ANCIENT EGYPT

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David P. Silverman

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THE RIVER IN THE SAND

Egypt lies at the northern end of the longest river in the world: the Nile, which rises in the East African highlands and flows into the Mediterranean more than four thousand miles (6,300 km) away. The rhythm of the river was the most important feature of life in ancient Egypt. Until this century, when huge dams have been built to control the Nile's flow, monsoon rains in Ethiopia caused it to swell along its lower reaches and inundate the surrounding countryside every year from June to October. Most of Egypt's population were farmers, who stood idle during the inundation, unless they were called up to work on public monuments such as the king's tomb. When the Nile receded, it deposited rich silt, ensuring that the farmers always planted in fertile soil. Except for those years when the flood was disastrously high or low, Egyptians were secure in their knowledge that the river would guarantee them enough to eat (see pp. 12–13).

The Nile in Egypt has two main parts: the Valley and the Delta, corresponding to the ancient divisions of the country into Upper and Lower Egypt. The Valley, some 660 miles (1,060 km) long, is a remarkable canyon that is an offshoot of the African Great Rift Valley. The floodplain occupies 4,250 square miles (11,000 km²) and ranges in width from just one to 40 miles (65 km) at Assuan to ten miles (17 km) at el-Amarna. At present, the Nile splits near Cairo into two branches that flow into the sea at Rosetta (Rhaid) and Damietta (Damiyat). These are all that remain of several branches that existed until medieval times (see map, opposite). The silt left by the branches formed a broad triangle of fertile land that covers some 8,500 square miles (22,000 km²). The Greeks called this land the "Delta" because its shape reminded them of the inverted fourth letter of their alphabet (Δ). The Delta is fifty-seven feet (17 m) above sea level near Cairo and is fringed in the coastal regions by lagoons, wetlands, lakes and sand dunes. In parts of the eastern Delta there are conspicuous low hills known as "turtle backs". These sandy "islands" in the surrounding silty plain were rarely submerged by the annual inundation and in Predynastic times (to ca. 4000 BC) villages and burial grounds became established on their slopes. From the Old Kingdom (ca. 2625–2130 BC) onward, the apex of the Delta was close to Memphis, the ancient capital. It is now fifteen miles (25 km) north of Cairo.

The Nile divides the eastern margin of the Sahara into the Western Desert (also known as the Eastern Sahara and the Libyan Desert) and the Eastern Desert. The Western Desert covers about two-thirds of Egypt, and its most striking features are a series of rocky desert plateaux and sandy depressions, in which nestle lush oases (see map, p. 30). The Eastern Desert, characterized by the prominent Red Sea Hills, was important in pharaonic times for its minerals (see map, p. 66). The Sinai, essentially an extension of the Eastern Desert across the Gulf of Suez, was also a major source of minerals, especially copper. Wheat, barley, sheep and goats were domesticated in the Near East at least two thousand years before they appeared in the Nile Valley. Herders in the deserts of Palestine and the Sinai were probably driven to seek refuge in the Delta by great droughts seven thousand years ago.

The Western Desert, which was not always as dry as it is today, has yielded the oldest evidence of human kind in Egypt. Tools at least half a million years old have been found close to long-vanished rivers and springs, and the first domesticated cattle in Africa may have been tended ca. 9000 BC near ephemeral lakes (playas) in the southwest of the Western Desert, not far from the present-day border with Sudan. It may well be in these areas that the roots of Egypt's civilization lie: here, herders took the first steps toward complex social organization and developed fundamental elements of Egyptian society and religion, before the increasing aridity of the region forced them to drift toward the Nile Valley (see pp. 106–7).
MATERIAL RESOURCES
Abundant food supplies were supplemented by other important economic resources. Flax was used to make fine linen garments and rope. Now rare in Egypt, papyrus grew in great thicknesses in the marshes and swamps. The stalks were sliced into strips to make sheets (a sheet consisted of one layer of horizontal strips placed over a layer of vertical strips). The two layers were then beaten together to make the best writing material available until the arrival of paper in Arab times. Other reeds and grasses were turned into mats and baskets. Nile mud provided clay for pottery and sun-dried bricks. Egyptian sycamores, fig and mulberry trees were employed in shipbuilding, but better-quality timber had to be imported. Lebanon cedar was used for ships, fine chests and coffins.

THE NURTURING WATERS

The civilization of Egypt and its spectacular achievements were based throughout its history on the prosperity of a mainly agrarian economy. The country’s verdant green fields and bountiful food resources depended on the fertile soil of the Nile floodplain and the annual summer flood, which commenced in mid-June and lasted until mid-October (see p.10). As soon as the waters began to recede, the farmers returned to their sodden fields to sow their seeds. The crops were ready for harvest from February to early June, when the Nile was at its lowest level.

