

# ANCIENT EGYPTIAN ARCHITECTURE

LECTURE 2



# MODULE OUTLINE

- Historical Background
- Location and period
- Social characteristics and beliefs
- Architecture of the Civilization

Early Kingdom Tombs

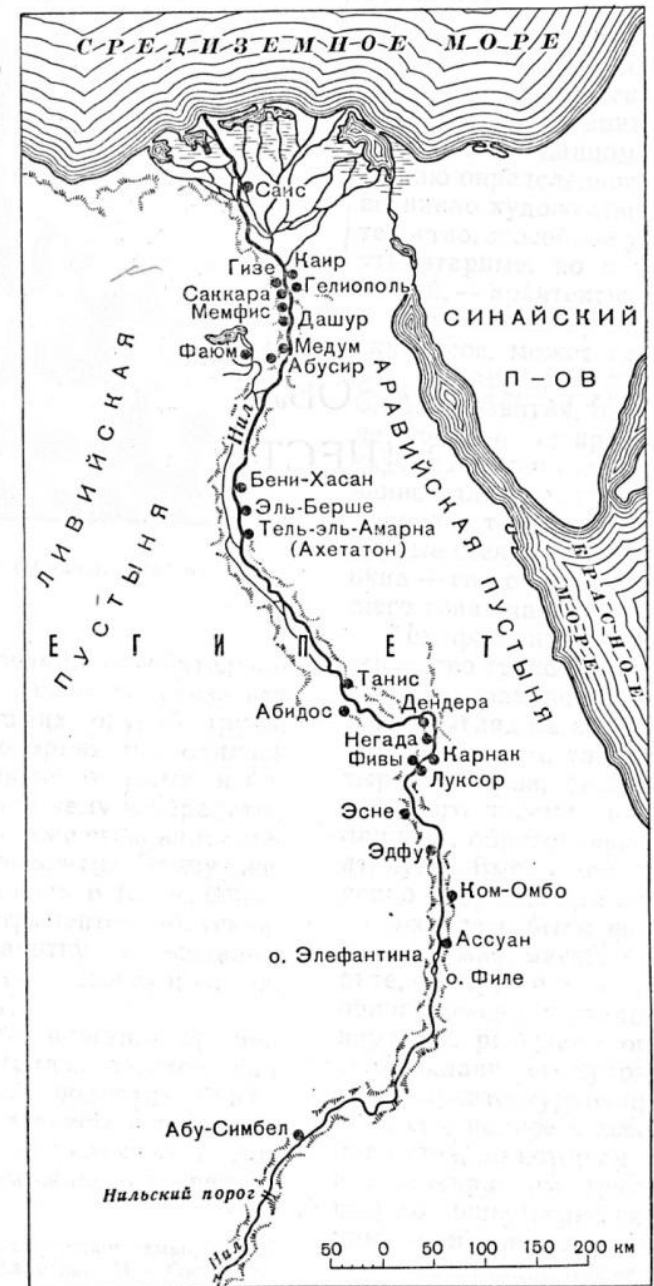
Middle and New Kingdom Burial Chambers

# LEARNING OUTCOMES

- The influence of geographical location on social life and architecture
- Architecture as a store of social history – Architecture of pyramids, tombs and temples – Evolution of architectural elements of **column**, **beam**, **obelisk**, wall relief and **clerestory** lighting
- Architectural principles emphasizing **mass** rather than **space** and **linearity** and **axiality** as organizing principles

# LOCATION

- Located in Africa on the northern edge of the Sahara
- The Nile bisects through the land from the south to the north
- The Nile is a seasonal river that overflows its bank yearly to create a fertile valley
- The Ancient Egyptians lived in the fertile valley and grew their crops
- They buried their dead in the desert



Карта Древнего Египта,  
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# PERIOD

- The history of ancient Egypt is divided into periods based on ruling dynasties
- **Seven periods** can be identified;
- 4500 to 2000 BC      Early Dynastic
- 2350 – 2200 BC      Old Kingdom
- 2000- 1600 BC      First Intermediate period
- 1600 – 1717 BC      Middle Kingdom
- 1350 – 612 BC      Second Intermediate Period
- 612 – 539 BC      New Kingdom
- 539 – 330 BC      Greek-Roman Period

# ARCHITECTURAL IDEAS

- Ancient Egyptians viewed earthly **dwelling**s as **temporary**
- They paid little attention to house construction
- The **tomb** was seen as a permanent dwelling for the afterlife
- Tremendous effort was exerted in tomb construction
- The mummified dead body was buried in a stone box called **sarcophagus** in the tomb

# ARCHITECTURAL IDEAS

- They believed that a dead person needs all his worldly goods
- The tomb was usually packed with all the treasures of a dead person
- If anything cannot be provided, **it is painted on the walls of the tomb**



Example of an ancient Egyptian Tomb

Source: unknown



# NECROPOLIS

- Tombs also have charms to protect the dead person & his property
- The dead were buried in cities of the dead, called **Necropolis** located in the desert



