGDOM | CULT TEMPLES

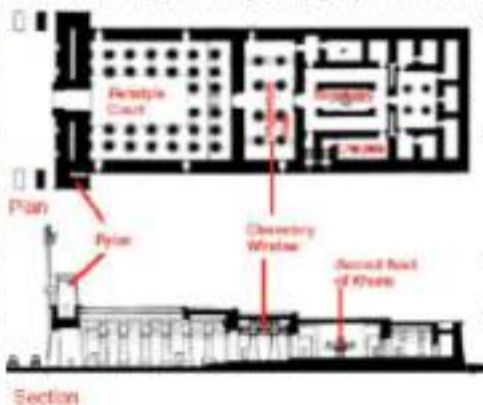
- Many examples of the New Kingdom temples are found at Karnak and Luxor, all in Thebes
- An avenue of sphinxes connects the two sites



Karnak and Luxor in Thebes

TEMPLE ARCHITECTURE | NEW KINGDOM | CULT TEMPLES | TEMPLE OF KHONS, KARNAK

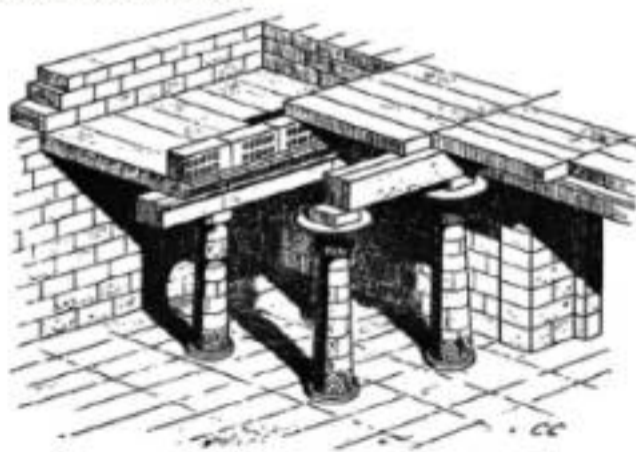
- This temple show an example of the components and organization of a typical New Cult temple
- This is dedicated to the God Amun
- A person approaching first meets the entrance wall called pylon. The pylon is higher and wider than the temple behind it. The pylons were treated with moulding and decorated relief carvings
- Mast with royal and religious flags fly in front of the pylon



- Behind the pylon is the peristyle courtyard, made up of a row of twin colonnades on two or more sides and was open to the sun.
- Beyond the Peristyle courtyard is the hypostyle hall. HYPOSTYLE MEANS ROOM WITH MANY COLUMNS.
- The peristyle hall and columns are painted in bright colours
- The ceiling was usually painted blue to resemble the sky with stars twinkling

TEMPLE ARCHITECTURE | NEW KINGDOM | CULT TEMPLES | TEMPLE OF KHONS, KARNAK

- The columns in the centre of the hypostyle hall were usually higher than on the two other sides, giving the room two roof levels
- In between the two roofs, windows were placed to allow light to enter. These are called clerestory windows



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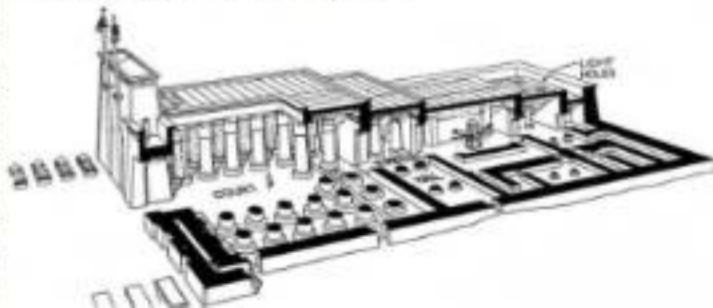
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- A gate from the hypostyle hall leads into the sanctuary. Only the pharaoh and the priest were allowed here
- In the sanctuary is found boats or barges kept on stone. Each boat had a god inside. At the far end of the Sanctuary are found chapels dedicated to gods and goddesses. Here the priest washed, fed and dressed statues of the Gods each day
- As you move from the pylon into the temple, the roof becomes lower and the floor rises up
- The inside is also slowly darkened. The sanctuary is completely dark except for small holes over the chapel of the Gods. Every morning, the rays of the sun brightened the Gods
- The whole temple is surrounded by a wall



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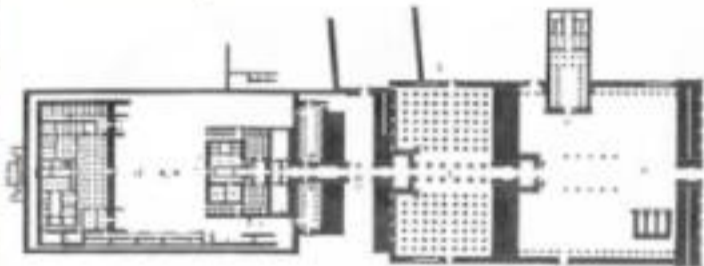
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18TH-19TH CENTURY REVIVAL

20TH CENTURY MODERN



- It is the largest of the New Kingdom temple and it grew in a haphazard way
- Built by at least 16 pharaohs over a period 1700 years
- Each pharaoh added either a pylon, courtyard, hypostyle hall or decorated on parts built by an earlier pharaoh
- Queen Hatshepsut, Tutmosis II and Ramesses II all added to the temple.
- An entrance forecourt leads to the imposing façade 119 ft (36 m) wide & 105 ft (32 m) high formed as a pylon, immediately in front of which are 4 rock cut colossal statues of Ramesses, over 65 ft (20 m) high.

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- Like all Egyptian temples, it is approached through an avenue of Sphinxes, with a pair of massive pylons serving as its entrance.
- The temple area is a vast open air museum & is the largest ancient religious site in the world.
- The 1st entrance pylon is 15 m thick and is constructed of mud bricks. The batter of the pylon is characteristic of Egyptian Architecture.

PRE-HISTORIC

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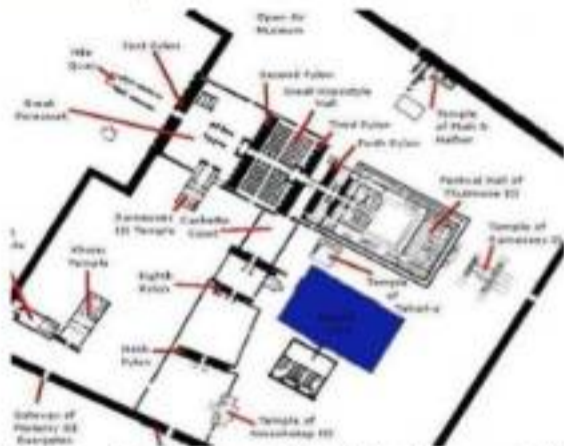
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• The pylons lead to a Great court measuring 320ft by 27ft, which accommodates the shrine of Seti I & the temple of Ramesses II. The central axis of the temple is oriented in the east-west direction & the same is emphasized by 8 pairs of columns in the court. The 2nd pylon leads to the Hypostyle hall, which was begun by Seti I & completed by Ramesses II. The 3rd & 4th pylons lead to the sanctuaries, which also contains the festival hall.

PRE-HISTORIC

NEAR EAST

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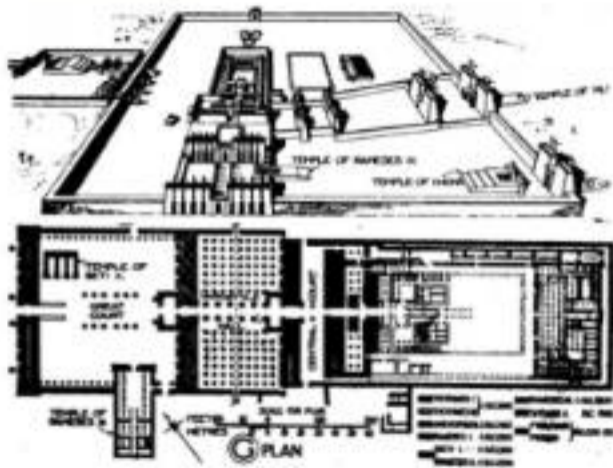
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20TH CENTURY MODERN



• The detail plan of the Armon temple shows the 4 pylons leading to the sanctuary, which has been mostly destroyed. However, the plan shows the 6 pairs of central columns in the hypostyle hall with 126 (9 rows x 7 lines x 2 sides) shorter columns on either side.

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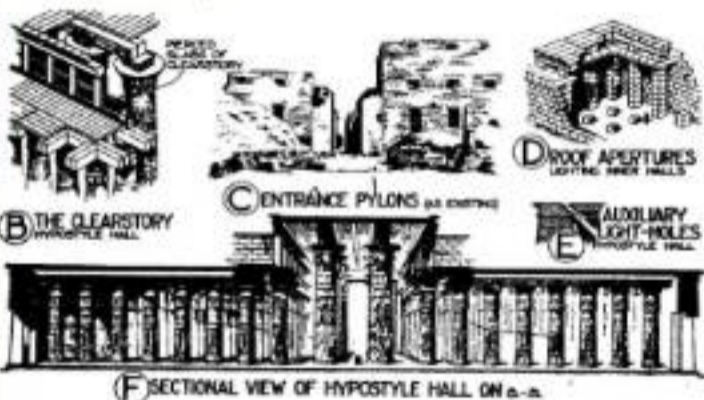
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20TH CENTURY MODERN



- The great hypostyle hall is about 320' x 160' internally & is roofed by enormous slabs of stone, supported by 136 columns. The roof of the central avenue is raised to a height of 80' with the columns itself rising to 69' ht & having a diameter of 11' 9" with lotus bloom capitals. The side avenues are lower in order to admit light through clear storey windows with the columns rising to 42' ht and 9' diameter, having lotus bud capitals. The effect produced by this forest of columns is most awe-inspiring.

HISTORY
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TEMPLE ARCHITECTURE | NEW KINGDOM | CULT TEMPLES |
TEMPLE OF ABU SIMBEL

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Built in 1301 BC by Ramses II, it was dedicated to his deified Queen, Nefertari and the goddess Hathor.

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The façade is 27.4m wide and 12.2m high. It comprises of six niches recessed in the face of the rock and containing 6 statues 10m high, 2 represent Ramesses and one Nefertiti on each side of the portal which leads to a vestibule and a hall.

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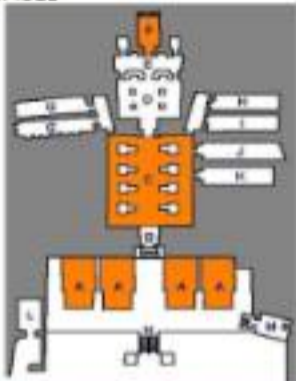
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- A First massive statue of the seated king Ramesses II, which flows to maximum depth of the temple
- B Entrance
- C Large rock-cut hall with eight massive pillars
- D Second hall with four square pillars, decorated with religious and offering scenes
- E Vestibule (available for offering)
- F Courtroom with 4 statues of the gods Ptah, Amun, Ra, the deities Sobek, Khonsu, and Isis-Tenithis
- G-K Storerooms (probably) with images of the king offering to various gods
- L-M Chapel
- N Stairway to the temple platform

PRE-HISTORIC

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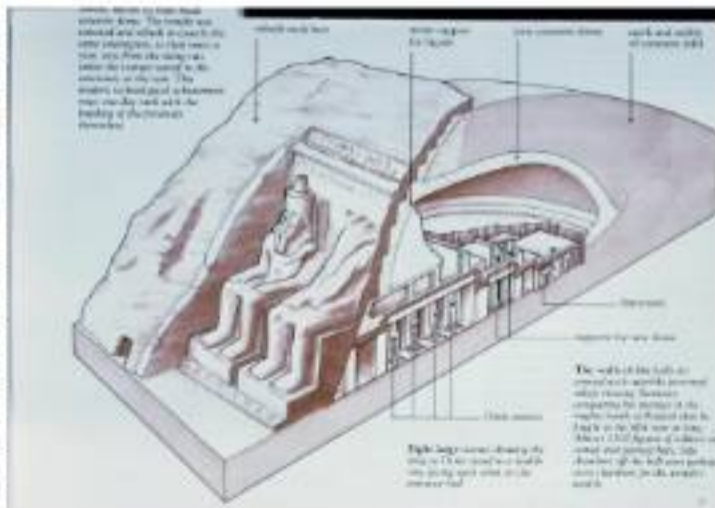
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- The walls of Egyptian buildings are sloped on the outside, which is referred to as the "batter" of the walls, while remaining vertical on the inside. These windowless walls were suitable for the relief sculptures known as **HEIROGLYPHICS**.
- Egyptian columns have an inverted bell capital derived from the Papyrus flower of the bud capital derived from the lotus bud.
- Temples are approached by avenues of 'SPHINXES' with the body of a lion & the head of a man, ram or hawk.
- The entrance to the temples are articulated by massive pylons.
- The interior of temples have great courts, hypostyle (pillared) halls & mysterious chambers.
- Light was brought to the interior of temples using clear story lighting method & all wall surfaces and columns had pictorial frescoes and carvings, painted in brilliant colours.
- Egyptian architecture is impressive for its monumental scale, the solidity & the eternal character of its buildings.

ARCHITECTURAL CHARACTER OF EGYPT

- The most astonishing fact in the construction of the pyramid is how did the Egyptians manage to raise these enormous blocks of stone, weighing 2.5 tons & measuring 8'x8'x8' each, to a height of 480'.
- One of the theories is that the ramps were built of mud brick and rubble on which the stone blocks were dragged on sledges to the required height.



ARCHITECTURAL CHARACTER OF EGYPT

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- Another theory suggests that first a step pyramid was carved out of an existing mountain to form the core around which the ramps were built in a concentric fashion to raise the stone blocks to each stage and fill up the steps to form the pyramidal shape. Finally the pyramid was finished by adding a casing of tura limestone.



- Though some of the pyramids indicate an accurate understanding of π , Egyptians were incapable of arriving at this calculation. It is possible that they had accidentally arrived at it by counting the revolutions of a drum.

PRE-HISTORIC

NEAR EAST

- OBELISKS

EGYPTIAN

- SPHINX

GREEK

- CAPITALS AND COLUMNS

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- RELIEF CARVING AND PAINTING

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- The obelisk is an element unique to Egyptian architecture
- They were monumental pillars, usually in pairs, carved as a monolithic piece of stone and erected at temple entrances.
- Was considered the symbol of 'HELIOPOLIS' the sun god.
- They were usually dedicated to a particular God, pharaoh or nobleman
- They are square in plan
- Height is 9-10 times diameter of the base.
- The 4 sides taper to the top on the top in the form of a small pyramid



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- Sphinxes are mystical statues with the body of a lion and
 - the head of a man- androsphinx
 - The head of a hawk- hawksphinx
 - The head of a ram- criosphinx
- They are used to line avenues leading to temples
- They are believed to provide protection
- They also reinforce the axial planning of the new kingdom temples



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- The Great Sphinx is located North East of Cephren's Valley temple, which was the site of the quarry from which the stones for the pyramids came. It was carved out of the remaining spur of rock by his workers 4500 years ago.
- The sphinx is carved out of sandstone and its body is 200 feet long and 65 feet tall.
- The face is 13 feet wide and it was buried in the desert sand until a Pharaoh of the 5th dynasty excavated it. The pyramid is widely considered to be a depiction of the royal power of the Pharaoh.



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- Egyptian column has its origin in plant materials
 - the lotus flower
 - papyrus plant
 - the palm tree
- Columns were designed to imitate the plants
- Capitals were designed to resemble a bud or bell form of a flower.



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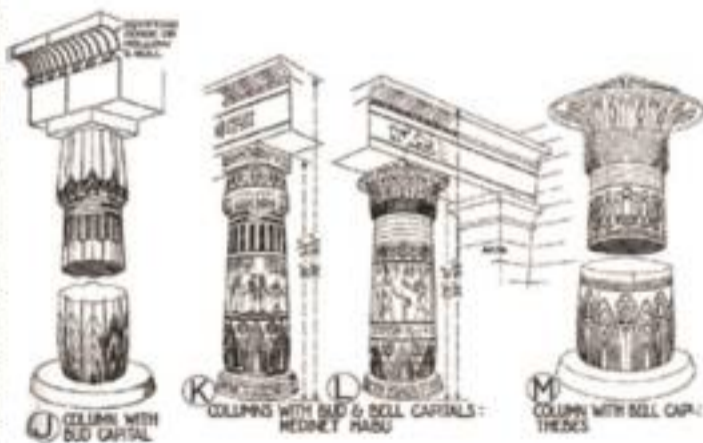
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PRE-HISTORIC

Mouldings such as 'GORGE' or 'HOLLOW AND ROLL' was inspired by reeds

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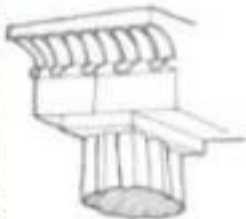
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A CONTINUOUS
COIL SPIRAL



B ACROPLE
SPIRAL



C LOTUS & PAPYRUS



D GRAPE
ORNAMENT



E ROPE & FEATHER
ORNAMENT



F SACRED BOAT THEMES



G ROPE & INTERIE
ORNAMENT

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GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

- To depict everyday life



HISTORICAL TIMELINE OF ARCHITECTURE:



HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

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UNIT 3- ANCIENT RIVER VALLEY CIVILIZATIONS: MESOPOTAMIA

- Urbanization in the Fertile Crescent -Sumerian, Babylonian, Assyrian and Persian culture
- Evolution of city-states and their character - law and writing
- Theocracy and architecture -evolution of the ziggurat -palaces.

- Ziggurat of Ur, Urnamu
- Palace of Sargon, Khorsabad
- Palace at Persepolis

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FOUR EARLY RIVER VALLEY CIVILIZATIONS:

- MESOPOTAMIAN CIVILIZATION- Tigris & Euphrates Rivers
- EGYPTIAN CIVILIZATION- Nile River
- INDUS VALLEY CIVILIZATION- Indus River
- ANCIENT CHINA- Huang He (Yellow River)



	MESOPOTAMIA (3500-1600 BC)	EGYPT (3000-2000 BC)	INDUS VALLEY (2500-1700 BC)	CHINA (3950-1000 BC)
ENVIRONMENT	<ul style="list-style-type: none"> Tigris & Euphrates flooding unpredictable No natural barriers Limited natural resources 	<ul style="list-style-type: none"> Nile flooding predictable Natural barriers: deserts Nile an easy transportation link 	<ul style="list-style-type: none"> Indus flooding unpredictable Natural barriers: mountains, deserts Monsoon winds 	<ul style="list-style-type: none"> Huang He flooding unpredictable Natural barriers: mountains, deserts Geographically isolated
POWER AND AUTHORITY	<ul style="list-style-type: none"> Independent city-states governed by monarchs City-states united into first empires 	<ul style="list-style-type: none"> Pharaohs rule kingdom as gods Pharaohs built pyramids 	<ul style="list-style-type: none"> Strong centralized government Planned cities 	<ul style="list-style-type: none"> Community and family important Sharp social divisions Mandate of Heaven
SCIENCE AND TECHNOLOGY	<ul style="list-style-type: none"> Cuneiform Irrigation Bronze Wheel, sail, plow 	<ul style="list-style-type: none"> Hieroglyphics Pyramids Mathematics Geometry Medicine 	<ul style="list-style-type: none"> Writing (not yet deciphered) Cities built on precise grids Plumbing and sewage systems 	<ul style="list-style-type: none"> Writing Silk Coined money Cast iron

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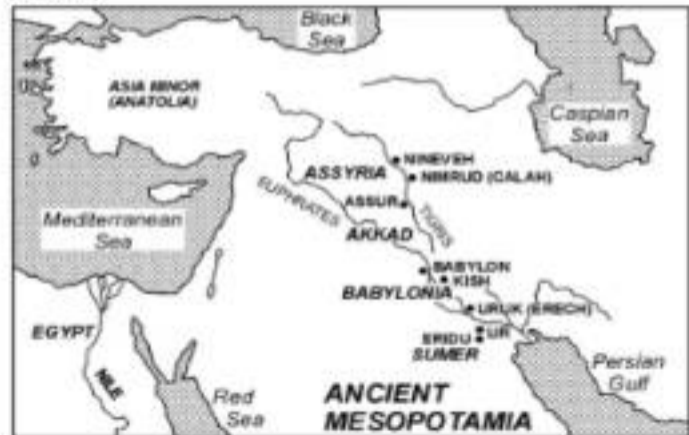
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MESOPOTAMIAN CIVILIZATION | GEOGRAPHY

Mesopotamia (from the Greek, meaning 'between two rivers') was an ancient region in the eastern Mediterranean bounded

- in the northeast by the Zagros Mountains and
- in the southeast by the Arabian Plateau, corresponding to today's Iraq, mostly, but also parts of modern-day Iran, Syria and Turkey.



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MESOPOTAMIAN CIVILIZATION | GEOGRAPHY

The 'two rivers' of the name referred to the Tigris and the Euphrates rivers and the land was known as 'Al-Jazirah' (the island) by the Arabs referencing what Egyptologist JH Breasted would later call the Fertile Crescent, where Mesopotamian civilization began.



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MESOPOTAMIAN CIVILIZATION | CITY-STATES

Although all the cities shared the same culture, each city had its own government, rulers, warriors, its own patron God, and functioned like an independent country.

Mesopotamian cities were

- UR
- URUK
- KISH
- LAGESH

At the centre of each city was the temple: a ZIGGURAT (a massive tiered, pyramid-shaped structure)



HISTORY
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MESOPOTAMIAN CIVILIZATION | RELIGION

They believed in many Gods- POLYTHEISM

They also believed in demons created by the gods, which could be good or evil.

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God Marduk with his
pet dragon



MESOPOTAMIAN CIVILIZATION | SOCIAL STRUCTURE

HISTORY OF ARCHITECTURE

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HISTORY
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MESOPOTAMIAN CIVILIZATION | SOCIAL STRUCTURE

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Three social classes

- Priests and royalty (kings)
- Wealthy merchants
- Ordinary workers

[Slaves] - were not free citizens and thus not included in class system

Women had more rights than men in many later civilizations (could own property, join lower ranks of priesthood) but not allowed to attend schools (could not read or write)



THE CRADLE OF CIVILIZATION

Mesopotamia was a collection of varied cultures whose only real bonds were their script, their gods, and their attitude toward women.

Mesopotamia is a region that produced multiple empires and civilizations rather than any single civilization.

Mesopotamia is known as the "cradle of civilization" primarily because of two developments that occurred there. In the region of Sumer, in the 4th millennium BCE:

- the rise of the city as we recognize that entity today, and
- the invention of writing (although writing is also known to have developed in Egypt, in the Indus Valley, in China, and to have taken form independently in Mesoamerica).

One of the first writing systems- CUNEIFORM



THE CRADLE OF CIVILIZATION

Trade soon followed, and with prosperity came urbanization and the birth of the city.

