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THE ARMS AND ARMOR OF THE ANCIENT NEAR EAST

An Interactive Qualifying Project Report

submitted to the Faculty

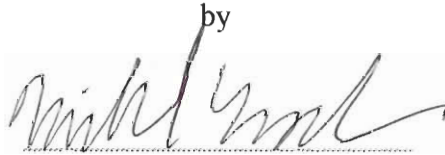
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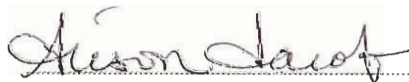
in partial fulfillment of the requirements for the

Degree of Bachelor of Science

by



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ABSTRACT

The Arms and Armor of the Ancient Near East was produced for the Higgins Armory Museum of Worcester to study and contextualize its holdings from the Ancient and Classical period. Two terms went towards researching the history, culture, and military tactics of Greece, Egypt, and Mesopotamia between 3000 B.C. – 300 B.C. One was spent photographing 155 museum holdings from these areas. During the final term we created a website using this information for display on the museum's official site.

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Introduction

This research project, co-sponsored by WPI and the Higgins Armory, focused on the history and artifacts of the ancient world. The history of Greece, Egypt and the Near East was covered from pre-history up to the time of Roman occupation. Topics researched included the history, geography, cultural background, technological history, and military tactics pertaining to each area. The culmination of the project was the creation of both a text document and a web-based resource on these areas and holdings that will be accessible on the museum's website.

The Higgins armory is home to some 5000 pieces of arms and armor, with significant holdings from various parts of the world. Only a portion of these collections are on display to the public, the rest being a reserve collection stored in the basement of the museum. Among these stored holdings are many artifacts from the ancient world. The collection of arms and armor of the ancient world is smaller than some of the museum's other holdings, and is not allotted a large space on display due to limited space.

Though the Higgins collection of arms and armor of the ancient world, including Greece, Egypt and the Near East, is much smaller than other sections of the armory, it is no less important. In fact, much of the information we have on the society and warfare of ancient times comes from archaeological artifacts. These artifacts are thus extremely valuable in an academic sense, because they tell us about the cultures of the ancient world.

Unfortunately, visitors to the Higgins Armory are not able to see the complete collection of arms and armor of the ancient world. Therefore this project aims to create new resources to document the holdings of the museum as well as to make them available to the world, even those who are unable to visit the armory in person.

The project began by researching the history of Egypt, Greece and the Near East as they

were in pre-history, and tracing the evolution of the various cultures up to the Roman domination. Information was gathered about the progression of technology and the evolution of the arms and armor of the various regions. In the next stage of the project, the artifacts from the ancient world were catalogued and photographed, including pieces from areas surrounding the three main areas on interest.

The working results of the project are a photo-documented list of the armory's holdings of this time period, and a catalog of artifacts with detailed background information and interactive elements. Visitors to the Higgins Armory website can peruse artifacts by time period, artifact type, and region of the world, not to mention view selected pieces in three dimensions.

This project was an IQP (Interactive Qualifying Project) for Worcester Polytechnic Institute, an integral part of the WPI Plan, which deals with the interaction of technology and society. The goals of the IQP are to develop group work skills and to become competent professionals, literate in the humanities and understanding the societal implications of their professional work.