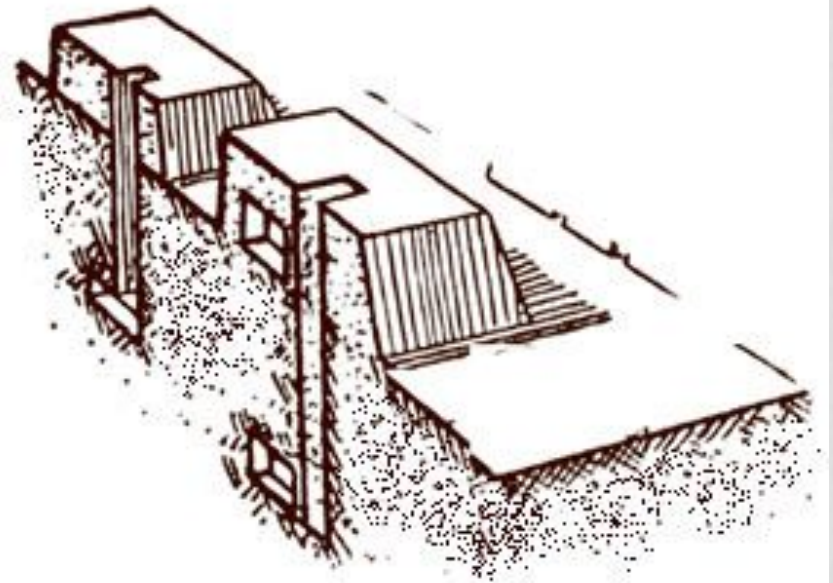


# BURIAL ARCHITECTURE

- **Tombs** were most outstanding architectural element of the period
- Tombs also serve as the focus for the worship of the dead
- a bench-like structure over graves to create first burial structure is called **Mastaba**
- The Tomb evolved during the old kingdom from the **Mastaba**, through the stepped pyramid to the renown ancient Egyptian pyramid
- Above ground the **Mastaba** is a large bench of sun-baked bricks rising 9 meters high

# MASTABA

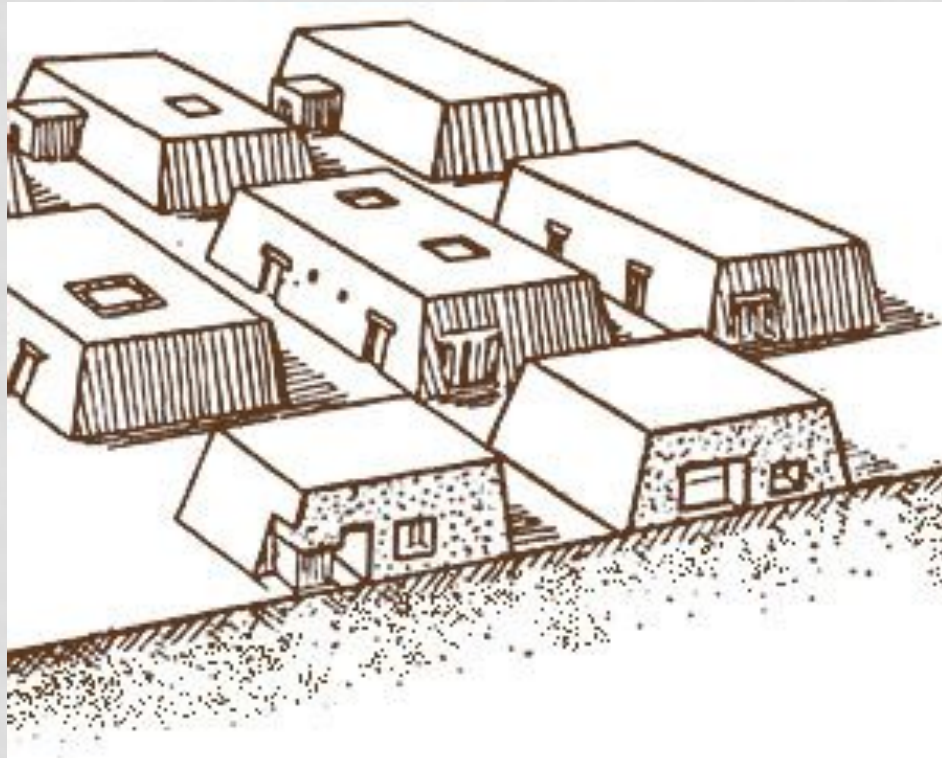
- Internally, a Mastaba consist of three parts- a **burial chamber**, a **Serdab** and a **chapel**
- The burial chamber was located 1m below ground
- It was connected to burial chamber above ground through a shaft
- The **burial chamber** is the place for the burial of the dead person



Section of a Mastaba

Source: adapted from Trachtenberg and Hyman (1996)

# MASTABA



Section of a Mastaba showing Chape & Serdab  
Source: adapted from Trachtenberg & Hyman (1996)

- The **Serdab** and **Chapel** 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
- Mastaba served as an embryo for the evolution of the pyramid

# STEPPED PYRAMID

- **King Zoser** was the powerful pharaoh of the third dynasty of the old kingdom
- The **stepped pyramid** was built for king Zoser by **Imhotep**
- It was built as a funeral complex in the **necropolis at Saqqara**
- Imhotep initially conceived of the tomb as a large Mastaba of stone

# STEPPED PYRAMID



Stepped Pyramid of Zoser

Source: <http://egyptphoto.ncf.ca>

- Dissatisfaction with the result led to the stacking of mastaba one on top of another
- The result was the stepped pyramid with five sloping setbacks
- The stepped pyramid is the intermediate step between **mastaba** and **geometric pyramid**

