



EGYPTIAN CIVILIZATION

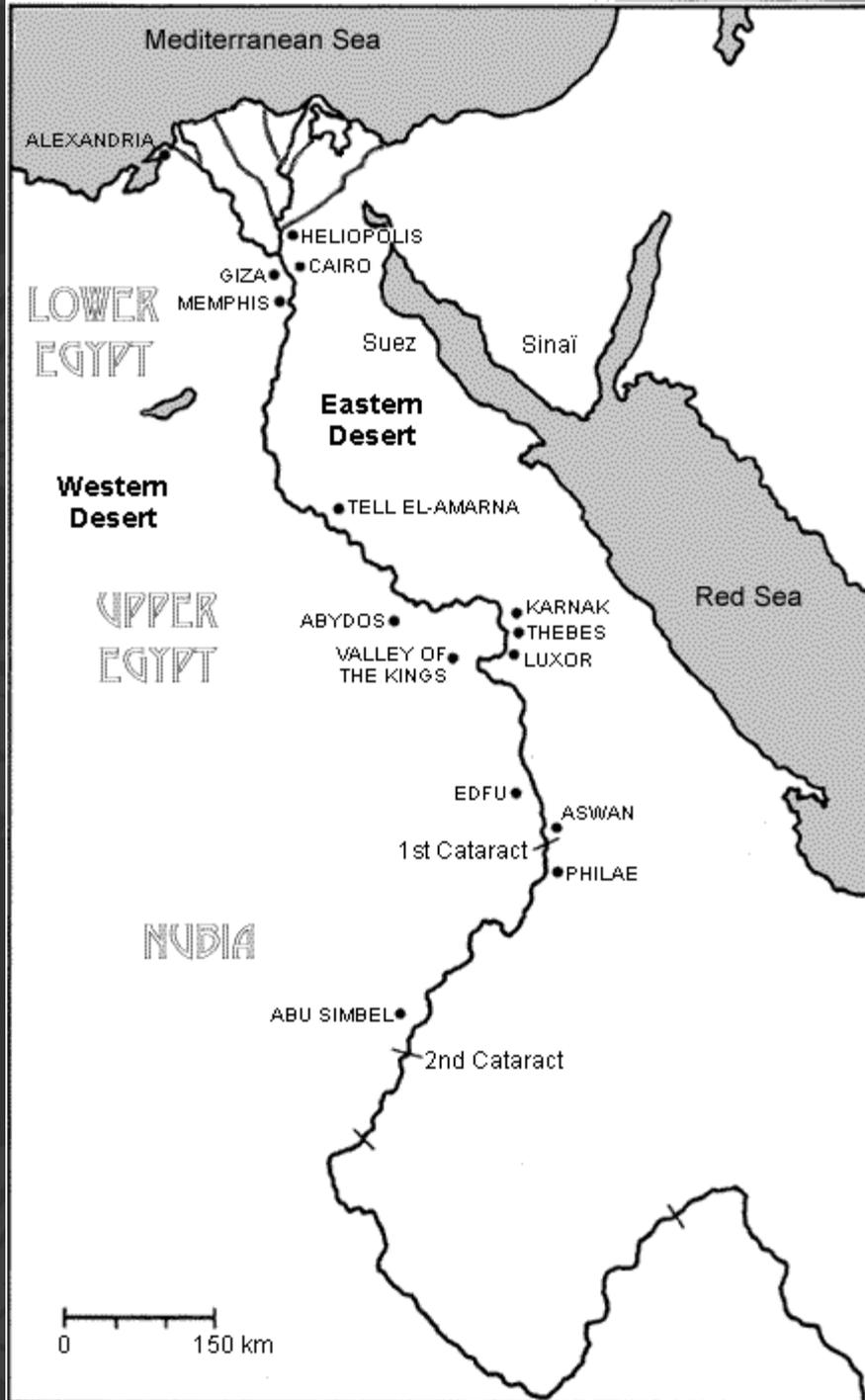
The Gift of the Nile



GEOGRAPHY



The **NILE RIVER** , the longest river in the world (6,650 kilometers), flows north from the heart of Africa to the Mediterranean Sea. Its flood plain was a magnet for life -- human, plant and animal. Humans were drawn there because they could grow crops and settle into permanent villages.



Bounded on the south, east and west by an impenetrable desert, and on the north by the sea, **ANCIENT EGYPT** was protected from outside influences, which allowed it to evolve in its own unique way.



For centuries, **THE NILE RIVER FLOODED THE VALLEY**, enriching the land with a thick layer of alluvial soil. Flooding occurred from July to September as the result of the tropical rains in the Ethiopian tableland. The river attained its highest level in October, then began to recede to its lowest point sometime between April and June.



TRANSPORTATION: The Nile River was the highway that joined the country together. Up until the nineteenth century, travel by land was virtually unknown.



DUALITIES, such as desert and river valley, Upper and Lower Egypt, life and death, were an important organizing principle of the Egyptian's world view.





ARCHITECTURE



ARCHITECTURE: The ancient Egyptians built their pyramids, tombs, temples and palaces out of **STONE**, the most durable of all building materials.

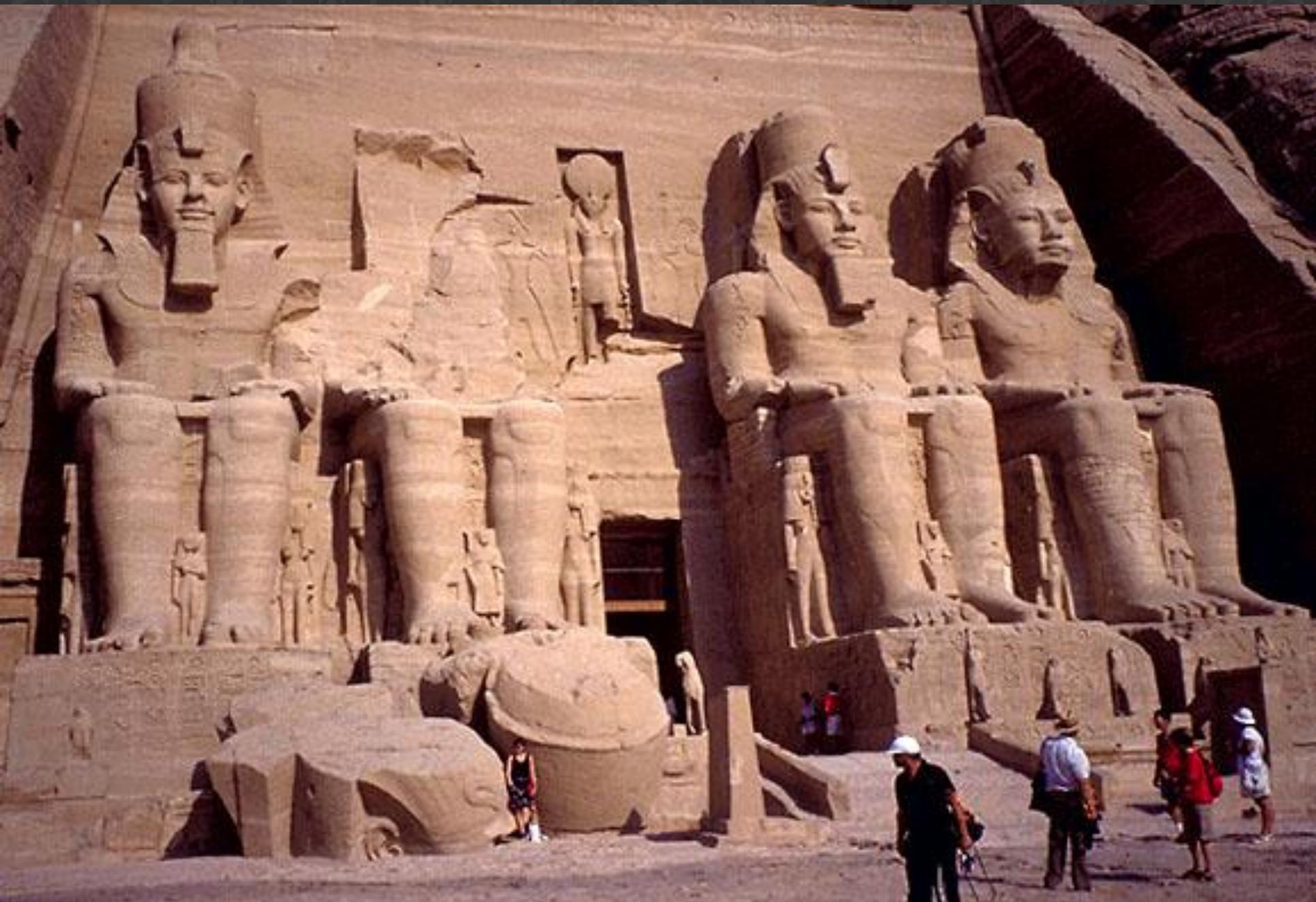
These building projects took a high degree of architectural and engineering **SKILL**, and the organization of a **LARGE WORKFORCE** consisting of highly trained craftsmen and laborers.



