

# Irrigation

The Sumerians adopted an agricultural mode of life and practiced the same irrigation techniques as those used in Egypt.

They grew barley, chickpeas, lentils, wheat, dates, onions, garlic, lettuce, leeks and mustard. They also raised cattle, sheep, goats, and pigs. They used oxen as their primary beasts of burden and donkeys as their primary transport animal. Sumerians caught many fish and hunted fowl and gazelle.

Sumerian agriculture depended heavily on **irrigation**. The irrigation was accomplished by the use of canals, dams, rivers, and reservoirs. The frequent violent floods of the Tigris and the Euphrates Rivers meant that canals required frequent repair. The government required all individuals to work on the canals, although the rich were able to exempt themselves.

After the flood season, farmers would flood their fields and then drain the water. Next they let oxen stomp the ground and kill weeds. They then dragged the fields with pickaxes. After drying, they plowed, harrowed, raked the ground three times, and pulverized it with a mattock, before planting seed. Unfortunately, the high evaporation rate resulted in gradual drying of the fields. By the later periods, farmers had converted from wheat to the more tolerant barley as their principle crop.

Sumerians harvested during the dry fall season in three-person teams consisting of a reaper, a binder, and a sheaf arranger. The farmers would use threshing wagons to separate the cereal heads from the stalks and then use threshing sleds to disengage the grain. They then winnowed the grain/chaff mixture.



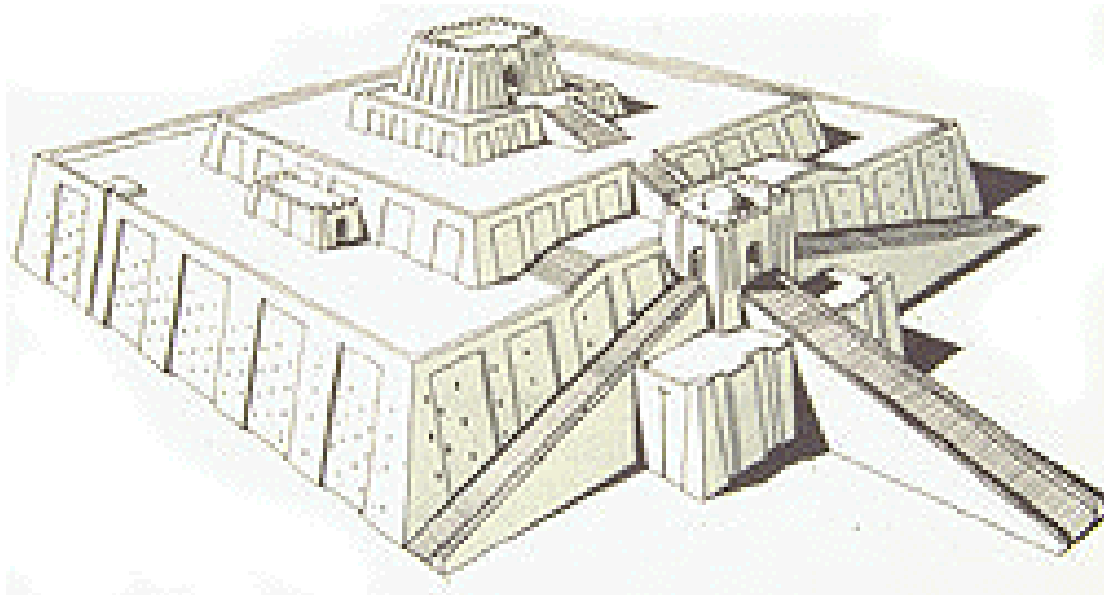
# Ziggurats

Ziggurats were a form of temple common to the Sumerians of ancient Mesopotamia. The earliest examples of the ziggurat date from the end of the third millennium BC and the latest date from the 6th century BC. 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 colors and may have had astrological significance. The number of tiers ranged from two to seven, with a shrine or temple at the top. 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. A notable example of this structure is the Great Ziggurat of Ur, which was dedicated to the moon god Nanna.

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.

Priests would perform sacrifices in the temple at the top of the ziggurat. These were usually oxen or sheep, but there are reports of some human sacrifices as well.



# Written Laws

At first, councils of wealthy elders governed Sumerian cities. In times of military emergency, however, a Lugal, meaning “great man” was elected to lead. The Lugal of a city-state may have been its chief priest. Lugals began to lead for longer periods of time, eventually becoming kings. Sumerian kings (and other Mesopotamian kings) became the civic, military, and religious leaders of their city-states.

These Sumerian kings invented case laws that covered the problems in society. The wealthy could always opt out of punishments by paying a tribute, but women and those who did not own land were usually dealt the most severe punishments.

Making things more confusing was that each city had different laws and different punishments. What might be legal in one city could be punishable by death somewhere else.

In most Sumerian cities, if a person was accused of a crime, he would go before the king to argue his case. It was up to the king to decide his fate. Depending on the king (and your crime), you could be punished with lashes, losing a limb, stoning, burning, or death.



# Organized Armies

Sumerian armies consisted mostly of infantry. Light infantrymen carried battle-axes, daggers, and spears. The regular infantry also used copper helmets, felt cloaks, and leather kilts. Sumerians used slings and simple bows.