Egyptian agriculture involved the cultivation of a wide range of plants, the most common being emmer-wheat and barley, staples from which Egyptians made bread, cakes and a nutritious type of beer that was frequently flavoured with spices, honey or dates. The predominantly cereal diet was supplemented by fava beans, lentils and peas (good sources of protein); and other vegetables grown included lettuce, cucumbers, leeks, onions and radishes. Among the most popular fruits, grown in orchards were melons, dates, sycamore figs and pomegranates. Grapes were also cultivated and were used to make both red and white wines. Oils were extracted from flax and the castor-oil plant (Ricinus communis), as well as from sesame in Ptolemaic times. The Egyptians also grew a wide variety of herbs for medicinal purposes.

Poultry and livestock had an important place in the economy. Geese were a common sight along the canals and villages that lined the Nile, and at the time of the annual inundation, migratory water birds flocked to Egypt from afar. Pintail ducks, in particular, were caught in nets and snared in traps. Farmers also kept sheep, goats, cattle and pigs. Donkeys were Egypt’s main beasts of burden and chief mode of transport on land. Horses were introduced only during the New Kingdom (after ca. 1539BC); camels and buffaloes did not appear in the Egyptian landscape until a thousand years later, during the Persian occupation.

The Nile itself was a source of an abundance of fish such as tilapia and carp, both of which were found close to the banks of the river in the muddy waters between the reeds. Nile perch (Lates niloticus) was a favoured catch in the irrigation ditches that were dug to channel water from the Nile to the fields.

THE UNPREDICTABLE NILE

The flood discharge from the Nile varied enormously from year to year. When floods were very low, there might be severe food shortages, but excessively high floods would wreak catastrophic destruction in villages and fields. Moreover, the floods sometimes arrived too late or too early, and the floodwaters might not retreat until after planting was supposed to have started. A brief inundation could mean that the waters receded quickly, making it difficult to get enough water to the fields before planting time. Conditions become particularly difficult when “bad” floods recurred over several successive years. There were periods when low floods and high floods alternated annually, causing major disruption to planting and harvesting schedules. Repeated low floods also led to the silting of major transport canals and the disappearance of many Delta branches of the Nile (see p.11).

Ancient records are scanty, but those of the Nilemeter (Nile flood gauge) at Roda near Cairo, over the last thirteen hundred years, reveal that from the early tenth century CE to the late fourteenth century CE the floods were still highly variable, with the periods 920 to 1070 and 1180 to 1350 marked by severe droughts. Times of drought were accompanied by outbreaks of pestilence and civil disorder, and it is known that some people resorted to cannibalism. It is not known whether such effects occurred in pharaonic times, but according to one theory, poor floods contributed to the demise of the Old Kingdom.

The Nile Delta in ancient times, showing the area subject to flooding. The often catastrophic variability of the Nile inundation was the chief motivation behind the construction this century of the Aswan Dam and, especially, the Aswan High Dam, completed in 1971.
The GREAT HIGHWAY

The Nile was at once Egypt's richest source of sustenance and its main communications artery. It flowed from south to north at an average speed of four knots (7.4 kph) during the season of inundation, which meant that the voyage from Thebes to Memphis, a distance of around 550 miles (885 km), would have taken approximately two weeks. Navigation was faster during the inundation because the water was on average about twenty-five to thirty-three feet (7.5–10 m) deep. In contrast, during the season of drought, when the water level was low, the speed of the current was much slower, about one knot (1.8 kph), and the same trip would have taken at least two months. At the Nile's lowest point, in June, the water was no more than seven feet (2 m) at Aswan compared with just under eighteen feet (5.5 m) near Memphis.

The trip from north to south would have been extremely slow before the invention of sails (probably ca. 3350 BCE or a little later) to take advantage of the northerly and northwesterly winds blowing off the Mediterranean. At all times of the year the great bend near Qena, where the Nile flows from west to east and then back from east to west, slows down river travel considerably. Night sailing was generally avoided because of the danger of running aground on one of the many sandbanks and low sandy islands (see illustration, p.12). In the late Predynastic or Naqada II period (ca. 3500–3100 BCE), Egyptian boats developed from craft made of reed bundles into big ships constructed from wood planks. Early rock art suggests that some boats were over fifty feet (15 m) long and could carry a crew of thirty-two. Multi-ruddered boats existed before this time, in the early fourth millennium BCE. Clay models of boats found at Merimde Beïn Salmana in the Delta date back to the fifth millennium BCE.

By the Early Dynastic Period, Egyptian boatbuilding had attained high standards. At Abydos, boat pits (see p.172) associated with the First-Dynasty funerary complexes of ca. 3000 BCE have revealed a fleet of twelve boats between fifty and sixty feet (15–18 m) long. But perhaps the greatest discovery from this period is that of a barque of the pharaoh Khufu, builder of the Great Pyramid (see p.158). Durian in pieces next to the pyramid, it was recently reassembled and measured an impressive 144 feet (45.8 m) in length. From the earliest times, boats were used to transport people between villages during the inundations, to ferry them across the river, and to transport cattle, grain and other commodities. They were also deployed in military campaigns. From the Fifth Dynasty onward, Egyptian shipwrights were making sailing boats capable of ocean navigation.