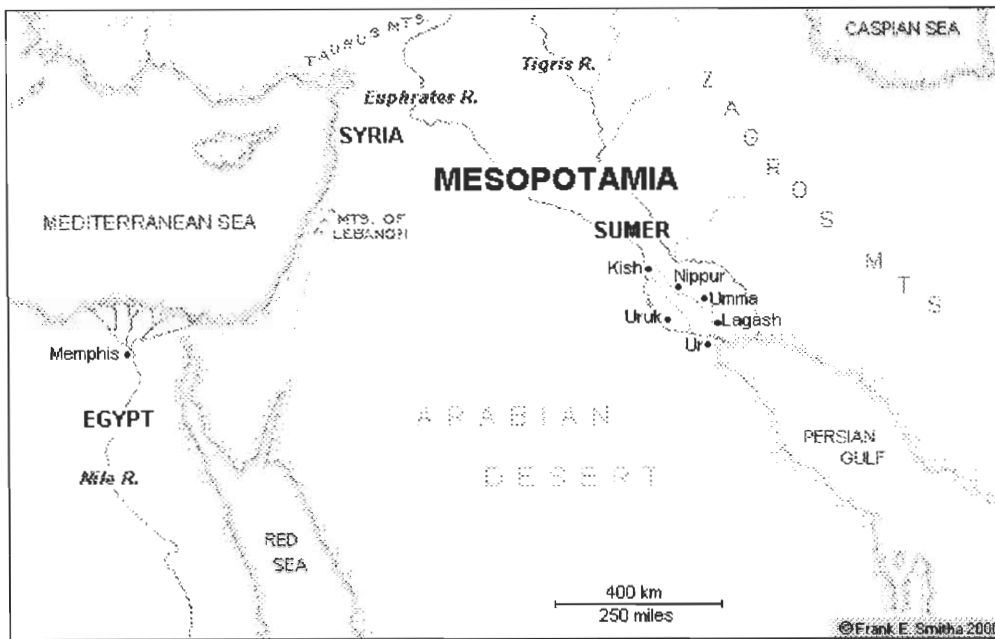
MESOPOTAMIA

Geography

The Mesopotamian region was defined and supported by the two rivers that bounded it, the Tigris and the Euphrates. In fact, Mesopotamia literally means “the land between the rivers,” (Covensky 1966: 12). Both waterways have their origins in the Kurdistan Heights and empty into the Persian Gulf. In the valley that lay between them, Mesopotamia became home to one of the first and most important civilizations in the world. Most of what was once Mesopotamia is now found in Iraq with smaller portions in Syria and Turkey.

Both the Tigris and Euphrates were essential to supporting life in the region. Annual inundations of the rivers provided the lands south of Samarra with water necessary to cultivate crops which was not received through rainfall, however the exact time of inundation in any given year was difficult to pinpoint. While the floods were a life-giving force, they also caused massive destruction. The overflowing of the two rivers often destroyed whole cities, especially when accompanied by changes in the river’s course. Despite this peril, the bulk of civilization in Mesopotamia was found in the plains stretching from Samarra to the Gulf, an area 400 miles long and 125 miles wide (Covensky 1966: 13).

Being a region lying mainly on plains, Mesopotamia was easily accessible and open to attack. Few physical barriers prevented foreign peoples who attacked from the deserts to the north and south of Mesopotamia. The land was also vulnerable to attack by invaders from Iran, Armenia, Anatolia, and Syria (Covensky 1966: 16).



The Mesopotamian Region circa 2500 BC

An Overview of Mesopotamian History

The ancient history of Mesopotamia was typified by constant power struggles within its borders. A great many dynasties held power over various parts of the land between 3000 BC, when complex societies first arose in the Near East, and 1310 BC, when the Assyrians took control of the region.

Among the first true civilizations in Mesopotamia were the Sumerians, whose prominence lasted from roughly 3000 BC to 2334 BC. The land of Sumer was made up of dozens of city-states that were constantly competing for power. Among these city-states were Ur, Larsa, Lagash, Kish, Isin, Nippur, Mari, Uruk, and Umma (Covensky 1966: 23). It is hard to pinpoint exactly the Sumerians' origin and how they came to inhabit southern Mesopotamia. The Sumerian language lends no clues. While it is written with the same signs as the Babylonians and Assyrians would later use, the Sumerian language is morphologically unlike any other language on the planet. Many attempts have been made to explain the origins of these

mysterious people, including one that theorizes the Sumerians lived on a plain that now lies at the bottom of the Persian Gulf, but none are universally accepted. Recent discoveries of pottery at prehistoric Ubaid and Samarra bear similarities to each other and to the pottery of Sumer. This suggests the Sumerians are the product of centuries of intermingling peoples in the Mesopotamian region. Any attempt to trace their origins back further into the Neolithic or Palaeolithic periods would most likely be fruitless due to the lack of surviving archeological evidence from those periods (Bottéro 1992: 4-23).

