S1 Episode 3 Transcript

Geography and the Nile

This podcast transcript is copyright Kate Bernasconi, Musegyptology.

Note for students etc:
I have not cited my sources in this transcript. The resources I used for my research are listed at the end of the transcript in Bibliography, in addition to my own knowledge of ancient Egypt gathered through years of studying, reading and academic lectures. This is not a piece of academic writing, however the research techniques etc follow academic research guidelines. If you wish to use this transcript as information/inspiration for an academic essay, please back up your statements with academic sources (see Bibliography) and primary evidence, where applicable.

PART 1

Welcome to Episode 3 of Musegyptology. In this episode we will be taking a mind's eye tour of ancient Egypt, imagining ourselves journeying along the Nile on a wooden boat and passing some of the major ancient sites, landscapes and environments along the way, in order to learn about the geography of ancient Egypt and the Nile itself. My name is Kate, and I'll be your guide. Perhaps you'd like to follow our journey on a map, or close your eyes and imagine this ancient land: the glistening Nile, blue sky, the heat from the sun, green and lush riverbanks, plentiful crops in the fields, villages, towns and cities teaming with life and culture, magnificent temples and monuments, mysterious tombs and the baking desert beyond. The subject of geography and the Nile is essential to understand ancient Egypt, it gives us the context for other subjects of Egyptology and helps us to understand the lives of ordinary Egyptians.

This episode is divided into three parts, as it's too long to put everything into one recording. Please listen to the parts in order (1, 2 and then 3) to understand it in the order that I've written it. We don't have the time to discuss every topic in this episode, but I will teach you enough of the fundamentals about Egyptian geography so that we can discuss other subjects in future episodes, for example ancient Egyptian religious beliefs and death and the afterlife in the rest of season one, and many other subjects in season two onwards. I'll be speaking in the present tense as much as possible because while we're on our mind's-eye tour we'll be imagining the scenes described as though they are currently happening. I will use the common or well-known names for the places we'll be talking about, which are mainly their Arabic or Greek names, instead of their ancient Egyptian names, and I'll be using the abbreviations BCE, before the common era and CE, common era, instead of BC and AD.

During this tour we have time-travelled back to ancient Egypt, but not to a specific period of Egyptian history, because if our journey took place during the Old Kingdom, when the Giza pyramids had recently been finished, we wouldn't be able to theoretically see the famous temples of the New Kingdom or Ptolemaic period, for example, whereas if our Nile tour took place during the Ptolemaic period, the Giza pyramids would already be almost 2500 years old, and we wouldn't be able to marvel at their splendour as though they were new. So suspend your disbelief for a while, travel back in time and join me in ancient Egypt.

The importance of the Nile and Egypt as an oasis

Our journey takes place from a boat on the Nile, because, quite frankly, how else would you want to travel through ancient Egypt? On a hot day, with the baking sun shining down on us, it's lovely to

feel the cooling breeze of the north wind on your face as the boat is smoothly rowed down the Nile, and you can enjoy the abundant vegetation of the riverbanks to either side of you and the palm trees and fields beyond.

The Nile is the lynchpin of ancient Egypt; it is life-giving, and Egypt has been justifiably called the gift of the Nile by ancient Greek geographer Hecataeus of Miletus. Without it, the whole area would be arid desert, as Egypt is located in the north-eastern corner of the Sahara. Fortunately, due to the rich silt that the Nile deposits during its annual flood, it is a very fertile country and ripe for agriculture, particularly cereals, vegetables, farm animals and flax for linen. Thanks to the Nile, ancient Egyptian farming requires relatively little effort compared to other, less geographically lucky, ancient states such as Mesopotamia.

Egypt can be seen as an oasis in its own right, a place with plentiful water and fertility in the desert, where people are not only able to survive, but thrive. Ancient Egypt theoretically has all of the necessities people require to live- water, plentiful foodstuffs, easily accessible building materials to construct homes and other important buildings, the raw materials needed to make other necessities such as clothing, boats and tools, a hot but bearable climate and fuel from cow dung. It's essentially self-sufficient within its borders for these basics; if Egypt were cut off from access to the natural resources in the Eastern and Western deserts or trade with other countries, its people wouldn't suffer, although its manufacture of certain luxury goods would. Because the ancient Egyptians are theoretically able to obtain the necessities of life relatively easily, the government and its more affluent citizens don't need to constantly focus on survival in the form of food, water and shelter, and are able to spend time and energy on other parts of civilisation. Therefore, the culture that we recognise as ancient Egyptian is able to flourish, in particular religion, funerary practices, monument building, art and literature. The ancient Egyptians recognise the value of their country; one of the ancient names for Egypt is *tꜣ mrỉ*, meaning 'beloved land'.

Defining the land of ancient Egypt

Before we embark our boat, let's define the country known as ancient Egypt, its territory and borders. Although it was the largest state in the world until the end of the New Kingdom, the territory of ancient Egypt was significantly smaller than the Egypt we know in the 21st century CE. The land of ancient Egypt proper, the core parts of the country throughout pharaonic history, are the Nile valley, a fertile strip of land on either side of the Nile, the river Delta at the northern end of the country where the Nile splits into several branches and empties into the Mediterranean Sea, and the lakeside oasis just to the west of the Nile valley called the Faiyum. The southern frontier with Nubia is traditionally at the first cataract at Elephantine, from where our journey starts, and the northern border is the Mediterranean coast of the Delta. Unlike 21st century CE Egypt, the eastern and western borders of the country are the edges of the Nile valley and Delta, next to, but not including, the Eastern and Western deserts. These geographical features all serve as ideal boundaries as they are not only political delineations, but also physical barriers to potential enemies who wouldn't be able to cross into the country easily. The cataract slows the progress of boats entering Egypt from the southern border, those intending to enter Egypt from the Mediterranean sea have to moor their boats and cross the waterlogged land of the coastline, and those who try to access the country from the north-east, east, south or west bypassing the Nile would have to journey across the harsh terrain of the deserts.

Outside of the core parts of Egypt proper, everywhere else is considered foreign, including the Eastern and Western deserts, Sinai peninsula and oases that will be part of 21st century CE Egypt. However, at times when the pharaoh, government and Egypt's foreign policy are powerful, their interests extend outside of the Egyptian borders. They regularly send expeditions into the deserts to exploit the resources there, namely the oases of the western desert and the minerals, metals and stones of the eastern desert, and also send officials to other countries to conduct trade, such as to Nubia to obtain gold and the Lebanon for cedar wood. During periods when parts of Nubia and the Near East have been invaded and conquered by ancient Egypt, particularly during the New Kingdom,

Copyright Kate Bernasconi, Musegyptology

the Egyptian government significantly exploits these areas for their raw materials and other valuable resources, and the borders of the Egyptian empire are redrawn to accommodate their newly annexed territory.

Embarking our boat at Elephantine

We start our journey near the island of Elephantine, where we have embarked our boat and made ourselves comfortable for the voyage. We are travelling from south to north along the Nile because, unlike the 21st century CE world with the compass pointing to magnetic north, the ancient Egyptians orient themselves towards the source of the life-giving Nile, southwards. The Nile flows from south to north, so our boat will be rowed down the Nile with the current, whereas when people wish to travel upstream, from north to south, sails are used to take advantage of the north wind which blows south.

Around us we can see the geological features of the first cataract; the Nile is littered with boulders and small rocky islands around which the river flows. The definition of a cataract in the geography of the Nile is not a waterfall, as this term describes in other geological environments. Instead, they are outcrops of very hard rock across much of the width of the Nile where the river has not been able to erode a clear passage, and this hinders riverine transport. Therefore this is the perfect location for the traditional southern border of the country, a political and physical boundary where it's slower and more difficult to navigate a boat from Nubia into Egypt, making it easier for the army to control Nile border crossings. There are six cataracts of the Nile between Khartoum in Sudan and the Aswan area, but the rest of Egypt benefits from no other cataracts so it's easy to navigate along the Nile.