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HISTORY
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MESOPOTAMIA | EARLY MESOPOTAMIAN ARCHITECTURE | ERIDU

PRE-HISTORIC

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- Significant example of Mesopotamian tradition
- Earliest to be uncovered
- Reveals the central feature of the typical Mesopotamian temple, the cella or sanctuary with an altar in a niche
- Has a central offering table with traces of burning
- The later temples in the sequence of Eridu are at a much larger scale.
- Emergence of tripartite plan - having subsidiary rooms on either side of the cella
- This plan was to become standard
- Embellishment of the exterior by alternating buttresses and niches
- Orientation of Mesopotamian temple was of great importance thereafter
- Temples- nucleus of city



FIGURE 1.10.1. Eridu, Temple of the Moon God (after [illegible])

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MESOPOTAMIA | EARLY MESOPOTAMIAN ARCHITECTURE | Uruk

- Largest of the Sumerian cities
- perimeter is 9km (6miles)
- About one-third of this great area was occupied by temples and other public buildings
- Two major areas of city - Eanna and Anu
- Eanna later had grouping of temples
- Anu ziggurat has a tripartite plan, not a ziggurat as such but a series of temples each built on top of preceding one and each on a high platform
- Cones of baked clay set in mud plaster were found over wall faces
- Cone mosaics are imitation of palm trees

1. area of canal
2. other
3. wall terrace
4. processional ways
5. stone building
6. white temple



Anu district of Uruk III

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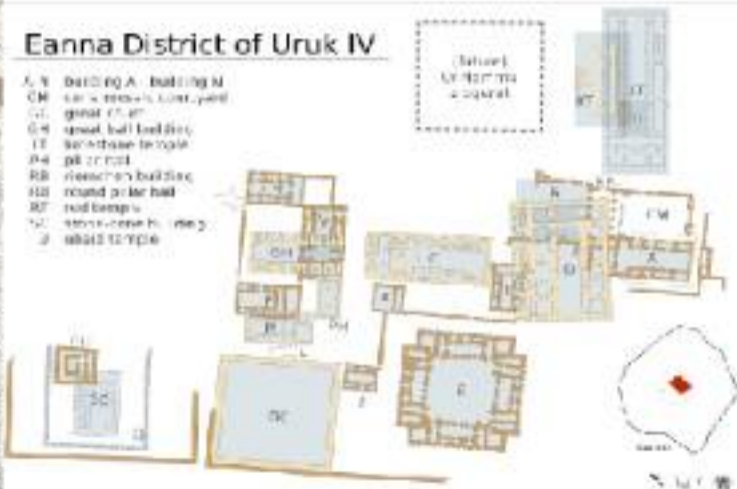
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REVIVAL

20TH CENTURY
MODERN

Eanna District of Uruk IV

- A, B: building A - building B
- CH: car & wheel constructed
- CL: great court
- CH: great bull building
- ET: Eanna temple
- PA: palace
- RB: researchers building
- RD: round prior hall
- RT: red temple
- UL: stone case building
- Z: ziggurat type



HISTORY
OF
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MESOPOTAMIA | EARLY MESOPOTAMIAN ARCHITECTURE | URBAN

PRE-HISTORIC

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MODERN

PILLAR TEMPLE

- Pillar temple is a striking example
- stood on a terrace or platform
- includes two rows of massive columns
- Bricks are laid radially to form an approximate circle- experimental approach to an advance in building techniques.

WHITE TEMPLE

- The best preserved in the Neo series
- Illustrates the origin of ziggurat or stepped tower
- Concept of ziggurat combined two functions
 - religious one being the recreation of sacred mountain in the flat alluvial plain
 - secular one being to provide a permanent reminder to the populace of the political, social and economic pre-eminence of the temple.
- White temple platform had sloping sides, three of which had flat buttresses
- Subsidiary square platform of similar height overlapped the north corner
- This was served by a flight of steps from which a ramp led off from an intermediate landing

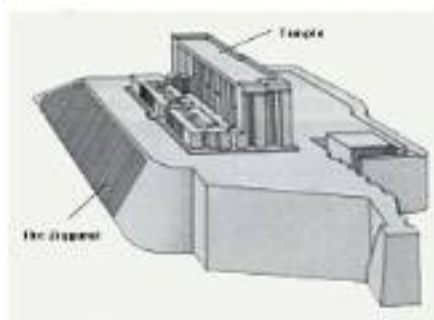
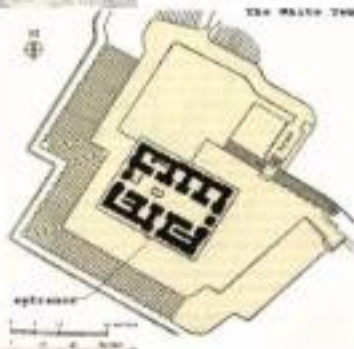


WHITE TEMPLE - URUK

WHITE TEMPLE

- Temple, originally whitewashed, had an end-to-end hall with a span of 4.5m (15ft) flanked on both by a series of smaller rooms
- Three of these rooms contained stairways leading to the roof
- Four entrances - chief entrance was placed asymmetrically on long side giving best - only approach to the sanctuary
- Marked by an altar platform 1.2m (4ft high) in the north corner of the hall
- Brick offering table in the center, adjoined by a low semicircular hearth
- Shallow buttresses formed the principal decoration of the hall and external walls
- Platform stood 13m (42ft 6 in) high

THE WHITE TEMPLE



HISTORY
OF
ARCHITECTURE

MESOPOTAMIA | SEQUENCE OF CIVILIZATION

PRE-HISTORIC

NEAR EAST

SUMERIAN CULTURE _____ 3300 BC - 4500 - 2000 BC

EGYPTIAN

AKKADIAN PERIOD _____ 2350 - 2200 BC

GREEK

EARLY CHRISTIAN

BABYLONIAN CULTURE _____ 2000 - 1600 BC
(Combination of Sumerian and Akkadia)

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ASSYRIAN CULTURE _____ 1350 - 612 BC

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PERSIAN CULTURE _____ 539 - 330 BC

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Sumerians were first to settle in this region, attracted by the rich soil.

THREE DISADVANTAGES/ENVIRONMENTAL CHALLENGES

- Unpredictable flooding/dry summer months
- No natural barriers for protection-small villages lying in open plain were defence-less.
- Limited natural resources (stone, wood, metal)



SOLUTIONS

- Irrigation ditches
- Built city walls with mud bricks
- Traded with people around them for the products they lacked.

INITIATED BRONZE AGE.

The political system was a THEOCRACY-RELIGIOUS AUTHORITY by divine rulers.

- Divine Rulers-Kings also got their power to rule.
- There was no central government.
- Mesopotamia was divided into independent city-states, which often fought for control of land and water.

1. Sumer-southern part
2. Akkad-northern part
3. Babylonia-these two regions were unified
4. Assyria-Assyrian Empire



MESOPOTAMIA | SUMERIAN PERIOD | RELIGION

- Belief in many gods-polytheism
- God of the clouds/air was Enlil-the most powerful god.
- Nearly 3,000 others -with human qualities. The Sumerians viewed their gods as hostile and unpredictable-similar to the natural environment around them.



HISTORY
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MESOPOTAMIA | SUMERIAN PERIOD | CITY STATE STRUCTURE OF GOVERNMENT

PRE-HISTORIC

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- Powerful priests held much political power in the beginning.
- Military commanders eventually became rulers/monarchs and then began passing rule to their own heirs, creating a new structure of government called a **DYNASTY**—a series of rulers descending from a single family line.



Standing nude
"priest-king,"
ca. 3300-3000 B.C.



Bas-relief depicting priests intervening between
worshippers and gods.

HISTORY
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MESOPOTAMIA | SUMERIAN PERIOD | CITY STATE STRUCTURE OF
GOVERNMENT

PRE-HISTORIC

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Historians wonder...

Did the Sumerians develop this new type of government on their own, or did they learn and adopt it only after contact with other people?!?

Cultural diffusion? Cultural diffusion?

Cultural diffusion is the spread of elements of one culture to another people, generally through trade.

HISTORY
OF
ARCHITECTURE

MESOPOTAMIA | SUMERIAN PERIOD | CITY STATE STRUCTURE OF GOVERNMENT

PRE-HISTORIC

Through their trade with neighbouring people, the Sumerians spread their new innovations. This is cultural diffusion—the spread of one culture's ideas, products, traditions, beliefs etc. to another people.

NEAR EAST

EGYPTIAN

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11th-18th CENTURY
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HISTORY
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MESOPOTAMIA | SUMERIAN PERIOD | SCIENCE & TECHNOLOGY

PRE-HISTORIC

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MODERN

- One of the first writing systems—Cuneiform
- Cylinder seals and their ancient impressions on administrative documents and locking devices are our richest source for a range of meaningful subject matters.
- Invented wheel, the sail, the plow.
- First to use bronze.



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MODERN

MESOPOTAMIA | SUMERIAN PERIOD | SCIENCE & TECHNOLOGY | WRITING

- Greatest contribution of Mesopotamia to western civilization was the invention of writing
- Allowed the transmission of knowledge, the codification of laws, records to facilitate trade
- First written communication was PICTOGRAMS.
- As society evolved, the first form of writing was developed called CUNEIFORM (meaning "wedge shaped"), dating to 3500 BCE
- Cuneiform spread to Persia and Egypt and became the vehicle for the growth and spread of civilization and the exchange of ideas among cultures



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MESOPOTAMIA | SUMERIAN PERIOD

From about 3000 B.C. many cities grew up in Sumer such as

- Ur
- Uruk
- Eridu
- Mari

The Sumerians became powerful under ruler Ur-Nammu who reigned from 2113-2046 B.C.

He constructed the famous Ziggurat at Ur.

City of Ur was at its highest glory and capital of Sumer.



HISTORY
OF
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MESOPOTAMIA | SUMERIAN PERIOD | CITY OF UR

PRE-HISTORIC

NEAR EAST

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MODERN

Ur had 3 levels of social structure
Entire city was surrounded by a canal.
The streets of Ur were narrow.





- Temples were the principal architectural monuments of Sumerian cities.
- Example of simple ziggurat is the White Temple of Uruk, in ancient Sumer.
- The ziggurat itself is the base on which the White Temple is set.
- Its purpose is to get the temple closer to the heavens, and provide access from the ground to it.



HISTORY
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MESOPOTAMIA | SUMERIAN PERIOD | ARCHITECTURAL CHARACTERISTICS

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- Mud was the main building material.
- Mud was formed into sun brick and built into massive walls.
- Spaces were narrow because of the walling material.
- Façade of buildings were white-washed and painted to hide the lack of attraction of the material.
- 'Temple' was their major building type.



- Poor - simple, central courtyard, flooring of brick and mud plaster
- Rich - two stories, sleeping rooms, kitchen, washrooms, servant quarters, family chapel

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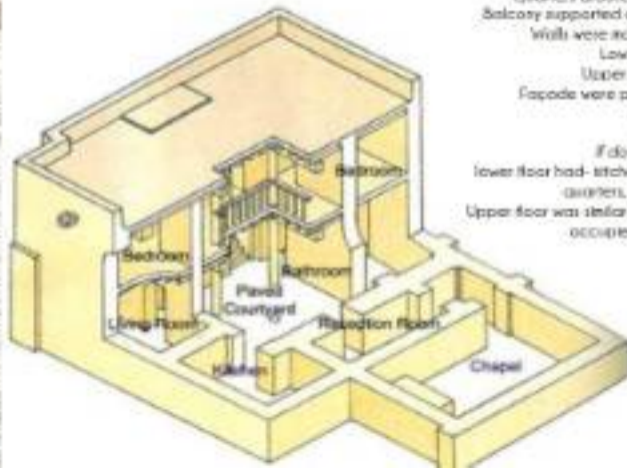
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ATMOSPHERE

Quarters around open court
Balcony supported on palm logs
Walls were made of bricks
Lower - kiln fired
Upper - mud bricks
Facades were plain and not decorated

If double sided
lower floor had - kitchen, servants quarters, guest rooms
Upper floor was similar to the lower occupied by owners

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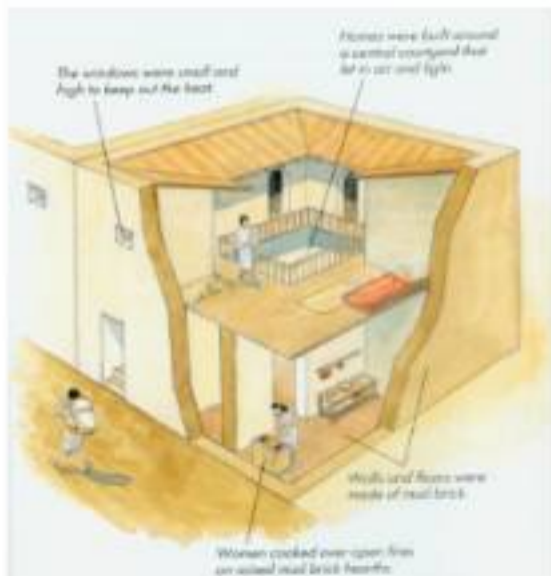
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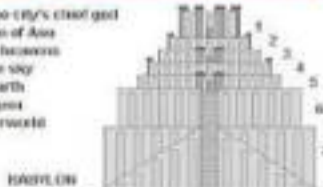


- This was the largest and most important building located in the center of each Sumerian city. Sumerians believed it was the home of the city's patron god.
- It was built on a platform called a parraku, designed to dominate the horizon and also to provide protection from floods.
- Most temples were built on the remnants of older temples that were temples that were destroyed or expanded with the city's population or wealth.



1. Residence of the city's chief god
2. Houses of Ash
3. Middle houses
4. The sky
5. Earth
6. Agri
7. Underworld

that way ending down to 6 and 7



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- Built in receding tiers upon a rectangular, oval, or square platform, the ziggurat was a pyramidal structure.
- Sun-baked bricks made up the core of the ziggurat with facings of fired bricks on the outside.
- The facings were often glazed in different colours and may have had astrological significance.
- The number of tiers ranged from two to seven, with a shrine or temple at the summit.
- Access to the shrine was provided by a series of ramps on one side of the ziggurat or by a spiral ramp from base to summit.



HISTORY
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MESOPOTAMIA | SUMERIAN PERIOD | ZIGGURATS | BUILDING MATERIALS

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In early Sumer it was made of rectangular mud bricks because they didn't have stone or timber. It was decorated with clay cones which were dipped into red, black or buff paint and then inserted into the plaster to form zigzags or geometric designs.

Deep holes were square or rectangular shaped holes placed at different levels in the temple to provide drainage.



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- The Mesopotamian ziggurats were not places for public worship or ceremonies. They were believed to be dwelling places for the gods. Through the ziggurat the gods could be close to mankind and each city had its own patron god
- Only priests were permitted inside the ziggurat and it was their responsibility to care for the gods and attend to their needs. As a result the priests were very powerful members of Sumerian society.
- The temple supplied employment
 - Administration (priests)
 - Maintenance (musicians, singers, hierodules "temple slaves")
- It served as a center for commercial activity
 - Food storage and distribution
 - Marketplace, trading of goods
 - Celebrations

- Inside every ziggurat was a rectangular central shrine called a cella, for the god's emblem or statue.
- In front of the statue was an altar, a mud brick table for offerings to the god.



HISTORY
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MESOPOTAMIA | SUMERIAN PERIOD | ZIGGURATS | SYMBOLIC SIGNIFICANCE

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- It has been suggested that the ziggurat was a symbolic representation of the primeval mound upon which the universe was thought to have been created.
- The ziggurat may have been built as a bridge between heaven and earth.
- The temples of the Sumerians were believed to be a cosmic axis, a vertical bond between heaven and earth, and the earth and the underworld, and a horizontal bond between the lands.
- Built on seven levels the ziggurat represented seven heavens and planes of existence, the seven planets and the seven metals associated with them and their corresponding colours.



PRE-HISTORIC

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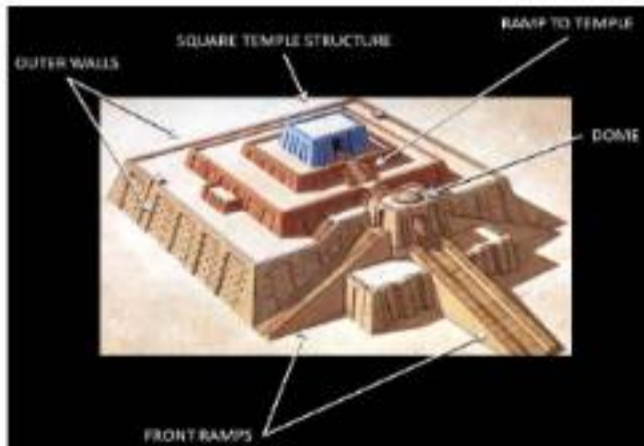
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- One of the largest and best-preserved ziggurats of Mesopotamia is the great Ziggurat at Ur.
- The ziggurat was a piece in a temple complex that served as an administrative center for the city, and which was a SHRINE OF THE MOON GOD NANNA, the patron deity of Ur.

- A massive rectangular pyramidal structure, oriented to true North.
- 210 by 150 feet.
- Constructed with three levels of terraces.
- Standing originally between 70 and 100 feet high.
- Three monumental staircases led up to a gate of the first terrace level.



PRE-HISTORIC

NEAR EAST

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EARLY CHRISTIAN

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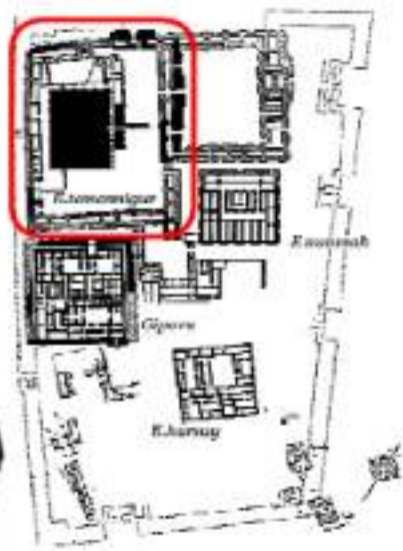
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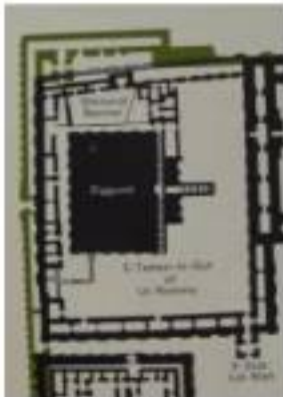
18th-19th CENTURY
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- Next, a single staircase rose to a second terrace which supported a platform on which a temple and the final and highest terrace stood.
- The core of the ziggurat is made of mud brick covered with baked bricks laid with bitumen, a naturally occurring tar.
- Each of the baked bricks measured about 11.5 x 11.5 x 2.75 inches and weighed as much as 33 pounds.
- The lower portion of the ziggurat, which supported the first terrace, would have used some 720,000 baked bricks.



- The Ziggurat at Ur and the temple on its top were built around 2100 B.C.E. by the king Ur-Nammu of the Third Dynasty of Ur for the moon goddess Nanna, the divine patron of the city state.
- The structure would have been the highest point in the city by far highest point in the city by far
- In antiquity, to visit the ziggurat at Ur was to seek both spiritual and physical nourishment.



MESOPOTAMIA | AKKADIAN PERIOD

HISTORY
OF
ARCHITECTURE

- Leader: Sargon the Great

PRE-HISTORIC

- Took control of the region, creating world's first empire -bringing together several peoples, nations, or previously independent states and place them under the control of one ruler.

NEAR EAST

EGYPTIAN

- Sargon's greatest achievement was the unification of lower Mesopotamia (after conquering Sumerians in 2331 BCE)

GREEK

EARLY CHRISTIAN

- Established capital at Akkad

BYZANTINE

- Spread Mesopotamian culture throughout Fertile Crescent

ROMANESQUE

- Yet dynasty established by Sargon was short-lived

GOTHIC

- Akkadians were conquered by the invading barbarians by 2200 BCE
The Akkadian Empire lasted about 200 years

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MESOPOTAMIA | BABYLONIAN PERIOD

- Overtook Sumerians around 2,000 B.C.
- Babylonians reunited Mesopotamia in 1830 BCE
- Used their central location to dominate trade and establish control over all of Mesopotamia



HISTORY
OF
ARCHITECTURE

MESOPOTAMIA | BABYLONIAN PERIOD

- Built capital, Babylon, on Euphrates river
- Reign of Hammurabi [1792-1750 B.C.E.]
- KING HAMMURABI - conquered Akkad and Assyria and gained control of north and south BABYLONIAN PERIOD
- Hammurabi's Legacy: law code
- YET AGAIN, Mesopotamia was not unified for long

PRE-HISTORIC

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MESOPOTAMIA | BABYLONIAN PERIOD

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MESOPOTAMIA | BABYLONIAN PERIOD | REIGN OF HAMMURABI

Famous Code of Law

- He wisely took all the laws of the region's city-states and unified them into one code. This helped unify the region.
- Engraved in stone, erected all over the empire.
- Strict in nature - "the punishment fits the crime" / "eye for an eye"
- Such laws were adopted by neighbours-many similar found in Hebrew scriptures (Old Testament)
- His act set an important precedent-idea that the government was responsible for what occurred in society.



**HISTORY
OF
ARCHITECTURE**

MESOPOTAMIA | BABYLONIAN PERIOD | CITY OF BABYLON

Babylon means-gateway of god

The city circumference: 16 km

PRE-HISTORIC

The river Euphrates once ran through it

NEAR EAST

EGYPTIAN

City was destroyed by Assyrians in 13th century & by Sennacherib in 7th b.c

GREEK

Governor Nabopolassar destroyed them

EARLY CHRISTIAN

BYZANTINE

His son Nebuchadnezzar ascended the throne in 603 b.c

ROMANESQUE

The city then once again rose as queen of civilization

GOthic

RENAISSANCE

Surrounded by canal - moat

Consisted of inner and outer part

Protected by huge rampart walls greater than 86 km in length

Had 100 bronze gateways

Gateways were protected by different gods

Use of burnt bricks

**Map of Babylon
from The Garden of Aanytis Story**



**18th-19th CENTURY
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**20th CENTURY
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MESOPOTAMIA | BABYLONIAN PERIOD | CITY OF BABYLON | INNER TOWN

- Approximate square in plan with 1300m sides
- Contained principal buildings
- Euphrates river forming the west side
- Few main streets intersected at right angles
- Terminated at tower faced bronze gateways where they met walls
- Between main streets were dwellings, business houses, temples, cloaks, and streets in lively disorder
- Freestyle sites lined the river front
- Behind them grand processional way
- These closed on the north by Ishtar gate
- North of it was the expansive precinct of aggrat - tower of babel
- The aggrat combines the triple stairway approach and massive lower tier customary in early Mesopotamia
- Upper stages arranged spirally according to Assyrian practice
- Located in the heart of city
- Plan was square 295 ft sides
- Seven stages in all summit temple faced with blue glazed tile



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MESOPOTAMIA | BABYLONIAN PERIOD | CITY OF BABYLON | ISHTAR GATE

- One of the eight gates of inner city of Babylon.
- It was built in about 575 BC.
- It is the eight fortified gate in the city.
- Dedicated to minor goddess in battle.
- Coloured glazed brick.
- Patterned with horned dragons, white and yellow bulls in relief on a blue background.
- There was a palace citadel.
- Through the gate ran the processional way which was lined with walls covered with lions on glazed bricks.
- Statues of gods were paraded through the gates and through the processional way each year during the new year.



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MESOPOTAMIA | BABYLONIAN PERIOD | CITY OF BABYLON | HANGING GARDENS OF BABYLON

- Connected with Nebuchadnezzar's great palace complex on water side
- Built in 600 BC
- To please his wife who was homesick
- 275m x 183m overall
- According to Diodorus of Sicily, the gardens consisted of a series of terraces supported by arcades to the height of city wall
- Built of brick
- walls 6-7m high
- Passages free water wide between them
- Planted with flowers and trees and beautiful fountain
- Rose 25m-100m above ground
- Water stored in the reservoir on the top was supplied through pipes to the garden
- Among its maze of rooms was a throne room which was 52m x 17m
- Its long facade was decorated with polychrome brick



HISTORY
OF
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MESOPOTAMIA | ASSYRIAN PERIOD

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Assyria is a part of ancient Mesopotamia located on the upper Tigris.

The cities of Assyria were:

- 1.Nineveh
- 2.Dun
- 3.Khorsabad
- 4.Ninrud and
- 5.Assur

Assyrians were great warriors and hunters, and this was reflected in their art

They produced violent sculptures and relief carving in stone that was used to ornament their houses.