Apart from the pyramids, **EGYPTIAN BUILDINGS** were decorated with **PAINTINGS**, **CARVED STONE IMAGES**, **HIEROGLYPHS**, and **THREE-DIMENSIONAL STATUES**. The art tells the story of the pharaohs, the gods, the common people and the natural world of plants, birds and animals.









One of the oldest mysteries surrounding ancient Egypt concerns the building of the **PYRAMIDS**. How did humans move such massive blocks of stone using only Stone Age tools? The Egyptians left thousands of illustrations depicting daily life in the Old Kingdom. Curiously enough, none of them show how pyramids were built.

SEVERAL THEORIES attempt to explain how pyramids were constructed, but for now, the mystery has yet to be solved.

THE RAMP THEORY

One theory suggests that **RAMPS** were used to haul the stone blocks on wooden sleds up the side of the pyramids. The ramps were lubricated with water to reduce friction when hauling the blocks. As few as 10 men were needed to drag a stone block up a ramp. There may have been several ramps on each side of the pyramid at different levels, and a ramp may have been coiled around the pyramid as it grew in height. Once a stone block reached its desired level, wooden rockers may have been used to maneuver it into position.



Ramp on pyramid



Stone block on sled



Pouring water to lubricate the ramp



Rocking a block into position

Other Pyramid-Construction Theories

THE WOODEN CRANE THEORY suggests that a wooden crane with a counterweight on one end may have been used to lift the blocks from one level to the next.

This theory has been **DISPUTED**, since the Egyptians did not have access to trees that were strong enough for this type of work.

The average weight of the **STONE BLOCKS** used to build the Great Pyramid at Giza has been estimated at **2.5 TONS**. Such an enormous weight would undoubtedly break a wooden crane before the block could be lifted.

THE PULLEY AND FULCRUM THEORY: Another possibility involves the use of pulleys to hoist the blocks up the ramps and fulcrums to manipulate the blocks into place. Pulleys were used on ships at the time.



The pyramids were probably **NOT BUILT BY SLAVES** because slave labor was not widely used in Egypt at the time. **PEASANT FARMERS**, however, were required to spend a number of weeks working on construction projects. This provided the paid labor needed to build these gigantic structures. Since the fields were under water during the summer, wages earned in building the gigantic pyramids **SUPPLEMENTED THE FAMILY'S INCOME**.



Pyramids did not stand alone; they were part of a **FUNERARY COMPLEX**. The complex includes a **PROCESSIONAL CAUSEWAY** that links a **FUNERARY TEMPLE** to the pyramid, **SOLAR BARQUES** buried on the four sides of the pyramid, and **MASTABAS** and smaller pyramids where the family of the king and nobles were buried



GOVERNMENT



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

Religion and government brought order to society through:

The construction of **TEMPLES**

The creation of **LAWS**

TAXATION

The **ORGANIZATION OF LABOR**

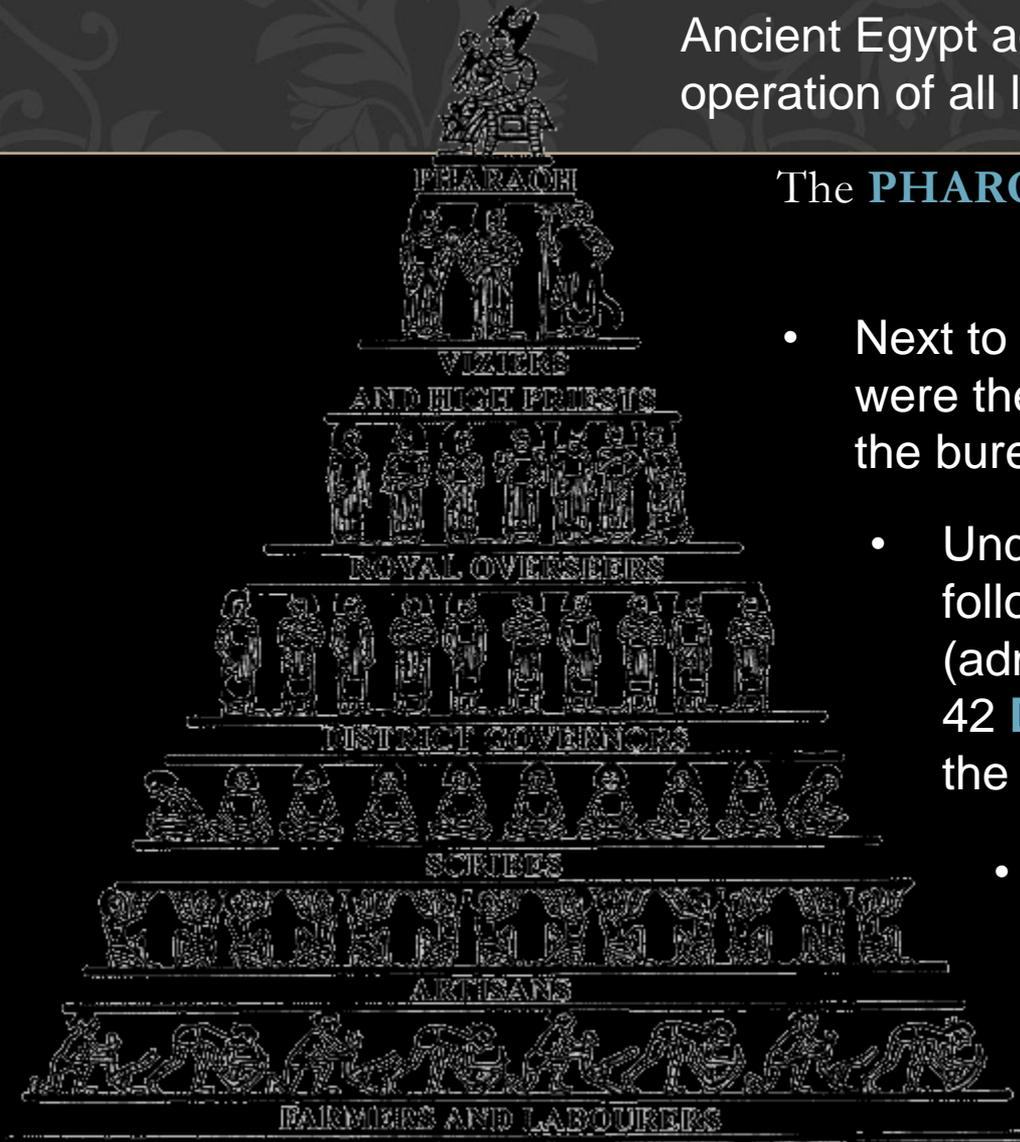
TRADE with neighbors

The **DEFENCE** of the country's interests.