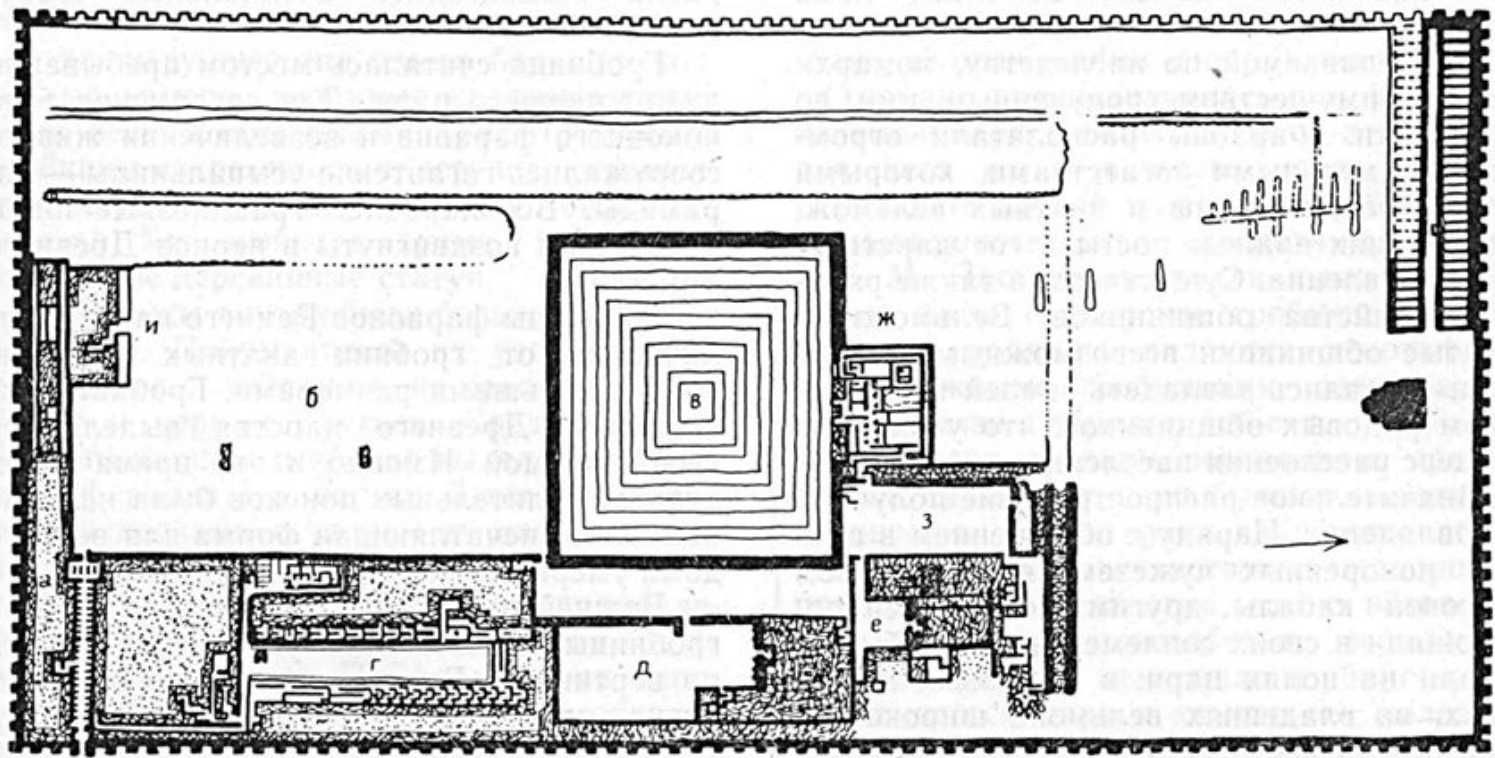


# STEPPED PYRAMID

- Stepped pyramid was 200 feet high with 6 giant steps
- The burial chamber is entered from the north side and is 92 feet down
- On either side of the chamber are store rooms for the kings treasures
- All the treasures buried with Zoser have long been stolen
- A stone statue of Zoser was also recently found staring out through peep holes in his Serdab



Entrance to burial chamber on north side  
source: <http://egyptphoto.ncf.ca>



15. Саккара. Генеральный план комплекса пирамиды

*а* — входной зал, пропилен; *б* — большой двор; *в* — ступенчатая пирамида Джосера; *г* — двор хет-сед; *д* — двор и гробница принцессы Инт-Ка-С (Южный дворец); *е* — двор и гробница принцессы Хетеп-Хер-Непти (Северный дворец); *ж* — заупокойный храм; *з* — двор сердаба; *и* — южная гробница

- The funeral complex consisted of palaces, temples and the stepped pyramid
- They were all surrounded by a fence wall 33 feet high



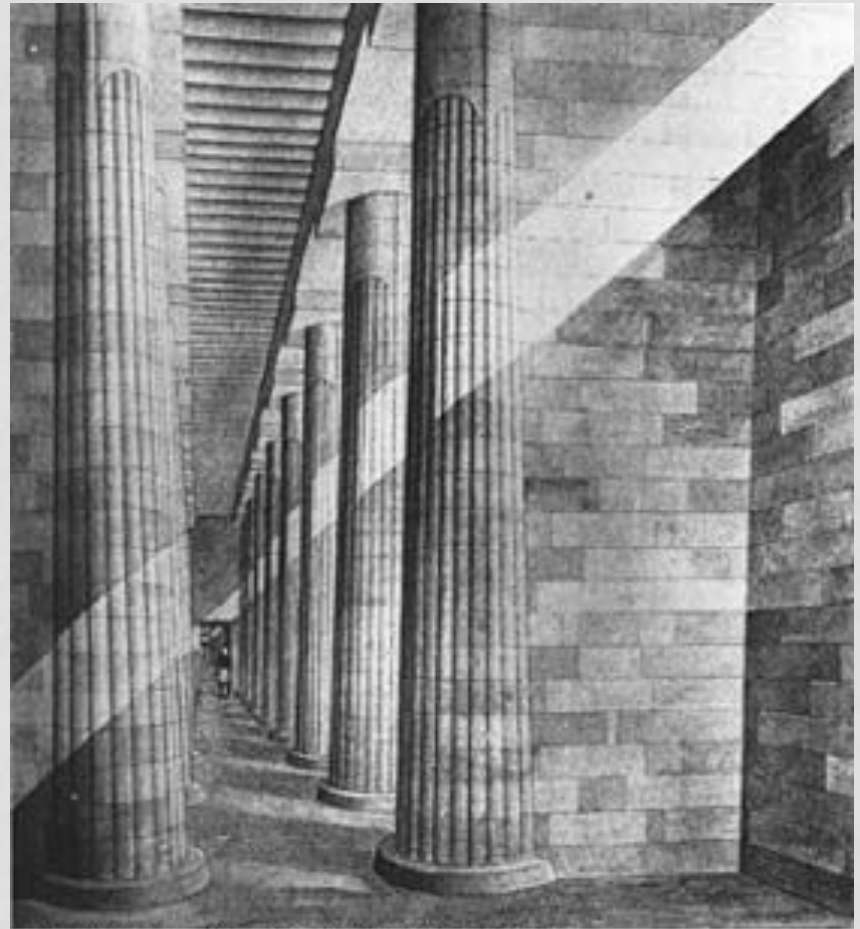
# STEPPED PYRAMID: FENCE WALL



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

# STEPPED PYRAMID

- The entrance door leads to a long hall having two rows of columns
- This is one of the first uses of columns in history
- The columns were designed to look like bundles of reeds and had flutes