Two types of spearhead have been found. One is a long thin pike like bronze or copper head of as much as two feet in length. The other is a broad leaf shaped head made of bronze that is 12 inches to 20 inches long and is sharp along both edges and could be used both for thrusting and slashing.

The Sumerian military used carts harnessed to onagers or horses. These early chariots functioned less effectively in combat than did later designs, and some have suggested that these chariots served primarily as transports, though the crew carried battle-axes and lances. The Sumerian chariot comprised a four or two-wheeled device manned by a crew of two and harnessed to four onagers. The cart was composed of a woven basket and the wheels had a solid three-piece design.

Sumerian cities were surrounded by defensive walls. The Sumerians engaged in siege warfare between their cities, but the mudbrick walls failed to deter some foes.



# The Wheel

According to most authorities, the wheel-and-axle combination originated in ancient Mesopotamia about 5000 BC, probably originally in the function of potter's wheels. The wheel's efficient use of input energy must have been quickly understood by its inventors because it was almost immediately set to work in other contexts, most importantly in transport and in foodstuff processing (mill wheels).

Early wheels were simple wooden disks with a hole for the axle. The oldest such wheel was found by archeologist Dr. Anton Velušček and his team in 2002. According to experts, the specimen was manufactured somewhere between 3350 and 3100 BC.

The wheel (with axle) is considered the starting point of advanced human technology. Without it, transportation, military advancements, and society could not move forward.



# Cuneiform

Cuneiform script is one of the earliest known forms of written expression. Created by the Sumerians around 3500 BC, cuneiform writing began as a system of pictographs or picture writing. Over time, the pictorial representations became simplified and more abstract.

Cuneiform was written on clay tablets, on which symbols were drawn with a blunt reed called a stylus. The impressions left by the stylus were wedge shaped, thus giving rise to the name cuneiform, wedge-writing.

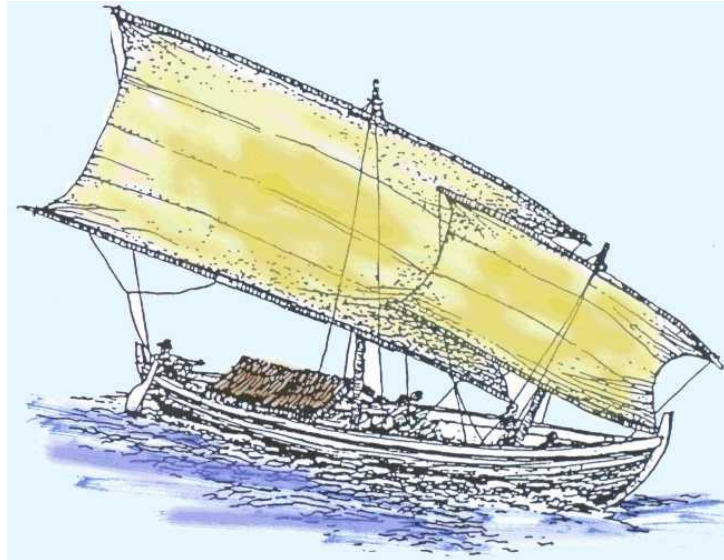
No earlier form of written script has yet been found, so it is currently believed to be the first “written language” and therefore the predecessor to all written languages. An extremely large body of hundreds of thousands of texts in the Sumerian language has survived, the great majority of these on clay tablets. Known Sumerian texts include personal and business letters and transactions, receipts, lexical lists, laws, hymns and prayers, magical incantations, and scientific texts including mathematics, astronomy, and medicine.



# The Sailboat

The Sumerians were the first to harness the wind's power to propel their boats. These first sailboats were stitched together with twine, featuring tar to waterproof the bottoms and sides. The sails were usually made of stretched animals skins patch worked together. Most sailboats were not that large, usually smaller than 20 feet in length and with a tall wooden mast. They carried oars for when the winds were not strong enough to propel the boat.

Traders sailed up and down the Tigris and Euphrates Rivers. Sumerian pottery decorated with cedar oil paints was prized in the ancient world and could be traded for wheat, barley, or jewels. Sumerian masons and jewelers knew and made use of alabaster ivory, gold, silver, carnelian and lapis lazuli.



# The City State & King

A city-state is a region controlled exclusively by a city, and usually having sovereignty. Though Sumerian city-states were part of a larger cultural area, each was independent of the other. Some however, formed informal leagues under a high king.

Sumerian city states, including Ur, Kish, Nippur, and Lagash were surrounded with high, thick stone walls to protect their inhabitants. Most had a large metal gate on each side of the city.

Some cities had canals or moats outside the walls to provide additional protection. In the center of each city was the ziggurat, a large, tiered temple. Surrounding it would be the houses of the wealthy, who lived near the center for more protection. Poorer people might live inside or outside the city walls.

Sumerian kings would live in palaces near the ziggurat and shared power with the temple's priests. The king of each city was responsible for creating and enforcing the laws of his city. This resulted in almost all cities having separate and distinct laws, which could cause confusion. Kings also led their armies into battle when priests handed over all power to the king. Kings were also responsible for commissioning sculptors and architects to beautify the city,