Ancient Egypt achieved stability through the co-operation of all levels of the population.

The **PHAROAH** was at the top of the social hierarchy.

- Next to him, the most powerful officers were the **VIZIERS**, the executive heads of the bureaucracy.
- Under them were the **HIGH PRIESTS**, followed by **ROYAL OVERSEERS** (administrators) who ensured that the 42 **DISTRICT GOVERNORS** carried out the pharaoh's orders.
- At the bottom of the hierarchy were the **SCRIBES, ARTISANS, FARMERS, and LABORERS**.





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.



Not all the pharaohs were men. Before the Graeco-Roman period, at least three **WOMEN** ascended the throne, the most important being Queen **HATSHEPSUT**.



ROYAL WOMEN: Royal mothers, wives, and daughters derived their status from their relationship with the king.

Kings had **MANY WIVES** and royal families were large.

The most prolific was Rameses II, who had eight wives and over a hundred children.

To keep the royal bloodline pure, kings often **MARRIED** within their family, a **SISTER** or half sister, for example.

In a few cases, they married their **DAUGHTERS**, although it is not clear whether or not these marriages were true conjugal unions.



Next to pharaoh, the most powerful officer in the hierarchy was the **VIZIER**, the **EXECUTIVE HEAD** of the bureaucracy.

The position of vizier was filled by a prince or a person of exceptional ability. His title is translated as "superintendent of all works of the king."

As the **SUPREME JUDGE** of the state, the vizier ruled on all petitions and grievances brought to the court.

All **ROYAL COMMANDS** passed through his hands before being transmitted to the scribes in his office.

They in turn dispatched orders to the heads of distant towns and villages, and dictated the rules and regulations related to the collection of taxes.



The ancient Egyptians remained very conscious of **SOCIAL STRATIFICATION**, and barriers between the classes were quite rigid.

Climbing the social ladder was difficult, but it could be achieved through outstanding accomplishments in professions such as that of the scribes and the **MILITARY**.

The military took part in **WARFARE** and **TRADE** missions, helping to maintain Egypt's sovereignty and expand its territories.



WRITING



The **EGYPTIAN LANGUAGE** was one of the earliest languages to be written down, perhaps only the Sumerian language is older.

First appearing on stone and pottery dating from 3100 B.C. to 3000 B.C., it remained in use for almost 3,000 years.

The last inscription was written in A.D. 394.



The word **HIEROGLYPH** literally means "sacred carvings". The Egyptians first used hieroglyphs for inscriptions carved or painted on temple walls.

This form of **PICTORIAL WRITING** was also used on:

Tombs

Sheets of papyrus

Wooden boards covered with a stucco wash

Potsherds

Fragments of limestone.



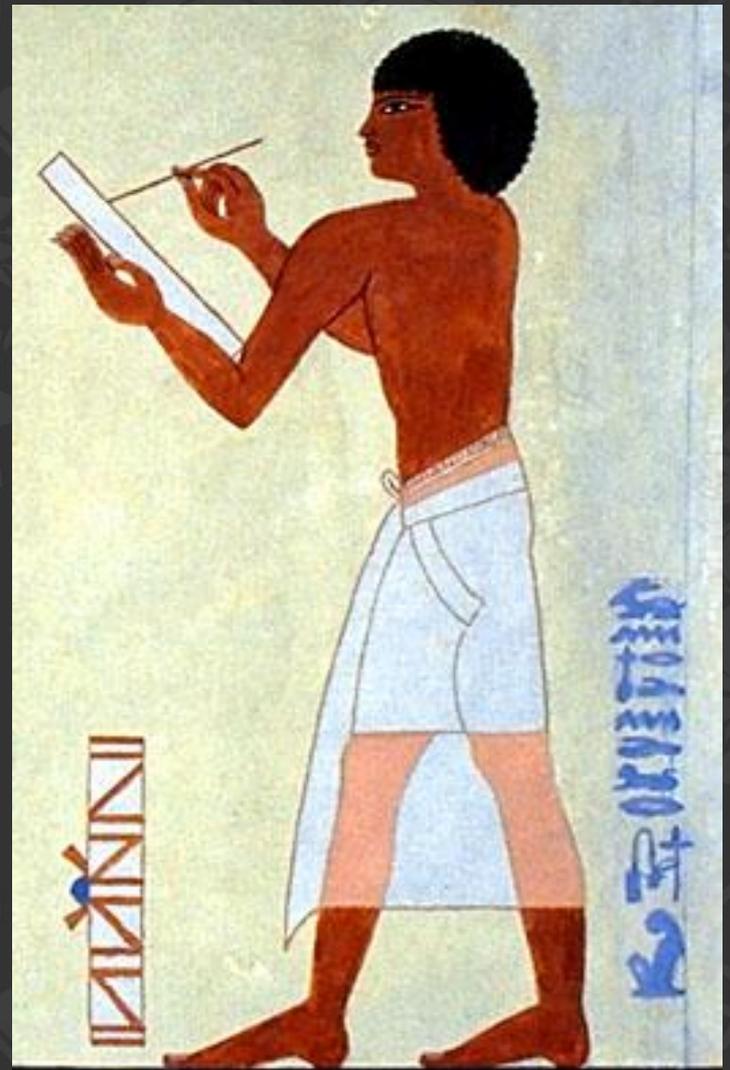
The ancient language was written by **SCRIBES** who, from a young age, went through a long apprenticeship before they mastered the skill of writing.

The ability to write guaranteed a **SUPERIOR RANK IN SOCIETY** and the possibility of career advancement.

CLIMBING THE SOCIAL LADDER was difficult, but it could be achieved through outstanding accomplishments in professions such as that of the scribes and the military.

Be a scribe. It will save you from toil and protect you from every kind of work. It will spare you from bearing hoe and mattock, so that you will not have to carry a basket. It will keep you from plying the oar and spare you all manner of hardships.

-- Excerpt from a text used in the New Kingdom for the instruction of scribes.





Papyrus Plant

To make the paper-like writing material, the exterior of the **PAPYRUS** stem was discarded and the interior was cut into thin strips.

The strips were soaked in water and beaten to break down and flatten the fibers.

They were then layered crosswise and lengthwise to produce a sheet, which was beaten again to mesh the strips together.

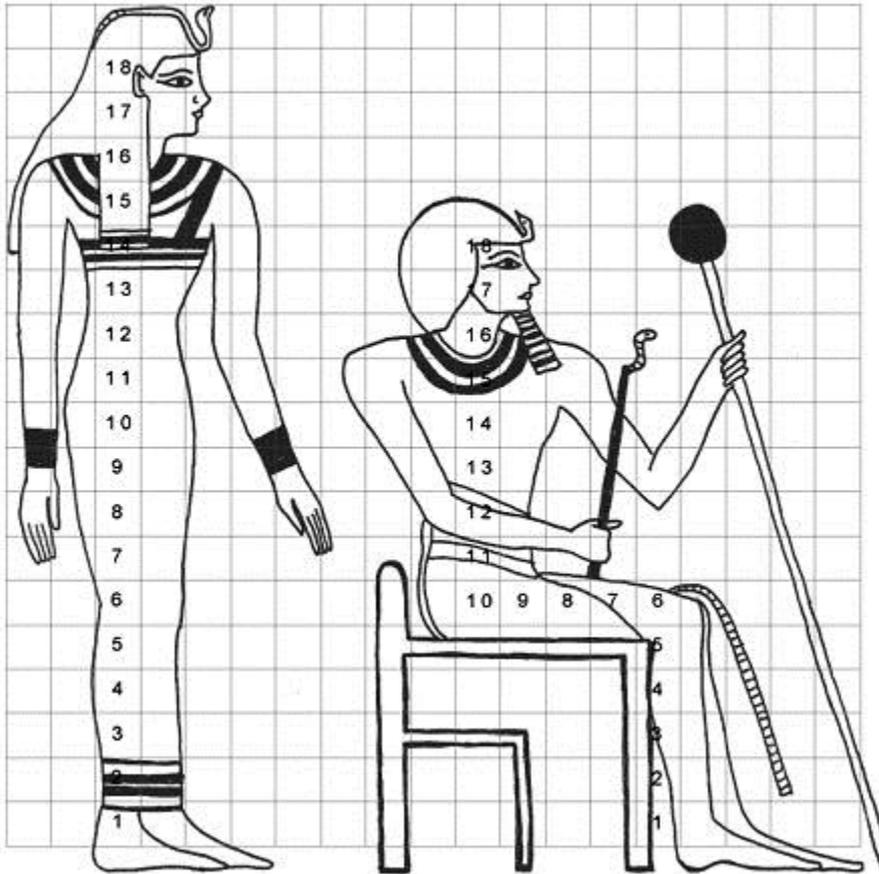
Weights were placed on the sheets while they dried.