Entrance, Zoser's funeral complex  
Trachtenberg & Hyman, (1986)

# STEPPED PYRAMID

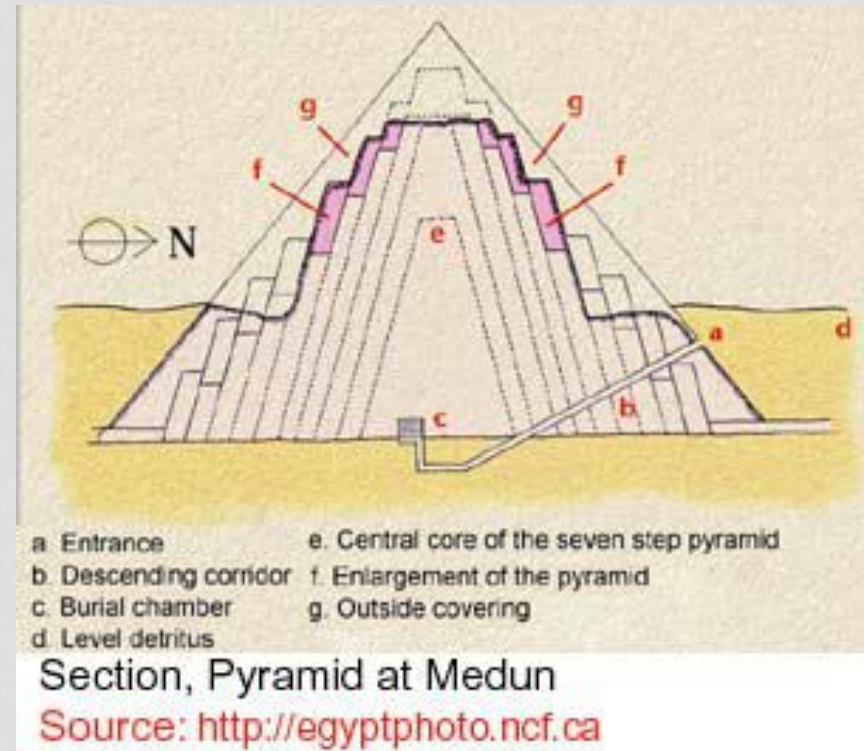


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- In the north palace is also found stone columns with capitals
- They were designed to look like the **papyrus plant**
- Zosers funeral complex was designed as a **model of his palace, city and kingdom**
- The shape of the pyramid suggest a **stairway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

# ATTEMPTS AT PYRAMID BUILDING

- King Huni made the first attempt at building a **pure pyramid at Medun**
- He constructed a seven 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





# ATTEMPTS AT PYRAMID BUILDING



Snefru's Bent Pyramid

Source: <http://egyptphoto.ncf.ca>

- **Pharaoh Snefru** made two attempts at pyramid construction
- His first pyramid, the **Bent pyramid at Dashur** had a square plan with a height of 102 meters
- The pyramid had a change of angle midway leading to its being called the **bent pyramid**

# ATTEMPTS AT PYRAMID BUILDING

- 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**



Snefru's North Pyramid  
Source: <http://egyptphoto.ncf.ca>

# THE PYRAMIDS AT GIZA



The Great Pyramid of Cheops (Kufu) Giza  
Source: <http://egyptphoto.ncf.ca>

- The construction of a true geometrical pyramid was achieved during the reign of **Cheops, son of Snefru**
- This was located at Giza
- This pyramid is called the Great Pyramid because of its size
- The pyramid is 482 ft high on a plan 760 ft square



# THE PYRAMIDS AT GIZA

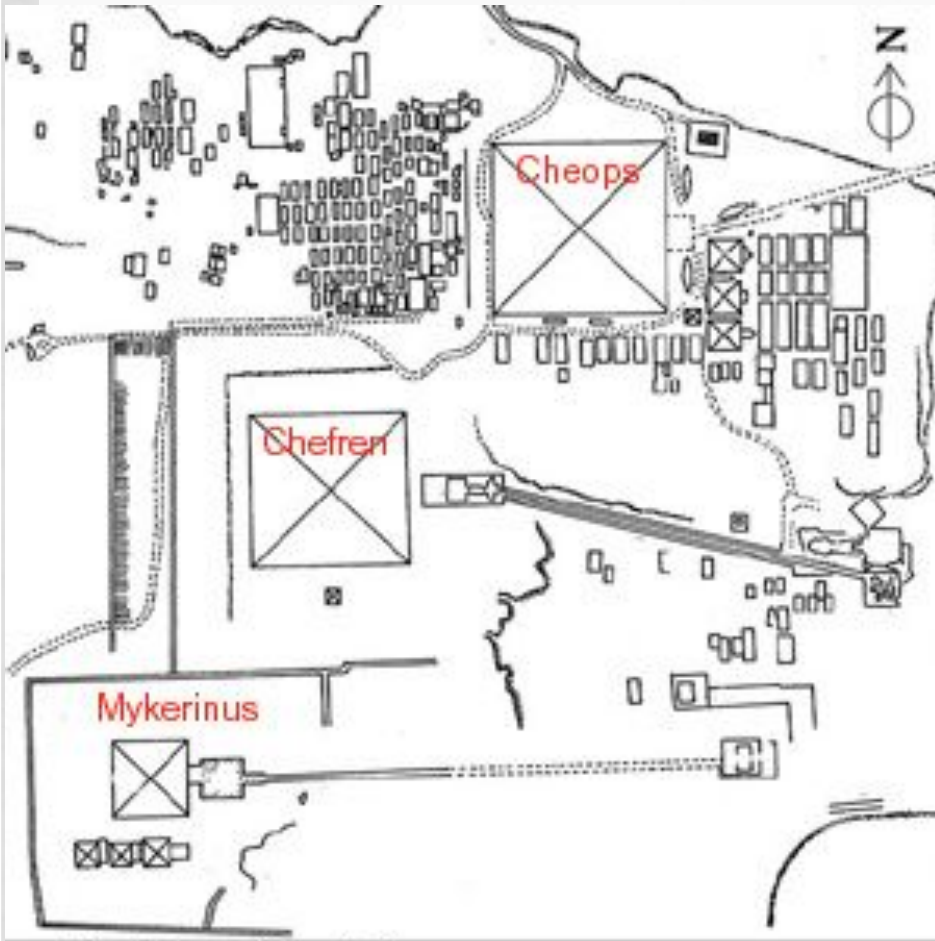
- Two additional pyramids were subsequently built at Giza
- The second largest in the center was built by **Chefren, the son of Cheops**
- The third and smallest was built by **Mykerinus, the son of Chefren**
- The three together are referred to as the pyramids at Giza