This region is relatively limited in its fertility and agricultural potential due to its geology causing a narrow floodplain, but despite this the Aswan area is very important. It is both a garrison town and the gateway to Nubia, from where huge amounts of gold are imported into Egypt and traders bring in sought-after raw materials and objects from Nubia and further south. This importance is shown by the number of temples and other significant buildings and monuments that have been built here. A few miles south of where we have embarked our boat, the island of Philae contains an important temple to the goddess Isis and many other religious structures, Biga island has a temple to the god of the afterlife and Isis' husband Osiris, and close to us is Elephantine, an island that has been inhabited since the beginning of Egyptian history and has many temples, tombs, burials of sacred rams for the local god Khnum and a small Old Kingdom step pyramid of mysterious purpose.

On the eastern side of the river are granite quarries where workmen carve huge chunks of this rock for colossal royal statues and monuments such as obelisks. Nearby, Sehel island has many rock inscriptions called graffiti recording these important quarrying missions for posterity. A breath-taking example of the work of the quarrymen and sculptors is visible on the ground in one of the granite fields; a massive 41 metre long obelisk lies there, partially carved from the bedrock but abandoned after it developed unresolvable faults. If it had been successfully finished it would likely be the largest obelisk of ancient Egypt, and it would have been transported down the Nile on a huge barge to an important temple such as Karnak, on the same route our boat is to take. However, it remains silent, dormant in the ground, and instead we start our journey northwards. While we are being rowed down the Nile, let me teach you about the geography of ancient Egypt.

The Two Lands, Upper and Lower Egypt

From the very beginning of the pharaonic period, when the first pharaoh started ruling Egypt as one unified state, it has been perceived as a country of two distinct parts, Upper and Lower Egypt, or the Two Lands. Upper Egypt is composed of the Nile Valley from the southern border at the first cataract to just south of the important city of Memphis almost 500 miles away. Lower Egypt started at that same invisible border and encompasses the Memphite region and the whole of the Nile Delta up to the Mediterranean coast. Because the ancient Egyptians orient themselves to the south, somewhat confusingly for 21st century CE perceptions, Upper Egypt is the southern part of the country and Lower Egypt is the north. The perceived distinction between the Two Lands is drawn in a large part

Copyright Kate Bernasconi, Musegyptology March 2023

because they are geographically distinct from each other; Upper Egypt is the hot and dry part of the country that is comprised of the Nile valley, with the Nile running through the middle and the floodplain on both sides met and sharply contrasted by the low desert adjacent to it. In contrast, Lower Egypt is a cooler region with some rainfall in the winter, which is mainly comprised of the broad river Delta, a wet and marshy region with numerous branches of the Nile running through it. However, the ancient Egyptians are used to their country being a land of dualities, and while two things can seem to oppose each other they are still seen as complimentary in their pair, so together the Two Lands make up Egypt. The pharaoh is called *nb tꜣwy*, which means Lord of the Two Lands, and *nsw bỉty*, which is usually translated into English as King of Upper and Lower Egypt. One of his crowns is the double crown, made up of the white crown of the south and the red crown of the north fused together, to prove that he is king of the whole country, united under his rule.

The Nile valley

The majority of our journey takes place through the Nile valley. This geological landscape forms the majority of the length of ancient Egypt, 500 miles long from the first cataract to the apex of the river's Delta, but of course it's much longer from the sources of the Nile in Uganda and Ethiopia. The valley is a geologically ancient river channel where, as the Nile flowed over millions of years, it eroded its channel deeper and deeper through the northeast African bedrock along its course. The force of the Nile carved what looks like a deep and wide canyon in some places, with cliff walls that can be well over 100 metres tall, whereas at other locations in the northern part of the valley there are flat limestone plateaus. During the pharaonic period the Nile flows in a much narrower riverbed within the larger Nile valley, and until the 20th century CE, when the Nile dams were built, its floodwaters spread wide across the land either side of the river every year, over an area called the floodplain. With its flood the Nile deposits highly fertile silt onto what would otherwise have been desert, allowing the ancient Egyptians to be so successful with agriculture. Beyond the floodplain is the dry, barren low desert, and running along the boundary of the Nile valley are the dramatic limestone or sandstone cliffs eroded by the power of the Nile, or flat desert plateaus, leading to the Eastern and Western deserts beyond.

Kemet and deshret

As mentioned, Egypt is a land of dualities, pairs of perceived opposites, for example Upper and Lower Egypt, and the East and West with the supposed distinction between the land of the living and the land of the dead based on where the sun rose and set. The clearest such dichotomy in the country is probably Kemet, the fertile, cultivated land versus deshret, the desert.

Kemet means 'black land', referring to the black silt deposited by the Nile flood and the fertile, cultivatable soil that results, which have made ancient Egypt's civilisation possible. Kemet is one of the names the ancient Egyptians call their country because the cultivated land really is the heart of Egypt. Due to its association with vegetation and growth in agriculture on an annual, cyclical basis, the colour black represents fertility, life and rebirth. In contrast there is the desert, deshret, which means the 'red land' due to the colour of the sands. The desert is feared, it's perceived as the wild land of chaos and danger, a place without cultivation and life-giving water where you could easily die, and therefore its patron god is Seth, who also represents chaos, disorder and storms. The contrast between the two areas couldn't be clearer, both physically and metaphorically, as although it may be a cliché, you can literally stand with one foot in the desert and one foot in the cultivation.

These two different lands therefore symbolised life (Kemet) and death (deshret), and this carries through into the ancient Egyptians' afterlife beliefs. Their lives revolve around the cultivated black land where their food grows and the majority of villagers work, and they live in settlements on higher ground amongst to the cultivation. But they lay their dead to rest in tombs or graves in the red land, either in the low desert past the floodplain, on limestone desert plateaus or in the cliffs at the edge of the valley. These areas are ideal for the purpose, as they are very dry environments which is necessary for the preservation of the mummies as well as tomb goods. This is also where

Copyright Kate Bernasconi, Musegyptology March 2023

the pharaohs build their mortuary temples, where the priests conduct the funerary cults of the deceased kings. But after death people's immortal souls return to the cultivation; the ancient Egyptians believe that the afterlife or heaven is a paradise called the Fields of Reeds, an idealised version of Egypt complete with plentiful food in its fertile fields and hunting grounds in the Nile and swamps, so that the deceased individual enjoys a peaceful and pleasurable afterlife, wanting for nothing.

Sandstone

Now we have reached Gebel el-Silsila, the location of the main sandstone quarry in Egypt. Sandstone is the bedrock in this area, from Lower Nubia to Esna in the third nome of Upper Egypt, as opposed to limestone from Esna northwards. The tall, sloping sandstone cliffs come down close to the Nile in this region, within only some metres at certain points at Gebel el-Silsila, which causes the disadvantage that the floodplain is narrow, so only limited amounts of agriculture are possible in this stretch of the Nile valley. However, the closeness of the cliffs is beneficial at Gebel el-Silsila as the ancient Egyptians can quarry the cliffs on both sides of the river for sandstone blocks and only have to transport them a short distance to reach the waiting barges on the Nile. Sandstone is one of the major building materials in ancient Egypt, alongside limestone and mudbricks, and Gebel el-Silsila blocks of this stone have been used to build many important buildings and monuments in Upper Egypt from the New Kingdom onwards, including most of the temples in Thebes, in particular the Temples of Karnak and Luxor and the pharaohs' mortuary temples.