Once dry, the sheets were rolled up and stored until needed.

[Animation of paper-making process](#)



Papyrus Sheet



DRAFTSMEN were scribes who specialized in drawing.

They followed a formula that makes standing and sitting figures look stiff.

Using a traditional grid of 18 squares, they sketched figures according to a predetermined pattern, making no attempt to show perspective.

The eyes and shoulders are drawn from the front and the face, torso, arms and legs



Sacred texts, known as the **PYRAMID TEXTS**, were written on the inner passages and the walls of the burial chamber.

They were intended to help the pharaohs travel through the afterworld, to secure regeneration and eternal life.

The Pyramid Texts are considered the oldest body of religious writings in the world.

*I was the one who began
(everything), the dweller in the
Primeval Waters.*

First Hahu emerged from me
and then I began to move.
I created my limbs in my 'glory'
I was the maker of myself,
in that I formed myself
according to my desire and
in accord with my heart.*

-- Egyptian High God

*The wind which began the separation
of the waters and raised the sky

COFFIN TEXTS

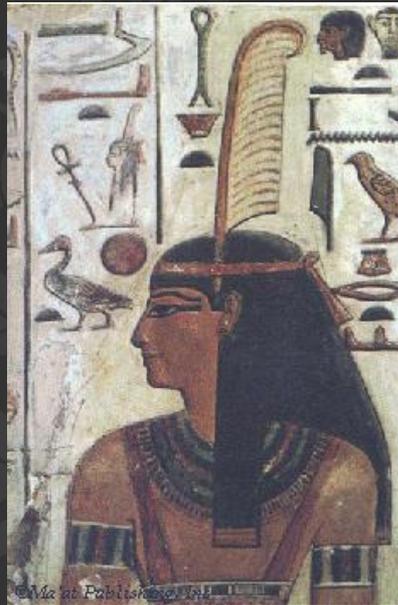
emphasized the afterlife
and helped the
deceased find their way
in the afterworld.

Inscribed inside the
coffins of Middle
Kingdom high officials,
they consist of over
1,000 spells (prayers for
protection and
empowerment).



Osiris

<http://www.pantheon.org/>
Encyclopedia Mythica



Maat

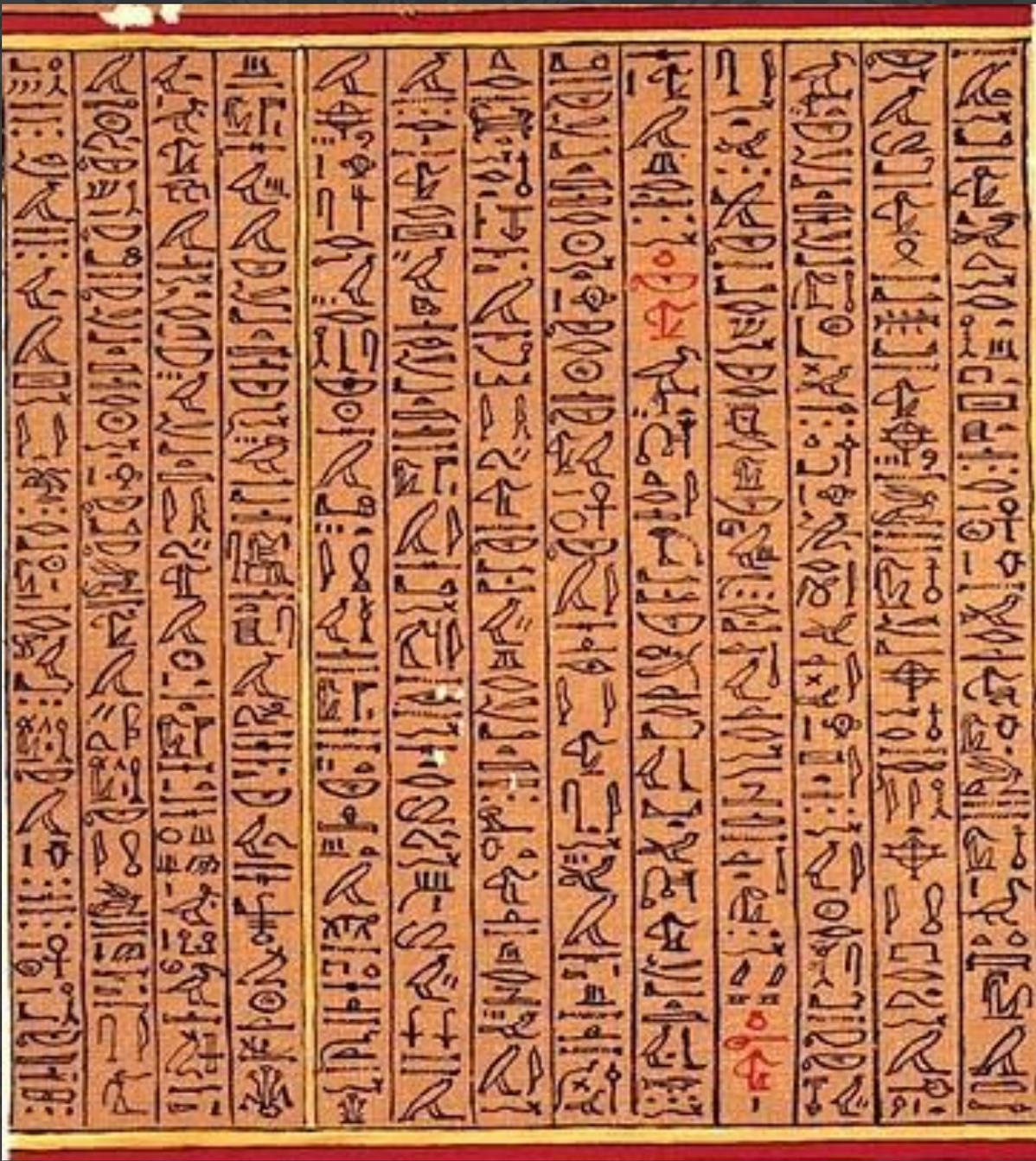


Amemet

The **JUDGMENT OF THE DEAD** was a way of attaining new life. The deceased were taken before **OSIRIS** and their hearts were weighed on a scale, against a feather representing **MAAT**, the goddess of truth and justice.

Those who were good passed through to the new life as transfigured spirits.

Those who were judged as wicked, were tossed to the goddess **AMEMET**, "the swallower." who was portrayed as having the rear of a hippopotamus, the fore of a lion, and the head of a crocodile.