During the Assyrian periods, temples lost their importance to palaces. Assyrian kings built walled cities, in which palaces took precedent over religious buildings.

The city of Khorsabad demonstrate Assyrian architecture.



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MESOPOTAMIA | ASSYRIAN PERIOD | ARCHITECTURAL CHARACTER

ARCHITECTURAL CHARACTER

- Polychrome ornamental bricks
- High pinnacles, candelae
- Stone slabs used on edges
- Carved with low relief
- Palaces were numerous and important
- Brick barrel vaulting revealed from excavations



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MESOPOTAMIA | ASSYRIAN PERIOD | CITY OF ASHUR

- Ancient religious and national center of Assyrian state
- Administrative capital
- Built on a high rocky crag above Tigris
- Surrounded by strong defense wall
- Another outer wall added in the 9th century B.C.
- Built along the Tigris river for 3km
- 1st shrine on the site of a temple dedicated to the goddess of love and war (ISHTAR) was built earlier
- Ziggurat temple of Ashur was restored by Sargon II - Naram-Sin
- Double temple of Anu and Adad had two ziggurats
- Two temples and two palaces
- One for administrative purposes



Temple of Anu
and Adad

MESOPOTAMIA | ASSYRIAN PERIOD | CITY OF ASHUR

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MESOPOTAMIA | ASSYRIAN PERIOD | CITY OF KHORSABAD

- Built by Sargon - II (722-705 B.C.)
- It was square planed with a defensive perimeter
- Covered nearly one square mile and area entirely occupied by buildings
- There were two gateways in each serrated wall except the north-west wall which was torn by extensive citadel enclosure
- These contained a palace for the king's brother, a temple to Ninku, several official buildings and the Palace of Khorsabad



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MESOPOTAMIA | ASSYRIAN PERIOD | CITY OF KHORSABAD

- The palace of Sargon, Khorsabad comprises of large and small courts, corridors and rooms, covering 75 acres
- Each of the buildings was raised on a terrace to the level of the town walls
- Approached by broad ramps
- The main entrance to the Palace great court was flanked by great towers
- Guarded by non-headed winged bulls nearly 3.6 m high
- These support a semi-circular arch decorated with brilliantly coloured glazed bricks



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MESOPOTAMIA | ASSYRIAN PERIOD | CITY OF KHORSABAD | PALACE OF SARGON

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- At the centre of the city, 25 acre palace occupied a plateau 55' above the level of town. The palace is located at the north west side of the city, approached at ground level through a walled citadel. All the buildings within the citadel were arranged around courtyards approached by broad ramps.

-The palace was around large courtyards surrounded by:

- Rectangular rooms
- Great hall and
- Throne room/state court

MESOPOTAMIA | ASSYRIAN PERIOD | CITY OF KHORSABAD | PALACE OF SARGON

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Palace had five main ports

- On the left - group of three large and three small temples
- On the right - service quarters and administrative offices
- At the back of the grand entrance court are the state chambers

The state chambers

had their own court which was as large as the grand entrance court with dado slabs 2.1m (7ft high) bearing reliefs of king and his courtiers

Trona room

- 49m x 10.7m (160ft x 35ft)
- was the outermost of the state suite/chamber - planned around its internal court
- it had a flat timber ceiling which was rare and costly

- Plastered walls with painted decoration of triple band of frieze framed in running ornament around the room above stone dado or relief

MESOPOTAMIA | ASSYRIAN PERIOD | CITY OF KHORSABAD | PALACE OF SARGON

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Walls were thick 6m (20ft)

In the grand and temple court decoration was confined by sunken vertical paneling on the whitewashed walls and towers, finishing in stepped battlements above and stone plinths below (plain or carved)

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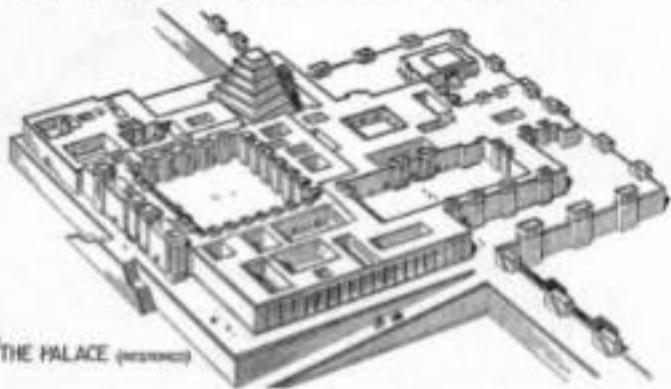
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PALACE OF SARGON: KHORSABAD



A THE PALACE (reconstruction)

MESOPOTAMIA | ASSYRIAN PERIOD | CITY OF KHORSABAD | PALACE OF SARGON

HISTORY
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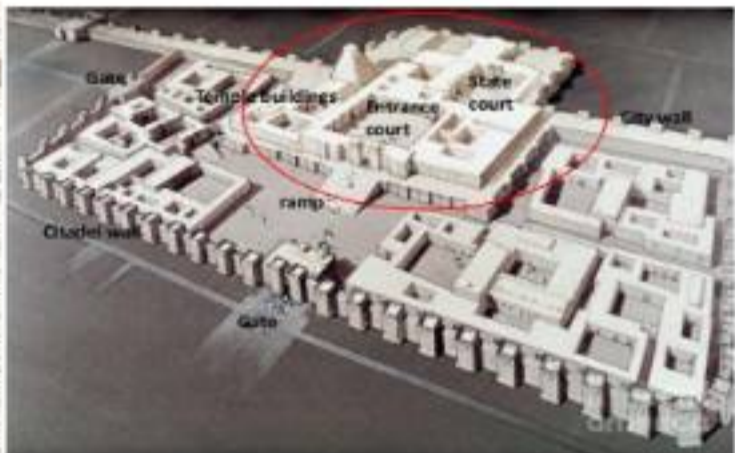
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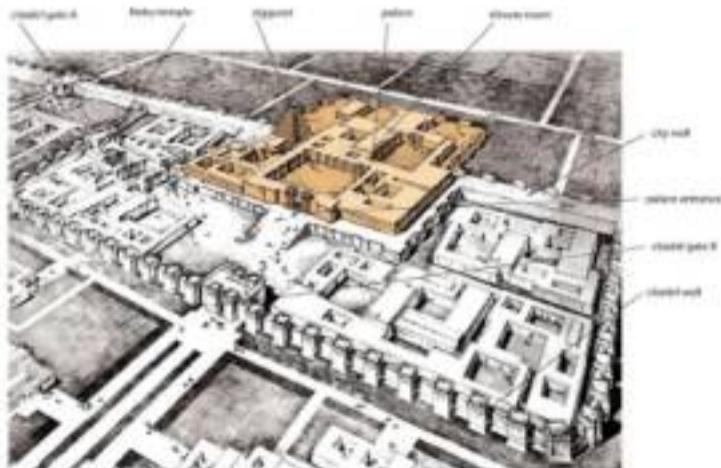
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Temples

At the foot of the facade of the 3 temples were
High plinths projecting from walls
Faced in polychrome glazed bricks portraying sacred motifs
Served as pedestals for high cedar mass
The wall behind was paneled with a series of
half-columns - imitation of palm logs



Ziggurats

Associated with palace temples
Square base 45m side
Seven - tiered ziggurat
Height 45 m including shrine
Ascended by winding ramp 1.8m wide
Successive tiers paneled
Painted in different colors and had
plastered faces



Structural

Mud bricks were not left to dry in sun but laid in pliable state
Rich fired bricks were used for facings and pavements
Stone blocks for palace platforms
Cedar,ypress, cypress and maple were used for palace roofs
Perimeter wall was 20 m thick
Dressed with stone facing of 1.1m (3ft 6 in) and mud-brick superstructure

Persia was the mountainous plateau to the east of the lower Tigris- Euphrates valley

The Persian empire was larger than the Babylonian and Assyrian architecture
The capitals are Persepolis and Susa

EARLY

PER

PER

3000-1000

2000



MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS

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- The initial works were started in 518 B.C
- Cyrus the great chose the site of Persepolis
- Darius the great built the terrace and the great palaces at Persepolis and the construction of other buildings on terrace was continued until the downfall of the Achaemenid dynasty

- Darius ordered the construction of Apadana or the audience hall, debating hall (three gated hall or the Tryptylon)
- The main imperial treasury and its surroundings were completed at the time of the reign of his son King Xerxes.
- The palace was completed by Artaxerxes I

- The main characteristics of Palace of Persepolis is its columns
- They were of wood
- When cedars of the Lebanon or teak trees of India did not fulfil the sizes the architects restored it with stone
- The bases and capitals were always of stone
- Shafts were of wood
- Few wooden capitals are also seen



MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS

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MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS

Details

- 460m x 275m extent
- The buildings of Persepolis are divided into 5 areas
 - Military quarters
 - Treasury
 - Reception and occasional houses of kings

These include

- Great Stairways
- Gate of nations
- Apadana or the audience hall
- Palace of Darius
- Hall of hundred columns or the throne hall
- Tripylon hall
- Palace of Xerxes
- Harem or women's quarters
- Treasury

- | | | |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
|  Apadana |  Palace of Darius |  Palace of Xerxes |
|  Throne Hall |  Council Hall |  Harem of Xerxes |
|  Treasury |  Artaxerxes Tomb |  Gate of Nations |



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MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS | SITE DETAILS

- The main entrance of the site is at the NW side
- The various buildings stand on a platform partly built and partly excavated from hill
- Grey limestone is mainly used for the building
- Terrace is about 20m above ground level



HISTORY
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MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS | SITE
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MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS | APPROACH

- The only entrance is at the north west
- The dual stairway or the persepolitan stairway, was built in a symmetrical manner, on the west side of the great wall
- There are 111 steps, 6.9m wide, with treads of 31cm and 10cm risers making it easier for the horsemen to ride the horses up the stairs
- The top of the stairways led to a small yard in the north-eastern side of the terrace, opposite the Gate of Nations.
- After natural rock had been levelled and the depressions filled in, the terrace was prepared. Major tunnels for sewage were dug underground through the rock.
- Large elevated water storage tank was carved at the eastern foot of the mountain. Professor Olmstead suggested the cistern was constructed at the same time that construction of the towers began



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MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS | GATE OF ALL NATIONS

- Grand hall was 24.75 sqm
- 4 columns and its main entrance on the western wall
- There were 2 more doors
 - one on the south that led to the Apollonia hall or the audience hall and
 - the other on the east that led to a long road on the east
- Doors were probably made of wood and covered with sheets of ornamental metal
- A pair of Lamassas, bulls with the heads of bearded men, stand by the western firehold.
- Another pair, with wings and a Persian head (Coxter-Shah), stands by the eastern entrance, to reflect the Empire's power.



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MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS | APADANA (AUDIENCE HALL)

- Led by a doorway on the south
- It is the grand official audience hall
- 76.2 m square
- Has 36 columns the hall and total of 72 columns
- Walls 20' thick
- Stood on its own terrace 10' high
- Began by Darius
- Completed by two of his successors
- Had 3 porticoes
- Porticoes are double colonnaded
- Stairways on N and NE
- At the south of the grand hall are a series of rooms for storage
- To avoid the roof being attacked by rain they provided vertical drains through brick walls
- In the four corners of the Apadana are 4 towers
- The walls were tiled and decorated with pictures of lions, bulls, and flowers



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MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS |
PALACE OF DARIUS

- The original main entrance, with a large double staircase leading to the terrace seen both the south
- 17 columns supported the roof of the central hall in which three small staircases descend
- The structure is small in comparison to other structures in the site



HISTORY
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MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS | TRIPYLON

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- The triple gate is found between the apadana and the hall of 100 columns
- It consists of a central room
- It is also termed as the council hall
- The 3 gates are decorated
- The northern part of the eastern gate leads to the hall of hundred columns
- It acts as a reception chamber and a guard room for the quarters



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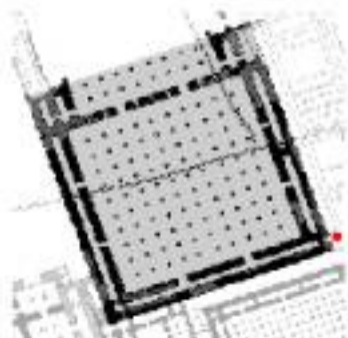
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MODERN

MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS | TREASURY

- The oldest building in complex, built by Darius
- SE corner of the site
- Double walled
- It is the administrative storeroom of the site
- Had columned halls of different sizes
- Only one doorway
- Part of which served as an armory and royal storehouse of the king
- Before throne hall was finished court of reception was the most spacious room of treasury
- Two large stone reliefs depict Darius one seated on his throne



HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS | THRONE HALL (HALL OF 100 COLUMNS)

- Commenced by Xerxes, Finished by Artaxerxes
- 68.6 m sq (225')
- Columns 11.3 m high, Columns support a flat cedar roof
- Walls were double except on the north
- North portico flanked by bulls faced a forecourt and had its own gateway
- Separated from the apadana by a wall
- Had 2 doorways/windows on the entrance wall
- Matched on the other three side except that windows were replaced by niches
- Wall framed with stone
- Surrounded in 3.4 m thick brick wall
- Initially used as reception for all the representatives of nations of empire
- Later as store house and to display objects from the royal treasury



HISTORY
OF
ARCHITECTURE

MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS | PALACE OF XERXES

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN

- Near SW corner, Connected with Harem- Harem is the L-shaped women's quarter
- Xerxes palace twice as large as Darius
- Very similar to the palace of Darius in terms of decorations in windows and door



Remains of the three rooms of the palace of the Persian King Xerxes (ca 486-485 BCE) and Artaxerxes (ca 465-424 BCE), of Persepolis, Iran

HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

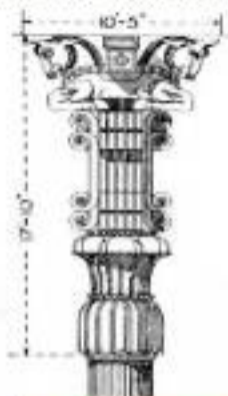
RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN

MESOPOTAMIA | PERSIAN PERIOD | PALACE OF PERSEPOLIS |
ARTICULATION

- Stepped buttresses crowned the parapet walls
- Sculptures in bright colors
- Columns of apartments have
 - Wooden shafts
 - Thickly plastered
 - Decoratively painted
- Columns of hall are made of stone
 - Bases were molded
 - Shafts were fluted
 - Capitals - vertical ionic like volutes
 - Twin bulls or dragons supporting the roof beams



(B) DOUBLE "BULL"
CAP: APADANA
OF XERXES



HISTORICAL TIMELINE OF ARCHITECTURE:



MESOPOTAMIA

- Mesopotamia created a pictographic record keeping.
- At 2600 BC they used signs to write cuneiform.
- At 2400 BC those forms become cuneiform the first writing.
- 400 BC the sumerians built temples for their gods.
- 320 BC the wheel is invented.
- Alexander conquer mesopotamia and established new rules.
- 1200 the sumerian use iron on their inventions.
- 688 the great library is built.

EGYPT

- at 3100 BC earliest know of hieroglyphic writing.
- 2560 BC the first pyramid is built.
- 2575 BC the great pyramid of Giza is built.
- Agricultural development is made.
- 136 the Rosetta stone is carved.
- 300 AD last of hieroglyphic writing.

GREECE

- 776 BCE first olympic games.
- Start of the greek alphabet.
- Homer poems are recorded in writing at 750 BCE.
- 650 BCE first appears the first greek coins.
- in 621 BC Draco introduces new rules that if broken they are punishable by death.
- 600 BCE the greek coins are introduced.
- Pythagoras make great advances in science, math, and philosophy.
- 408 BC democracy system is introduced by Cleisthenes.
- 286 AD The Roman Emperor Diocletian divides the Roman empire in two forming modern Greece (The Byzantine Empire).

ROME

- The roman began with the founding of Rome in 753 and Rome.
- They brought the latin and spread it.
- Most of the roman alphabet we use now came from rome.
- in 451 BC the romans created the basic laws they wrote it in 12 pieces of bronze.
- They invented a heating system.
- Great advances in art, philosophy.
- They made great inventions such as the aqueduct, the vending machines, and the abacus.
- An lets not forget the newspaper.
- And they had great military.

BYZANTINE

- located in Istanbul.
- First emperor who was a christian.
- Was a great help in the spread of christianity.
- They made great achievements in architecture like the Hagia Sophia church.
- The longest span of the middle era.
- Advances in music art and drama.
- Was the first navy to throw dangerous liquids to the enemy.
- A mix of greek and roman traditions.
- Ended at the start of WW I.

UNIT 4- CLASSICAL PERIOD: GREECE

- Landscape and culture of Greece
- Minoan and Mycenaean cultures
- Hellenic and Hellenistic cultures
- Greek character
 - Greek polis and democracy
 - Greek city planning
 - Architecture in the archaic and classic periods
 - Domestic architecture
 - Public Buildings: Agora, stoas, theaters, bouleteria and stadias
 - Greek temple
 - evolution and classification
 - Parthenon and Erektion
- Orders in architecture: Doric, Ionic, Corinthian
- Optical illusions in architecture

HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | GEOGRAPHY

Greece is located on the Balkan peninsula in the Mediterranean Sea. Located on the continent of Europe, it's very close to Egypt, the Persian empire (which includes Turkey) & Rome.



PRE-HISTORIC

- 75% of Greece is covered in mountains.
- Lowlands=terrace land. Hills=good for animals.

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN



HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN

ANCIENT GREECE | LANDSCAPE & CULTURE

- People living in river valleys depended on the rivers flooding for fertile land but Greece did not depend on flooding as it had no rivers.
- Most people lived along the coast as soil was rich and there was a mild climate which was good for farming and raising animals.
- Had mountainous land and deep valleys with rugged mountains (hills).
- These seas made Greece a crossroads for trade. Greece had long coastlines with many bays which were good for trading.
- The Greeks sold their crops to other lands located across the seas.
- Trade spread Greek ideas and Greeks got the alphabet and coins from other civilizations.



HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | CLIMATE

Greece has a Mediterranean climate.

- Rain fell during winter months
- Winters are mild and wet
- Summers were hot and dry which allowed Greeks to spend most of their time outdoors at agoras (marketplaces).
- Greeks enjoyed outdoor events such as:
 - PLAYS
 - RELIGIOUS EVENTS
 - POLITICAL EVENTS
 - SPORTS AND
 - ATHLETIC COMPETITIONS

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

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REVIVAL

20TH CENTURY
MODERN



Greek history is generally divided into the following eras:

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY
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MODERN

Paleolithic	circa 400,000 - 13,000
Mesolithic	circa 10,000 - 7000 BCE
Neolithic	circa 7000 - 3000 BCE
Bronze Age	circa 3300 - 1150 BCE
Cycladic	circa 3300 - 2000 BCE
Minoan	circa 2600 - 1200 BCE
Helladic	circa 2800 - 1600 BCE
Mycenaean or Late Helladic	circa 1600 - 1100 BCE
Dark Ages	circa 1100 - 700 BCE
Archaic	circa 700 - 480 BCE
Classical	480 - 323 BCE
Hellenistic	323 - 30 BCE

Each era had its own unique cultural characteristics, and the transition between them was often turbulent.

Periods of Ancient Greece

8000 BC - 1453 AD



Periods of Ancient Greece

1000 BC - 146 BC

1000

750

500

250

100



Periods of Ancient Greece

1000 BC - 146 BC

100

← BC & AD →

100

1000

1500



ANCIENT GREECE



HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

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ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
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20th CENTURY
MODERN

MINOAN CIVILIZATION

The Minoans were primarily a seafaring people engaged in overseas trade. Their culture, from 1700 BC onward, shows a high degree of organization.



HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

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GOthic

RENAISSANCE

18th-19th CENTURY
REVIVAL

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MODERN

ANCIENT GREECE | MINOAN CIVILIZATION

- The Minoans first came to settle on the island of Crete.
- Most historians presume that they made their way from Asia Minor.
- Of all the societies of the ancient world, the Minoans were probably the most affluent. This can be largely attributed to their trading empire and the fact that massive resources were not used by the military, which may have been largely paid for by the trading activities of the royal vessels themselves.
- The Cretan form of government is not known, but it was probably oligarchy.

MINOAN SITES

Minoan settlements, tombs and sanctuaries have been found all over Crete but the four principal palace sites (in order of size) were at

1. KNOSSOS
2. PHAISTOS
3. MALIA AND
4. ZAKROS



HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MINOAN CIVILIZATION

PREHISTORIC

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MODERN



**HISTORY
OF
ARCHITECTURE**

ANCIENT GREECE | MINOAN CIVILIZATION | ARCHITECTURE

The Aegean period has 2 distinct architectural traditions:

- **TYPICAL HOUSE**, A free standing hut with a single room found in the mainland and the region of Troy
- **HOUSE**, A totally random asymmetrical agglomeration of rooms found in Asia Minor and Crete.

PRE-HISTORIC

NEAR EAST

MEGARON PLAN, CITADEL OF TROY:

Included large rectangular hall consisting of a room which was nearly square with a deep porch formed by extending the side walls.

EGYPTIAN

THIS WAS THE BASIS FOR ALL CLASSICAL GREEK TEMPLES.

By the 2nd millennium BC the houses developed into an agglomeration of buildings. The typologies were Palaces (for kings, administrative purposes etc), Place for manufacture and storage etc.

GREEK

EARLY CHRISTIAN

The arrangement of rooms were:

- Asymmetrical
- Around a central court
- Totally enclosed

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

**18th-19th CENTURY
REVIVAL**

**20th CENTURY
MODERN**



HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MINOAN CIVILIZATION | ARCHITECTURE | PALACE OF
MINOS AT KNOSSOS

PREHISTORIC

TYPICAL MINOAN ARCHITECTURE:

- Arranged around a central open court 170' x 52.5'
- The building covered 4 acres.