Nile transport

As we are rowed further northwards, down the Nile away from Gebel el-Silsila, we pass a large barge that has recently left the quarry and is transporting sandstone blocks downstream. During our journey we will see hundreds of boats of various sizes and purposes on the Nile. In a land with no roads, motor vehicles or even bridges, but dominated by a smooth, easily navigable river which serves as the highway along the country's entire length, of course the easiest, most practical and popular mode of transport is by boat, whether to travel north or south to a nearby town or further afield, or just to cross from one bank to the other. From glorious royal barques made from cedar wood from Lebanon, in which the pharaohs travel to festivals or to rule from one of the capital cities, to small, simple skiffs made of marsh plants such as papyrus, everyone has access to some sort of boat, whether owned or hired, which enables people to do everyday activities such as travelling to work, to go to market or to visit friends.

As well as transporting people, a major use of the Nile is to move goods, which is key to Egypt's economy. Dozens of sites working in various economic activities are located along the 700 mile length of the Egyptian Nile, such as the granite quarry at Aswan and the sculpture of high quality statues at Memphis. Unless they are to be used locally, all of these goods have to be distributed throughout the country, and the only logical route is via the river.

Nile transportation is essential to Egypt's development as an advanced state of the ancient world. The most fundamental obligation for the king and his government is to look after their citizens by redistributing food to the places that need it. In particular, the government sends large barges to move the most important foodstuff grain, which is either grown on huge state-owned farms or collected from farmers as taxes. The grain is transported to state granaries for storage, and then it's moved along the Nile again to be distributed as wages for government workers or to regions that have had a poor harvest, to allay the risk of famine.

The pharaoh also demonstrates that his country is a major player in the ancient world, and shows his wealth and power, by building impressive stone monuments and temples in major cities, and again the Nile is key to this. From relatively small building blocks and architectural elements, to massive chunks of stone destined to be carved into colossal statues and other monuments, these are all transported by barge via the river, sometimes to destinations hundreds of miles from their quarries. Some of these Nile journeys must be a spectacle to behold; Tutmosis I's Karnak obelisk,

Copyright Kate Bernasconi, Musegyptology

which weighs almost 150 tonnes, was transported from the granite quarry at Aswan to its new home approximately 130 miles north in Thebes on a massive barge that was around 63m long and 21m wide. Without the Nile, it would be impossible to transport monuments even a fraction of this weight any distance from their quarry. Stone is a very expensive resource if only for the manpower needed to quarry it and the cost of transporting it, therefore it's mainly used by the pharaoh for temples, tombs, monuments and statues, structures that are meant to last a very long time. Meanwhile, the majority of buildings in ancient Egypt are made from mudbrick, including houses, royal palaces and other buildings such as granaries, and the materials needed to make mudbrick can be found locally in any town or village, so there's no need to transport it long distances or by huge boats, and it's accessible to anyone for free.

Nomes

We have travelled further downstream and the boat is now taking us over an invisible boundary into the next province of the country, the 2nd nome. Early in Egypt's history the government divided this long, narrow country into more manageable chunks, administrative regions called sepat, but called nomes by Egyptologists after the Greek 'nomos'. There are 42 nomes in total excluding the Faiyum region and the oases, with 22 in Upper Egypt and 20 in Lower Egypt, starting from number one at the southern border of each region. Each have their own name such as 'fish' nome and 'viper mountain' nome. The bureaucratic division of a country into administrative zones, such as counties in the UK and states in the USA, sounds quite modern, but really it is an ancient system that will be used throughout the world for thousands of years into the 21st century CE and beyond, because it's very effective. It's just practical and efficient for the pharaoh to maintain overall control of his country by dividing it and delegating the day to day running to politicians. These nomes are therefore governed by a nomarch who rules the region in the name of the king, but they are of course inferior to him and he theoretically has control over them. However, it isn't always that way, as continuous generations of nomarchs from the same family can grow quite powerful, and at times of royal weakness when the pharaoh has little oversight or power over them they can almost act as petty-kings. During the civil war of the First Intermediate Period the Theban nomarchs started portraying themselves with some royal regalia and identifying themselves as their own pseudo-royal dynasty, with Mentuhotep II eventually conquering the other parts of the country and reunifying it, becoming the full pharaoh in his own right.

Thank you for listening to Part 1 of Episode 3 of Musegyptology. In Part 2 we'll be talking about topics including the great city of Thebes with its plethora of temples, the important village of Deir el-Medina, the Eastern and Western deserts, Abydos and its focus on death, agriculture, the desert oases and the Faiyum, so please check this out. Many thanks again for listening to Musegyptology.

Copyright Kate Bernasconi, Musegyptology March 2023

PART 2

Welcome to Part 2 of Episode 3 of Musegyptology, on the subject of ancient Egyptian geography and the Nile. If you haven't already listened to Part 1, please listen to it now, as it covers the basics of geographical subjects which are key to understanding the topics we'll be discussing today. In this part we continue our minds-eye Nile tour through ancient Egypt to learn more about the geography of this wonderful land, so like in Part 1, sit back and imagine yourself on a boat, travelling serenely down the Nile.

Thebes

We continue our journey down the Nile, and now we are entering the city of Thebes, known by its ancient residents as Waset. This is one of Egypt's historic capitals, and in fact it's one of the most important cities of the ancient world, containing the largest number of temples in one place in Egypt and some of the most important buildings and monuments from the Middle Kingdom onwards.

As we travel past, on the East bank of the Nile we see the Temple of Luxor, dedicated to Egypt's chief god Amun-Ra and with chapels to his wife Mut and son Khonsu. If we were to disembark our boat and stand in front of the temple we could look up in awe at the massive sandstone pylons forming its entrance, which are decorated with Ramesses II's account of his apparent success at the battle of Kadesh. In front of these pylons are six colossal statues of Ramesses II and two obelisks. However, this is as far as we would be allowed to venture; we are not permitted to enter the temple's halls, courts and sanctuary, as this holy ground is restricted to the pharaoh and his priests. This is the location of the annual Opet festival, in which the god Amun-Ra of Karnak leaves his sanctuary in Karnak Temple to visit Luxor Temple for up to a month, amid religious rituals and ceremonies. The god is manifest on Earth inside his cult statue, and during the festival this statue is carried on a sacred barque by priests along the 2700 metre long processional route lined with human-headed sphinxes that links the two temples, and then back to Karnak again after the festival.

Karnak Temple itself is one of the most important cult sites in ancient Egypt, and the largest temple complex ever constructed in the world, on a site of 247 acres. Karnak is the main cult centre of Thebes' patron deities, Amun-Ra, Mut and Khonsu, and worshipping them is a huge focus for the pharaoh as high priest of all gods because of Amun-Ra's role as chief deity of Egypt's pantheon. It isn't possible to give you a brief overview of all of the monuments and activities of this massive temple complex, but some of its most notable structures are the temples to Amun-Ra, Mut and Khonsu, as well as those dedicated to the Theban war god Montu, the goddess of truth, order and justice Ma'at, and the god of craftsmen Ptah, temples dedicated to some of the New Kingdom pharaohs, colossal statues of pharaohs, obelisks, huge papyrus columns, the White and Red chapels belonging to Senusret I and Hatshepsut respectively, sacred lakes, a riverside quay and avenues of ram-headed sphinxes.