The **BOOK OF THE DEAD** contains approximately 190 chapters of spells to assist the deceased on their voyage to eternity.

Texts were originally written on papyrus and placed near the dead.

One spell was inscribed on a heart scarab –an amulet placed over the heart either within the mummy's bandages or inside the body.

Later, the spells were written on strips of linen that were wrapped around the mummies.



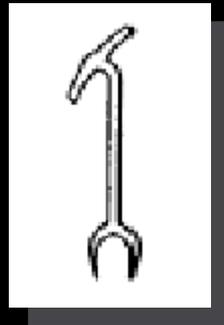
RELIGION



RELIGION is the glue that binds local communities together and transforms them into nations. It creates common understandings and shared values that are essential to the growth of a civilization.



Before the concept of God existed, magical power was encapsulated in the hieroglyph of a **SCEPTER** (or rod or staff).



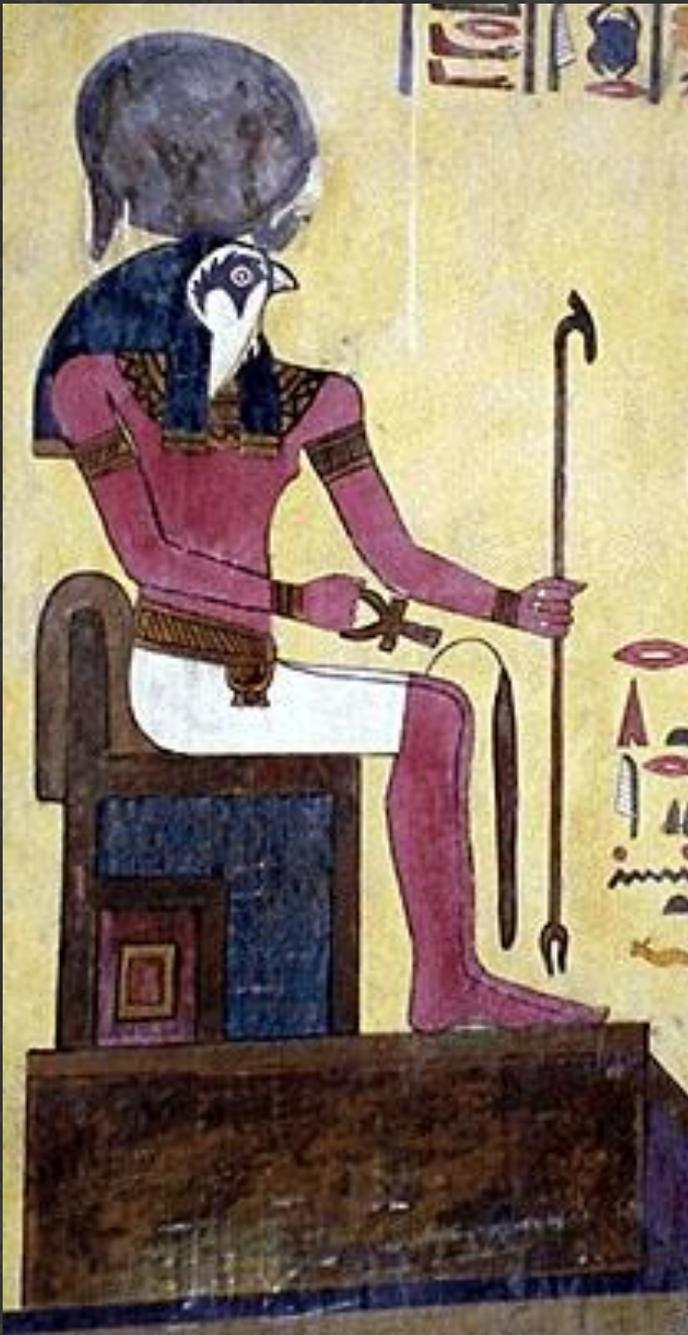
By looking at ancient Egypt, one can see how belief systems evolved.

In the early stages of human thought, the concept of God did not exist.

Our early ancestors were concerned about natural phenomena and the powers that controlled these phenomena.

They did not worship a personalized form of God.

This stage of religious development is referred to as **MAGICAL**.



As human society evolved, people gradually gained a degree of personal identity.

With a higher sense of individuality, humans began to conceive the gods in a personalized form.

This stage in development is called **MYTHICAL**.

In Egypt, this process began during the late prehistoric period, when writing was being invented and myths were being formulated.



Egyptology Myths
http://www.egyptology.org/

Osiris



Egyptology Myths
http://www.egyptology.org/

Isis



Horus

At that stage, every Egyptian town had its own particular deity represented by an **ANIMAL** (such as a cat-goddess, cobra-goddess, ibis-god or jackal-god).

Eventually, these gods and goddesses were given **HUMAN BODIES** and credited with human attributes and activities.

The temples in the major cities throughout the land were constructed to venerate **LOCAL GODS**.

During the New Kingdom, these temples honored a **TRIAD OF GODS** based on the pattern established by the mythical family of **OSIRIS, ISIS** and **HORUS**.



Like all religions, that of ancient Egypt was **COMPLEX**. It evolved over the centuries from one that emphasized local deities into a national religion with a smaller number of principal deities.

Some theologians think that Egypt was moving towards a monotheistic faith in a single creator, symbolized by the **SUN GOD**.

There was no single belief system, but the Egyptians shared a common understanding about the **CREATION OF THE WORLD** and the possibility of **REVERTING TO CHAOS** if the destructive forces of the universe were unleashed.



PRIESTS worked at the temples, conducting the daily rituals of clothing, feeding and putting to bed the sculpted images that represented the gods.

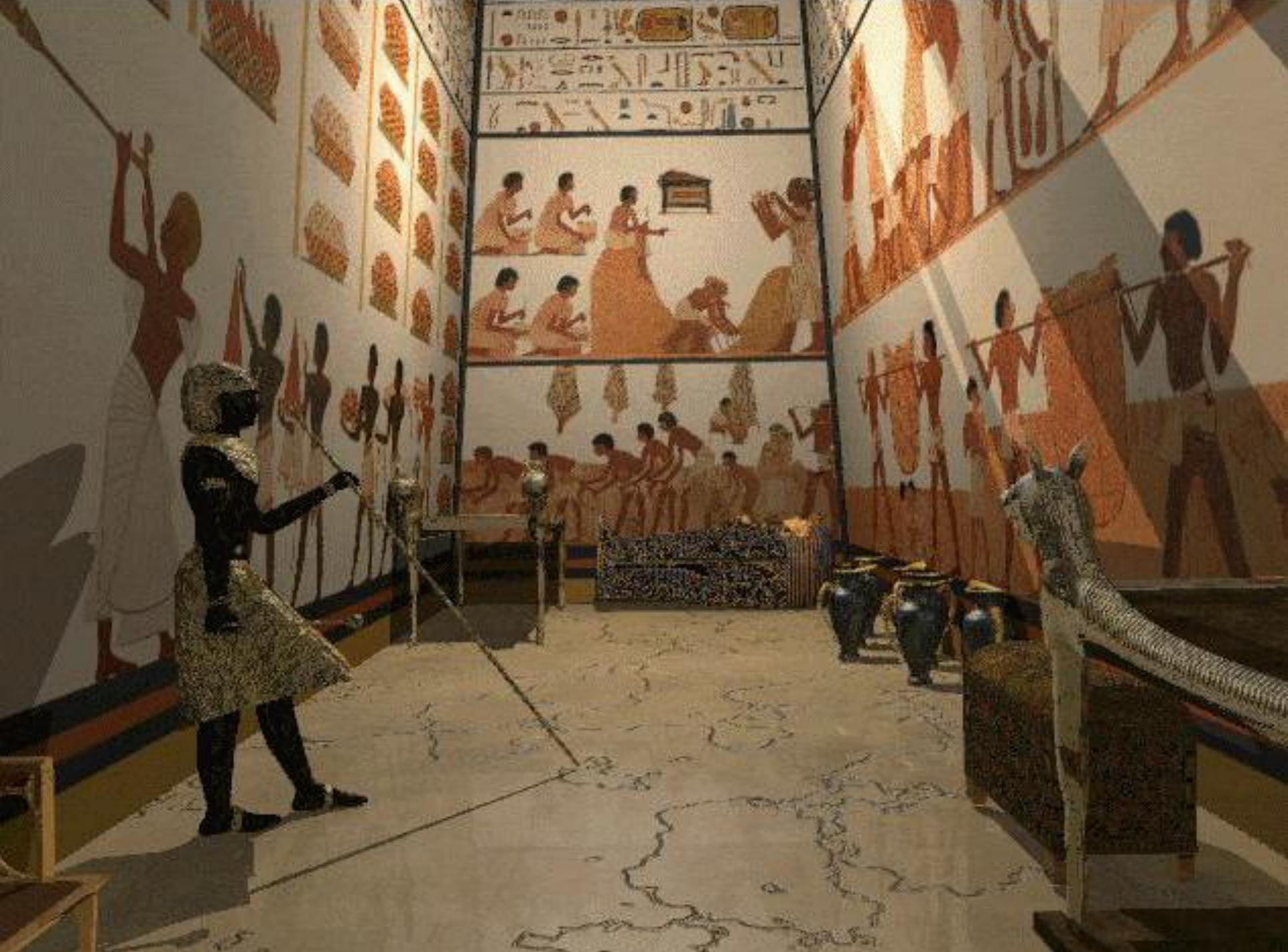
In mortuary temples, priests conducted similar ceremonies to nourish the **KA** (soul-spirit) of a deceased pharaoh or noble.