NEAR EAST

EXTERIOR PLANNING:

- Paved West court
- Crossed by raised walk typical Minoan feature
- Overlooked by monumental West facade

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

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MODERN



HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MINOAN CIVILIZATION | ARCHITECTURE | PALACE OF
MINOS AT KNOSSOS

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

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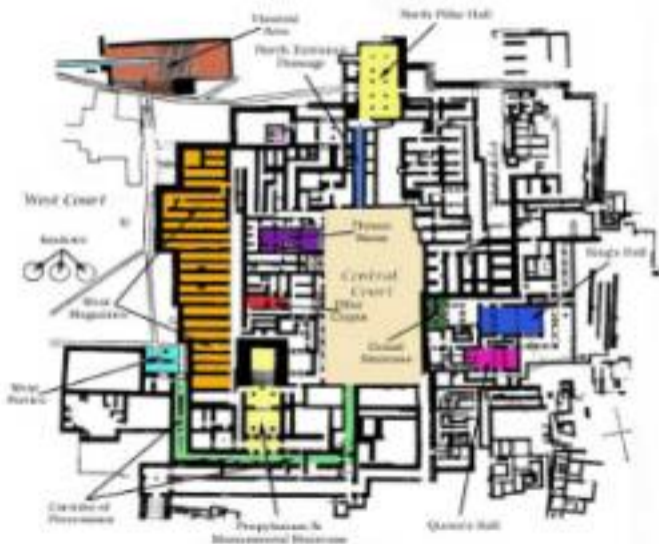
ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
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HISTORY OF ARCHITECTURE

PRE-HISTORIC

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BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY REVIVAL

20th CENTURY MODERN

ANCIENT GREECE | MINOAN CIVILIZATION | ARCHITECTURE | PALACE OF MINOS AT KNOSSOS

EXTERIOR PLANNING

- At the South end was the Principle entrance
- PALACE BUILDING was 2 stories
- GROUND FLOOR:
 - storage rooms
 - West wing had oil jars
 - North wing had granaries
- THRONE ROOM:
 - important room of the West and approached from the interior at a lower level than the court, opened by 4 pairs of folding doors.
- PRINCIPAL FLOOR:
 - First floor
 - West wing had spacious state rooms
 - rooms arranged for functional purposes- ceremonial rather than symmetry
- NORTH OF COURT- separate entrance approached from the Theatric area outside the palace central hall of stables
- EAST WING- central hall of stables
- SOUTH EAST CORNER- accommodates three stories of ROYAL APARTMENTS
 - Uppermost level with court
 - Other 2 below court level
 - Faces eastwards facing terraced gardens
 - Rooms were isolated from the court connected with each other and Passages lit by 3 light wells



HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MINOAN CIVILIZATION | ARCHITECTURE | PALACE OF
MINOS AT KNOSSOS



HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

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EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
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20th CENTURY
MODERN

MYCENEAN CIVILIZATION

HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MYCENAEAN CIVILIZATION

PRE-HISTORIC

- The MYCENAEAN CIVILIZATION flourished in the late Bronze Age
- From the 15th to the 13th century BCE- Extended its influence not only throughout the Peloponnese in Greece but also across the Aegean
- The Mycenaeans were influenced by the earlier Minoan civilization (2000-1450 BCE) which had spread from its origins at Knossos
- Architecture, art and religious practices were assimilated and adopted to better express the perhaps more militaristic and austere Mycenaean culture

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN



HISTORY
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BYZANTINE

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GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

ANCIENT GREECE | MYCENAEAN CIVILIZATION | MAJOR CENTRES

- Mycenae (traditional home of Agamemnon)
- Tiryns (perhaps the oldest centre)
- Pylos (traditional home of Nestor)
- Thebes
- Midea, Giza, Orchomenos
- Argos, Sparta, Nichoria and probably Athens.



HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

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ROMANESQUE

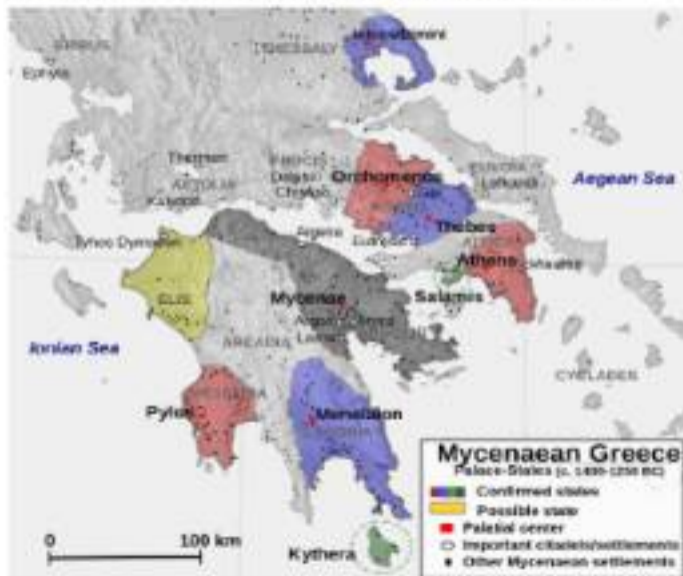
GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

ANCIENT GREECE | MYCENAEAN CIVILIZATION | MAJOR CENTRES



HISTORY OF ARCHITECTURE

ANCIENT GREECE | MYCENAEAN CIVILIZATION | LANGUAGE

The Greek language and writing was in the form of Linear B (an adaptation of the Minoan Linear A).

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY REVIVAL

20th CENTURY MODERN

		BASIC VALUES					
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Ε	Ε	Ζ	Η	Θ	Ι	Κ	Λ
Ζ	Ζ	Η	Θ	Ι	Κ	Λ	Μ
Η	Η	Θ	Ι	Κ	Λ	Μ	Ν
Θ	Θ	Ι	Κ	Λ	Μ	Ν	Ξ
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HISTORY OF ARCHITECTURE

ANCIENT GREECE | MYCENAEAN CIVILIZATION | TRADE

PRE-HISTORIC

- Mycenaean civilization had trading contact with other Aegean cultures
- Evidenced by the presence of foreign goods in Mycenaean settlements such as gold, ivory, copper and glass

NEAR EAST

- Discovery of Mycenaean goods such as pottery in places as far afield as Egypt, Mesopotamia, the Levant, Anatolia, Sicily and Cyprus
- Perishable goods such as oil and wine were also significant Mycenaean exports

EGYPTIAN

GREEK



EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY REVIVAL

20th CENTURY MODERN

HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MYCENAEAN CIVILIZATION | ART

Expressed in

- Fresco, Pottery, Jewellery
- tendency to more schematic and less life-like representation
- Geometric designs were popular, decorative motifs such as spirals and rosettes.
- Terracotta figurines of animals and especially standing female figures were popular, as were small sculptures in ivory, carved stone vessels and intricate gold jewellery.

PREHISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN



Mask of Agamemnon



Leon's Gold Dental



Diadems (crown)



HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MYCENAEAN CIVILIZATION | RELIGION | THOLOS TOMBS

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

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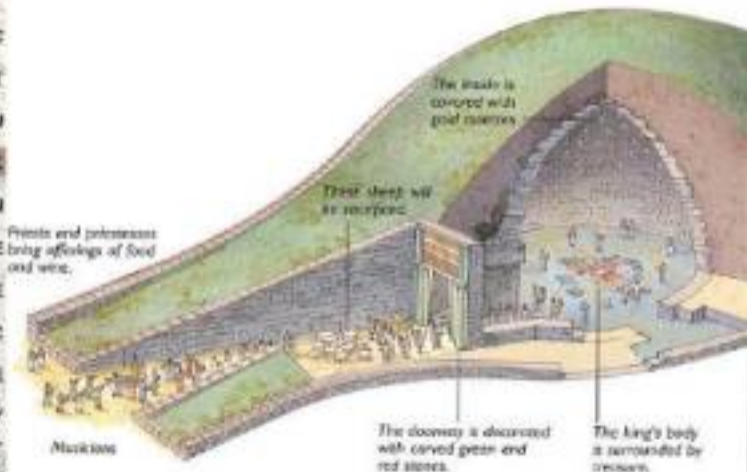
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RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN

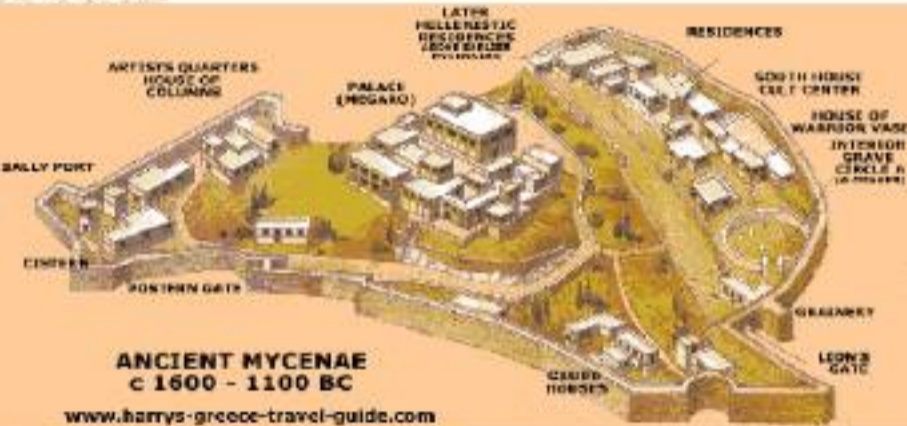


HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MYCENAEAN CIVILIZATION | ARCHITECTURE

- + A large palace complex has been found at most of the Mycenaean centres.
- + These complexes display important architectural features in common.

PRE-HISTORIC



ANCIENT MYCENAE
c 1600 - 1100 BC

www.harrys-greece-travel-guide.com

OF
CONTEMPORARY
MODERN

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
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HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MYCENAEAN ARCHITECTURE | PALACE AT MYCENAE

Large fortifications similar to that of Tiryns (neighbouring area)
PRINCIPLE FEATURE- Entrance protected by flanking Bastions

PRE-HISTORIC

LION GATE OF MYCENAE

NEAR EAST

- At the inner gate
- Great upright stone jambs 10' high

EGYPTIAN

- Supports an immense lintel 16'x3'6"x8'
- Opening 10'x10'

GREEK

- Above was a triangular, corbelled opening filled with stone

EARLY CHRISTIAN

- Relief depicts 2 rampant lions facing a central column of the typical downward tapering type.

BYZANTINE

ROMANESQUE

ENCLOSURE

GOthic

SHRINE

RENAISSANCE

PALACE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN

HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MYCENAEAN ARCHITECTURE | TREASURY OF ATREUS

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
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20th CENTURY
MODERN

HISTORY OF ARCHITECTURE

ANCIENT GREECE | MYCENAEAN CIVILIZATION | ARCHITECTURE | PALACE AT MYCENAE | MEGARON AT MYCENAE

PREHISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

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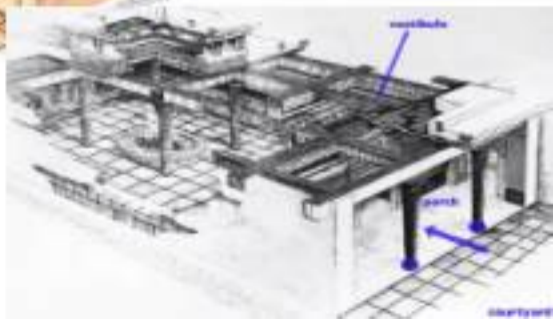
ROMANESQUE

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RENAISSANCE

18th-19th CENTURY REVIVAL

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HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | MYCENAEAN CIVILIZATION | ARCHITECTURE |
MEGARON AT MYCENAE

• The complexes were built around a large rectangular central hall or Megaron.

PRE-HISTORIC

Megaron-consisted of

• an entrance porch, a vestibule and the hall itself.

NEAR EAST

• A second, smaller hall (Queen's Megaron)

EGYPTIAN

• Many private apartments and

• Areas set aside for administration, storage and manufacturing

GREEK

The whole palace complex was surrounded by a fortification wall of large unworked blocks

EARLY CHRISTIAN

BYZANTINE

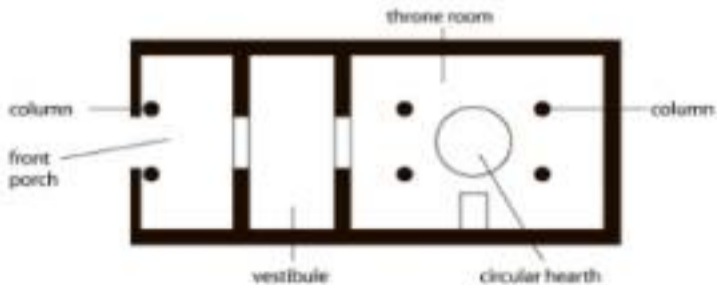
ROMANESQUE

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HISTORY
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MODERN

HELENIC & HELENISTIC PERIOD

HISTORY OF ARCHITECTURE

ANCIENT GREECE | HELLENIC & HELLENISTIC CULTURE

Historians divide Ancient Greek civilization into two eras:

- the Hellenic period (from around 900 BC to the death of Alexander the Great in 323 BC), and
- the Hellenistic period (323 BC to 30 AD)

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY REVIVAL

20TH CENTURY MODERN

	HELLENIC PERIOD	HELLENISTIC PERIOD
TIME PERIOD	510 BCE - 323 BCE	323 BCE - 146 BCE
RELIGION	Derived from philosophers; questioning of gods	Zoroastrianism (monotheism), Ahura-Mazda, mystery cults, Mithraism
ART	Euborance, sensuality; marble statues; Doric & Ionic Columns	Commodification; naturalism; extravagance; Corinthian Column
LITERATURE	Homeric Epics; lyrical poetry; comedy	Dramas; pastorals; history; biography; utopia
SCIENCE	Thales, Pythagorean, Aristotle, Hippocrates	Archimedes; Geometry; Physiology; The body
PHILOSOPHY	Quest for truth; Individuals (Plato, Aristotle, Socrates)	Reason; Groups (Cynics, Epicureans, Stoics)

HISTORY OF ARCHITECTURE

ANCIENT GREECE | HELLENIC & HELLENISTIC CULTURE

	HELLENIC PERIOD	HELLENISTIC PERIOD
<p>PRE-HISTORIC</p> <p>NEAR EAST</p> <p>EGYPTIAN</p> <p>GREEK</p>	<p>PHILOSOPHY</p> <ul style="list-style-type: none"> witnessed the invention of philosophy. many individual philosophers, each of whom had followers that often branched out from the original philosopher's train of thought 	<ul style="list-style-type: none"> witnessed philosophers who focused on reason rather than the quest for truth These philosophers possessed a fundamental regard for reason as the key to solving problems
<p>EARLY CHRISTIAN</p> <p>BYZANTINE</p> <p>ROMANESQUE</p> <p>GOTHIC</p> <p>RENAISSANCE</p> <p>18TH-19TH CENTURY REVIVAL</p>	<p>ART</p> <p>Art in the Hellenic world is what we recognize as Greek art today. It embodied exuberance, cheerful sensuality, and coarse wit. Marble statues and reliefs depicted human greatness and sensuality. A notable achievement is the rise in architecture of the Doric and Ionic columns</p>	<p>In the Hellenistic world, art became less "art" and more "commodity." This shift in focus led to the creation of many "trash" works. Sculpture of the period emphasize extreme naturalism and uncensored extravagance, rather than the former idyllic beauties and perfect Davids</p>

20TH CENTURY MODERN

The difference between the Hellenic period and Classical Greece lies in the date of 323 BCE when Alexander the Great died.

HISTORY OF ARCHITECTURE

ANCIENT GREECE | THE GREEK POLIS

Brief History of Greece

- The first great civilization in Greece and Crete was the Minoan.
- It lasted roughly from 2000 BCE until 1400 BCE.
- Around 1400 BCE, the Mycenaean civilization supplanted the Minoan, and dominated Greece until about 1100 BCE, when barbarians known as Dorians invaded.

NEAR EAST

EGYPTIAN

Emergence of the Polis, or Greek City-State

- Starting around 800 BCE a new civilization, the Hellenic, became dominant in Greece.
- The Hellenic civilization was composed of two strands, the Dorian and the Ionian.
- This civilization gave rise to a new form of social/political organization: the polis.

GREEK

EARLY CHRISTIAN

The Polis

- The polis was an independent, self-governing city of between 50,000 and 300,000 people.
- Several dozen polises (Greek "poleis") dotted the Greek countryside.
- In each polis, politics, religion, and social life were closely intertwined.

BYZANTINE

ROMANESQUE

Types of Government

- Two types of government were used in the Greek Polises. The Greek word oligarchy means rule by the few.
- The Dorians generally had an oligarchic form of government.
- The Ionians developed the first democratic form of government.

GOTHIC

RENAISSANCE

18TH-19TH CENTURY

REVIVAL

Sparta and Athens

- Generally speaking, the Dorians depended upon agriculture, while the Ionians were seafarers and merchants. The two primary polises were Sparta and Athens.
- Sparta was Dorian, oligarchic, and had an agriculture-based economy.
- Athens was Ionian, democratic, and depended on seafaring and trade.

20TH CENTURY

MODERN



- Hippodamos was a Greek architect from the ancient city-state of Miletus.
- He played a major role in the development of city planning.
- In the system he created, the city and people were divided into three groups:
 - a. The citizens b. soldiers, and c. farmers.



- This was Hippodamus' way of planning cities socially.
- His more major impact on city planning was his block pattern.
- He proposed that the more important buildings in cities such as temples would take up more than one block and the whole city would be surrounded by a wall to protect it from invaders.



- SPYRNA AND MILETUS provide the earliest evidence for Greek planned towns.

- Despite their plans being adapted to local needs, cities of this period had certain common characteristics.

- The division of the city into large areas demarcated by wide main roads or avenues (pioneers).
- These areas were subdivided by a grid system of narrow streets (stenopol).

- In most grids the streets intersected at right angles (orthogonal grid).
- Different districts were designated for specific purposes, such as commercial districts, residential districts, public and religious zones, and in the case of ports, harbour areas.
- Evidence for an integrated plan, such as the way public buildings were grouped together.

HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | ARCHITECTURE | TYPES OF BUILDINGS

Unlike their Minoan and Mycenaean ancestors, the Ancient Greeks did not have royalty, and therefore had no need for palaces. This was why their architecture was devoted to public buildings. Their types of buildings are:

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

1. Temple, including The Small Circular Variant (Tholos)
2. The Central Market Place (Agora)
3. With Its Covered Colonnade (Stoa)
4. The Monumental Gateway Or Processional Entrance (Propylon)
5. The Council Building (Bouleuterion)
6. The Open-air Theatre;
7. The Gymnasium (Palaestra)
8. The Hippodrome (Horse Racing)
9. The Stadium (Athletics); And
10. The Monumental Tomb (Mausoleum)

BUT OF ALL THESE BUILDINGS, IT IS THE TEMPLE THAT BEST CAPTURES THE QUALITIES OF GREEK DESIGN

HISTORY
OF
ARCHITECTURE

ANCIENT GREECE | ARCHITECTURE | CULTURAL FACTORS THAT
AFFECTED ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

- Religious belief was constantly changing with new cults introduced time to time
- Gods were all powerful
- Regular ritual of sacrifice to the God which required an open altar or space
- Temple buildings developed later based on the importance and wealth of the cult
- Buildings were considered as offerings and were hence magnificently executed

GREEK

OTHER TYPOLOGIES:

1. Agora:

- the Greek society and political system was dependent on gatherings -
- With the growth of an organized town, the Agora was a central element in the town plan
- The Agora was an open space with structures required for functioning of the polis at its edge

2. Domestic architecture:

- houses turned their back on the streets
- Inward facing a courtyard
- Division between male and female quarters

3. Greek city:

- Temple was the principle building - a simple rectangular roofed structure
- Designed to be admired from outside
- Buildings were built around a central courtyard or space
- Appreciated only from within the court
- Series of separate buildings with porticoes or colonnades
- Colonnaded courts a feature of Hellenistic cities

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN

HISTORY OF ARCHITECTURE

ANCIENT GREECE | THE GREEK | GREEK ARCHITECTURE

- Greece's architecture is traditionally divided into three periods:
 - Archaic (c.650-480 BCE)
 - Classical (c.480-323 BCE) and
 - Hellenistic (c.323-27 BCE)

PRE-HISTORIC

- Greek architecture is important for several reasons:

NEAR EAST

1. BECAUSE OF ITS LOGIC AND ORDER

- Logic and order are at the heart of Greek architecture.
- The Hellenes planned their temples according to a coded scheme of parts, based first on function, then on a reasoned system of sculptural decoration.
- Mathematics determined the symmetry, the harmony, the eye's pleasure.

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18th-19th CENTURY REVIVAL

20th CENTURY MODERN



1. BECAUSE OF ITS INVENTION OF THE CLASSICAL "ORDERS", namely the Doric Order, the Ionic Order and the Corinthian Order - according to the type of column, capital & entablature used

2. BECAUSE OF ITS EXQUISITE ARCHITECTURAL SCULPTURE. Architects commissioned sculptors to carve friezes, statues & other architectural sculptures, whose beauty has rarely, if ever, been equalled in the history of art.

HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN

CLASSICAL PERIOD

HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN

CLASSICAL PERIOD: GREEK ORDERS

PRE-HISTORIC

The principle orders of Classical Greek architecture are:

- Doric
- Ionic
- Corinthian

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN



Doric



Ionic



Corinthian

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

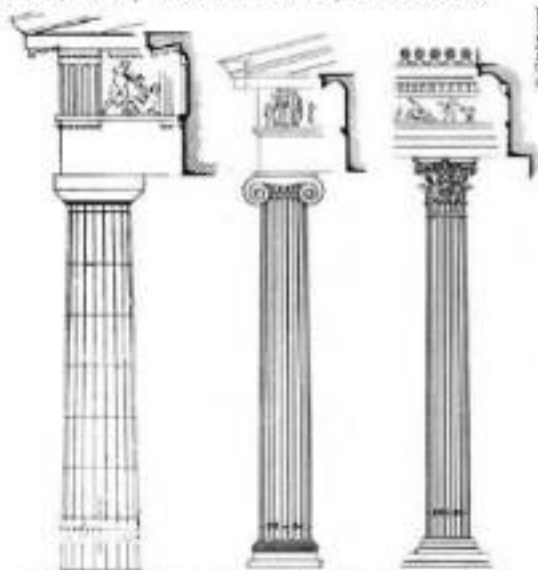
ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN



Comparison of Greek Columns: Doric, Ionic, and Corinthian

HISTORY OF ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY REVIVAL

20th CENTURY MODERN

DORIC ORDER

Corinthian Column



WHAT IS AN ORDER?

An order in architecture refers to the column, its capital and the part supported by it is known as the entablature.

In each order, these parts are in a specific proportion to each other and display characteristic shapes, form, treatment and moulding.

Evolved from the huts that were built with circular logs for posts with square planks on top to fix them to the purlins and rafters with rectangular sections that formed the framework for the roof. It had a shaft & capital that comprised of the column which supported the entablature comprising of the architrave, frieze & cornice. The triangular part at the top is called the pediment



EARLY FORM OF HUT

LATER FORM OF HUT



GREEK ARCHITECTURE – CLASSICAL PERIOD 480-336 BC

GREEK ORDERS - DORIC

The principle orders of Classical Greek architecture are:

- Doric
- Ionic
- Corinthian

DORIC ORDER

The Doric order was the most commonly used order for the facades of temples and structures till the mid classical period when the ionic orders were also used in the western.