Across the other side of the river we can see the looming limestone cliffs of the west bank of Thebes, reminding us that after gazing in amazement at the man-made splendour of the great temples of Luxor and Karnak, we are surrounded by the astounding and dominating beauty of Thebes' natural geology. Rising dramatically above the tall valley cliffs is El Qurna, the limestone mountain at the peak of the cliffs, 420 metres above sea level. From certain angles it looks like a pyramid, and must have been one of the reasons the pharaohs of the New Kingdom chose this specific area for their funerary monuments. Past the fields of the floodplain on the west bank is the low desert, in which Amenhotep III built a huge mudbrick palace called Malkata, and many kings built their mortuary temples, including Mentuhotep II of the Middle Kingdom and Hatshepsut, Tutmosis III, Seti I, Ramesses II and Ramesses III of the New Kingdom. In the temples of Luxor and Karnak on the eastern side of the Nile priests perform rituals for divine cults, but in these mortuary temples the major focus of the priests is the cult of the deceased pharaohs, to celebrate and worship them as deified kings after their deaths and to ensure that their spirits receive offerings so they have everything they need in their afterlives.

Copyright Kate Bernasconi, Musegyptology March 2023

Snaking off the valley cliffs that run parallel to the river are dried riverbeds or wadis, where the river used to flow and carved the limestone away into canyons. Carved deep into the wadi cliffs in the most famous valley are more than 60 tombs belonging to New Kingdom pharaohs, as well as some important royals and nobles, known in 21st century CE as the Valley of the Kings. Nearby in other wadis are the rock-cut tombs of queens, princes, princesses and a few officials, in what is known as the Valley of the Queens. The tombs were carved deep into the limestone cliffs, with corridors and stairways leading to more corridors, and then pillared chambers and antechambers with further rooms off them, more corridors and chambers going deeper and deeper into the rock, all decorated with depictions of the deceased with the gods and magical scenes from the Book of the Dead, and then, finally, the supposedly inaccessible burial chamber, with the huge stone sarcophagus and inner coffins where the deceased's mummy would rest for eternity. Unlike the tombs of their predecessors from a thousand years earlier, with superstructures above ground in the form of pyramids or flat mastabas pointing a metaphorical neon sign saying "treasure here", here the pharaohs, royals and members of the elite commissioned their rock-cut tombs to be almost invisible from the outside. This is so they wouldn't be raided by infamous gangs of tomb robbers, who would steal the valuable tomb goods that had been carefully placed in their burial chambers to provide them with what they need in the afterlife, and may even desecrate their mummies searching for jewellery and amulets. However, unfortunately many have been looted; even Tutankhamun's famous tomb, with its plethora of beautiful artefacts, has been secretly disturbed by robbers.

Deir el-Medina

Further west in the low desert, in a bay of the limestone cliffs, is an important village called Deir el-Medina. Unlike most settlements, which evolve organically on high ground within the floodplain, this village was purpose-built by the ancient Egyptian government in the low desert at Thebes. It houses the workmen who carve and decorate the pharaohs' tombs in the Valley of the Kings and their families. It's a planned city of streets of one-storey terraced houses constructed from mudbricks, alongside other structures that serve as chapels and community areas, and the villagers use their tomb building skills to carve their own tombs in the cliff walls around the bay. This village is important for many reasons, including the fact that many of the residents can read and write, unlike the vast majority of the population in ancient Egypt, and write a huge amount of about their lives and work, which will be valuable evidence for Egyptologists in the future. Also, the village will be remarkably well-preserved into the 21st century CE compared to most ancient Egyptian settlement sites, as its location in the dry low desert means the mudbrick walls of the buildings, which are vulnerable to moisture, will survive to a large extent, again providing important evidence. However, this desert location has disadvantages as there is little water here and no fertile silt close enough to grow food, so the villagers need constant deliveries of food and water organised by the government to survive. This inconvenience, impracticality and distance from the most important resources is why ancient Egyptian villages and towns are only built in the low desert in rare cases, for government-funded workmen's villages where their royally-commissioned project is located nearby but too far to commute from regular villages. But when the government stopped providing the basics of food and water to Deir el-Medina in around 1070 BCE, the villagers, who had limited means of providing for themselves, had no choice but to abandon the village and move to the cultivated areas where food and water are abundant and easy to come by.

The Eastern Desert and Wadi Hammamat

Just a short distance north of Thebes, we have now reached the city of Qift, or ancient Gebtu, the main city of the 5th nome of Upper Egypt. To our right, past the floodplain, is the Eastern desert. This barren desert borders the Nile valley and leads eventually to the Red Sea coast. The Eastern desert is a valuable place to the ancient Egyptian government, where they send expeditions to mine important metals, stones and minerals including gold, copper, carnelian, garnet, quartzite, calcite,

Copyright Kate Bernasconi, Musegyptology March 2023

malachite and galena, with the latter two used for the Egyptians' famous eye make-up and the rest for jewellery, statues and other expensive objects. But the government is only able to exploit this area when the king and state are powerful, as it isn't part of the Egyptian territory and is home to dangers such as local nomads, who the Egyptians need to have some sort of control or influence over.

An important feature of Qift is that it's one of the starting points to reach the key desert route of Wadi Hammamat, which leads to significant quarrying and mining sites and a route to the Red Sea coast. Wadis are dried up riverbeds where the Nile used to flow, eroding the bedrock in the high desert and leaving behind these mini canyons reaching far into the desert, with a relatively flat but rocky floor and cliff walls on either side. There are many wadis in the Eastern desert in particular. They are ideal routes for expedition caravans and mining parties to travel, rather than more perilous journeys via the desert surface, because they are paths that can be easily followed so you won't get lost, they had been identified as relatively safe by previous travellers, and the cliff walls provide some shade in otherwise blistering heat and sunlight. These voyages are very highly regarded in ancient Egypt, as the expedition members are travelling through the dangerous and feared desert to obtain the raw materials to make luxury objects that the royals and elite prize so highly. Therefore the expedition leaders ensure they document their journeys, often leaving textual records of their missions carved into the cliff walls, called graffiti, which can be read by future travellers. Interestingly, the only map ever discovered from ancient Egypt shows a 9 mile stretch of Wadi Hammamat, including a gold mine.

One of the most famous characteristics of ancient Egypt is the love and use of gold. The ancient Egyptians believe that the skin of their gods is made of gold, while their bones are made of silver and their hair from lapis lazuli. Gold is a material which the vast majority of the Egyptian population will never be able to afford, but it's obviously highly prized by those who can afford it, the royals and the elite, as demonstrated by the relatively high amount of gold or gilded objects that will be discovered by archaeologists in elite and royal tombs, which probably only represents a percentage of the amount of gold owned by these members of society. While some gold is mined in the Eastern desert near Egypt, the largest source known by the ancient Egyptian government is in Nubia, and they traded for it with the Nubians throughout much of pharaonic history. However, during times when the Egyptian king has political and military control over Nubia, particularly when parts of this country were conquered and annexed into the Egyptian empire, controlling gold mining and exporting this metal is one of the ways the powerful Egyptian government significantly exploits Nubia.

If we ourselves ventured by foot through Wadi Hammamat with our caravan of donkeys transporting our provisions, and then continued our journey eastwards from the end of the wadi across the surface of the Eastern Desert, we would finally come to Quseir, a port on the Red Sea coast. This route is important because it's the shortest of the three main routes from the Nile Valley to the Red Sea, from where the ancient Egyptians conduct important expeditions via sea-going ships, venturing either to the Sinai peninsula or south to some northeast African countries to bring back exotic and luxury goods and raw materials. One of the journeys which probably set off from the Quseir port was the famous expedition of pharaoh Hatshepsut to the now lost land of Punt, where the Egyptians traded their own goods for many luxury resources including ivory, incense, resins, cinnamon and exotic animals. Navigation north through the Red Sea also gives the Egyptians access to the Sinai Peninsula. This area isn't part of ancient Egypt like it will be part of the 21st century CE country, but certain parts of it such as Maghara and Serabit el-Khadim are exploited by the ancient Egyptian government for turquoise, malachite and copper when their control over this foreign land is strong. The Egyptian government has even built a temple to Hathor at Serabit el-Khadim, as one of her forms is goddess of turquoise.