One of the earliest rulers to come to regional prominence was Etana, king of Kish. Under his reign the city-states of Kish and Uruk became the mainstays of power in Sumer. Later Uruk asserted dominance over Kish under the command of Gilgamesh, who would later become an epic figure in Mesopotamian lore. Rulers of this time were ruthless and generally greedy, helping out the rich and ignoring the rights of the poor. This trend changed in 2400 BC when Urukagina became the king of Lagash. Urukagina was a man of principles and felt it his duty to treat the poor just as well as the rich were treated. His was a short reign though, as he was overthrown by Lugalzagesi of Umma, the last great ruler of the first Sumerian dynasty. Lugalzagesi's military was mighty and won victories all over Sumer and Mesopotamia (Flaherty 1993: 106-108).

The Semitic Akkadians, led by Sargon the Great, succeeded the reign of Sumerians. The Semites had been slowly arriving in Sumer from the deserts and for a while lived peacefully alongside their Sumerian counterparts (Saggs 1962: 49). It is said that Sargon invaded the city of Uruk and tore down its walls and then captured Lugalzagesi. This victory, along with similar ones at Ur, Umma, and Lagash, cemented Sargon's place as ruler of Sumer. His reign meant a temporary end to struggle for power between the warring city-states of Sumer. His impressive

standing army of about 5,400 men was able to conquer much of the region. Upon Sargon's death, his son Rimush took the kingship. His short nine-year reign saw the city-states rebel once more and Rimush spent much of his time reestablishing his father's kingdom. When Rimush died, possibly at the hands of his servants, his brother Manishtushnu took over and faced exactly the same problems with the city-states. It wasn't until 2292 BC that the city-states were fully under control again, under Sargon's grandson Naram Sin. During Naram Sin's 36-year rule his conquests rivaled those of his grandfather, extending his reign into Kurdistan and southern Turkey. He took up the name of "God of Akkad," to the ire of many, and is said to have met a violent end. Naram Sin was succeeded by his son Sharkalisharri, who reigned for 25 years and was faced with the same rebellious city-states as his ancestors. After Sharklisharri's reign it is somewhat unclear who ruled in Sumer. The Sumerian King List shows 21 rulers in one century, all of "Gutian hordes," but the majority remain unnamed (Flaherty 1993: 119-139).

After the Sargon line diminished and the Gutian hordes were gone, a Sumerian revival arose in Mesopotamia. It was around 2120 BC when Uruk's King Utuhegal defeated the Gutians and allowed the Sumerians to thrive once again. He died of unknown circumstances eight years later and the governor of Ur, Ur-Nammu, took the throne of Sumer. Ur-Nammu's reign marked the beginning of the Third Dynasty of Ur (because it was the third time the kingship called Ur home). Ur-Nammu was a great builder and all across Sumer he ordered the construction of numerous temples, irrigation devices, and ziggurats. His rule ended after 18 years when he was killed in combat. His son Shulgi took over the throne for the next 48 years, ruling over Sumer in a somewhat totalitarian state. Like Naram Sin before him, Shulgi took to calling himself a god. His sons Amar-Sin and Shu-Sin both saw nine-year reigns. During Shu's tenure as king, Sumer came under increased pressure from the Martu (Amorites from Syria and Arabia) and the

Elamites from the east. In 2004 BC, the Elamites invaded and destroyed Ur, captured king Ibbi-Sin (son of Shu-Sin) and ended his 24-year reign over Sumer (Flaherty 1993: 142-146). For the next 250 years or so, the city states of Mesopotamia warred with each other and no peace was achieved (Covensky 1966: 25).