DORIC COLUMN

- The Doric Column stands directly on the Crepidia (Crepidoma)
- The Crepidoma is normally 1.3 m temples

Shaft height:

- The columns are thick with the Height = 4D (diameter)
- In the 5th c. the height was increased to $5\frac{1}{2}$ - $5\frac{3}{4}$ D
- In the Hellenistic period the height was increased to 7D

Shaft:

The shaft tapers to $\frac{1}{4}$ - $\frac{1}{8}$ D

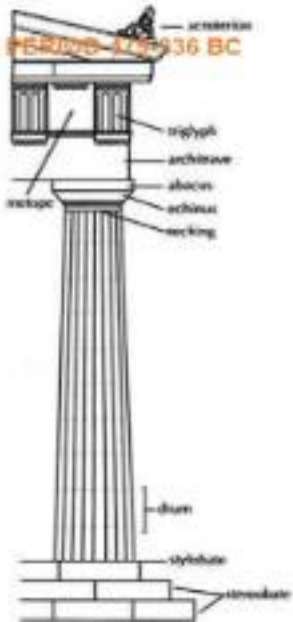
Divided into 20 flutes or channels, 12, 16, 18, 24

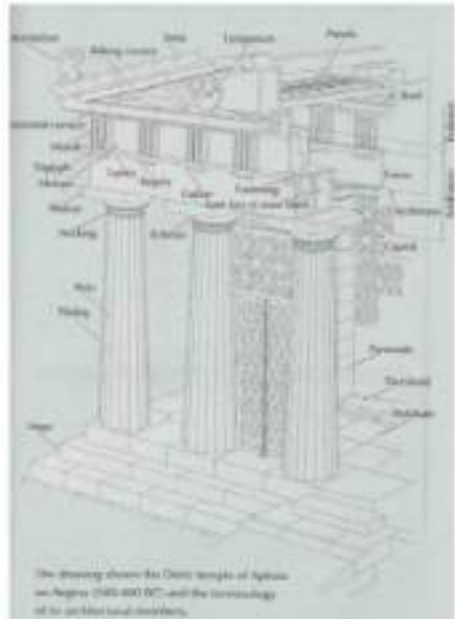
Sharp "arrises"

Slight convex profile called Entasis to counteract concave appearance of straight columns

Hypotrachelion: Shaft terminates in the form of 3 grooves or 1 on block which forms the capital

Trachelion: the continuation of the fluted shaft also known as necking





Capital:

The distinctive capital consists of the Abacus and the Echinus

Abacus:

- This is the square slab forming the top of the capital
- With or without moulding
- Supported the Entablature

Echinus:

- Near the base of the Echinus are Annulets 3-5 in number which stop the vertical lines of the Arrises and flutes of the shaft
- It projects considerably and is fuller in outline in the early period
- In the period of the Parthenon the projection is less with a subtle profile
- In the Hellenistic period the whole capital is shallow with the curve of the Echinus approaching a straight line

GREEK ARCHITECTURE – CLASSICAL PERIOD 479-336 BC

GREEK ORDERS - DORIC

DORIC ENTABLATURE

Consists of 3 main components:

1. Architrave –

The principal beam which is made up of 2 – 3 slabs of stone in

depth, the outermost showing a vertical face in the façade

Taenia: The flat projecting band capping the Architrave

Regulae: strips of stone at intervals corresponding to the Triglyphs

Guttae: small conical drops below the Regulae normally 6 in number

2. Frieze –

Triglyph:

- These consist of 2 vertical channels (glyphs) and 2 half channels at each side, hence amounting to 3 (tri)

- Aligned over each column and centrally over each intercolumniation

- 2 Triglyphs meet in the corner to form a beveled edge

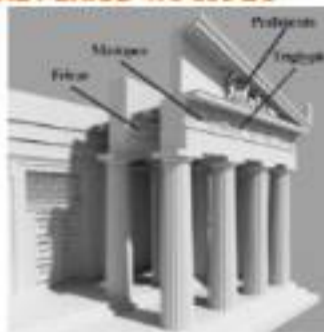
- Doric orders must end with a Triglyph, the outermost one is

moved outwards from its position over center of the column

- The columns are hence brought closer at the corners

Metope:

The square spaces which are ornamented with fine relief sculpture



GREEK ARCHITECTURE – CLASSICAL PERIOD 479-336 BC

GREEK ORDERS - DORIC

3. Cornice / Gelson –

The upper or the crowning part

Soffit: the underside with an inclination to the slope of the roof

Mutules: Flat blocks over each Triglyph and Metope ornamented with 18 Guttae in 3 rows of 6 each

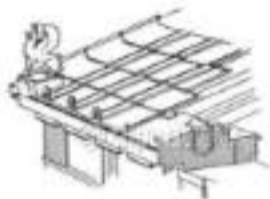
Corona: vertical face with an overhanging drip at the bottom

Sima: continuous gutter - often omitted
eg. At the Parthenon - Crowns the raking cornice of the pediment
Not provided with Mutules

Antefixae: ends of cover tiles stopped by an ornamental element

The **pediment** crowns the Doric Entablature consisting of the **Tympanum** and the **Acrotelion**.

The Tympanum is the triangular portion with fine relief work depicting scenes from religion



PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

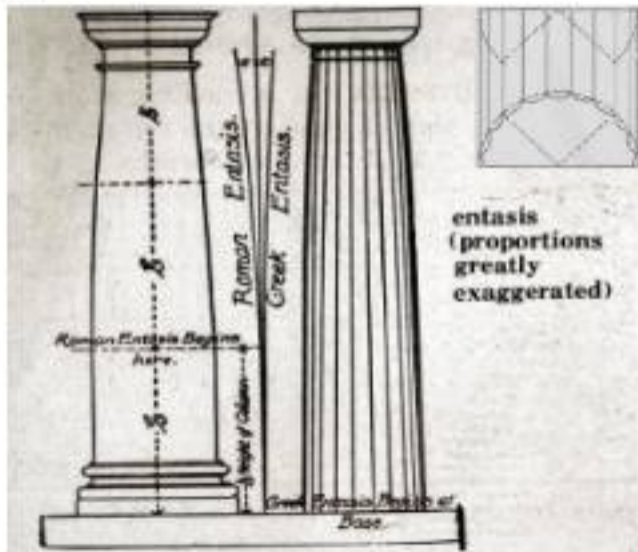
ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN



PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

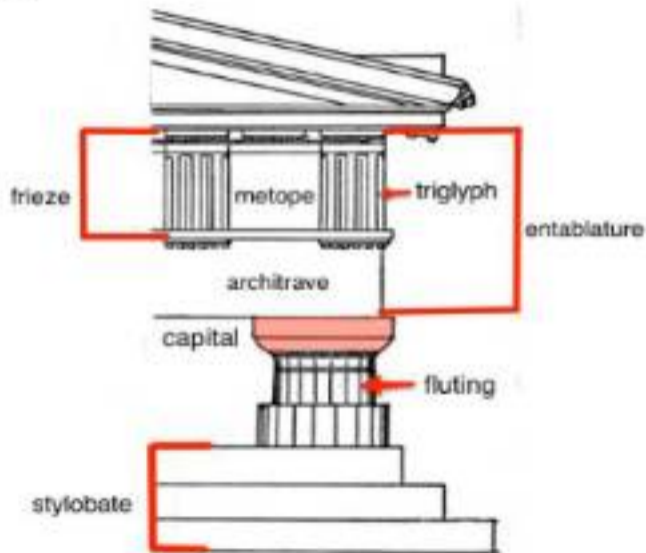
ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY REVIVAL

20th CENTURY MODERN



GREEK ARCHITECTURE – GREEK ORDERS - IONIC

IONIC ORDER

The Ionic order includes the Base and the Capital. It made its appearance in the 4th c. BC

IONIC COLUMN

Base:

There were different forms of the base used in eastern Greek arch. which developed in the 5th c. BC in Athens with a small moulding

Shaft:

Height is 9 – 10 D (including the base & shaft)

24 flutes with flattened Arrises, 40, 44, 48 flutes also present

Capital:

↳ Consists of 2 pairs of Volutas or spirals

↳ ½ D with 1 pair in the front of the column and the other at the back

↳ joined on the sides by a concave cushion

↳ Plain or ornamented with numerous flutes, fillets or beads

↳ The Volute scroll rests on an Echinus which is circular in plan

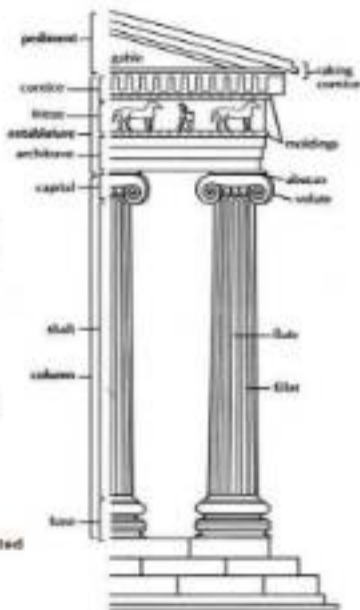
↳ Carved with an Egg & Dart Moulding usually with running

Palmettes where it disappears under the Volutas

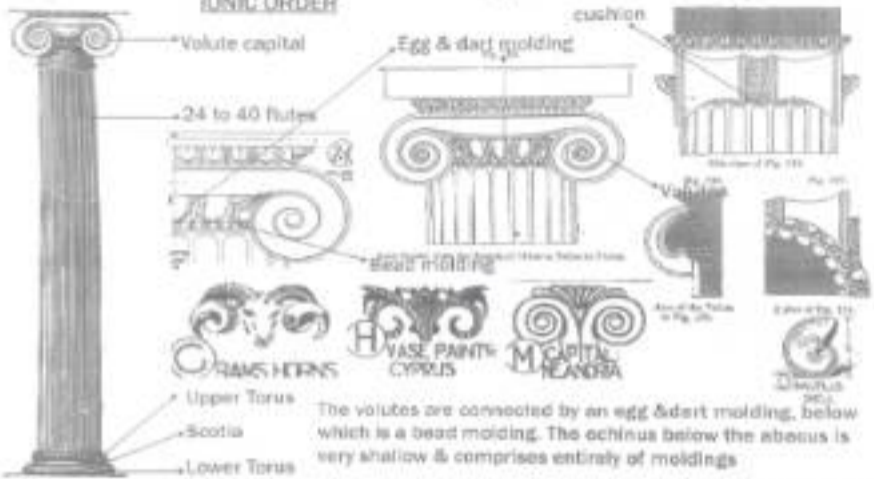
↳ The Abacus is shallow

↳ The Ionic Capital presented difficulties at the corners where a Carved Volute was used

↳ In the Hellenistic period the capital has 4 fronts



IONIC ORDER



Volute capital

24 to 40 flutes

Upper Torus

Scotia

Lower Torus

cushion

Egg & dart molding

bead molding

Volute

C RIMS HEIRS

H VASE PAINTS CYPRUS

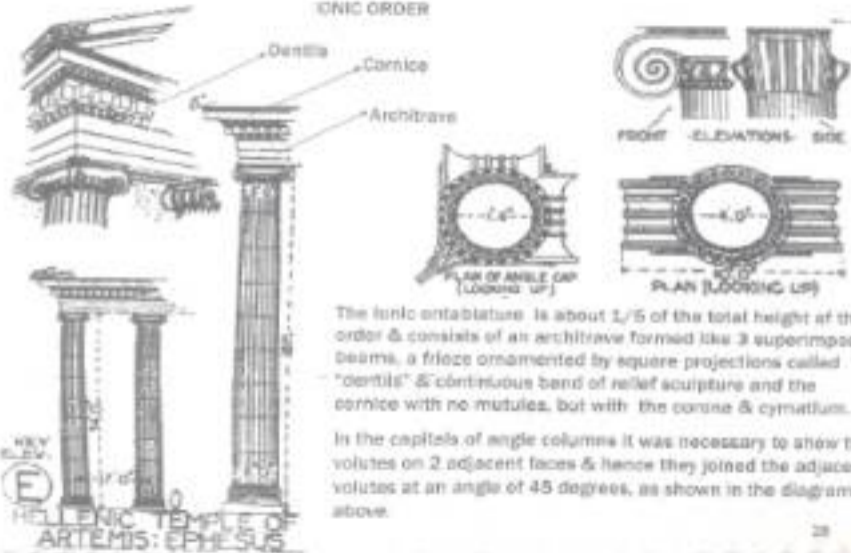
M CAPITAL MEANDRA

DIAVOLUS

The volutes are connected by an egg & dart molding, below which is a bead molding. The ochinus below the abacus is very shallow & comprises entirely of moldings

ionic columns including the capital & base have a height of about 9 times the base diameter. The molded base consists of an upper & lower torus divided by a scotia. The distinctive Volute or scroll capital must be derived from nature. The capital consists of a pair of volutes or spirals, about 2/3 the base dia in height, on the front & back of the column connected at the sides by the cushion.

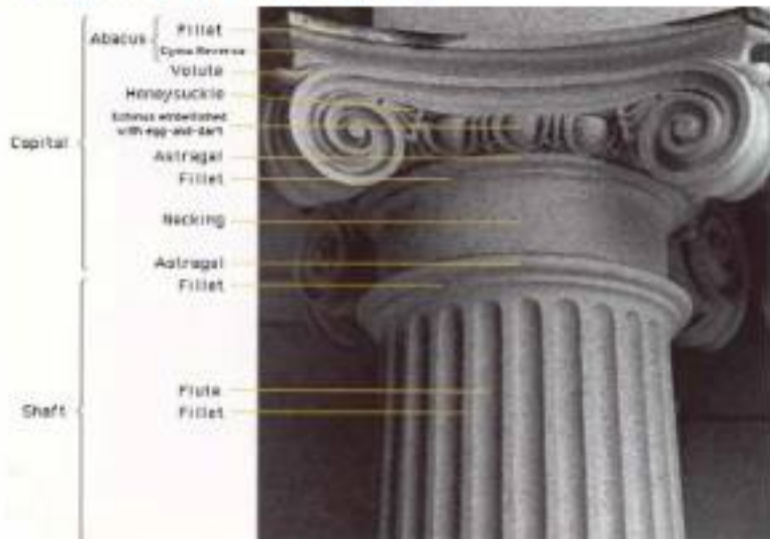
IONIC ORDER



The Ionic entablature is about $\frac{1}{5}$ of the total height of the order & consists of an architrave formed like 3 superimposed beams, a frieze ornamented by square projections called "dentils" & continuous band of relief sculpture and the cornice with no mutules, but with the corona & cymatium.

In the capitals of angle columns it was necessary to show the volutes on 2 adjacent faces & hence they joined the adjacent volutes at an angle of 45 degrees, as shown in the diagram above.

GREEK ARCHITECTURE – GREEK ORDERS – IONIC CAPITAL



GREEK ARCHITECTURE – GREEK ORDERS - IONIC

Entablature:

Consisted of 2 components:

1. Architrave –

Normally a 3 fasciae (3 rows in front face)

Capped by 2 moldings, a low Astragal and a high Ovolo

2. Cornice –

- The cornice supported on a **frieze** of large **Dentils**
- The Entablature was hence light compared to the Column being only $\frac{1}{6} H$
- The height was increased by the addition of the vertical parapet **Sima** with carved decoration as for the Frieze with **Dentils** under the cornice.
- There were a lot of differences in the order from place to place.
- The order was first used for the treasuries
- In the 5th c. used for Temples such as the **Erechtheon & Temple of Nike**
- In the mainland a **frieze** was inserted in the entablature but the dentils were omitted
- The frieze when present was a continuous band of sculpture
- The Ionic Temples did not have **Antifixae** on the flanks, instead the **Sima** was carried along the side cornices too
- Often ornamented with an **Acanthus scroll**
- **Carved lion heads** served to throw rainwater from the roof



PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

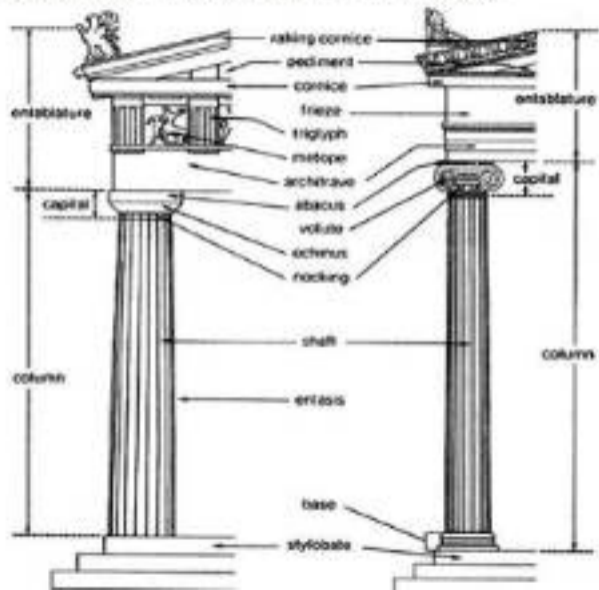
RENAISSANCE

18th-19th CENTURY

REVIVAL

20th CENTURY

MODERN



GREEK ARCHITECTURE – GREEK ORDERS - CORINTHIAN



CORINTHIAN ORDER

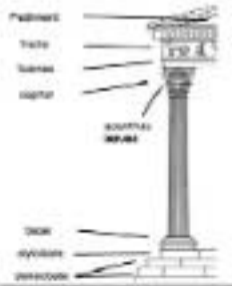
- This order 1st made its appearance in the 5th c. BC as a decorative variant of the Ionic
- The main difference was in the capital
- Used first only for the internal colonnades or fancy monuments
- the use as an external colonnade was in the Hellenistic Period
- The distinctive capital is much deeper than the Ionic and was of a variable height first
- the proportion of the capital was nearly $\frac{1}{4}$ H
- The invention of the Corinthian Capital was due to Callimachus, a famous sculptor in bronze. He observed a basket over the grave of a maiden. The basket was placed over the root of the Acanthus plant, the stems and foliage of which grew and turned into volutes at the angle of the life

Corinthian Capital

- A deep inverted bell
- The lower part is surrounded by 2 rows of 8 acanthus leaves
- From between the leaves of the upper row rise 8 caulicoli (caulis-stalk)
- Each is surmounted by a calyx from which emerge volutes or helices supporting the angles of the abacus and the central foliated ornaments
- Each face of the moulded Abacus is curved outwards to the corners where it ends either in a point or is chamfered

[Explain the Ionic shafts and entablature for the Corinthian too. Only the capital and the Height is different]

Corinthian



CORINTHIAN ORDER



B) FABLED ORIGIN



C) NATURAL ACANTHUS

Acanthus leaves

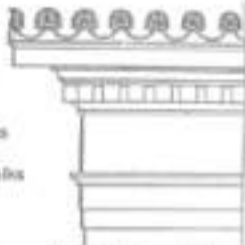
Spirals



Abacus

Stalks

H) CAPITAL, TROUSSE ENCAISSEE



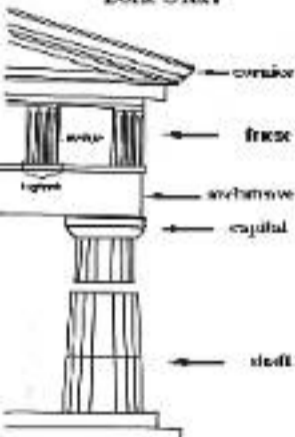
CORINTHIAN ORDER

- The Corinthian column, with the base & shaft resembling the Ionic, has a height of 10 times the base diameter.
- The distinctive feature is the capital, which is taller than the others & is usually about $1\frac{1}{8}$ diameter high.
- The capital is supposed to have originated by observing a flower basket covered with a tile, left over the grave of a Corinthian maiden, surrounded by acanthus leaves.
- The typical Corinthian capital is in the form of an inverted bell, with the lower part surrounded by 2 tiers of eight acanthus leaves. Between the leaves of the upper row rise 8 stalks from which emerge the spirals that support the angles of the abacus the central flower shaped ornament. Each face of the molded abacus is curved outward to a point at the angles.
- The entablature is similar to the Ionic, rising to $\frac{1}{5}$ the height — the entire order, but has more moldings.

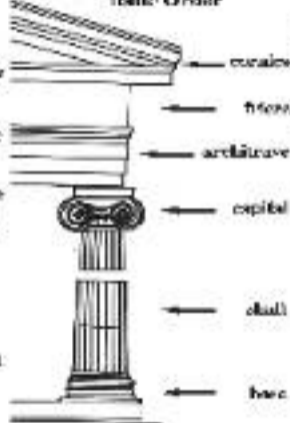
GREEK ARCHITECTURE – GREEK ORDERS - CORINTHIAN



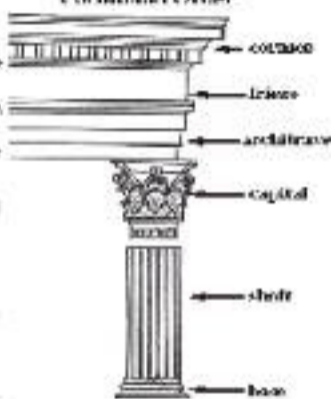
Doric Order

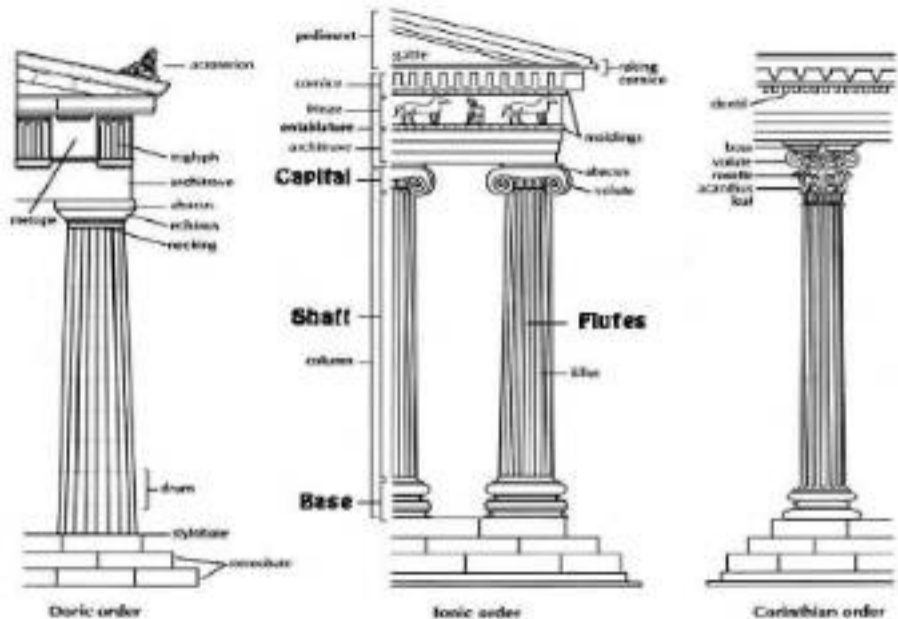


Ionic Order



Corinthian Order





HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOthic

RENAISSANCE

18th-19th CENTURY
REVIVAL

20th CENTURY
MODERN

CLASSICAL PERIOD: GREEK TEMPLES

The Greeks recognized separate areas as sacred to God in Towns and Villages

Some were on sites occupied in the Late Bronze Age where there were remains of earlier walls and some continuity of cult

Others were chosen buildings of natural definctions such as proximity of springs

Towns:

Some sanctuaries were in walled citadel

Several others in the countryside

Rarely walled, formal gateways infrequent

All sanctuaries included a temple

Temples:

Varied in detail

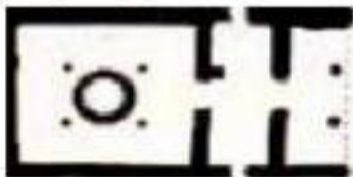
Consisted of a simple rectangular building to hold the statues of gods

The statue stood in the Cella or Naos

The width of the Naos was limited by restricted sizes of timber roofs

The side wall extended to form Porch (traditional Megaron Plan)

Porches were embellished with columns



MEGARON PLAN

HISTORY OF ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY REVIVAL

20TH CENTURY MODERN

CREEK ARCHITECTURE | CLASSICAL PERIOD | GREEK TEMPLES



naos



colonnade naos



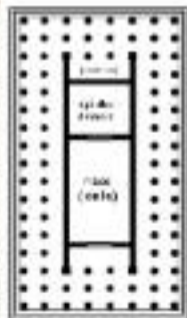
tholos



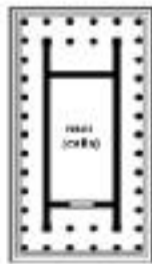
pronaos



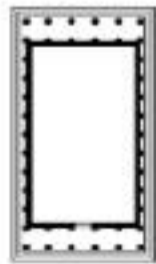
peripteral naos



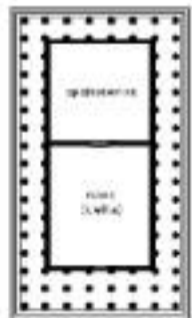
dipteral naos



peripteral pseudoperipteral naos



pseudodipteral naos



pseudoperipteral naos

Greek temples have a walled enclosure known as the "MOS" with an entrance foyer known as the "PRONAOS" and a storage chamber at the rear called the "OPISTHODOMOS". They are classified into various styles depending upon the number of columns in the façade. Thus a temple having 2 columns is known as Diastyle etc.