Copyright Kate Bernasconi, Musegyptology March 2023

Abydos

We have travelled further down the Nile to the city of Abydos. This was an important area politically and culturally during the Pre-dynastic Period, before the country was unified under the first king. It is, of course, home to the usual features of a city, but the area is mainly significant because of its relationship with death. In the low desert there has been an important cemetery since the Pre-dynastic Period, and during the Early Dynastic Period the earliest kings chose to be buried here. The important funerary aspects of Abydos have continued throughout pharaonic history. The local deity is Khentiamentiu, a jackal god who is believed to guard the necropolis, as jackals naturally prowl this environment, and during the late Old Kingdom Osiris, god of vegetation and fertility, and later king of the dead, became a very important god locally. Here priests conduct an annual pilgrimage and ritual to Osiris in which they re-enact his death and magical rebirth according to the myth of Osiris and Isis, in the 12th dynasty this area was adopted as an important cult centre for this god with a temple dedicated to him, and the Egyptians believe that Osiris' tomb is located at Abydos. New Kingdom pharaoh Seti I built an important temple here, partly dedicated to the cult of Osiris, and some kings from the Middle and early New Kingdoms built cenotaphs here, or tomb complexes that reflect the architectural and mythological aspects of a real tomb, but are not designed to house the pharaoh's mummy. The geography of this area holds a huge importance for the cemetery, not just because the dry conditions of the low desert are optimal for the preservation of funerary monuments, mummies and tomb goods. The ancient Egyptians believe that a cleft in the desert cliffs, at the mouth of a wadi, is the entrance to the underworld, the kingdom of Osiris. Have all of these resources and energy been spent on the cemetery and afterlife cult at Abydos because of this belief, perhaps stretching back to the earliest times of Egyptian history? Or did this geological feature become known as the entrance to the underworld later, because of the strong focus of funerary monuments and cults here?

Limestone

Also present in the area of Abydos is a limestone quarry. In this geological region of Egypt, from Esna northwards, limestone is the bedrock and there are many quarries to extract blocks for monuments, statues and architectural elements. Limestone has been used to construct some of the most important buildings and monuments in ancient Egypt, including Old Kingdom and Middle Kingdom pyramids at Saqqara, Giza, Meidum, Dahshur and other locations, the Great Sphinx, Seti I's Abydos temple, Senusret I's White Chapel in Karnak Temple and Hatshepsut's funerary temple at Deir el-Bahri. However, since the middle of the 18th dynasty sandstone has been preferred over limestone for state-built monuments such as temples in Upper Egypt. In particular, the quality of the limestone at and near Thebes isn't the best, and of course only the highest quality stone must be used for the temples and other state-built monuments for this nationally-important city. Therefore, for the majority of funerary and cult temples at Thebes, royal architects decided to use high quality sandstone from the Gebel el-Silsila quarry instead, transporting it 80 miles downstream by barge to Thebes to build its temples. However, limestone in other areas such as Abydos is of higher quality, so this stone was quarried to build more northerly temples and other monuments, for instance the finest quality limestone from Tura was used for the casing stones for the Giza pyramids.

Agriculture and ancient Egyptian seasons

After passing Abydos, let's continue our journey travelling northwards down the Nile. If we were to disembark our boat onto the east or west banks we would witness one of the backbones of ancient Egyptian daily life and the economy- agriculture. There are fields upon fields across the floodplain, reaching as far as possible, as far as the government and local farmers have been able to make the land fertile, right up to the low desert. We can see hundreds of people, as many as three quarters of the residents of the local town, busy sowing crops including the staple cereals, emmer wheat and barley. These are used to make the most important foods, high energy bread and beer, which sustain people, particularly important if their work involves significant amounts of manual labour.

Copyright Kate Bernasconi, Musegyptology March 2023

The vast majority of the population of ancient Egypt are subsistence farmers, working the land in order to grow at least enough food to feed their families, trade for other basic commodities and pay the obligatory taxes to the state. If they are lucky enough with the harvest they can grow a surplus, and could trade this profit for more luxury goods such as higher quality clothing, jewellery and furniture, or, the pinnacle, to save for many years to pay for a tomb and mummification when they die; but this is unlikely as it would be extremely expensive for members of the non-elite social class. This system of subsistence farmers growing food for their families is essential for their own personal survival, and they may not think about their work beyond that, but this huge workforce of agricultural specialists are actually the foundation of ancient Egypt's economic system, and without them the country would fail. Fundamentally, they finance the government's ability to function and operate its major institutions and projects such as building monuments, worshipping the gods in temples, and foreign policy and defending its borders. This is because when farmers pay their taxes in the form of grain, the government redistribute this cereal as rations to pay the wages of their employees including scribes, builders, priests and soldiers, people who don't work in the fields to grow food themselves, but who work in the core institutions that make ancient Egypt what it is.

The ancient Egyptians divide their year into three seasons lasting four months each, based on the agricultural and Nile flood cycles. These seasons are called Akhet, which is traditionally the season of the flood, Peret the season of sowing and growing, and Shemu the harvest season, a word related to the English word summer. Every year the Nile floods its banks, from August until October in Egypt itself, due to the annual monsoon in the Ethiopian highlands forcing huge amounts of water down the length of the Nile. This inundation is absolutely essential for agriculture because it fertilises the land; without it Egypt would be a dry desert environment, and with very limited rainfall agriculture would be all but impossible. Therefore, the citizens and the government await the unpredictable and uncontrollable inundation every year, hoping for enough water but not too much, as too high floods cause destruction to buildings and crops in storage, and too low floods don't fertilise the land enough and can lead to famine. When the river floods its banks it deposits much-needed moisture and rich Nile silt onto the floodplain, and this silt remains when the water recedes, making the land highly fertile. The ancient Egyptian government uses an irrigation system, to make the fields as productive as possible for the growth of food and other crops such as flax for linen, mummy wrappings and boat sails, and also for animal husbandry of domesticated cattle, goats, sheep and pigs, which are farmed for meat, milk and other purposes. They have dug irrigation canals from the Nile far into the floodplain and have levelled the land in giant, flat basins to direct the inundation water and spread the silt as far as possible across the fields. This has enabled Egypt to be super-fertile, growing enough food for its population and helping the country to be almost self-sufficient, and for the government to grow a strong economy.

But not all areas along the Nile are equal in their agricultural potential. Some areas are home to intensive food production, especially in the countryside where the fertile land stretches for several miles beyond the banks of the Nile and the majority of agricultural production is done, including cereals, vegetables and cattle farming. On the other hand, in some areas the geography and geology significantly limits the amount of cultivatable land. From the first nome of Upper Egypt up to Esna, and in Lower Nubia south of the Egyptian border, the sandstone cliffs come down close to the Nile because the Nile couldn't erode this rock as much as it eroded the limestone cliffs further north, so these areas have a narrow floodplain and limited agricultural potential. Therefore, to make up for this relative paucity of food production in this up to 100 mile stretch of the country, the government has extended the fertile land as far as possible everywhere else using its irrigation system. They have also gradually reclaimed uncultivable, swampy land in the Delta, Faiyum and the edge of the floodplain in the Nile valley by moving water and redistributing silt. Where there's still a lack of locally-produced food because of low agricultural potential, the government distributes the staple foodstuff grain which had been collected as tax to regional granaries to feed the citizens.