The priests shaved their heads and body hair, and washed their bodies twice daily as a ritual act of purification. They wore gowns or kilts of pure white linen.



Entering a Temple







The ancient Egyptians believed in the **RESURRECTION OF THE BODY** and life everlasting. This belief was rooted in what they observed each day.

The sun fell into the western horizon each evening and was reborn the next morning in the east.

New life sprouted from grains planted in the earth, and the moon waxed and waned.

As long as order was maintained, everything was highly dependable and life after death could be achieved. But there were certain conditions.

For example, the body had to be preserved through **MUMMIFICATION** and given a properly furnished tomb with everything needed for life in the afterworld.

Around 450 B.C., the Greek historian **HERODOTUS** documented the art of **MUMMIFICATION**.

As much of the brain as it is possible is extracted through the nostrils with an iron hook, and what the hook cannot reach is dissolved with drugs. Next, the flank is slit open . . . and the entire contents of the abdomen removed. The cavity is then thoroughly cleansed and washed out . . . Then it is filled with pure crushed myrrh, cassia, and all other aromatic substances, except frankincense. [The incision] is sewn up, and then the body is placed in natron, covered entirely for 70 days, never longer. When this period . . . is ended, the body is washed and then wrapped from the head to the feet in linen which has been cut into strips and smeared on the underside with gum which is commonly used by the Egyptians in the place of glue. -- Herodotus



NATRON, a disinfectant and dehydration agent, was the main ingredient used in the mummification process. A compound of sodium carbonate and sodium bicarbonate (salt and baking soda), natron essentially dried out the corpse.

The body was filled with Nile mud, sawdust, lichen and cloth scraps to make it more flexible.

Small **COOKING ONIONS** or linen pads were sometimes used to replace the eyes.

Beginning in the third dynasty, the internal organs (lungs, stomach, liver and intestines) were removed, washed with palm wine and spices, and stored in four separate **CANOPIC JARS** made of limestone, calcite or clay.

However, the **HEART** was left in the body because it was considered the center of intelligence



MATERIALS USED IN MUMMIFICATION:

1. Linen
2. Sawdust
3. Lichen
4. Beeswax
5. Resin
6. Natron
7. Onion
8. Nile mud
9. Linen pads
10. Frankincense



MUMMIFICATION TOOLS:

The ancient embalmers used very few tools. The basic tool kit included a **KNIFE** to make the abdominal incision, hooked bronze **RODS** to extract brain matter, a wooden **ADZE**-like tool to remove internal organs, and a **FUNNEL** to pour resins into the cranial cavity through the nose.



There are three elements to the Egyptian **CONCEPT OF SOUL**:

KA is the life force or spiritual double of the person.

BA is represented as a human-headed bird that leaves the body when a person dies. The face of Ba was the exact likeness of that of the deceased person.

AKH is the spirit of Re (representing light), the transfigured spirit of a person that becomes one with light after death.



The journey to the afterworld was considered full of danger. Traveling on a **SOLAR BARK**, the mummy passed through the underworld, which was inhabited by serpents armed with long knives, fire-spitting dragons and reptiles with five ravenous heads. Upon arriving in the realm of the **LAND OF THE GODS**, the deceased had to pass through seven gates, reciting accurately a magic spell at each stop. If successful, they arrived at the **HALL OF OSIRIS**, the place of judgment.



Here the gods of the dead performed the **WEIGHING OF THE HEART** ceremony to judge whether the person's earthly deeds were virtuous.

The person's heart was placed on a scale, counterbalanced by a feather that represented Maat, the goddess of truth and justice.

If the heart was equal in weight to the feather, the person was justified and achieved immortality. If not, it was devoured by the goddess Amemet. This meant that the person would not survive in the afterlife.



When a pharaoh passed the test, he became one with the god Osiris. He then traveled through the underworld on a solar bark, accompanied by the gods, to reach **PARADISE** and attain **EVERLASTING LIFE**.



DAILY LIFE



The flooding of the Nile rendered the narrow strip of land on either side of the river extremely fertile. **INTENSIVE AGRICULTURE** was practiced by the majority of the peasant population, who played a vital role within the country's **STRICT HIERARCHICAL SOCIETY**. As the flood waters receded, **SOWING** and **PLOWING** began, using primitive wooden plows.

In addition to such **GRAINS** as barley and emmer (a coarse wheat), a large variety of **VEGETABLES** were grown, including onions, garlic, leeks, beans, lentils, peas, radishes, cabbage, cucumbers, and lettuce. There were also **FRUITS** such as dates, figs, pomegranates, melons and grapes,

The abundance of flowers provided nectar for the bees to produce **HONEY**, which the Egyptians processed. **FLAX** was grown for making linen, and **PAPYRUS** was harvested to be converted into paper, ropes, mats, sandals and light skiffs.



Breaking the ground
with plow and hoe

Reaping and
scattering the seed

Separating the grain
from the chaff

Although the land was worked by the **PEASANTS**, it was owned by the king, his officials and the temples. Farmers had to meet **GRAIN QUOTAS**, which were handed over to the owners as a form of taxation.

They were allowed to keep a portion of the crops for their own benefit. If they did not produce the quantity expected, however, they were severely punished.



In mid-September, farmers blocked canals to retain the water for **IRRIGATION**.

Still used today, the **SHADUF** is a mechanical irrigation device used to conduct water from the canals to the fields.