Column:

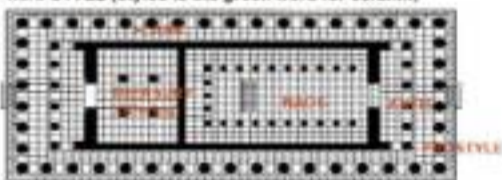
Placed either between the ends of side walls in ANTIS
 In a row in front of them – PROSTYLE

Description:

Conventional consists of a Greek numeral + word STYLE (stylos is the greek word for column)

Diastyle -2	Triastyle -3
Tetraastyle -4	Pentaastyle -5
Hexastyle -6	Heptaastyle -7
Octastyle -8	Enneaastyle -9
Decastyle -10	

(Odd nos. were unusual in early buildings)
 Diastyle was common in the Antis



No. of columns forming the façade:

Pterasteral - cella surrounded by columns

Columns along the flank variable

In Doric Temple of 5th c. the No. of columns on the flank = 2 no. on façade + 1

Length reflects internal arrangement

There may be extra rooms or false porches at the back

Externally:

Temples made larger and impressive using double rows of external columns

Dipteral - 2 rows

Tripteral - 3 rows

Eg. Temple of Athena Nike - Tetraastyle

Temple of Athena Delphi - Hexastyle

Pseudodipteral the outer columns are spaced as though there were a 2nd or internal row which is not present or omitted

GREEK ARCHITECTURE – CLASSICAL PERIOD 479-336 BC

GREEK TEMPLES

Temples in Sanctuaries:

These may contain more than 1 temple

They may include a temple of lesser importance than the principal building

Eg. Temple of Artemis in Asklepios at Epidaurus

Or may be temples constructed at different periods but of equal importance

Eg. Temple of Selinus in Sicily

Altars:

Often monumental Rectangular

Finished with architectural motifs and moldings

Triglyphs & Metopes, Friezes

Sections of columns

All sanctuaries had altars

Sanctuary:

Became full of monuments, statues, other offering rooms

Often placed on an elaborate high base, with exedrae, rectangular or semicircular seats and recesses

Possible to distinguish the most sacred area which was near the temple and altar

Less holy areas devoted to human involvement in cult and ritual

Less Holy Areas:

Outer areas

Theatre, Stadium, Hippodrome, Exercise ground, Palaestra, Gymnasium close to stadium

Sacred banquet for privileged worshippers who consumed their share of sacrificial meals while reclining on couches

Treasury - Treasury - Building resembling a small peripheral temple offered to God from individual cities

Lavishly decorated

Commemorating some important event

Victory in War – Athenian treasury in Delphi

HISTORY
OF
ARCHITECTURE

PRE-HISTORIC

NEAR EAST

EGYPTIAN

GREEK

EARLY CHRISTIAN

BYZANTINE

ROMANESQUE

GOTHIC

RENAISSANCE

18TH-19TH CENTURY
REVIVAL

20TH CENTURY
MODERN

CLASSICAL PERIOD | GREEK TEMPLES | TEMPLE AT NIKE

- Ionic temples
- Architect: Kallikrates
- Stands outside the Propylaea
- Tetrastyle Amphiprostyle
- Continuous Frieze with no dentils
- 8.2 m x 5.4 m
- No conventional porch
- The front of the cella has 2 rectangular piers between the antls closed by grills
- The relief frieze on the upper section of the walls depicts the conference of Gods on the east side, and scenes from battles on the other three.



-Constructed in 426 B.C. by the architect Kallikrates.

-It is built in the ionic order, and it is amphiprostyle with a row of four columns in front of each of its narrow sides.

-The relief frieze on the upper section of the walls depicts the conference of gods on the east side, and scenes from battles on the other three.

-A marble parapet decorated with the relief representation of Nike (Victory), protected the edge of the section on which the temple was erected.

-It is 11 feet high from the stylobate to the apex of the pediment.

-The ratio of the height of the column to its base diameter is 10:1 (7:1 instead of the normal 10:1 or 11:1).



An aerial photograph of Rome, Italy, showing the dense urban landscape and the Tiber River. The word "ROME" is overlaid in large, bold, yellow letters with a black outline and a thin underline. The background is a detailed, textured map of the city.

Unit 5

ROME

FELINA D
MEASI



- 
- **ROMAN HISTORY: REPUBLIC AND EMPIRE**
 - **ROMAN RELIGION AND THE ROMAN TEMPLE**
 - **ROMAN CHARACTER**
 - **LIFESTYLE**
 - **ROMAN URBAN PLANNING**
 - **ART AND ARCHITECTURE AS IMPERIAL PROPAGANDA: FORUMS AND BASILICAS**
 - **DOMESTIC ARCHITECTURE**
 - **ORDERS IN ARCHITECTURE: TUSCAN AND COMPOSITE.**
 - **ROME: FORUM ROMANUM AND OTHER IMPERIAL FORUMS, ENCLOSURE AND MANIPULATION OF SPACE**
 - **PANTHEON – PUBLIC BUILDINGS.**
 - **COLLOSEUM**
 - **CIRCUS MAXIMUS.**
 - **THERMAE OF CARACULLA.**



- ETRUSCAN PERIOD – 8th C. BC – 250BC
- REPUBLICAN ROME – 250 BC – 30 BC
- IMPERIAL ROME – from 30 BC
 - UPTO HADRIAN'S PERIOD IN 138 AD
 - DECLINE IN 476 AD

Early Rome, 753-509 B.C.

By about 750 B.C. the Greeks had established about fifty city-states on the southern peninsula of Italy. To the north lived the tribes of the **Etruscans**. The Romans adopted many Etruscan customs over the years. The Romans even adopted the Etruscan toga. The vault and the arch were Etruscan in origin as were gladiatorial contests.

Etruscan power and influence over the city of Rome was indeed strong and thanks to their trading interests, the city began to grow.

By the mid-6th century, temples and public buildings could be found throughout the city.

The Capitoline Hill became the religious center of the city and the **Forum**, formerly a cemetery, **became a public meeting place, thus serving a similar role as the agora had at Athens**. Rome under the Etruscans resembled a Greek city. Like Greek cities, it had a senate: an advisory council of elders who were mainly patricians. **Rome's most important temple and meeting place was a building like a Greek acropolis, called the capitol**. The capitol had a Greek-like public assembly called the comitia - where plebeians were a minority and outvoted.

Rome Becomes a Republic

The Roman Republic was more like a confederation of states under the control of a representative, central authority.

One of the most important developments during the early history of the Roman Republic was the "Struggle of the Orders." Between 500 and 300 B.C., there developed within the body of the citizenry, a division between two social groups or classes: patricians and plebeians.

Rome was at war throughout most of the years of the Republic.

The Punic Wars with Carthage

First Punic War (264-241 B.C.)

Second Punic War (218-201 B.C.)

Hannibal (247-182 B.C.)

Third Punic War (149-146 B.C.)

Macedonia and in Asia Minor (205-148 BC with the annexation of Greece and Asia Minor to the Roman world.

By 44 B.C., the Romans controlled all of Spain, Gaul (France), Italy, Greece, Asia Minor, and most of North Africa

From 133 to 27 B.C., the Roman Republic was engaged in a constant succession of **civil wars**, making up what has come to be known as the **Roman Revolution**

These civil wars led to a succession of military dictatorships with that of Julius Caesar being the most successful (49 – 44 BC)

A further period of flux and civil war after his assassination led to the formation of a Triumvirate – Mark Anthony, Octavius, Lepidus

The Roman world was now divided between these rulers (Antony: eastern provinces; Octavian: western provinces; Lepidus: Sicily and North Africa)

At the **Battle of Actium** (31 B.C.), the forces of Antony and Cleopatra were defeated.

With the battle of Actium, the world of the Roman Republic comes to an end, and the new world of the Roman Empire begins.

(Give the complete of the Punic Wars and the Roman Republics story)

CULTURAL AND RELIGIOUS FACTORS

Etruscan period:

there was a Greek influence in the belief in a Pantheon of gods

there was an expanding class of nobles

the main building typologies were houses and temples, roads and other public works

the religious beliefs reflected in the burial of the dead in cemeteries outside the cities with the most important ones being buried in tombs which are the surviving monuments



Republican Rome:

the Romans were farmers, and were not very religious

it was a strictly Patriarchal system of society

they honoured Vesta Goddess of Hearth

hence there were not much of temple buildings during the period

by mid 1st c. BC permanent places of entertainment were admitted into the capital

the focus was on the **Forum**, which were the chief place of public assembly not only for business and political discussions but also for entertainment and spectacles

the practice of new religious cults and practices to the adoption of the Hellenistic way of life and art

there was strong concept of free entertainment, circuses, chariot races and gladiatorial combats which had its origin from funeral rites involving human sacrifices for the well-being of the dead



Later Roman:

Local religious practices continued with new temples for the local gods

The imperial throne was occupied by Non Romans

Personal well being was the prime as long as there was no conflict with the state

The society was hence open to the spread and the growth of new religions from the East

This included the worship of the sun, and finally Christianity

there was hence a rise of church forms although pagan worship continued till 391

there were also secular buildings such as baths and gymnasia

Roman religion

- In Ancient Rome a fundamental basis of the religion was the belief that if the Gods were happy then they would receive good fortune. It was therefore important to worship the Roman Gods on a daily basis.
- The ancient Egyptians mirrored the Greek traditions
- Building large temples to honour their gods and this was in turn mirrored by the Romans
- The Romans built temples to worship their gods and goddesses.
- The Romans believed that gods controlled their lives
- Romans had hundreds of different gods for all occasions.
- A group of twelve of the main gods and goddesses
- The religion of the Romans was a polytheistic religion taken from the Greek religion.
- The Greek and then the Roman priests needed a story or myth which contained a family tree and explained the beginnings of the main Gods and Goddesses (The Consensus)

Famous Roman Temples

The ruins of many famous temples in Rome:

1. The round temple of Vesta dates to the time of Numa Pompilius
2. Temple of Castor and Pollux in the Roman forum
3. Temple of Saturn
4. Temple of Vespasian
5. The Temple of Julius Caesar



ROMAN TEMPLES

Facts and Features of Roman Temples

1. Temples were large, ornate and numerous.
2. The temples were located in important positions such as at one side of the forum or alongside one of the major roads
3. had a gabled roofs.
4. They had a deep porch called a portico with high columns
5. A frontal staircase giving access to a high platform was called a podium
6. The distance between columns of rectangular were proportional to the diameter of the column (Roman Columns)
7. New materials were used in the construction of Roman Temples such as concrete with brick and stone facing and marble veneers
8. Walls were painted in Fresco - the frieze often depicted Roman life
9. Sculptures of Gods and Goddesses were used as decoration in the form of free standing statues
10. Treasures were sometimes kept in the underground chambers of the temples
11. Some Roman temples were round, notably some of the Temples dedicated to Vesta
12. A deep porch with free-standing columns



Temple of jupiter
optimus maximus



Temple of venus and roma

ROMAN TEMPLES

1. A frontal staircase giving access to a high platform
2. New materials were used in the construction of Roman Temples such as concrete with brick and stone facing and marble veneers
3. Walls of Roman Temples were painted in fresco - the frieze often depicted Roman life
4. Sculptures of Roman Gods and Goddesses were used as decoration in the form of free standing statues
5. Many Roman Temples were commissioned by Roman Generals to thank the Gods for the generals' victories
6. Roman Temples were large, ornate and numerous
7. Outside the Roman Temples traders sold small birds and animals which were offered to the Gods as sacrifices
8. The Roman temples were located in important positions such as at one side of the forum or along a major road
9. The distance between Temple columns were proportional to the diameter of the column
10. Engravings of Roman Temples were featured on Roman coins
11. Roman Temples were dedicated to specific Roman Gods and Goddesses



Temple of Caesar



- The Ancient Romans used a specific scheme for city planning that centered around military defense and civil convenience.
- The basic city plan consisted of a central forum with city services, surrounded by a compact grid of streets and wrapped in a wall for defense.
- The wall was also used to mark the city limits and was covered by a Porticula, or fortified gate at the front of the city.
- They would lay out the streets at right angles, in the form of a square grid. All roads were equal in width and length, except for two diagonal ones that intersected in the middle to form the center of the grid.
- Each square marked by four roads was called an insula, the Roman equivalent of a modern city block. Each main road held a gateway with watchtowers.
- The collapse of Roman civilization saw the end of Roman urban planning. The Ancient Roman city planning style is still very clear in Modern Rome and it has influenced many towns across Europe and the world.
- It was the only megalopolis in the West.





The city functions as a trading center for goods, as seen in the marketplace.



water fountain



Large stone paved roads



Plan showing
insular shops and
markets



Roman Columns

Columns are vertical, upright pillars.

Columns may provide support or simply be purely decorative.

The lower portion of a column is called the base or stylobate.

The middle section is called the shaft. The upper portion of a column is called the capital.

The area which the column supports is called the entablature.

Types of Roman Columns - :

Doric Columns - Simplest Style of Columns

Ionic Style of Columns with Spiral Scrolls

Corinthian Columns - Most Decorated Style of Columns



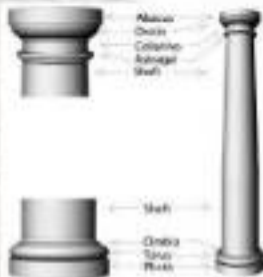
1. The Corinthian order is the most elegant of the five orders.
2. Its distinguishing characteristic is the striking capital, which is carved with two staggered rows of stylized acanthus leaves and four scrolls.
3. The shaft has 24 sharp-edged flutes, while the column is 10 diameters high.
4. The ratio of total column height to column-shaft height is in a 6:5 ratio.
5. The full height of column with capital is often a multiple of 6 Roman feet while the column height itself is a multiple of 5.
6. The abacus upon the capital has concave sides to conform to the outscrolling corners of the capital, and it may have a rosette at the center of each side.

FEATURES:

- Fluted (grooved) shaft
- Capital decorated with scrolls, acanthus leaves, and flowers
- Ornaments on the capital flare outwards, suggesting a sense of height.



1. The Tuscan order has a very plain design, with a plain shaft, and a simple capital, base, and frieze. It is a simplified adaptation of the Doric order by the Romans.
2. the solidest and least ornate
3. The Tuscan order is characterized by an unfluted shaft and a capital that only consists of an echinus and an abacus.
4. In proportions it is similar to the Doric order, but overall it is significantly plainer.
5. GENERALLY USED FOR THE LOWER FLOOR.
6. The column is normally seven diameters high.



Patricians and Plebeians:

The life of the Romans was dependent on their class structure. The Romans were divided into three tribes and the people were initially separated into two ranks or classes. The small ruling class of nobles were called the Patricians and the lower class were called the Plebeians. Slaves were added to the people of Rome and another class called the Equites, or Knights, of Rome.

Law, Crime and Punishment:

The law played an important part in the life of the Romans. Civil Law and Criminal Law. The Law of the Twelve Tables was the ancient legislation on which the law was based on. The extension of the Roman empire, the increase of riches, and consequently of crime, gave occasion to a great number of new laws.

Julian Calendar, Numerals, Coins and Weights and Measures

Their numerals and number system, names of Romans, the names of the days of the week and the months, weights, measures and coins.



Dwellings:

Romans lived in a variety of different dwellings depending on class. The rich had villas, and the poor lived in small apartments over shops. Roofs were not allowed to be higher than 17 meters (during the reign of Hadrian) due to the danger of collapse, and most apartments had windows. Water would be brought in from outside and residents would have to go out to public latrines to use the toilet. Because of the danger of fire, the Romans living in these apartments were not allowed to cook - buy food in from takeaway shops (called thermopolium)

Sewers:

The Romans were a very clean people, taking regular communal baths. They had two main supplies of water - high quality water for drinking and lower quality water for bathing. have a sewer system built under the city

The Census:

The Roman Empire began the practice of taking a census, or a 'count,' of all the people within its boundaries



Clothes

A tunic was the most important part of Roman clothing.

It was a long, white shirt, composed of two cotton pieces, without sleeves or with the short ones.

Roman tunics varied in details depending on an office that was held by their owners.

Tunics were worn only in house, if Roman wanted to go out, he had to put a toga on.

Toga was a piece of cotton material that was about 3 metres wide and approximately 6-7 metres long. It was very difficult to compose toga appropriately, so there were 'special' slaves who had to deal with it.



toga



tunic

ETRUSCAN & EARLY ROMAN

BUILDING TYPOLOGIES:

Primitive huts

Temples: Sacred enclosures which were open to sky with an altar

Templum: space on the ground or in the sky for taking omens

MATERIALS:

Wattle & daub for huts

Thatched roof

Timber & mud brick

PLANNING:

GREEK MEGARON TYPE from the 6th c.

Large houses with internal courts with rooms opening out from the court

Flat sloping ceilings

Coffered doorways, coloured dado

Roof and beams given additional support by columns, which were square,

polygonal or circular

fluted with different capitals



Etruscan hut



Wattle & daub



TEMPLE LAYOUT

Greek influence of a building within an enclosure. The original name for this building being **Aedes**. The temple building was rectangular, raised on a podium with a wide spreading roof supported on columns.

The differences in Greek and Roman temples were:

1. Temple set at the back of the enclosure
2. Axial arrangement with an open air altar between the front of the temple and the entrance to the enclosure
3. Columns used in front of the building to carry porch, not peripteral
4. Simple rectangular cells
5. normally 2 cells for the need of gods
6. Proportions shallower than Greece

TOWN PLANNING

- Grid layouts
- Attention given to drainage seen in the principle sewer of **Cloaca Maxima**
- Defensive walls of ashlar or polygonal masonry
- Bridges of stone piers and timber spanning

BUILDING TYPOLOGIES:

Sanctuaries, temples
Forums, Basilicas & related structures
Bathouse & thermae
Theatres, Amphitheatres and circuses
Triumphal arches
Town gates, Houses & villas
Tomb
Aqueducts and bridges
Public baths and places of entertainment

MATERIALS:

Local travertine and tufa
Import of foreign marble
Growing mastery of concrete

CHARACTER:

Introduction of new proportions due to new materials
Adoption of the classical Greek orders – Corinthian
Arches, vaults and domes
Used in utilitarian buildings such as warehouses
Appeared as a sequence of barrel vaulted bays
Dome used chiefly over the frigidarium of baths



travertine

Temple buildings:

High podium approached by flight of steps
Simple rectangular cells, colonnaded porticoes
Timber roof or suspended coffered ceiling
Use of stone for columns and architraves
Placed in the city forum
Axial planning
Eg. Temples of Fortune Primigenia at Palestrina

Temple of Hercules Victor at Tivoli

Basilicas

1st large scale building where interior dominated exterior
Small enclosed forum surrounded by colonnade or stoa
The central space had a trussed timber roof
Open at the sides to lower aisle
Circumplex lighting
Hall of justice hence had an apse on one side
Eg. Basilica at Pompeii

Houses:

Always present
Blank street façade
2 storied
Garden surrounded by columns opening into private rooms
Portico villas

LATE IMPERIAL BUILDING TYPOLOGIES:

Temples

Forum, Basilica & related structure

Baths, Thermae, Balneae

Bridges

Triumphal arches

Pillars of victory

CHARACTER:

Spatial planning due to the complete mastery of vaults and concrete

Interior treatments received great importance eg. Pantheon

The interiors were not just 4 walls and a roof

Dome

Disolved the distinction between the roof and the walls

Large spaces without intermediate supports

Gave a lot of freedom

Vaults also gave a new dimension

Baths very popular

Axial planning with sequence of spaces opening to one another with **groined vaults**



Interiors:

Coloured marble for the interiors

Gilded vaults and ceilings

Decorated with paint or mosaic
Statuary

Fountains with water rising from the
mouths of lions carved in marble or
bronz. Into marble basins



Exteriors:

Decorative use of orders

Plain & unadorned

Facing of stucco or marble

Wall surfaces broken by windows



Changes in town planning and houses

Imperial forum

Largest basilica and market place under
Trajan

Numerous levels with shops and terraces

Mass housing developed after the fire of
64 AD

Straight broad streets with blocks or
insulae

Use of rather grouted, concrete used

Arches carried on free standing columns

In the final phases of architecture we see the construction of the
largest Basilica Nova by Maxentius completed by Constantine the large
rectangular groin vaulted space. Influenced the Byzantine Empire
which followed



VAULTS:

Cement and mortar were tipped on timber formwork in horizontal layers

This gave rise to a stepped profile in the exterior or one that was flattened to a conical top

Grained vault from the Hellenistic

Use of concrete for the vaults did away with the use of the stone dressing and freedom of form

DOMES:

It was the simplest vault to build

The early domes were more conical than hemispherical

Open to sky at the crown

ARCHES

Semicircular arches used for large spans

The flattened segmental arch was also used for openings

COLUMNS:

The columns and the architraves were slender

The spacings between the columns were wider

The 2 main orders used in the Roman times were the Roman Tuscan order and the Corinthian Order

The Roman Tuscan order was similar to the Greek Doric Order except that it was taller and usually unfluted



Developments during the Imperial Period:

Brick faced concrete was the universal material used for construction

The structures were faced with stucco or marble

The vaults were of concrete with tiles laid on the undersurface flat on the timber formwork

The vaults were lightened by the creation of voids in the vaults by the insertion of Amphorae

The simple barrel vaults developed into the Groined vaults

Ribs in brickwork were added to the groins

Coffers were used in the construction for structures spanning large spaces Eg: Pantheon Dome

Buttresses were also a common feature in buildings

- **Roman houses**
- The poor lived in dilapidated cottages or rented rooms and flats in tenement houses. These narrow and high tenements were built in a quick and dirty way, and they often collapsed or became destroyed by fire.
- Storeys of such buildings stuck out toward the street.
- the poorer citizens avoid staying in their own homes and spend their time in the city, which offered a lot of entertainment to them.
- Wealthy Romans - they lived in luxury villas, surrounded by vast gardens and ponds.
- Roman houses consisted of three parts: a front one and a middle, which was covered with tiles and of a peristyle.
- There were lots of columns, flowers, pictures and a fountain in it.
- Under a peristyle there was a cellar.
- Atrium was a kind of a presentable lounge, "family life" concentrated in peristyle and nearby rooms.
- Slaves lived close to the atrium.

Domus:

the domus was the type of house occupied by the upper classes and some wealthy freedmen during the Republican and imperial eras.

these homes were generally much grander in scale and on larger acres of land due to more space outside the walled and fortified city.

The elite classes of Roman society constructed their residences with elaborate marble decorations, inlaid marble paving, floor slabs and columns as well as expensive paintings and frescoes.

the homes of the early Etruscans, predecessors of the Romans, were simple, even for the wealthy or ruling class.

They were small familiar huts constructed on the axial plan of a central hall with an open skylight.

It is believed that the temple of Vesta was, in form, copied from these early dwellings because the worship of Vesta began in individual homes.

The huts were probably made of mud and wood with thatched roofs and a centre opening for the hearth's smoke to escape.

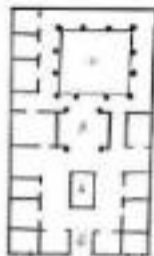
This could have been the beginnings of the atrium, which was common in later homes.

As Rome became more and more prosperous from trade and conquest, the homes of the wealthy increased in both size and luxury emulating both the Etruscan atrium house and Hellenistic peristyle house.

Many poor and lower middle class Romans lived in crowded, dirty and mostly rundown rental apartments, known as insulae.

- The **DOMUS** included:
 - multiple rooms,
 - indoor courtyards,
 - gardens and beautifully painted walls that were elaborately laid out.
- **THE VESTIBULUM** (entrance hall) led into a large central hall: the **atrium**, which was the focal point of the domus and contained a statue of an **alata** to the household gods.
- Leading off the **atrium** were **CUBICULA** (bedrooms), a dining room **triclinium** where guests could recline on couches and eat dinner whilst reclining, a **tablinum** (living room or study) and **tabernae** (shops on the outside, facing the street).
- In cities throughout the Roman Empire, wealthy homeowners lived in buildings with few exterior windows.
- Glass windows weren't really available: glass production was in its infancy.
- Thus a wealthy Roman citizen lived in a large house separated into two parts, and linked together through **THE TABLINUM** or study or by a small passageway.
- To protect the family from intruders, it would not face the streets, only its entrance providing more room for living spaces and gardens behind.