The Pyramids at Giza

Source: <http://egyptphoto.ncf.ca>

# THE PYRAMIDS AT GIZA



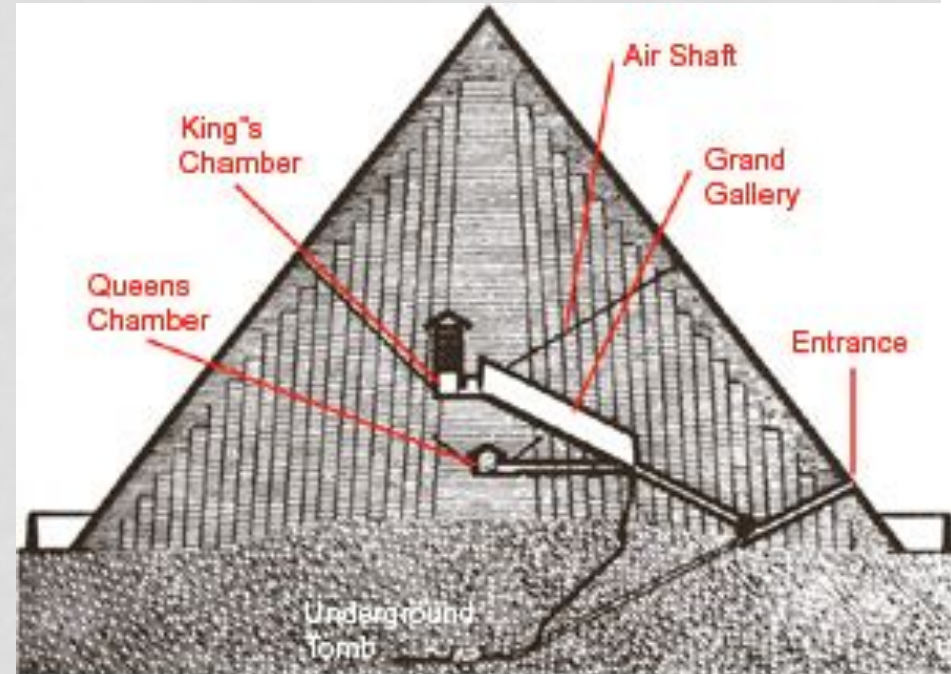
The Pyramids at Giza

Source: <http://egyptphoto.ncf.ca>

- The three are aligned diagonally along the projection of the diagonal of the great pyramid
- The small pyramids close to them were built for their Queens

# THE GREAT PYRAMID OF CHEOPS

- 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 center of the pyramid



Section of The Great Pyramid of Cheops  
Source: adapted from Tractenberg & Hyman (1986)



- The pyramids were designed as part of a funeral complex for the burial of a pharaoh
- Chefren's complex is the best preserved example
- The complex consist of three interconnected units:





- A valley temple by the river Nile where the pharaoh's body was embalmed
- A pyramid mortuary temple for rituals
- A long narrow causeway connecting the two

- This temple had many small chapels each with false doors
- Many statues of the pharaoh were placed in the temple so that his ka could come back each night
- After prayers to the God Osiris, the body was lowered through the secret opening on the north side to his burial chamber
- There he was laid in his stone Sarcophagus

# THE SPHINX AT GIZA

- Located in Giza is the **great Sphinx** with the body of a lion and head of Chefren
- The reason for its construction is not clear
- A theory hold that it was produced from leftover material
- It may also have been carved to stand guard over the temple and tomb of Chefren