An influx of Amorites, another group of Semitic peoples from the west, meant the beginning of the Babylonian reign of power in Mesopotamia. The Amorites broke the Akkadian hold on Mesopotamia and established a dynasty for themselves in Babylon. Circa 1792 BC, the great Amorite warrior Hammurabi became king over the lands of Sumer and Akkad. He drove the Elamites out of the land and unified Mesopotamia. Hammurabi is perhaps best known for his administrative abilities and the laws he formulated in writing, known as Hammurabi's code. The famous code declared family to be the basis for society and defined punishment in terms of retaliation. The code is the origin of the famous "eye for an eye" retribution. Among the many topics covered in the code were the administration of justice, property, land and houses, merchants, women, marriage, family inheritance, agriculture, wages, and slaves. Hammurabi is also credited with making Babylon a splendid and profitable city, in part by building new temples, palaces, and canals. His reign and that of his descendents was relatively short (Hitti 1961: 40-41).

Around 1530 BC the Hittites, who had come out of northern Syria, attacked Babylon. Their raid left the city weak and allowed the Kassites, a people from the east, to move in and assimilate Babylonian culture. Their reign lasted until the Assyrians rose to power and dominated most of the Near East around 1300 BC (Hitti 1961: 41-44).

Mesopotamian Society

The Sumerians believed that they had lived in Sumer since the very creation of the universe (Covensky 1966: 23). According to them, the beginning of life on earth coincided with the creation of the city Eridu. Before Eridu there was nothing, the lands were covered by the sea (Flaherty 1993: 49-50). On the day that they were created, each city in Sumer was assigned a god who would look over it until the end of time. The cities themselves were said to be copies of things found in heaven, as were all things on earth (Covensky 1966: 27-28).

Evidence in support of the emphasis Sumerians placed on their gods can be found in the fact that each city had at its heart a temple devoted to its god. The temples often covered several acres of land and encompassed lesser temples and buildings. Temples were generally tiered platforms with three to seven stages, reaching up to 150 ft. high. At both the top and base of the platform was a temple. Housed in each one was a “living god” statue that received special care from the priests and priestesses who also inhabited the temple (Covensky 1966: 28-30).

Sumerians believed that they owed all to their gods and submitted to their every wish (Covensky 1966: 42).

The majority of people in Sumerian society were free. Typical employments for these free people included farming, fishing, breeding and raising cattle, brewing alcohol, architecture, practicing medicine, masonry, carpentry, scribes, merchants, and artisans and craftsmen. The economy was mainly agricultural, but some trade, especially with wool and leather, also made up a good portion of the transactions found in the society. Trade was conducted either by private individuals or through the church or palace (Covensky 1966: 31-32).

Slaves, too, were present in Sumerian society. Slave owners tended to be temple or palace officials or rich landowners. Slaves typically were prisoners of war or debtors. Slaves

could also be obtained through normal trade, and in times of financial need parents were allowed to sell their children. The relationship between master and slave was similar to that of god and man, the slave being completely subservient to the master and owing everything to him (Covensky 1966: 32).

The social structure of Babylon was very similar to that found in Sumer. There was an upper class comprised of political and religious leaders. The middle class contained shopkeepers, artisans, and merchants. Finally was the lowest part of the social structure, the slaves (Hitti 1961: 41).

Technology of Mesopotamia

The most important technology in Mesopotamia was irrigation. In this very arid region, water was hard to come by, except during the annual inundation of the Tigris and Euphrates rivers. The origin and emergence of irrigation in this era is still contested. Some believe that the advent of irrigation coincided with the emergence of civilizations in Mesopotamia while others believe that irrigation was used, though not widespread, back in the fifth millennium BC. Whatever the case, the people of Mesopotamia relied upon this technology. Through community efforts, they sometimes built canals 25 yards wide, each with their own subsidiary and drainage canals (Covensky 1966: 15-16).