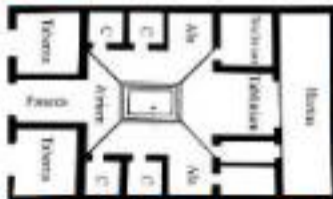
Roman Domus

A = the impluvium

B = the tablinum

C = the peristyle garden

D = the fauces or entryway



ROMAN FOCUSES-domestic architecture

LEH 3
ECME

- Roman homes were like Greek homes.
- Only two objects were present in the atrium of Caecilia in Pompeii: a small bronze box that stored precious family items and the lararium, a small shrine to the household gods, the lares.
- In the master bedroom was a small wooden bed and couch which usually consisted of some slight padding.
- As the domus developed, the tablinum took on a role similar to that of the study. In each of the other bedrooms there was usually just a bed.
- The triclinium had three couches surrounding a table.
- The triclinium often was similar in size to the master bedroom.
- The study was used as a passageway.
- If the master of the house was a banker or merchant the study often was larger because of the greater need for materials.
- Roman houses lay on an axis, so that a visitor was provided with a view through the fauces, atrium, and tablinum to the peristyle.





Interior Architectural Elements

VESTIBULUM (Fauces) The vestibulum was the main entryway hall of the Roman Domus.

It is usually only seen in grander structures, however many urban homes had shops or rental space directly off the streets with the front door between.

The vestibulum would run the length of these front Tabernae shops.

This created security by keeping the main portion of the domus off the street. In homes that did not have spaces for let in front, either rooms or a closed area would still be separated by a separate vestibulum.

ATRIUM (plural atria) The atrium was the most important part of the house, where guests and dependents (clients) were greeted.

The atrium was open in the centre, surrounded at least in part by high-ceilinged porticoes that often contained only sparse furnishings to give the effect of a large space.

In the centre was a square roof opening called the compluvium in which rainwater could come, draining inwards from the slanted tiled roof. Directly below the compluvium was the impluvium.

ROMAN HOUSE



Impluvium An impluvium was basically a drain pool, a shallow rectangular sunken portion of the Atrium to gather rainwater, which drained into an underground cistern. The impluvium was often lined with marble, and around which usually was a floor of small mosaic.

Fauces These were similar in design and function of the vestibulum but were found deeper into the domus. Separated by the length of another room, entry to a different portion of the residence was accessed by these passage way we would call halls or hallways.



- **Tablinum** Between the atrium and the peristyle, the tablinum would be constituted. Sort of office for the dominus, who would receive his clients for the morning salutatio. The dominus was able to command the house visually from this vantage point as the head of the social authority of the paterfamilias.
- **Triclinium** The Roman dining room. The area had three couches, klinei, on three sides of a low square table.
- **Alae** The open rooms on each side of the atrium. Their use is unknown.
- **Cubiculum** Bedroom. The floor mosaics of the cubiculum often marked out a rectangle where the bed should be placed.
- **Culina** The kitchen in a Roman house. It was dark and gloomy and smoke filled the room because there was no chimney. This is where slaves prepared food for their masters and guests in Roman times.
- **Posticum** A servants' entrance also used by family members wanting to leave the house unobserved.

- Exterior:
- The back part of the house was centred around the peristyle much as the front centered on the atrium. The peristylum was a small garden often surrounded by a columned passage, the model of the medieval cloister. Surrounding the peristyle were the bathrooms, kitchen and summer triclinium.
- The kitchen was usually a very small room with a small masonry counter wood-burning stove. The wealthy had a slave who worked as a cook and spent nearly all his or her time in the kitchen. During a hot summer day the family ate their meals in the summer triclinium to stave off the heat.
- Most of the light came from the compluvium and the open peristylum.
- There were no clearly defined separate spaces for slaves or for women. Slaves were ubiquitous in a Roman household and slept outside their masters' doors at night.
- women used the atrium and other spaces to work once the men had left for the forum. There was also no clear distinction between rooms meant solely for private use and public rooms, as any private room could be opened to guests at a moment's notice.



- 1. Atrium
- 2. Tablinum
- 3. Peristyle
- 4. Garden
- 5. Garden
- 6. Garden
- 7. Garden
- 8. Garden
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- 49. Garden
- 50. Garden



- a kind of apartment building that housed most of the urban citizen population of ancient Rome,
- including ordinary people of lower- or middle-class status (the *plebs*) and all but the wealthiest from the upper-middle class (the *equites*).
- The traditional elite and the very wealthy lived in *domus*, large single-family residences, but the two kinds of housing were intermingled in the city and not segregated into separate neighborhoods.
- The ground-level floor of the *insula* was used for *tabernae*, shops and businesses, with the living space upstairs.
- Like modern apartment buildings, an *insula* might have a name, usually referring to the owner of the building.



- insulae, like domus, had running water and sanitation
- They were built in timber, mud brick, and later primitive concrete, and were prone to fire and collapse
- At first insulae were usually built of wood. They were usually three or four storeys high.
- Living quarters were typically smallest in the building's uppermost floors, with the largest and most expensive apartments being located on the bottom floors. The insulae could be up to six or seven stories high, and despite height restrictions in the Imperial era, a few reached eight or nine stories
- A singleinsula could accommodate over 40 people in only 3,600 sq ft (330 m²); however, the entire structure usually had about 6 to 7 apartments, each had about 1000 sq ft





ROMAN HOUSES-INSULA domestic architecture

UNIT 3
ROME

- A Roman villa was living space during the Roman Republic and the Roman Empire
- A villa was originally a Roman country house built for the upper class.
- there were two kinds of villas:
- **the villa urbana**, which was a country seat that could easily be reached from Rome (or another city) for a night or two.
- **the Villa rustica**, the farm-house estate permanently occupied by the servants who had charge generally of the estate.
- Wealthy Romans escaped the summer heat in the hills round Rome,
- The late Roman Republic witnessed an explosion of villa construction in Italy,





ROMAN HOUSES-VILLA-domestic architecture

UNIT 3
ROME

- The Empire contained many kinds of villas, not all of them lavishly appointed with mosaic floors and frescoes.
- Some were pleasure houses
- Suburban villas on the edge of cities were also known, such as the Middle and Late Republican villas that encroached on the Campus Martius, at that time on the edge of Rome, and which can be also seen outside the city walls of Pompeii.
- It is possible that these early suburban villas were also in fact the seats of power (maybe even palaces) of regional strongmen or heads of important families (gentes).
- A third type of villa provided the organizational center of the large holdings called latifundia, that produced and exported agricultural produce; such villas might be lacking in luxuries.



RESOURCES / MATERIALS:

Etruscan:

Local stone used for defense walls, temple platforms and tombs

Mud bricks

Unfired mud brick and rammed earth which replaced wattle and daub

Fired terracotta for tiles

Timber for posts, beams and roofing members

Republic Rome & Early Imperial:

Fired bricks

Mortar – Pozzolana (Volcanic Earth), lime and sand

Marble was imported from Carrara

Tufa – a porous volcanic stone

Travertine – fine hard limestone

Peperino – volcanic

Bricks were tile shaped known as **Bipedales** these were 2' square and 2" thick

Later Rome:

Dressed stone was used in E & N Africa

Fired bricks for the walls and vaults

Mortar – Italian Pozzolana

The skills and the construction were available in provinces due to the movement of architects and highly skilled craftsmen Eg. Apollodorus of Damascus.

TECHNIQUES USED IN CONSTRUCTION:

Etruscan and Early Roman:

Local materials were used for the primitive buildings

Techniques were adopted from the Greeks in 7th c. BC

Timber was mainly used for the columns, spanning openings, framing walls and the roofs

Tiles and terracotta used for the facing

Tufa – cut into square blocks and used for Ashlar Masonry known as “Opus Quadratum”

Hard limestone was used for undressed polygonal rubble for defense walls

No mortar was used in Ashlar or polygonal work

The joints were packed with earth and smaller stones

Mortar was lime and sand from Greek influence in 3rd c. BC

Later Republican Rome and Early Imperial:

the most important development was the **Stone Voussoir Arch**

these were significant in contributing to the development of the **arch** and the **barrel vault**

the vault was supported on **free standing Piers** which affected the construction of the **Bridges and the Aqueducts**

this demanded the **arched spans on low broad piers**

Semicircular Arches with timber centering was used

3 important developments were:

Cut stone replaced timber, rubble and mud brick with fastening of blocks with Bronze and Iron clamps

Mortars

Fired Bricks of tile proportions replaced unfired bricks

Pozzolana replaced lime-sand mortar forming Monolithic Masses

ROMAN WALLING SYSTEM:

Early wall facings were of stone either in rubble or the polygonal masonry. These were formed with the use of smaller pieces of stone about 4" across. There are 3 main walling systems used in the Roman period.

OPUS INCERTUM:

These stones were dressed only on the outside face giving the wall the appearance of rough small scale polygonal work.

OPUS RETICULATUM:

Use of similarly sized pieces of soft Tufa dressed on the outer surface and cut Pyramidal to fall back into the concrete behind to obtain a good key.

They create a net like pattern on the surface.

Here the larger blocks of the square stone were set giving greater strength to the vertical angle.

OPUS TESTACEUM & OPUS MIXTUM:

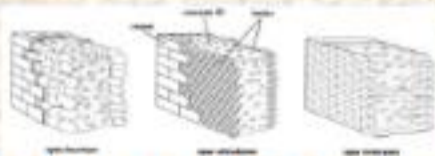
Fired brick substitute reticulate tufa or combinations using brick at the corners in the place of stone quoins.

The bricks were cut into triangular forms falling back into the concrete to give a good key.

At intervals in the height of the wall, full bricks were also laid to the full thickness of the walls for stability between the bonding surfaces until the mortar hardened.

The strength of the walls depended on the concrete core only.

The walls were finished with stucco or marble on both the surfaces.



BUILDING TYPOLOGIES:

- Sanctuaries, Temples
- Forums, Basilicas & related structure
- Balneae & thermae
- Theatres, Amphitheatres and circuses
- Triumphal arches
- Town gates, Houses & villas
- Tombs
- Aqueducts and bridges
- Public baths and places of entertainment

MATERIALS:

- Local travertine and tufa
- Import of foreign marble
- Growing mastery of concrete

CHARACTER:

Introduction of new proportions due to new materials

- Adoption of the classical Greek orders –
Corinthian

Arches, vaults and domes

- Stone voussoir arches used in utilitarian buildings
- Appeared as a sequence of barrel vaulted bays
- Dome used chiefly over the Frigidarium of baths



Basilica at pompeii



Temple buildings:

- High podium approached by flight of steps
- Simple rectangular cellas, columned porticoes
- Timber roof or suspended coffered ceiling
- Use of stone for columns and architraves
- Placed in the city Forum
- Axial planning

Eg. Temples of Fortuna Primigenia at Palestrina

- Temple of Hercules Victor at Tivoli

Basilicas

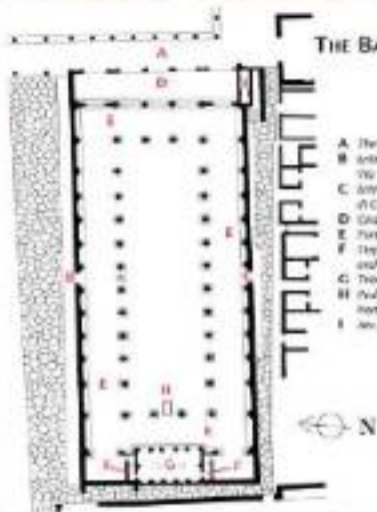
- 1st large scale building where interior dominated exterior
- Small enclosed forum surrounded by colonnades or stoas
- The central space had a trussed timber roof
- Open at the sides to lower side
- Clerestory lighting
- Hall of justice hence had an apse on one side
- Eg. Basilica at Pompeii

Houses:

- Atrium present
- Blank street façade
- 2 storied
- Garden surrounded by columns opening into private rooms
- Portico villas

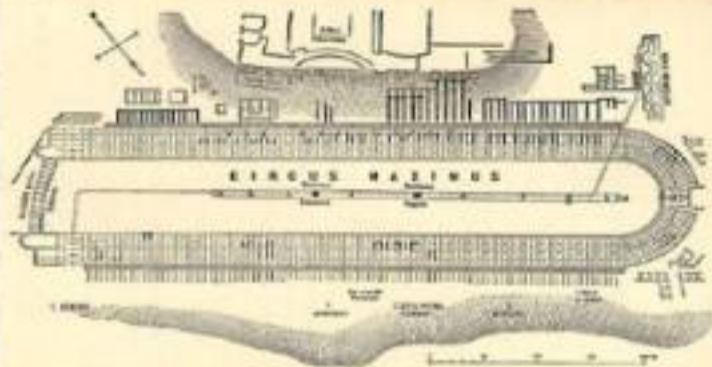


THE BASILICA



- A The five aisles
- B Entrance from Via Marzia
- C Ambulatory/area just in Colonnade
- D Choir/Chancel
- E Nave
- F Steps to ambulatory
- G Transept
- H Platform for baptistry column
- I Apse and wall





The **CIRCUS** is the term given to a **stadium** or a **large open arena** in Rome used predominantly for **chariot racing**

The Circus Maximus was the oldest circus in the city which underwent a series of changes, enlargements, modifications and embellishments

Location:

Lies in the valley between the Palatine and the Aventine hills

Architectural character

UNIT 3
ROME

Components:

- Marked track
- Low central wall **SPINA** around which the chariots were raced
- Starting gates **CARCIRES**
- Wooden seats initially
- Cone shaped columns at the ends of the **Spina** to mark the turning points
- The plan of the Circus Maximus underwent a series of changes to its final plan by the end of the 1st cent. BC

Details:

- 600m x 200m
- Restored by 4th cent. AD to its final form
- 3 tiers of seating
- 12 Carcires
- Each race consisted of 7 laps
- 5.0 km. Distance
- Wax relief gives a good idea of a racing quadriga
- Normally had 4 chariots in a race together





Entrance arch



Reconstruction of seating



CIRCUS MAXIMUS - 1ST C. BC

**URB D
ECOME**



Reconstructed painting of a Chariot race

CIRCUS MAXIMUS-1ST C. BC

**UNIT 3
ROME**

The Circus Maximus is

FORM:

- **Rectangular** with an **apsidal end**.

ENTRANCE:

- The main entrance was through an **entrance arch** in the corner of the **apsidal end**
- The entrance arch has 3 arches, the central one being higher than the arches in the sides

CARCERE:

- The **carceres** are on the opposite side of the **apsidal end**

SEATING:

- The **seating** in the circus were in 3 tiers with a separate **pavilion** for the aristocrats and the Emperor
- The space beneath the seating was used for commercial purpose in the form of shops and other services in the **circumferential passageway**- a typical detail in all theatres in Rome

EXTERIORS:

- The exterior of the circus is in 3 tiers
- The lower tier consists of **arcades**
- The upper tiers contain **square openings** alternating with blank walls decorated with **pilasters**
- The topmost tier inside has a **continuous row of colonnade**



End showing the Carceres



The name **amphitheatre** is given to a public building of the Classical period (being particularly associated with ancient Rome), which was used for **spectator sports, games and displays**.

DIFFERENCES – THEATRE & AMPHITHEATRE

Apart from function, the important outward distinction between an amphitheatre and a theatre is that an **amphitheatre is round or oval in shape** (whereas a theatre is semi-circular).

DIFFERENCES – AMPHITHEATRE & CIRCUS

However, an **amphitheatre differs from a circus**, which was used for racing and looked more like a very long, narrow horseshoe.

The best-known amphitheatre in the world is the Roman Colosseum, which is more correctly termed the Flavian amphitheatre, after the Flavian dynasty who had it built.

An amphitheatre in a community became a prized symbol of Roman citizenship in the outlying areas of Italy.



ROMAN THEATRE



ROMAN AMPHITHEATRE

The Colosseum or Flavian Amphitheater was
•began by Vespasian, inaugurated by Titus in 80 A.D. and completed by Domitian.

- The first permanent amphitheater to be built in Rome.
- Built over a *great artificial lake which was part of Nero's palace*

Practical and Efficient Organization for producing spectacles and controlling the large crowds make it one of the great architectural monuments achieved by the ancient Romans.



- Designed to seat 50,000
- Used system of radial ramps and stairs giving access to circumferential passageways
- Structural system:
 - Vaults spanning between the radial and circumferential dividing walls supported the many tiers of seating as well as the ramps and passageways

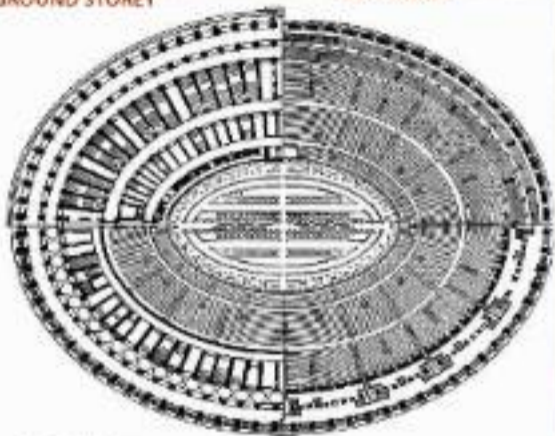


COLLOSEUM-ROME (70-80 C.)

**UNIT 3
ROME**

GROUND STOREY

TOP STOREY



PLANNING

- The amphitheater is a vast ellipse with tiers of seating for 50,000 spectators around a central elliptical arena.
- Plan is 188m x 156m
- The wooden arena floor was 88m x 54m, and covered by sand.
- 80 walls radiate from the arena and support vaults for passageways, stairways and the tiers of seats.
- At the outer edge circumferential arcades link each level and the stairways between levels
- there are close to 80 separate entrances around the circumference

IONIC STOREY

CORINTHIAN STOREY

COLLOSEUM - ROME (70-80 C.)

UNIT 3
ROME

PLANNING:

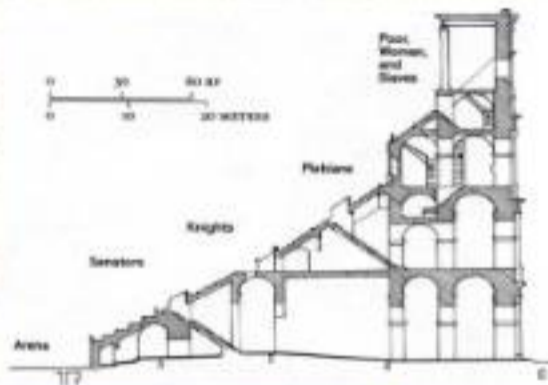
- Seating (cavea) was divided into different sections.

Hierarchy in seating:

- PODIUM** – the first level of seating, was for the Roman senators; the emperor's private, cushioned, marble box was also located on this level.

- Above the podium was the **Maenium Primum**, for the other Roman aristocrats who were not in the senate.

- The third level, the **Maenium Secundum**, was divided into three sections.



- Lower part (the **immaum**) – wealthy citizens.

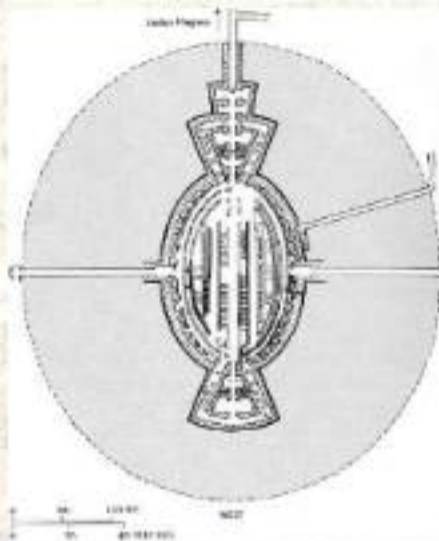
- Upper part (the **summaum**) was for poor citizens.

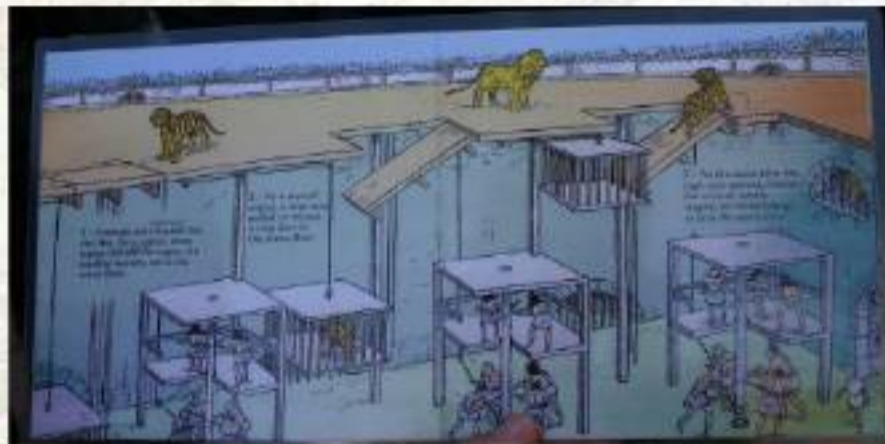
- A third, wooden section (the **maenium secundum in lignis**) was a wooden structure at the very top of the building, added by Domitian.

- It was standing room only, and was for lower-class women.

Additions:

- After the Colosseum's first two years in operation, Emperor Domitian ordered the construction of the **hypogeum** (literally meaning "underground").
- A 2 level subterranean network of tunnels and cages where **gladiators and animals were held** before contests began.
- Numerous trap doors in the floor provided instant access to the arena for caged animals and scenery pieces concealed underneath.
- Larger hinged platforms, called **hormata**, provided access for elephants and the like.
- Today the arena floor no longer exists, though the hypogeum walls and corridors are clearly visible in the mass of the structure.
- The entire base of the Colosseum covers an area equivalent to **6 acres**.
- There are also tunnels, still in existence, configured to flood and evacuate water from the Colosseum floor, so that **naval battles** could be staged prior to the hypogeum's construction.





COLLOSEUM-ROME (70-80 C.)

UNIT 3
ROME

Cooling system:

Another innovative feature of the Colosseum was its cooling system, known as the **velarium**,

- which consisted of a **canvas-covered, net-like structure made of ropes, with a hole in the center.**
- This roof covered **two-thirds of the arena**, and sloped down towards the center to catch the wind and provide a breeze for the audience.
- Sailors, standing on special platforms, manipulated the ropes on command.
- At the top brackets and sockets carry the masts from which the **velarium, a canopy for shade, by suspension**

PASSAGEWAYS:

The Colosseum incorporated a number of **vomitaria** - passageways that open into a tier of seats from below or behind.

The vomitaria were designed so that the immense venue could fill in 15 minutes, and be evacuated in as little as 5 minutes.

Each entrance and exit was numbered, as was each staircase.



Exterior detailing:

- The 3 tiers of outer arcades are tripled at the first 2 levels, carrying the vault to create the double ambulatoria at the 3 levels.
- There is a direct access to the 1st 2 tiers of seating for those of equestrian rank and other Roman citizens.
- Flights of stairs from the top ambulatoria give access to the 3rd tier which is separated from the others by a high enclosing wall in place of the innermost arcade.
- The three tiers of arcades are faced by three-quarter columns and entablatures.

Doric in the first storey,

Ionic in the second

Corinthian in the third.

- above them is an attic story with Corinthian pilasters and small square window openings in alternate bays for lighting as it was set within a portico.
- In the other bays there were large bronze shields in place of windows.



The facade of three tiers of arches and an attic story is about **48.5 m (159 ft)** tall – roughly equivalent to a **13-15 story building**.