# MID & NEW KINGDOM BURIAL-CHAM



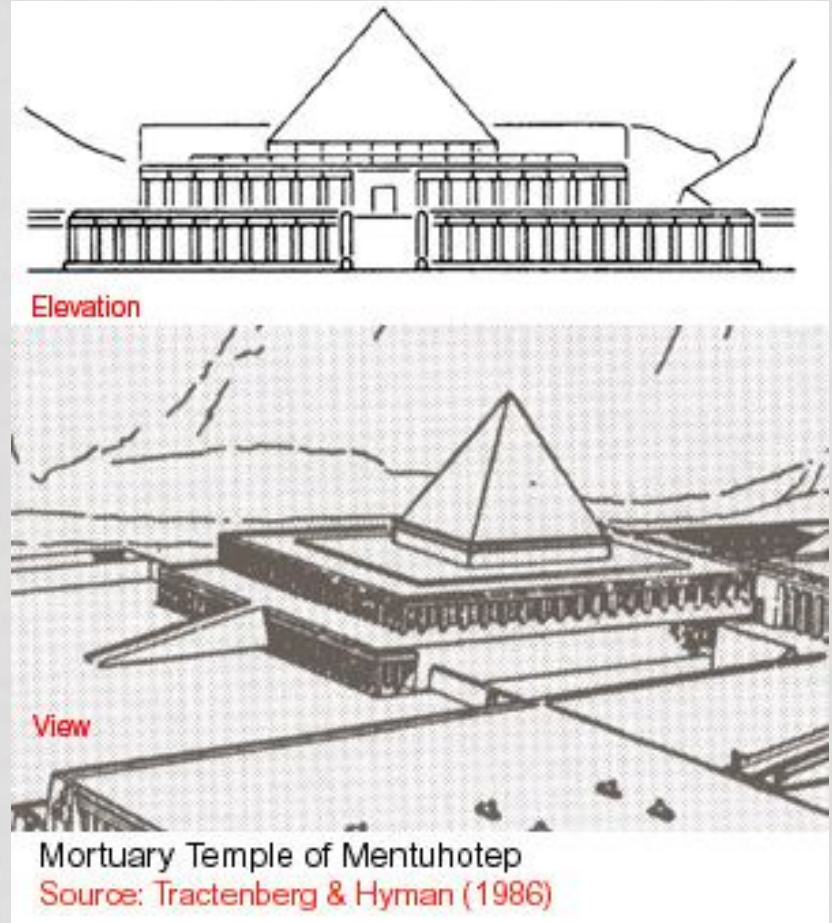
Pharaoh Mentuhotep

Source: <http://egyptphoto.ncf.ca>

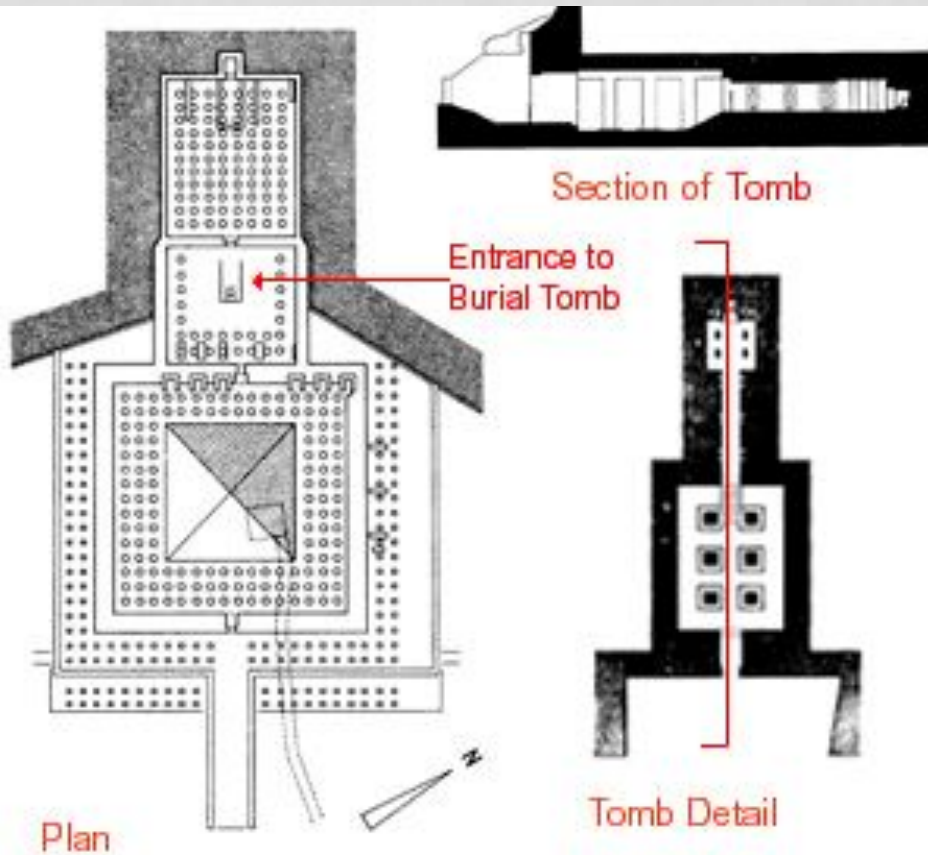
- The **Middle Kingdom** began when pharaoh Mentuhotep united Egypt again after the first intermediate period
- During the middle kingdom, the practice of pyramid construction disappeared
- Focus in architectural development was however still on tombs and burial chambers
- Two categories of structures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

# MORTUARY TEMPLE OF MENTUHOTEP

- Two mortuary temples were built at **Del al Bahari**; mortuary temple of **Mentuhotep** and **Hatshepsut**
- Mentuhotep was the first Pharaoh of the middle kingdom
- He built the first mortuary temple at Del-al Bahari



# MORTUARY TEMPLE OF MENTUHOTEP

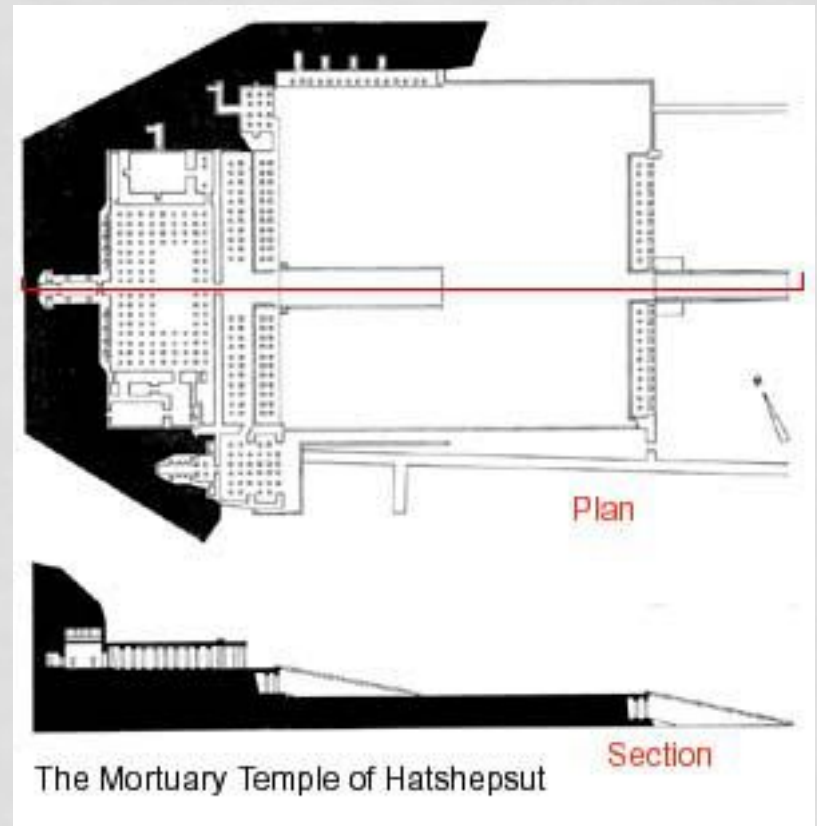


The Mortuary Temple of Mentuhotep

- 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 center of the courtyard
- Just like the pyramid funeral complexes, the temple of Mentuhotep also has a **causeway** leading to a valley temple