Few buildings erected by the Sumerians survive today. The region had a lack of timber and stone for construction. This prompted the Sumerians to use mud as a building material. The mud was molded into brick and served as the foundation for the majority of settlements in Sumer. The mud structures eroded over the course of thousands of years and today are almost indistinguishable from the earth around them (Flaherty 1993: 49-50).

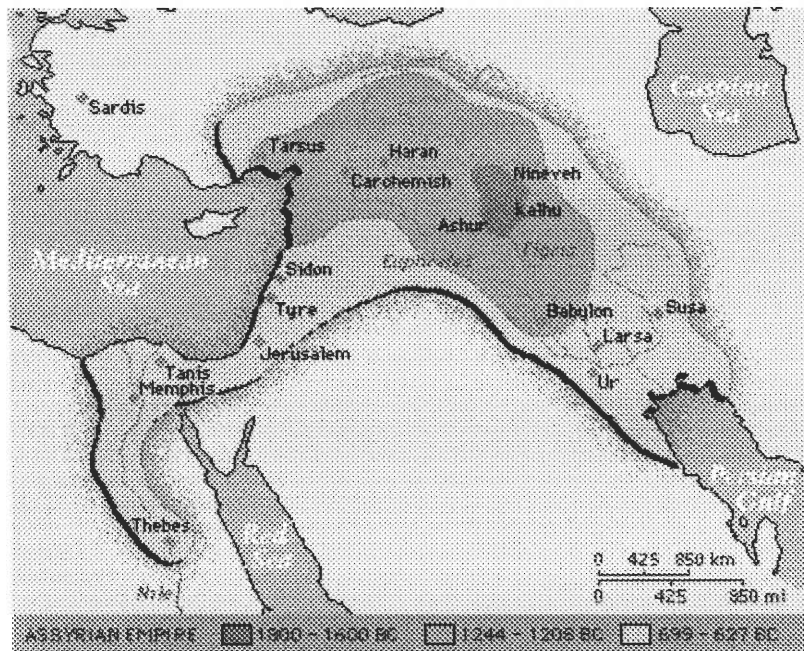
THE ASSYRIANS

Geography

Around 1300 BC, the Assyrians became the dominant force in the Near East. At its height the Assyrian Empire stretched from Egypt to Persia.

The Assyrian homeland was decidedly small compared to the overwhelming size of the empire. Located along the Tigris River, which split the region in half, the homeland was physically divided into four regions. The western region was a great plain called Jazirah bounded by the Jebel Sinjar mountain range to the north. The plain, which ran from the Euphrates in the east to the Habur River in the west, had few physical boundaries, leaving the region open to nomads from Syria. This region's main city was Ashur, essentially the capital of Assyria. Assyria's eastern region was further divided into three smaller regions. To the north was a plain between the Great Zab River and the Taurus Mountains whose chief city was Nineveh. Between the Great Zab and the Lesser Zab Rivers was the second region, home to the city Ebril. The final region lay below the Lesser Zab and ranged down the Jebel Hamrin hills. This section's chief city was Arrapkha. The four regions together were fairly similar, their foremost difference being annual rainfall which decreased as one went south.

The settlements in Assyria were predominantly country towns. Many peasants owned land on which they farmed, though in later periods of the Assyrian dynasties these peasants were usually bought out and turned into serfs or slaves. The region averaged enough rainfall that most did not rely on irrigation, except in the south. The land, typified by rolling plains, was suitable for crops, producing mainly corn, wheat, and barley (Saggs 1984: 2-6).



The Assyrian Empire throughout its existence

Origins of the Assyrians

Most evidence points to the Assyrians having their roots in Sumerian culture. Several Biblical passages refer to Sumerians who migrated north along the Euphrates and Tigris Rivers. People from Syria, Anatolia, and the Mediterranean region are also believed to have made their way to the area where they founded what would become the Assyrian Empire. The first agricultural settlements in the area date back to 6000 BC. Evidence of pottery, irrigation, and copper work has been found among the sites that have been excavated from that period (Saggs 1984: 11-20).