One person can operate it by swinging the bucket of water from the canal to the field

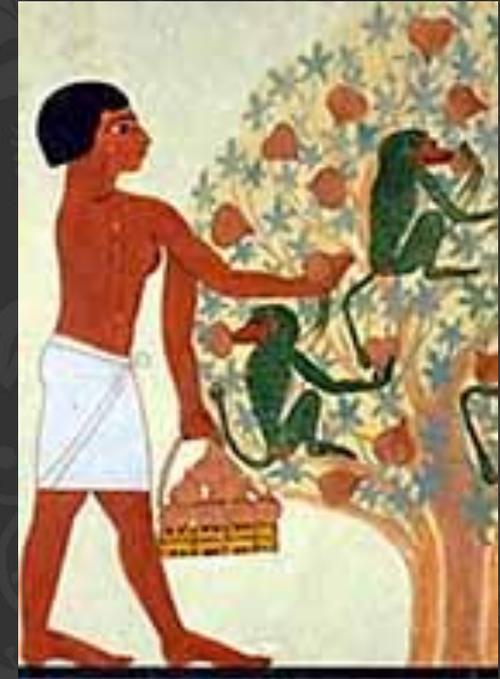


LIVESTOCK was important to the Egyptian economy, supplying meat, milk, hides, and dung for cooking fuel.

A variety of **DOMESTICATED ANIMALS** were raised, including cattle, oxen, sheep, goats, pigs, ducks and geese. Peasants probably enjoyed meat on special occasions..

DRAFT ANIMALS such as oxen increased agricultural productivity.

HERDSMEN and **SHEPHERDS** lived a semi-nomadic life, pasturing their animals in the marshes of the Nile.



Barley and emmer, were used to make **BEER** and **BREAD**, the main staples of the Egyptian diet. Grains were harvested and stored in **GRANARIES** until ready to be processed.

The quantities harvested each season far exceeded the needs of the country, so much was exported to neighbouring countries, providing a rich source of **INCOME** for the Egyptian treasury



Grapes were processed into **WINE** for the noble class, but beer was the favorite drink of the common people.

Food was served in **POTTERY BOWLS**, but **NO UTENSILS** were used for eating.



Pharaohs and nobles participated in **HUNTING, FISHING** and **FOWLING** expeditions, a means of recreation that had ritualistic and religious significance.

HUNTING SCENES often depicted on temple walls and tombs reinforce the prowess of kings and nobles. Rabbits, deer, gazelles, bulls, oryx, antelopes, hippopotamuses, elephants and lions were among the wild animals hunted for their meat and skins.



FISHING allowed the working class to add variety to its diet. The poor substituted fish for meat, which they could not afford. The Nile, the marshes of the delta and the Mediterranean Sea offered them a rich variety of species.

FISHING METHODS included the use of a hook and line, harpoons, traps and nets.

BIRDS, including geese and ducks, were also **HUNTED** in the marshes and papyrus thickets along the Nile.

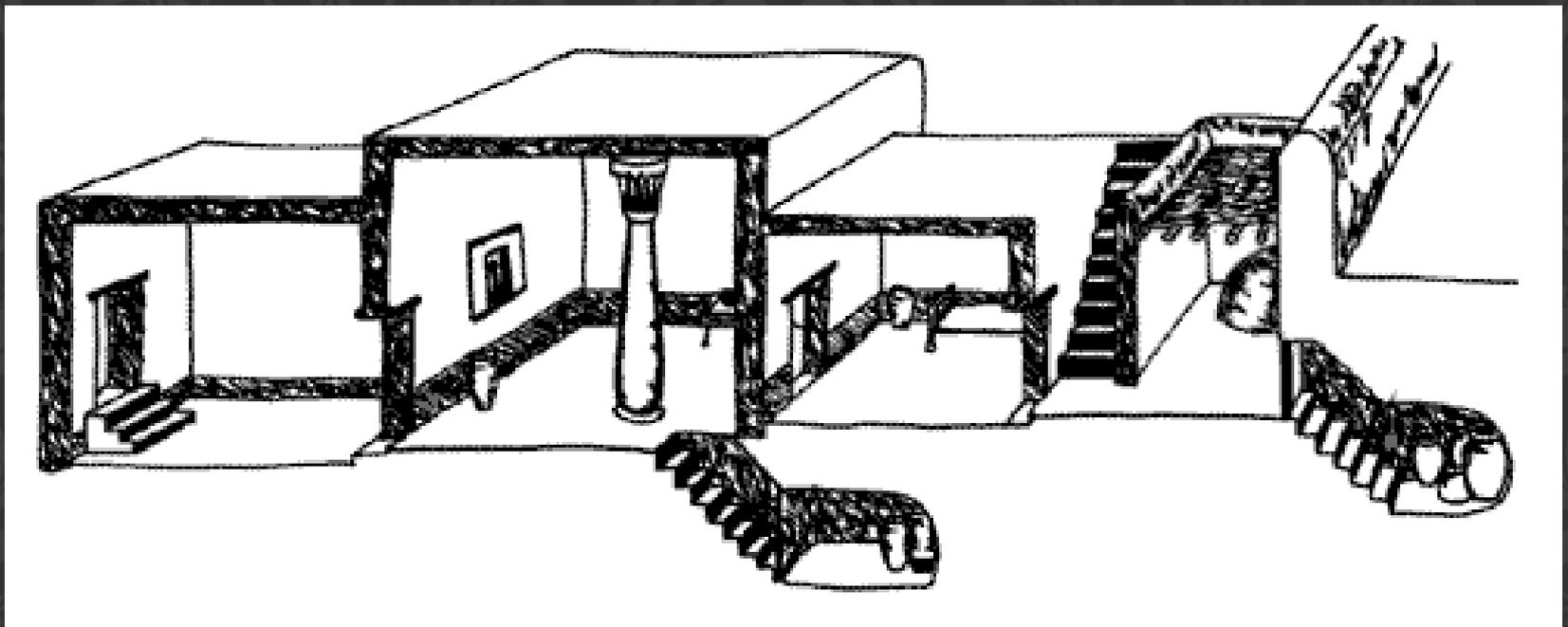
Small fishing boats called **SKIFFS** were made from **PAPYRUS REEDS**, which are naturally filled with air pockets, making them particularly buoyant. Skiffs were also used for hunting game in the Nile marshes.



Most **HOUSES** were made of **BRICK**. The banks of the Nile provided the mud used to make bricks.

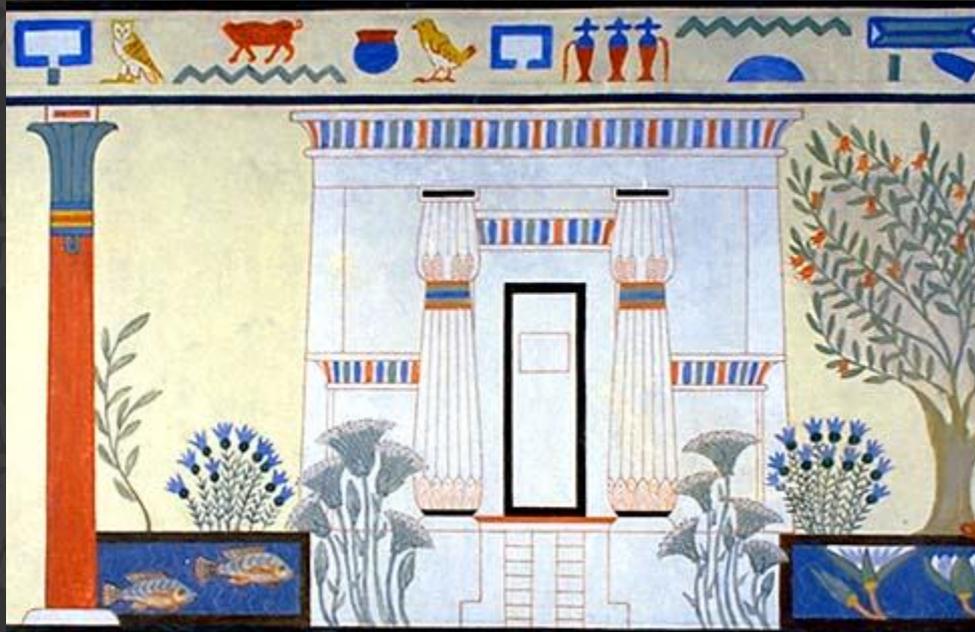
Brick makers collected **MUD**, added **STRAW** and **WATER** to it as needed, and stomped it with their feet until it reached the right consistency. The mixture was then placed in a **MOLD**. Once shaped, the bricks were removed from the mould and left on the ground to dry in the sun.