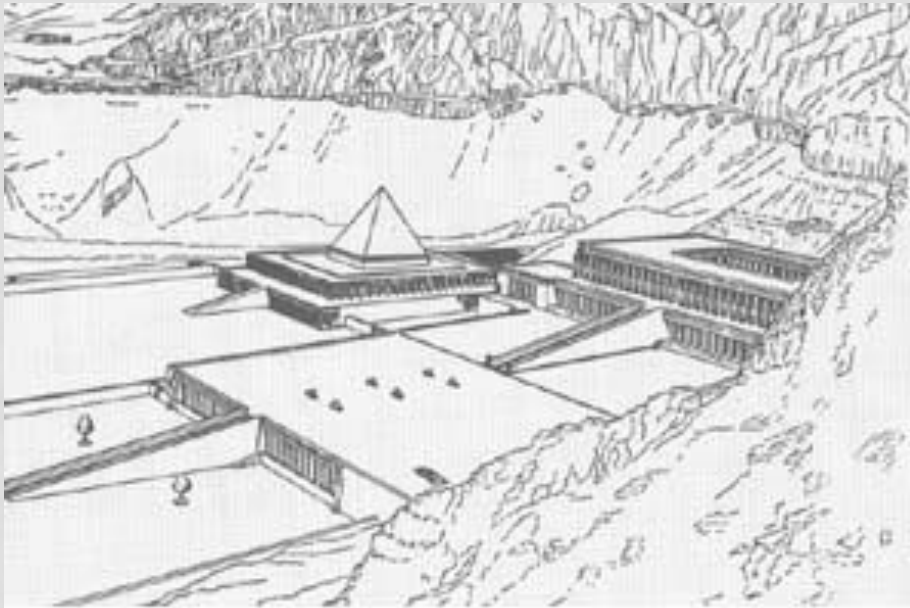
# MORTUARY TEMPLE OF HATSHEPSUT

- The temple of Mentuhotep served as a model in the design of her temple
- Her extraordinary funeral temple located at Del-Al-Bahari, is set against the background of the cliffs
- The architect of her temple is believed to be **Senmut** who is also buried in the temple





# MORTUARY TEMPLE OF HATSHEPSUT

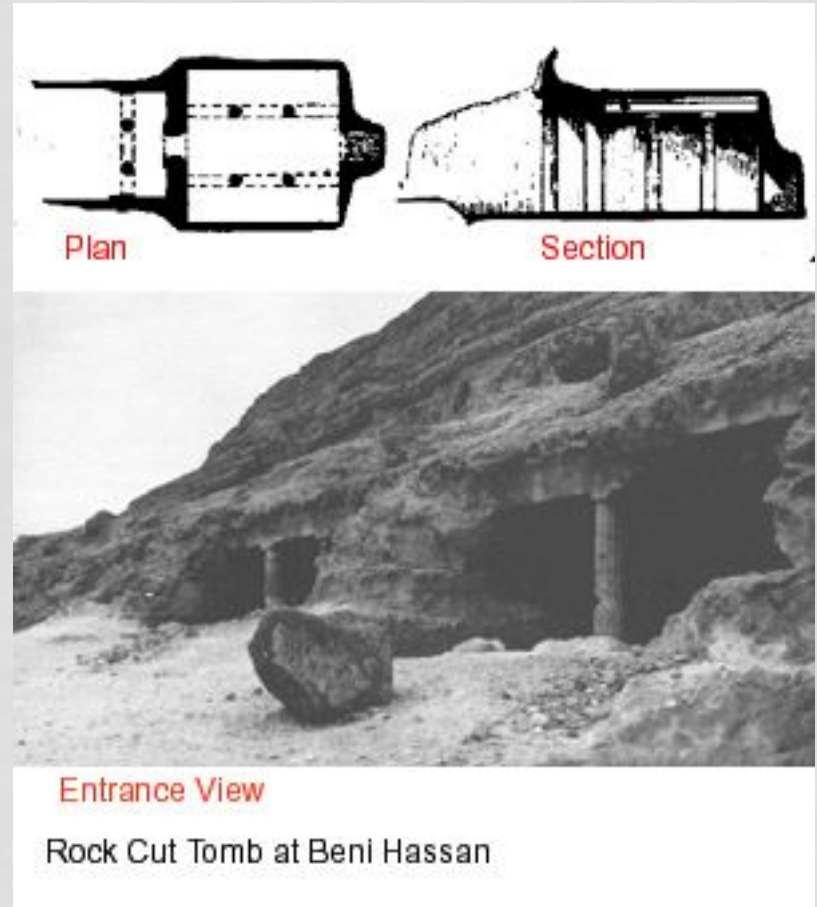


The Mortuary Temples of Hatshepsut & Mentuhotep  
Source: [http: Trachtenberg & Hyman \(1986\)](http://Trachtenberg & Hyman (1986))

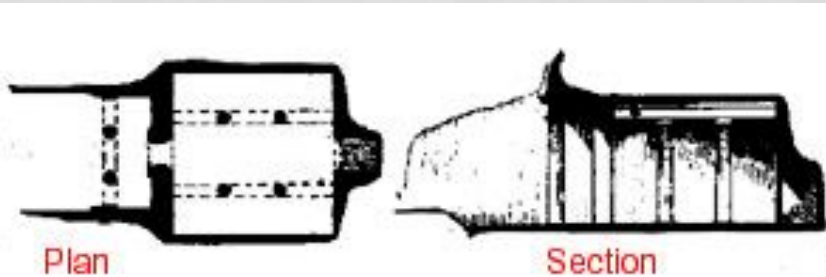
- The temple of Hatshepsut is like a **giant stage on three levels**
- Each of the three levels was connected by a **ramp**
- On the top level is her chapel dedicated to the **goddess Hathor**
- The chapel was dug out of the rock cliff
- Her temple captures the shift from the compact geometry of the old kingdom pyramids to the **linear composition** of the **New Kingdom temples**