Assyrian Culture

Unlike many societies or religions at the time, the Assyrians did not have any qualms about mixing ethnicities within their empire. They openly accepted other races into their land and treated them as native Assyrians. The kings, beginning with Shalmeneser I, had a policy

which deported conquered peoples from their lands, redistributed them about the empire, and incorporated them into the army. Most historians postulate that this practice was established to squelch rebellions of the defeated peoples by surrounding them with different ethnic groups who would not be likely to comply in mutinous efforts. The Assyrian god Ashur was also a force for the assimilation of new peoples. The Assyrians saw it as their duty to spread knowledge and worship of Ashur, using this as a justification of their imperialism. This is not to say that Ashur was forced upon all those who were conquered. The Assyrians believed Ashur was not a jealous god and that he permitted those of others faiths to serve under him, evidenced by the fact that several governors of Assyrian cities were Phoenicians and Israelites. Even a deported Babylonian king is said to have joined high in the ranks of Assyrian administration. All this diversity created a surprisingly stable political situation, with no major rebellions or social movements evident in Assyrian history.

The Assyrian language was one of the main dialects of Semitic Akkadian, but it also had many other influences due to the diversity of peoples in the empire. In the ninth century when 250,000 to 500,000 people were deported and spread around the empire, the number of different languages was quite large. Around the same time, the Assyrian language borrowed much from Aramaic (Saggs 1984: 124-130).

The Assyrians looked up to their god Ashur and incorporated him into their everyday lives. Ashur however, was not the only god. Gods existed for the sun, moon, weather, underworld, wisdom, and war and hunting. Many more gods were recognized, but few were held in such high regard as those already mentioned. The Assyrians thought their gods to exist in human form, and their temples and practices reflected this. The temples were among the first buildings constructed in a new city or town. Just as a small town grew into a large city, the small

houses for the deities grew into buildings rivaling palaces in their splendor. In the first millennium BC, the only way to tell a temple from a palace was the temple's ziggurats. The gods who lived in the temples were treated just like mortal beings. Temple officials made clothes and prepared food for them. Kings too were represented in the temples, as religion was closely tied to the state and the state relied on the king for all matters (Saggs 1984: 200-209).

Social classes in Assyria were three tiered. The two main distinctions were simply "free" and "non-free." A third class is translated into the word "Assyrian," and probably referred to free men of lower economic status. In the Neo-Assyrian period royal officials were the high-ranking free men while the class distinctions between other "free" men and slaves became blurred due to the increasing practice of serfdom. Slaves and serfs had few complaints about their employment and accepted their servitude merely as a fact of life. Their lives were dedicated to the land they tended and thus they did not receive any education. Knowledge of cuneiform writing was reserved for scribes and administrators. No other schools were evident in the society (Saggs 1984: 130-138).

Assyria's agricultural mainstays were wheat and barley. These grains formed the base of the economic system. No coined monies existed in this period and with food being often scarce in the arid land these grains made excellent bargaining tools. The products of state lands would go either to support the courts and temples or to storehouses where they would be kept for the army. Metals, such as copper, gold, silver, tin, and bronze, also played a part in the economic system, each being valued according to their weight (Saggs 1984: 170-172).

In international trade, the Assyrians often played the part of middlemen due to their location in the Near East. Trade was often necessary, as countries without food would otherwise have to resort to war to get nourishment. The Assyrians were known to trade with Egypt,

Cappadocia (located in central eastern Turkey), Anatolia, and the peoples in the foothills. Records show them receiving refined metals and often trading timber. Trade was partly a military operation since caravans (the main means of trade transportation) were vulnerable to attack (Saggs 1984: 175-179).

Assyrian Technology

Unlike Sumer or Babylon, the Assyrians did not need to rely on irrigation, so as a people they tended to focus more on chemical processes and metallurgy.