Copyright Kate Bernasconi, Musegyptology March 2023

The Western Desert and its oases

We are now passing the town of Asyut, and off to our left is the Darb el-Arba'in caravan route going south through the western desert to the el-Kharga oasis and beyond. The Western desert borders the entire west side of the country and is a very dry and barren environment. Unlike the Eastern Desert, this desert does not have any valuable metals or stones, but it is useful to the ancient Egyptians for another major reason as it's home to numerous oases, which were fertile areas of habitable land fed by underground springs within the desert. The four main oases where the ancient Egyptians frequent are el-Kharga, el-Dakhla, Farafra and Bahariya. These are located over 150 miles west of the Nile Valley, requiring a very long trek by foot to reach them. One might ask why anybody would want leave the comfort of Egypt and travel so far through the desert, an environment the Egyptians perceived as the home of danger and chaos. The answer is that the oases are very useful places, so at times when its foreign policy is strong the Egyptian state has enforced political control over them and established settlements there in order to exploit them for the benefit of the country. The fertility of the oases means there's plenty of greenery here, the Egyptians grow grapes for food and wine, the highest quality dates and other foodstuffs, and they are one of the only places you can find fresh water in the middle of the desert. They are also incredibly valuable as places to stop, rest and restock necessary resources such as food and water when the Egyptians go on desert journeys to remote western and south-western places such as Libya for trade, expeditions and warfare. In fact, the ancient Egyptian military uses some of the oases as remote garrisons from where to send out patrols, in order to repel groups of Libyan nomads who have tried to attack Egypt in the past and prevent further incursions, as these oases are close to the desert regions where some of these nomadic groups live.

The Faiyum

Going further north, just as we travel through this part of the Nile, on our left we see a fork in the river, a branch of the Nile called the Bahr Yusuf which flows north for just over 100 miles to a large, fertile, oasis-like region called the Faiyum. This river branch feeds a lake called Birket Qarun or Lake Moeris, and it's this lake that gives the Faiyum its fertility, otherwise this area would be desert. Besides the valley and the Delta, the Faiyum is the third largest area of settlement in ancient Egypt, but it wasn't always this way. Early in pharaonic history, the lake was so large that there wasn't any land on which people could live or grow crops. Therefore, kings particularly in the 12th dynasty and the Ptolemaic period carried out intensive land reclamation projects, reducing the size of the lake and its volume of water and then using this water to manually irrigate the surrounding land so it's fertile. When this area became exploitable for agriculture the population of the Faiyum increased, and when the Ptolemies finished their extensive land reclamation the area became one of the richest and most heavily settled of Egypt, its population largely ethnically Greek-Macedonian.

Many thanks for listening to Part 2 of Episode 3 of Musegyptology. In Part 3, the final part to this episode, we'll be talking about topics including Tell el-Amarna, the city of the heretic pharaoh Akhenaten, what life was like in a typical village, markets, deadly Nile animals, Memphis and the pyramids in this region including the great pyramids of Giza, and we'll finally voyage into the Delta to explore the subject of lost city of Per-Ramesses, and the capital city of the Ptolemies, Alexandria. Many thanks again for listening to Musegyptology.

Copyright Kate Bernasconi, Musegyptology March 2023

PART 3

Welcome to Part 3 of Episode 3 of Musegyptology, the final part of this episode on the subject of ancient Egyptian geography and the Nile. If you haven't already listened to Parts 1 and 2, please go and listen to them now, as they are important for understanding the topics we'll be discussing today. In this part we take the final voyage on our minds-eye Nile tour through ancient Egypt, from the capital city of Akhenaten at Amarna to the capital city of the Ptolemies, Alexandria, around 300 miles away, and learning about many other topics in between.

Tell el-Amarna

Our boat is now approaching the site of Akhetaten or Tell el-Amarna, the capital city of the so-called heretic pharaoh of the 18th dynasty, Akhenaten. He is an unconventional ruler who has changed the official religion of ancient Egypt from polytheism of more than a thousand deities to the worship of one god, the sun disc, the Aten. He has relocated Egypt's capital to this virgin site in the middle of Egypt, almost halfway between the two former capital cities Memphis and Thebes. The city is located in a large, relatively flat bay in the low desert past the floodplain, and this bay is surrounded by high desert cliffs which are around 100 metres high, at the top of which is the Eastern desert. The ancient name of the city, Akhetaten, means the 'horizon of the Aten', because as the sun rises to the east of the city, the Aten's solar disc temporarily appears to sit in a cleft in the limestone cliffs, and this scene from Earth's celestial theatre is identical to the hieroglyph for the word 'horizon'. This is likely a major reason why Akhenaten chose this site in year six of his reign as his new capital, and then he commissioned the inscription of many huge boundary stelae into the cliff faces to demarcate the extent of his new city. Into these cliffs and wadis the royals and elite carve their tombs, and the geology is also exploited for limestone quarries which they use to supply the city with some of its building stone. The city contains several palaces which are home to the royal family and the location of the government and bureaucracy, temples to the Aten, royal and elite tombs and graves for less wealthy people, and residential areas, including a workmen's village to house the people who construct the city and craft the luxury objects used by the royal family and the elite. Akhenaten loves this place so much that unlike the other pharaohs of the New Kingdom, who progress from one city to another regularly at their desire or for festivals, Akhenaten has chosen to make this city his permanent home, and has declared his desire to never leave it.

Travelling past a village

As we progress down the Nile through the 20th Upper Egyptian nome, called Southern Sycamore nome, we are passing a village on the west bank of the Nile. This is a typical village, like hundreds up and down the Nile, full of hardworking people who are trying to make the best of their lives in this incredible land. The majority of the male residents, up to 80%, are subsistence farmers, going to work daily in the fields to grow enough food to feed their families, pay taxes to the government and hopefully a surplus to trade at the market for other necessities. Some of the other men are potters and fishermen and a few are also part-time priests at the village shrine to the local god Herishef. The female residents look after their homes and families and help their husbands in the fields, but some have their own businesses, such as weaving linen or making excess amounts of bread or beer and trading them at market. The youngest children run around playing most of the time as they don't attend school, but as they age they increasingly help their parents in the home and with their work, until they take on these roles full-time as teenagers.

The residents' lives revolve around this village and they rarely venture to the nome's capital city Herakleopolis, which contains the provincial government of the nomarch, a temple and more specialised craft production and industry. This is because the village contains almost everything the community needs, including the most important commodities, food and water. Drinking water is collected from wells as the water in the Nile itself isn't clean to drink, as among other reasons, the river is used for laundry and as a sewer. The villagers benefit from an abundance of many different

Copyright Kate Bernasconi, Musegyptology March 2023

foodstuffs that grow in the fields around them and in the village gardens. Of course they grow emmer wheat and barley as the main crops in the fields, which are used to make the staple food and drink, bread and beer. These are full of complex carbohydrates which are essential for the villagers' energy levels as they live very physical lives, and the beer is very nutritious with B vitamins. They also eat many types of fruit, vegetables and legumes including types of squash, leek, lettuce, garlic, onions, olives, dates, figs, pomegranates, melon, watermelon, grapes for eating and making into wine, peas, lentils and chickpeas. They use honey for sweetening foods and coriander, dill, cumin and fenugreek as herbs and spices. There are plentiful fish in the river, and these are the main source of protein as the ancient Egyptians don't eat much other meat. This is mainly because domesticated farm animals such as cows are too valuable for milk production and expensive to replace. However, species of duck and geese are easy to catch with nets and throwing sticks when they make their migration along the Nile valley, and wild animals can be hunted in the desert. The villagers also have easy access to the common flora available in the Nile valley, including rushes, grasses and other vegetation from the banks of the Nile, and trees including acacia and dom and date palms, all of which have multiple uses in the village, including in architecture, boat building, sandals, basketry and matting.