CONSTRUCTION:

The organization was possible due to the roman's type of construction

The construction utilized a careful combination of types:

Concrete:

for the 12m deep foundations,

Traevertine for the piers and arcades,

Tufa (rubble) between piers for the walls of the lower two levels, and

Brick-faced concrete used for the upper levels and for most of the vaults.





COLLOSEUM-ROME (70-80 C.)

**UNIT 3
ROME**



COLLOSEUM-ROME (70-80 C.)

**UNIT 3
ROME**



COLLOSEUM-ROME (70-80 C.)



The Pantheon is a building in Rome which was originally built as a temple to the seven deities of the seven planets in the Roman state religion, but which has been a Christian church since the 7th century. It is the best preserved of all Roman buildings and the oldest important building in the world with its original roof intact. It has been in continuous use throughout its history.

The most important temple in terms of technical achievement and influence
Its most notable feature being the **Dome** with a span of 43.2m was unchallenged until 1420-36 when Brunelleschi vaulted the Florence Cathedral

The Original Pantheon was a rectangular temple built by Marcus Vipsanius Agrippa, son-in-law of Augustus, the first Roman emperor, as part of a district renewal plan in 27-25 BC.

Hadrian (117-138) rebuilt the structure; maker's stamps in the bricks allow us to peg his restoration between 118 and 125 AD.

Still, the inscription on the architrave attributes the construction to Agrippa during his third consulship. The inscription reads *M-AGRIPPA-L-F-COS-TERTIUM-FECIT*, "Marcus Agrippa, son of Lucius, consul for the third time, built this."

The portico in front of the Pantheon is what remains of Agrippa's original temple.

The Pantheon contains the tombs of Rafael and of several Italian Kings.

Pantheon is a Greek word meaning "to honor all Gods."

PANTHEON DOME: 118-126 CE

(LATE IMPERIAL- 96 – 476 CE)

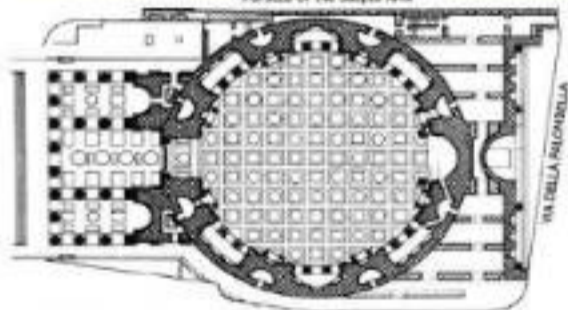
UNIT 5

ROME

PLANNING:

The building is circular with a portico of three ranks of huge granite Corinthian columns (eight in the first rank and two groups of four behind) under a pediment opening into the rotunda, under a coffered, concrete dome, with a central opening (oculus), the Great Eye, open to the sky.

Portico of the Septa Julia



Its monumental porch originally faced a rectangular colonnaded temple courtyard and now affronts the smaller Piazza della Rotonda.

The portico leads into the rotunda but there is no other relationship between them

Through great bronze doors, one enters one great circular room.

The interior volume is a cylinder above which rises the hemispherical dome.

PORTICO

The **portico** consists of 2 rows of 8 columns, 14 m (46 feet) high of tuff and granite with Corinthian capitals. They support an **entablature** facing the square, which bears the famous inscription in Latin, attributing the construction to Agrippa.

Opposite the door is a recessed **semicircular apse**, and on each side are **three additional recesses**, alternately **rectangular and semicircular**, separated from the space under the dome by **paired monolithic columns**.

The columns are **unfluted monolithic columns**. The columns are 14m high and 1.5m dia. at the base to 1.2m dia. at the top.

Corinthian capitals of white **Portofino marble**. The **pediment** may have had a bronze eagle relief affixed to it.

On the rear wall on either side of the entrance to the rotunda are 2 **decuriones**, which held the statues of **Augustus and Agrippa**.

The roof is no longer the original one.



EXTERIOR:

- The walls of the rotunda rise through **5 storeys**
- Constructed of brick faced concrete, stone corbices, ring of brick relieving arches
- Originally all the brickwork would have been faced with marble and stucco
- The dome has a shallow stepped profile
- The **only natural light** enters through an **unglazed oculus** at the center of the dome and through the **bronze doors** to the portico.
- As the sun moves, striking patterns of light illuminate the walls and floors of gneiss, granite and yellow marbles.



The Pantheon, Rome, Front Corridor



The Pantheon, Rome, Side View

INTERIORS:

Geometrically it is a large sphere with the dome taking one half and the cylindrical drum the other.

The exterior is divided into 3 tiers while the interior is divided into 2 tiers.

The planning in the interior is as follows:

Lower story:

- The peristyle has 8 recesses around the circumference
- The principal axis has an apsidal end for the main altar
- There are 2 rectangular and 1 semicircular niche on either side of the main axis
- These niches are divided from the main space by means of 2 monolithic columns
- The columns are of marble and fluted
- Corinthian capitals carry the entablature marking the division between floors.



VIA DELLA MURINA



UPPER STOREY:

- The dome has a span of 42.2 m (142 feet), the largest dome until Brunelleschi's dome at the Florence Cathedral of 1420-36.
- The interior of the roof is intended to symbolize the heavens.
- The **Great Eye**, 8.7m across, at the dome's apex is the source of all light and is symbolic of the sun.
- Its original circular bronze canopy remains in position.
- The interior features concave panels (**coffers**), which originally contained bronze star ornaments. This coffering was not only decorative, however but reduced the weight of the roof, as did the elimination of the apex by means of the Great Eye.
- 6 rows of 28 square coffers of diminishing size radiate from the central unglazed oculus with a diameter of 8.7 m (29 feet) at the top of the dome.
- The coffers had large gilded bronze rosettes in the center.





The floor of the Pantheon is concave towards the center and has a total of 20 drains on the floor



DANTHON ROME

URBES
ROMAE



DANTHON ROME

LIBRO
R.OME



DANTE ON ROME

LIBRO
TOME



PANTHEON ROME

**URBES
ROME**

Construction technology

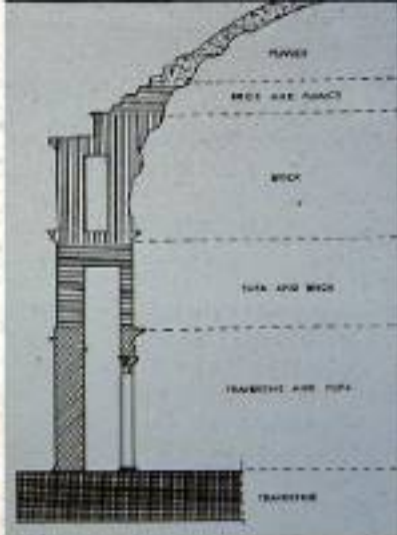
- The dome is constructed of stepped rings of cold concrete with less and less density as lighter aggregate (pumice) is used, diminishing in thickness to about 1.2 m (4 feet) at the edge of the oculus.

- The dome rests on a cylinder of masonry walls 6 m (20 feet).

- Hidden voids and the interior recesses follow out the construction, so that

- It works less as a solid mass and more like three continuous arcades which correspond to the three tiers of relieving arches visible on the building exterior.

- Originally, these exterior walls were faced with colored marbles.





The complex must have been staggering both in size and costliness: it originally accommodated some **1,600 bathers** and

Other activities such as sports and theatricals.

The underground vaulted facilities for servicing the **caldarium** (hot baths) and **tepidarium** (lukewarm baths) were incredibly complex.

In some ruins today, the bath remains impressive, especially on summer evenings, when it is used for staging opera.

The **THERMAE OF CARACALLA** gives the best idea of a fully developed Imperial Bath.

The main block measures **225m x 115m** without the projecting mass of the **caldarium**.

The entire block is arranged in the sequence of bathing:

On the main axis of the block were the:

- **Natatio** or the open swimming bath
- Cold pool or **Frigidarium**
- **Tepidarium**
- Domed circular **Caldarium**

Layout:

- The plan is totally **symmetrical** about a principal axis
- Compact arrangement of all the parts of the bath in a single block
- The entire block is set in a large landscaped park surrounded by Shops & Pavilions, Services
- The main block measures **225m x 115m** without the projecting mass of the **caldarium**
- The entire block is arranged in the sequence of bathing
- On the main axis of the block were the:

Apodyteria – dressing room

Notatio or the open swimming bath: a place for swimming

Frigidarium or cold pool

Tepidarium

Caldarium

Palaestra – gymnasium

Sudatorium – sweating room

The **Thermae** were like a modern leisure center: there were

Gardens surrounding the main building where people could walk and meet their friends.

Libraries, multi-purpose halls and a small outdoor **stadium** (which used the steps up to the colonnades as a stand).

- Around the perimeter of the site were rooms used as **shops, bars or brothels**: renting these out probably helped to cover costs, as entry free to the baths was free.
- The building was sumptuously decorated with **statues and mosaics**, but unfortunately only a few fragments are still in place.

Details:

- The bath stood on a platform 90' high
underneath were

- Storehouses
- carriders
- Furnace
- Hot air ducts

- The colonnade on the entrance side screened
the 2 series of baths

- There was a **public park - KYSTUS**

- Rooms for wrestling and games

- Halls for lectures and drama

- Stadium

- The water was supplied from the **Marcian aqueduct**

- The central hall- 100' x 80'

- Roof rested on 8 tiers of massive granite
columns

- Lit by windows in the **clere-story** below the
vaults





Thermae of caracalla-212-216 ce

**UNIT 3
ROME**

Frigidarium:

- Cold water bath
- Formed a retreat in summer
- Lighting was through fenestrated gabled vaults
- Lavishly decorated rooms
- Alabaster vaults
- Mosaic floors of black and white
- Polychrome marble for walls
- Colossal statuary



Tepidarium:

- Warm room
- Warmed by wall flues
- Stopped with 2 columns supporting the roof



Caldarium:

- Hot room
- Conical roof
- Lit by large windows in its drum
- Translucent windows
- Walls had flues to heat the apartment

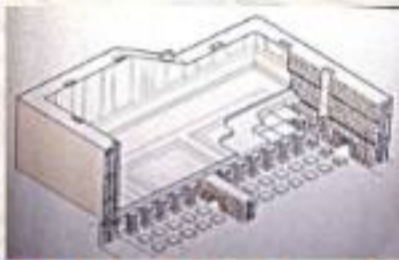
Palaestra:

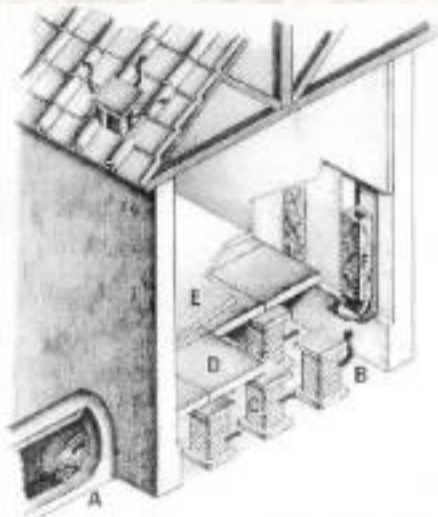
- Physical exercise room
- Open peristyle
- Separate room for athletes to bathe
- The other rooms opened off to each side (duplicating one another)
- 2 exercise yards on the 2 extremes
- Large expanses of wall with small window openings.
- The rooms on either side of the Caldarium had a view towards the gardens



Hypocaust system:

- Inside the main building a complicated distribution system carried the water directly to the cold pools or to **boilers over wood fires** where it was heated for the warm and hot baths.
- Outlets from each basin and in the floor of each room led to the drains, which ran below the level of the distribution pipes and took the waste water to the municipal drain to the valley.
- Both distribution and drainage pipes were housed in tunnels providing easy access for inspection and maintenance.
- A third network of tunnels was used to store the enormous amounts of wood required to fuel the furnaces (**praefurnia**): there were at least fifty of these, some to heat the water and others to heat the rooms by a hot air system beneath the floor (**hypocausta**).
- The heated rooms were on the southwestern side of the building. The hottest room of all, the **calidarium**, projected beyond the line of the building to take full advantage of the sun's rays. Hollow terracotta tubes ran inside the walls to provide insulation and channel hot air.





Fragment of a mosaic tile from the Roman bathhouse at Caracalla, Rome. The letters 'PXTX' are inscribed in the center of the tile.

- | | |
|---------------------------|------------------|
| A Hot room | D Hot water tank |
| B Hot water tap | E Hot water pipe |
| C Furnace of the hot room | F Hot water pipe |



The **Roman Forum** (Forum Romanum) was the political and economical centre of **ROME** during the Republic.

It emerged as such in the **7th century BCE** and maintained this position well into the Imperial period, when it was reduced to a monumental area. It was mostly abandoned at the end of the 4th century.

The Forum Romanum is located in a valley between the Capitoline Hill on the west, the Palatine Hill on the south, the Velia on the east and Quirinal Hill and the Esquiline Hill to the north.

The importance of the Forum area is indicated by the presence of many of the **central political, religious and judicial buildings in Rome.**

The **Regia** was the residence of the kings, and later of the **rex sacrorum** and **pontifex maximus**.

The **Curia**, was the meeting place of the Senate; and the **Comitium** and the **Rostra**, where public meetings were held.

Major temples and sanctuaries in the Forum include the **Temple of Castor and Pollux**, the **Temple of Saturn** and the **Temple of Vesta**. Commercial and judicial activities took place in the basilicas, the two remaining are the **Basilica Aemilia** and the **Basilica Julia**. Due to the political importance of the area there were also numerous honorary monuments.



VIEW FROM THE TABULARIUM (WEST)



VIEW FROM THE SOUTH

- In republican times the construction on the Forum continued, with a series of basilicas, notably the **Basilica Sempronia** and the **Basilica Aemilia**. Also from this period are the **Temple of Saturn**, the **Temple of Castor and Pollux** and the **Temple of Concord**.
- The current image of the Forum Romanum is a result of the changes made by **Julius Caesar** as dictator, which included the construction of the **Basilica Julia** where the **Basilica Sempronia** stood, the building of a new **Curia** and the renovation of the **Rostra**, the speakers platform.
- Most was finished by his successor **Augustus**, including the **Temple of Mars Ultor**.
- In imperial times the importance of the Forum as a political centre diminished, but it remained a **centre of commerce and religious life**. Construction and restoration continued, but now mostly in the form of **honorary monuments**, such as the **Arch of Augustus**, the **Arch of Titus** and the **Arch of Septimius Severus**. Other arches, such as the **Arch of Tiberius**, have disappeared completely.
- New religious buildings included the **Temple of Antoninus and Faustina** and the **Temple of Vespasian and Titus**. The **Basilica of Maxentius** from the 4th century is one of the last major additions to the Forum.
- The **Column of Phocas** was the last monument to be erected in the Forum in 602 CE, but at this time the area was already half in ruins.



FORUM ROMANUM



1. Via Sacra
2. Lapis Niger (Near ROSTRA)
3. Curia
4. Basilica Aemilia
5. Temple of Antoninus and Faustina
6. Arch of Titus
7. Regia
8. House of the Vestals
9. Temple of Vesta
10. Temple of Julius Caesar
11. Temple of Castor and Pollux
12. Basilica Julia
13. Temple of Saturn
14. Tabularium
15. The Temple of Vespasian
16. Temple of Concordia
17. Lacus Curtius
18. Rostra
19. Miliarium Aureum
20. Arch of Septimius Severus
21. Carcer





The **Via Sacra**, the Sacred Road, connected some of the most important religious sites in the Forum Romanum, stretching from the summit of the Capitoline Hill to the area of the Colosseum.

The **Curia** was the normal meeting place of the Senate and the **Curia Julia** (Curia Julia) was the third meeting hall for the senate in the Forum Romanum. The Curia Julia is located on the main square of the Forum Romanum, on the ancient Comitium, between the Arch of Septimius Severus and the Basilica Aemilia.

The first Curia was called the Curia Hostilia, which was placed under the present Church of Ss. Luca e Martina. It was later reconstructed and enlarged in 80 BCE by Sulla, as the Curia Cornelia, only to be burned down during civil unrest in 52 BC.





The **Regia** was originally the residence of the kings of Rome, and later the office of the pontifex maximus



The **Rostra** is the name of the great speaker's platform in the Forum, from which speakers addressed crowds, and from this platform many of the great and famous speeches in Roman history were delivered

The speaker's platform was originally placed on the Comitium, but moved to the main square of the forum by Julius Caesar in 44 BC





The **Tabularium** occupied the space between the temple of Jupiter on one side of the Capitoline Hill and the steps which led up past the Carcer to the Arx on the other

erected by Quintus Lutatius Catulus in 78 B.C. The building was used as a place to store the state archives, such as deeds, laws, treaties, and decrees of the Senate. This would be where one would have seen the senatus consultum or the text of the Manilian Law.

The temple erected in honor of Castor and Pollux, the twin sons of Jupiter

The **Temple of Castor and Pollux**

(Templum Castorum or Aedes Castoria) introduced the Greek cult of the dioscouri into Rome. In its very heart, the Forum Romanum, where it is located between Basilica Julia across the Vicus Tuscus, the Temple of Divus Julius, the Arch of Augustus and the Temple of Vesta.





The Temple of Concord (Templum Concordiae) celebrates the concept of concord in general, and the concord achieved in 267 BCE between the Patricians and the Plebeians in particular.



The Temple of Saturn (Templum Saturni or Aedes Saturnae) is the oldest temple in the Forum Romanum, consecrated for the first time in c. 498 BCE. In front of the podium, under the now collapsed stairway, were two towers, one of which served as the **Aerarium**, the State Treasury.

The Temple of Vesta, at the eastern end of the Forum, like the Regia, was said to have been built by the king Numa, who legend portrays established the sisterhood known as the Vestal Virgins.



Forum Romanum



The **Basilica Aemilia**, or the **Basilica Fulvia-Aemilia**, is largest—and the only surviving—of the basilicas of the Roman Republic. It is located on the NE side of the main square of the **Forum Romanum**, between the **Curia Julia** and the **Temple of Antoninus and Faustina**.

The Basilica Aemilia was first built in 179 BCE in the years between 22 BCE and 54 BCE, which incorporated into the building the series of shops, the **tabernae aevae**, that stood in front of the basilica.



The **Basilica Julia** in 54 B.C. Julius Caesar began building the Basilica Julia on the site of the old **Basilica Sempronius**. It was dedicated by Julius Caesar in 46 B.C.



The Temple of Antoninus and Faustina (Templum Divi Antonini et Divae Faustinae) was built by the emperor Antoninus Pius shortly after the death of his beloved wife Faustina (the Elder) in 143 CE.



The Temple of Vespasian and Titus (Templum Vespasiani et Tituli) was built after the death of Vespasian in 79 CE, and dedicated to both Vespasian and Titus after the death of the latter just two years after.

The Temple of Caesar (Aedem Divi Iulii or Templum Divi Iuli) was built by Augustus after the senate deified Julius Caesar after his death.



The **Basilica of Maxentius** (Basilica Maxentii) or the **Basilica of Constantine** (Basilica Constantini) was the last of the great civilian basilicas on the Roman Forum. The ruins of the basilica is located between the temple of Atrius and Roma and the temple of Romulus, on the Via Sacra.

The **Arch of Augustus** (Atrius Augusti) was dedicated to Augustus in 29 BCE to celebrate his victory over Marcus Antonius and Cleopatra at Actium in 31 BCE. The arch is spanning the road between the Temple of Castor and Pollux and the Temple of Caesar, near the Temple of Vesta.

The **Column of Phocas** is located on the main square of the Forum Romanum, in front of the Rostra. It is a honorary column dedicated to the Byzantine emperor Phocas, erected in 608 BCE. The Corinthian column is 12.6m high and placed on a stepped abacus. Originally it had a gilded bronze statue of emperor Phocas. The column remained visible even when the Forum was covered by 3-km of dirt.



•The **Arch of Titus** (Arco Tiv) is a triumphal arch that commemorates the victory of the emperors Vespasian and Titus in Judea in 70 CE, which led to the conquest of Jerusalem and the destruction of the Jewish temple there, and the triumphal procession the two held in Rome in 71 CE. It is situated at the E. entrance to the Forum Romanum, on the Via Sacra, south of the Temple of Anton and Roma, close to the Colosseum.

•The arch was definitely created sometime after the **death of Titus in 81 CE**.

•The **Arch of Titus** is a single arch, measuring

•15.4m in height, 13.5m in width and 4.75m in depth,

•originally constructed entirely in Pentelic marble.

•with four semi-columns on each side.

•The external decorations include figures of Victoria with trophies on the spandrels and images of Roma and the genius of Rome on the two keystones.



The **Arch of Septimius Severus** (Arcus Septimii Severi) is a triumphal arch, erected in 203 CE to celebrate the victories of emperor **Septimius Severus** and his sons **Carausius** and **Geta** in the wars against the Parthians and the Carpi in 195 CE and 197 CE.

- The Arch of Septimius Severus is a **three way triumphal arch**, measuring 26.88m in height, 22.27m in width and 11.2m in depth.

- It is built in brick and travertine, clad with marble slabs.

- The attic is 5 dm high, with four chambers inside.

- The central arch is the larger, measuring 12m in height and 7m in width. It was passed by a elevated road, at a slightly higher level than the present.

- The lateral arches are smaller, 7.8m high and 3m wide, and raised a few steps. The central and the lateral arches are connected by passages with coffered ceilings.

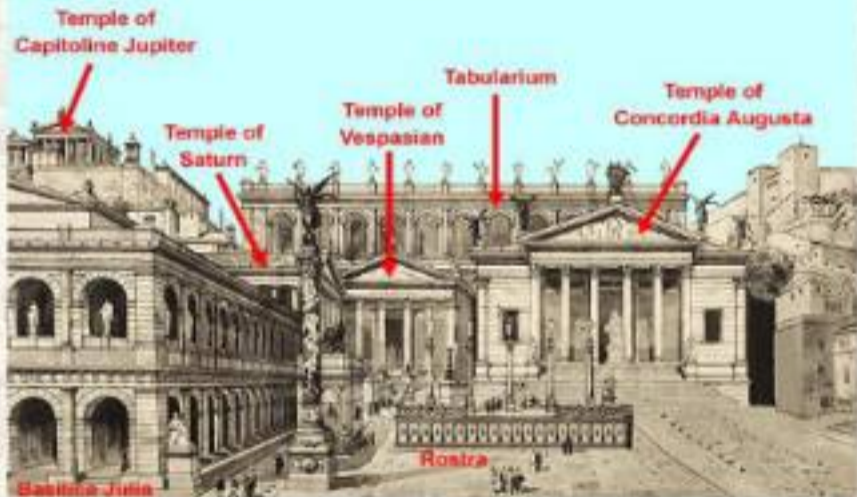
- There are four detached fluted columns of the Composite order on both sides of the arch, standing on tall pilastrs. These columns are 8.78m high and 0.9m in diameter.





Ferum romanum

URBIS
ROMAE





Key

- | | |
|-----------------------------------|---------------------------------------|
| 1 Regia (Royal Palace) | 14 Park (North angle Temple of Mars) |
| 2-3 Temple of Saturn | 15 Site of main hall (Temple of Mars) |
| 4 Stairs of Temple of Saturn | 16 Hall of Justice Hall |
| 5 Vestibule of Temple of Saturn | 17 New Building |
| 6 House of the Kings of Etruria | 18 St. Peter's Basilica |
| 7 Hall of central justice | 19 Temple of Deus Solvuntis |
| 8 Temple of Mars Ultor | 20 New excavations (1994-5) |
| 9-10 Staircase of Augustus' Forum | 21 Temple House |
| 11 Vestibule of Augustus | 22 St. Peter's Basilica |
| 12 Temple of Mars Ultor | 23 Sector (Marcellus' House) |
| 13 Via Sacra | |