# UNDERGROUND TOMB- ROCK CUT TOMB

- Two types of Underground tombs were built by pharaohs and nobles during the Middle and New Kingdom periods- Rock cut tombs and Shaft tombs
- Rock cut tombs are tombs that are carved out of rocks
- Many of these are found along the cliff of the Nile
- A very good example is the Rock cut tomb at Beni Hassan



# UNDERGROUND TOMB- ROCK CUT TOMB



Entrance Detail

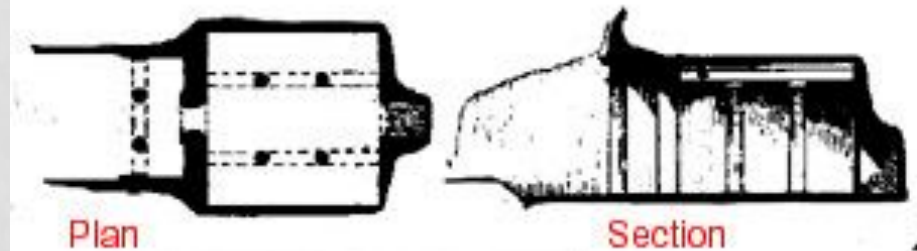
Rock Cut Tomb at Beni Hassan

- Beni Hassan consist 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



# UNDERGROUND TOMB- ROCK CUT TOMB

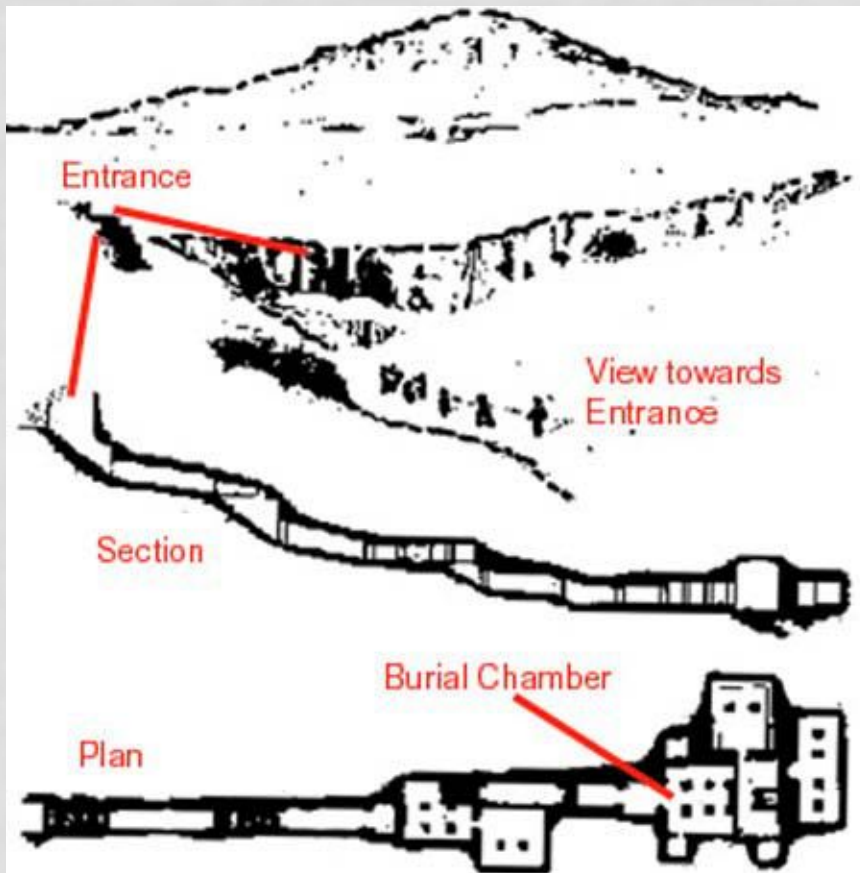
- The columns on the exterior were shaped like a **prism** with 8 or 16 sides
- The columns in the interior were designed as a **bundle of reed** tied together by **rope**



Rock Cut Tomb at Beni Hassan

Tomb Chamber

# UNDERGROUND TOMB- SHAFT TOMBS



Underground Shaft Tombs,  
Source: adapted from Sir Barnister Fletcher (1996)

- **Shaft tombs** were a complex series of underground corridors and rooms cut out of the mountains in the **valley of the King at Del-Al-Bahari**
- The large number of rooms and their complicated arrangement is deliberately done to create a maze or puzzle

	English	Kazakh	Russian
1	<b>Pylon</b>	<b>Пилон</b>	<b>Пилон</b>
The wide entrance gateway of an Egyptian temple, characterized by sloping walls			
2	<b>Mastaba</b>	<b>Мастаба</b>	<b>Мастаба</b>
A bench-like structure over graves			
3	<b>Serdab</b>	<b>Сердаб</b>	<b>Сердаб</b>
A burial chamber of mastaba			
4	<b>Imhotep</b>	<b>Имхотеп</b>	<b>Имхотеп</b>
The priest for Zoser, founder of Egyptian medicine, first recorded architect in history, an Astromoner			
5	<b>Senmut</b>	<b>Сенмут</b>	<b>Сенмут</b>
The architect of Queen Hatshepsut 's mortuary temple			
6	<b>Clerestory</b>		
Windows were place to allow light to enter, in between the two roofs			
7	<b>Hypostyle</b>	<b>Гипостиль</b>	<b>Гипостиль</b>
Multi-columned hall			
8	<b>Egyptian hall</b>	<b>Мысыр ханасы</b>	<b>Египетский зал</b>
A hall with an internal perystyle (in West Europe architecture)			