If we were to disembark our boat and walk a short distance from the banks of the Nile we would come across the main centre of the village, located on a broad mound or hill called a kom or tell. This mound has been made from an accumulation of debris, mainly the ruins of houses and other buildings from older, vanished generations of the village, so that current homes sit on top of layers created by the collapsed materials of their predecessors. The mound is above the floodplain, so that when the Nile floods these mounds appear to be islands above a lake with raised paths connecting them, and the water doesn't touch the houses or other buildings. This is necessary because practically all of the buildings in settlements throughout Egypt are made from mudbrick and other natural materials, including houses, administrative buildings, granaries, storerooms, and even the king's palaces. The bricks are not fired, they are only dried in the sun, so if they come into contact with water they dissolve back into mud, and the buildings, partially or wholly, would be destroyed. This is why large parts of the village of Deir el-Medina will survive for more than 3000 years into the 21st century CE, because it was located in the low desert and the mudbrick never came into contact with floodwaters. Luckily mudbricks are practically free to make from materials that are easily obtainable close to the river. It would be relatively quick and easy to rebuild damaged rooms or buildings, or even to extend your own home, because it's simple to make mudbricks by putting a mixture of mud and sand or chaff into a brick mould, removing the mould and leaving the brick to bake in the sun for three days on each side, and then simply positioning the bricks on top of each other to build a wall. Ancient Egyptian houses are simple, with a minimal kitchen, additional multi-functional rooms and a usable roof, and can be home to multiple generations of the family, while richer people such as provincial government officials live in larger homes or villas, but these are more common in big towns and cities.

Markets

As our boat travels past the next town, we can hear a hubbub approaching, or rather we approach it- a busy market next to the river on the east bank. These vital community resources are a permanent fixture in cities and pop up regularly in towns and villages. From our vantage point on the water we can see a few stalls, but if we were to disembark the boat we would be able to visit the rest of the interesting and colourful stalls and goods, and listen to the haggling between traders and customers and conversations between villagers. The smallest markets are home to basic but essential commodities such as cereals from the fields, vegetables grown in gardens and fish caught in the Nile, and the staple foodstuff bread and beer. Bigger markets, especially those in cities, have more variety to choose from, higher quality goods and even luxury merchandise such as furniture and jewellery, and they also offer services including circumcision! Market scenes painted on the walls of some Old Kingdom tombs show traders sitting behind baskets containing their wares or communicating with

Copyright Kate Bernasconi, Musegyptology

customers, like snapshots of ancient Egyptian life. The traders in this market may be professionals, craftspeople who leave their workshops to trade their merchandise, or farmers who are selling their excess crops for a profit, but some of them may be ordinary villagers who had an idea that they could make extra income from selling surplus food or other items they made for their families, such as home brewers and bakers. The villagers who come to buy from the market bring with them items with intrinsic value that they don't need any more to barter for other goods the traders are selling, because ancient Egypt is a moneyless society. By trading goods for different goods, both the villagers and the traders are acquiring items that they feel are of comparable or even higher value than the object they started with, and that value is either in the object's use in their own lives and households, or in its potential to be traded onwards for something more useful or valuable to them. The market is an essential economic institution because it's the main way the vast majority of ancient Egyptians get access to the various commodities they need in their lives.

Deadly Nile animals

As our boat glides serenely along the Nile and we relax, looking at the beautiful blue sky and lush vegetation either side of us, it's easy to forget that the Nile is home to threatening creatures. At any moment we could feel the precarious rock of the boat as a huge hippopotamus slowly surfaces nearby, or hear the shout of a villager as a crocodile climbs onto the riverbank, a bit too close to people doing their laundry. Hippos are deadly, as they are territorial and aggressive, and can charge at boats if they feel threatened and cause them to capsize so the occupants may drown, or stamping or biting humans to death on land, and they can also destroy cultivated fields. Females are particularly dangerous as they are fiercely protective of their young, and for this reason ancient Egyptian mothers call upon the female hippo goddess Tawaret, to magically protect their own children. Crocodiles are also deadly, of course, and are a threat to the Egyptians on land, but especially in the river where people go about their business travelling or fishing, and where children often play, who are unfortunately easy to catch and kill in a death roll. Hippos and crocodiles are therefore hunted to protect the people and the fields, as well as for sport, food and ivory in the case of hippos, and to mummify for cult purposes, in the case of crocodiles.

The Memphite region

We are now entering the area of Memphis, which was the capital city for around the first 800 years of Egypt's history as a united country. It was also joint capital city during the New Kingdom, when the pharaoh travelled regularly between Memphis and the other capital Thebes. The city is in a strategic position, at the boundary between Upper and Lower Egypt and at the apex of the Delta, which is the perfect location from which the king and his government can rule, keeping an eye on both parts of the kingdom and able to travel north or south to other areas from the city's ports. Memphis contains everything you would expect of an ancient capital city, including palaces which are home to the royal family and the seat of government, temples including the great temple to the city's patron god Ptah, workshops of the highest quality craftsmen and artists, ports for high-level trade and commerce and monuments of the pharaohs including a 10 metre tall colossal statue of Ramesses II. Nearby is Saqqara, one of the glorious royal cemeteries serving Memphis, where many of the Old Kingdom pharaohs and their officials were buried, alongside later non-royal but elite tombs. Here is the world's first large-scale stone building, and the first pyramid, the tomb of king Netjerikhet, also known as Djoser, alongside the pyramids of later Old Kingdom kings including Teti, Pepi I and II, Unas, Merenre and Userkaf. This area of the country is quite littered with pyramids, and is a magnet for ancient tourists who sometimes leave graffiti on the monuments to record their visits. Other royal cemeteries serving Memphis include Dahshur, home to two pyramids of 4th dynasty king Sneferu and those of the Middle Kingdom kings Senusret III, Amenemhat II and Amenemhat III, and Abusir, the location of pyramids belonging to Old Kingdom kings Sahure, Neferirkare, Neferefre and Niuserre. But of course, the most famous royal cemetery in this area is Giza.

Copyright Kate Bernasconi, Musegyptology March 2023

The Giza pyramids

We have travelled a little further north, and ahead of us to our left we see the Giza pyramids on the horizon. As we get closer and they loom taller and taller, and we realise just what magnificent monuments to the Old Kingdom pharaohs Khufu, Khafre and Menkaure they really are. But this site contains many more monuments and much more archaeological and geological importance than just those three pyramids. The site is a rocky plateau of limestone bedrock around 3 miles^2, which served as a solid base on which to build such unimaginably massive and heavy pyramids. The plateau and its surrounding geology also provided the builders with most of the limestone blocks weighing two tonnes or more that they needed to build the pyramids. The finer quality limestone they needed for the casing stones on the outside of the pyramids was quarried in Tura, approximately 8 miles south, and transported via the Nile to a harbour next to Giza. But more impressively, the huge granite blocks that were used in strengthening the architectural structure of the pyramids, including the blocks in the ingenious stress-relieving chambers above the King's Chamber in Khufu's pyramid, which weighed up to 80 tonnes each, were transported around 500 miles down the Nile from Aswan. Between them, these three pharaohs commissioned perhaps the most impressive state building projects of the ancient world, comprised of their own enormous tombs with internal and subterranean chambers, temples and causeways, pyramids for their queens, massive royal boats buried in pits, mastaba tombs for royal family members and officials, the Giza sphinx carved from the limestone bedrock and its own temple, and villages for the pyramid workmen and their families. Anyone who sees the Giza pyramids even in 21st century CE are captivated by their majesty and sheer size, but travelling past them after they were recently finished, we can see an even more fabulous sight, as their smooth, polished white casing stones of Tura limestone shine bright white, and their pyramidions on top, made from electrum, a mixture of gold and silver, sparkle and glint in the sunlight, making us feel awe at the power of the deified deceased king.