Egyptian **PEASANTS** would have lived in **SIMPLE MUD-BRICK HOMES** containing only a few pieces of furniture: **BEDS**, **STOOLS**, **BOXES** and **LOW TABLES**.



CRAFTWORKERS lived in one- or two-storey **FLAT-ROOFED DWELLINGS** made of mud bricks. The walls and roof would have been covered with plaster and painted.

Inside, there was a **RECEPTION ROOM**, a **LIVING ROOM**, **BEDROOMS** and a **CELLAR** in which food and beverages were stored. Food was prepared in an **OUTDOOR KITCHEN** equipped with a mud-brick oven. Stairs on the exterior of the house led to a **ROOF-TOP TERRACE**.



The **HOMES OF THE WEALTHY** were larger and more luxurious.

SPACIOUS reception and living rooms opened onto a **CENTRAL GARDEN COURTYARD** with a fish pond and flowering plants.

Each bedroom had a **PRIVATE BATHROOM**, and the walls, columns and ceilings were painted with **BEAUTIFUL DESIGNS** inspired by nature.

Elaborate and highly **DECORATED FURNITURE** included beds, chairs, boxes and tables.

PAINTED CLAY POTS and vessels, as well as **ALABASTER BOWLS AND JARS**, were also found in the homes of the nobles.



A villa from the city of Amarna



ROYAL PALACES, frequently **CITIES IN THEMSELVES**, included separate residences, a temple and a workers' village.



SKILLED ARTISANS were considered **SOCIALLY SUPERIOR** to common laborers. They learned their art from a master who ensured stylistic continuity in the beautiful objects they created for the living and the dead.

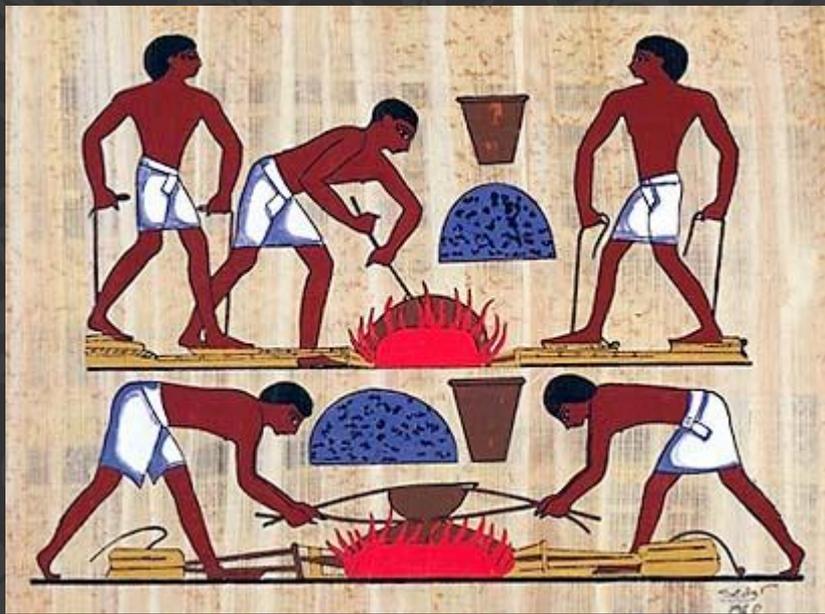
Skilled **CARPENTERS** manufactured a wide range of products, from roofing beams to furniture and statues. Their tools included saws, axes, chisels, adzes, wooden mallets, stone polishers and bow drills.

Other artisans included **STONE MAKERS** and **SCULPTORS**, **BEAD MAKERS**, **BRICK LAYERS**, and **POTTERS**.



WOMEN engaged in **WEAVING, PERFUME MAKING, BAKING** and **NEEDLEWORK**. Very few artistic creations were signed, and exceptional ability was rewarded through increased social status.

Women of all classes **COULD EARN WAGES, OWN PROPERTY** and **EMPLOY WORKERS**, but their main role was within the family. The title most women had was "**MISTRESS OF THE HOUSE**". They were considered **EQUAL WITH MEN BEFORE THE LAW**, and could sue for damages and divorce.



FLAX grown by farmers was woven into fine linen for clothing.

WORKING-CLASS MEN wore loincloths or short kilts, as well as long shirt-like garments tied with a sash at the waist.

WEALTHY MEN wore knee-length shirts, loincloths or kilts and adorned themselves with jewellery – a string of beads, armlets and bracelets.

WORKING-CLASS WOMEN wore full-length wraparound gowns and close-fitting sheaths.

ELITE WOMEN enhanced their appearance with make-up, earrings, bracelets and necklaces.

Both men and women wore **SANDALS** made of papyrus or went barefoot.



The Egyptian **ELITE HIRED HAIRDRESSERS** and took great care of their hair. Hair was **WASHED** and **SCENTED**, and sometimes **LIGHTENED WITH HENNA**.

CHILDREN had their **HEADS SHAVED**, except for one or two tresses at the side of the head, called a **SIDELOCK**.

Both men and women sometimes wore **HAIRPIECES** or **WIGS** made of human hair,.



Elite men and women enhanced their appearance with various **COSMETICS: OILS, PERFUMES**, and eye and facial paints. putting on make-up, they used a **MIRROR**, as we do today.

JEWELLERY was worn by the elite for self-adornment and as an indication of social status.



SCIENCES

MATHEMATICS: Although the Egyptians lacked the symbol for zero, they calculated numbers based on the **DECIMAL** and the repetitive (numbers based on the **POWER OF 10**). The following signs were used to represent numbers in the decimal system

						
1	10	100	1000	10,000	100,000	1,000,000

Numbers were usually written **LEFT TO RIGHT**, starting with the highest denominator. For example, in the number **2,525** the first number to appear on the left would be 2000, then 500, 20 and 5, as follows:



The Egyptians did not develop abstract mathematical formulas. They used the simple arithmetic of **ADDITION AND SUBTRACTION**



ASTRONOMY: Like many ancient peoples, the Egyptians studied the night sky, taking measurements from the stars to accurately align their pyramids and sun temples with the earth's four cardinal points. Using an instrument called a **MERKHET** (similar to an astrolabe), astronomer-priests marked out the foundations of buildings with astonishing accuracy.

The **GREAT PYRAMID AT GIZA** provides an example. This remarkable building has a footprint of over 13 acres and consists of approximately 6.5 million limestone blocks. Its four sides are accurately aligned to face north, east, south, and west, with an error of less than half a degree. They are also virtually identical in length, with less than a 20 cm (8 inch) variance between one side and another.



MEDICINE: The doctors of ancient Egypt combined **MAGIC SPELLS** with **REMEDIES**. If a person fell sick, the illness was thought to be caused by the wrath of the gods or by an evil spirit that had entered the body.

Both **PRIESTS AND DOCTORS** were called upon to heal the sick, combining their powers and skills to fix the problem.

Doctors found cures for many diseases and some of their concepts are still used today. They used **CASTOR OIL** as laxatives, **TANNIC ACID** from the acacia tree to heal burns, **CORIANDER** in a tea for stomach illnesses, and **CUMMIN SEEDS** on aching or arthritic joints and to calm a cough.

They also made and used **TOOLS FOR SURGICAL USE** that are similar to the ones that we use today.

SOURCES

Egyptian Civilization

<http://www.civilization.ca/civil/egypt/egcivile.html>

Ancient Egyptian Virtual Temple

<http://showcase.netins.net/web/ankh/>