Together with the donkey – the principal overland transport – boats made possible the economic and political integration of the country. The capitals of the nomes, or provinces (see p.27), were linked with the national capital by boats and barges that carried local revenues to the royal storehouses. The emergence of a royal state in Egypt may have been linked with the coordination of grain collection and other relief activities developed as part of a strategy to deal with unexpected crop failures in a particular district. In pharaonic times, grain from several districts stored in a central granary would be sent by river to an area hit by famine.

Artificial harbours and ports to accommodate large cargo boats were an essential feature of the riverine landscape. Towns took advantage of the deeper side of the Nile channel close to the shore to establish ports. They also built rock jetties that extended a short way into the river, perhaps in response to changes in the course of the Nile. The site of a huge harbour at Medinet Habu in Western Thebes, built during the reign of Amenhotep III (ca. 1390–1353 BCE), is marked by huge elongated mounds created by the earth from the harbour's excavation.

Other large harbours are known from Memphis and the Delta city of Tanis. The port at Tanis was used by Thutmosis III (ca. 1479–1425 BCE) to connect Memphis with the eastern Delta.
A LANDSCAPE OF THE MIND

The unpredictability of the Nile floods (see p.13) exercised a powerful hold on the Egyptian imagination. The period just before the inundation, when the river was so low that in places a person could cross on foot, was a time of apprehension: when the flood came it was frequently wild and dangerous. The Egyptians could not tame the river, but they sought to prevent its worst effects by managing the landscape to take advantage of natural conditions—for example, by strengthening natural levees to form embankments. At times of low floods, artificial canals carried water to the thirsty uplands of the floodplain. Flood basins were managed so that water could flow from one basin to another, enabling areas up and down the valley to have sufficient water in time for planting. The desire for order which permeated the Egyptians’ world-view was barely derived in no small measure from the chaotic presence of the river in their midst.

To the Egyptians, every being, including Pharaoh and the gods, had to abide by the fundamental cosmic principle of maat, personified as Maat, the goddess of order, justice and goodness. The cosmic order was also embodied in the movement of the god Re, the sun, the other prominent natural element whose rhythms regulated Egyptian lives. The sun god was believed to be ferried daily across the sky in a boat, and to return through the underworld on a barque to a point below the eastern horizon (see pp.118–19). Such mythological vessels recalled the ferryboats that plied between the banks of the Nile.

On earth, order was maintained by the pharaoh, the manifestation of the god Horus, son of Osiris and Isis (see pp.134–3). According to allusions in early religious texts, and later literary and artistic references, Osiris taught the people how to take advantage of the Nile by giving them the arts of cultivation and civilization. He was slain by his brother, Seth, who was identified with the forces of evil and chaos. After death, Osiris returned to life as king of the underworld, where he ordained the life-giving waters of the annual inundation.

Egyptian concepts of time were based on the daily rising and setting of the sun and the three-part cycle of the Nile: drought, the season in between; and the season of inundation. Cosmic space was delimited by the four corners: the south (the source of the Nile), the north (where the pole star shines), the east (where the sun rises) and the west (where it sets). Time and space were thus linked to the two most important elements in Egyptian cosmology; and these elements, in turn, were linked in the cosmic order with life, death and rebirth.

DEITIES OF THE NILE

Although Osiris ordained the annual inundation, the god most associated with the river itself was Hapi, depicted as a human figure with a large belly and pendulous breasts. This corpulence represented the bounty of the Nile, whose waters flowed to nurture Egypt. Hymns addressed to the Nile spoke of its bounty, expressing joy at its coming, and sorrow at the plight of Egypt when the Nile floods failed. The inundation was ritually greeted with thanks and jubilation in honour of Hapi, its patron divinity. The god is depicted with a poppy seed plant, another symbol of the benefits of the Nile, sprouting from the top of his head.

The Nile was a river of creative forces. Its source was believed to be in the underworld, where it was connected to a subterranean stream. From the underworld it issued to the surface between granite rocks close to the First Cataract near Elephantine in the far south. As the haunt of Egypt’s fertility, the (supposed) source of the Nile was linked to the ram-headed creator god Khnum, who was believed to have fashioned humankind from Nile mud on a potter’s wheel. Satis, the consort of Khnum in the south, together with her companion Amulet, were revered as the dispensers of cool water. Satis was often depicted pouring water onto the earth to endow it with life. Unlike Khnum, she was shown in human form wearing the crown of Upper Egypt with two gazelle horns.

Nile creatures, such as the hippopotamus, the crocodile and fish, were venerated as gods of fertility. Heket, a frog, was revered as a goddess of childbirth, as was the hippopotamus goddess, Taweret. In the story of his and Osiris, Heket was said to have assisted him in bringing the murdered Osiris briefly back to life, in order that he could father the god Horus (see main text).