The Delta

Now we have reached the top of the 500 mile long Nile valley and the apex of the river's delta. The Egyptian Delta is a huge area of land in the shape of an inverted triangle, 200 miles east to west at the widest point and 100 miles long north to south, covering an area of more than 5000 square miles. This is where the Nile naturally splits into several branches which eventually end up in the Mediterranean Sea. The environment is noticeably different than the Nile valley as there's a huge amount of fertile farmland here due to irrigation and silt from these Nile branches, and therefore the Delta is very important for food production, including grazing and fattening of cattle, pigs and sheep, as well growing as crops. But the region is generally very wet, flat and low-lying, which means that large parts of the Delta are waterlogged with marshes and lagoons, which can't be used for agriculture. Therefore the ancient Egyptian government has conducted land reclamation projects to make as much land here as useable as possible, as if they were to maximise this the agricultural potential in the Delta would be double that of the Nile Valley. But they have to strike the right balance with the natural environment, as the marshes here are very useful in their own right, and compared to the Nile valley's swamps and marshes these areas in the Delta contain even more valuable resources such as greater amounts of papyrus, fish and other animals. As there is so much land that's either dedicated to agriculture or is waterlogged, the villages, towns and cities of the Delta have to be located on the land that is dry and stable enough to support buildings and the people living there, and high enough above the floodplain that it won't be covered by the inundation waters. Therefore, permanent settlements are located on habitable raised land such as on mounds of sand and silt called geziras or turtlebacks which became islands when the Nile floods. There are many important towns and cities in the Delta, including Tell el-Dab'a, the capital of the Hyksos kings during the Second Intermediate Period, the vanished city of Per-Ramesses, Tanis, the capital of the 21st and 22nd dynasty pharaohs and the world-famous Ptolemaic capital Alexandria.

Copyright Kate Bernasconi, Musegyptology

The lost city of Per-Ramesses

The branch of the Nile that we have taken is the Rosetta branch, snaking up the western side of the Delta, but if we had taken the eastern Pelusiac branch we would eventually arrive at the site of the city of Per-Ramesses. This city was commissioned by Ramesses II as his residence in the Delta and it became the most important commercial, administrative and urban centre in the Delta during the 19th dynasty. It was formed of geziras that were home to a huge palace with a barracks for the king's horses and elite charioteers, a large temple to the combined god Amun-Ra-Harakhty-Atum as well as other temples, colossal statues of Ramesses II and many other monuments befitting a royal city, residential areas and two harbours on the river branch. The location was key, as it was on the eastern edge of the Delta, practically on the north-eastern border of Egypt proper, so ideal for Ramesses and his successors to theoretically keep an eye on their neighbours, or enemies, in the ancient Near East, although this was actually done by the pharaohs' officials stationed in the Egyptian Levantine empire. More specifically, Per-Ramesses demonstrates the importance of choosing a geographically sensible location to build a town or city in Egypt and adapting it to keep it relevant and functioning for a long time. When the city was built it was on the Pelusiac branch of the Nile, but as is the behaviour of the Nile branches, they can move over time or even silt up and disappear. During the 20th dynasty the Pelusiac branch gradually dried up and migrated westwards, and unlike the successful, long-lasting city of Memphis, the architects of Per-Ramesses didn't follow the movement of the Nile over time. Therefore, when the branch had dried up so much that the harbours became unusable, the pharaoh, elite and other residents just abandoned the city, less than 200 years after it was established. In the 21st dynasty many of the monuments and building blocks of the city were moved to the new capital city of Tanis only a short distance away. So many of the architectural and monumental elements of Per-Ramesses were moved and the remaining parts eventually covered by fields and settlement that for the next 2500 years the city was almost lost to history, and it was only revealed by excavations in the 1930s that this was the location of the legendary city of Ramesses II.

Travelling through a Delta marsh

As we are rowed northwards down the Rosetta branch, we find ourselves within a marsh. The banks and sides of the river are thick with plants, leaving quite a narrow channel for the boat to travel through. The predominant plant in this marsh is papyrus, hundreds of them are growing wild here, with their tall stalks gently waving in the breeze, each with a spray cluster of tiny flowers on top. This swampy area of the Nile branch is the perfect environment for these aquatic plants, they thrive here, the stalks growing up to seven metres tall. Other river plants include the beautiful lotus, the seeds of which can be eaten, halfa grass, which is used to make ropes, boat rigging, baskets and mats, and rushes which are also used to make baskets as well as reed pens for writing.

Papyrus is perhaps the most useful wild plant in ancient Egypt; it's used for many purposes, including making small boats called skiffs, sandals, ropes, mats and baskets, and the tubers of the plant can be cooked or eaten raw. It is most famous for being the 'paper' on which ancient Egyptian scribes write, and some of the most important texts have been written on this medium, including literature and the Book of the Dead texts which guide the deceased to the afterlife in the New Kingdom onwards.

Despite technically being in the desert, thanks to the Nile ancient Egypt is a very green and fertile country. It has more trees than is sometimes assumed; although the Egyptian government has to import some wood such as cedar from Lebanon for sizeable projects such as large boats, they have date and dom palms, acacia, persea, sidder, tamarisk, willow and sycamore fig trees, all of which are used in crafts. The palm trees are particularly useful, as their trunks provide the wood needed for things such as domestic objects and ceiling rafters for houses, the palm branches cover their beams, the leaves are used to make baskets and the palm ribs are used to construct boxes and even some furniture, while of course the fruit are eaten.

Copyright Kate Bernasconi, Musegyptology March 2023

Alexandria

Continuing our journey north-westwards, we have taken a westward fork of the Nile onto a further tributary, the Canopic branch, leading us eventually onto the canal of Alexandria, which takes us to the edge of the great city of the same name. This is the final destination on our tour, as Alexandria is at the very end of this branch of the Nile, on the northern border of ancient Egypt on the Mediterranean coast. It was founded by Alexander the Great in 331 BCE after he conquered Egypt, and it's the capital city of the Ptolemies who succeeded him. Its layout and buildings have been designed according to the ideals of a Greek city or polis, which sets it apart from the ancient Egyptian cities that we have passed, although some of its buildings have a combination of Egyptian and Greek styles. It is home to palaces, royal and elite tombs and other cemeteries, temples, a centre of learning called the Museion with its famous Great Library, the Pharos lighthouse, and many monuments which have been imported from elsewhere in Egypt, including obelisks and statues. Alexander chose this location, on the Mediterranean coast with its two natural harbours, because he wanted it to be a great maritime city to make the most of international trade and in a prime position for linking Egypt to Greece. But its location will eventually cause it disadvantages due to the geology of this coastal region, as over the next millennium or so parts of Alexandria, as well as its neighbours Canopus and Thonis-Heracleion, will end up under the Mediterranean Sea. This is due to a combination of factors at different times, including subsidence of the land, increases in sea level and the effects of earthquakes including tsunamis, reminding us that at all times Egypt, like every other country in the world, is at the mercy of its geography and the environment.

Thank you so much for listening to Episode 3 of Musegyptology. I hope you have enjoyed learning about the geography of ancient Egypt and the Nile, because you cannot understand other subjects of Egyptology properly without contextualising them within the land where the ancient Egyptians lived and how this place affected their lives, beliefs, traditions and deaths, and everything in between. The next episodes of Season 1 will be on ancient Egyptian religion and death and the afterlife, so please listen to them, and check out www.musegyptology.net and the @musegyptology social media channels. Thanks again for listening, and I'll speak to you soon.

Bibliography/Further Reading:

The Cultural Atlas of Ancient Egypt, John Baines and Jaromir Malek
An Introduction to the Archaeology of Ancient Egypt, Kathryn A Bard
The Complete Cities of Ancient Egypt, Steven Snape
Religion and Magic in Ancient Egypt, Rosalie David
The Penguin Book of Myths and Legends of Ancient Egypt, Joyce Tyldesley
https://www.amarnaproject.com/pages/amarna_the_place/index.shtml

Copyright Kate Bernasconi, Musegyptology March 2023