The bulk of Assyrian metal was acquired through trade since the Assyrians were not as skilled as their neighbors in metallurgy. In the second millennium, copper and bronze were used for practically everything including weapons and horse shoes. In the thirteenth century iron came to Assyria, and has been found in daggers, arrowheads, scale armor, and axes. In the eighth century iron became more widely used in items ranging from chains to hammers to utensils. Historians note that the Assyrians were not particularly skilled at the forging of iron, citing the varying quality of metal strengths found. The Assyrians were much better at making bronze alloys (Saggs 1984: 183-185).

The chemical processes known to the Assyrians were varied. Among them were glass-making, perfume-making, dyeing, tanning, preparation of alkalis and soap, and possibly even distillation. One artifact found in the area is a piece of pottery that includes both extraction and distillation devices, much like a coffee percolator. However, it is unclear whether this was its true use. They also used clays and mud to repair cracks in boats (Saggs 1984: 186-187).

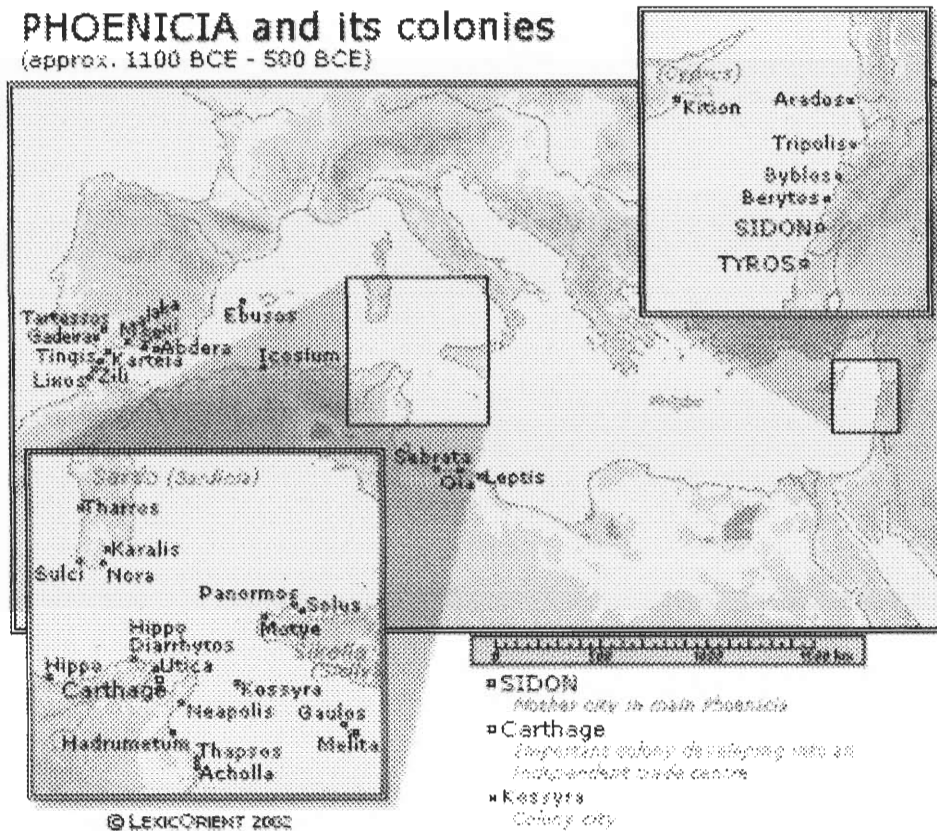
THE PHOENICIANS

Phoenician Geography

Phoenicia lay alongside the Mediterranean Sea and was bounded to the east by the Lebanon Mountain range. Its furthest reaches extended to the cities of Shukshu in the north and Acco in the south. The area was found in what is now part of modern-day Lebanon.

The region was divided up by several rivers that started in the Lebanon Mountain range and emptied into the Mediterranean. This feature created not only geographical fragmentation but political fragmentation as well. Phoenicia, like Sumer before it, was characterized by the numerous independent city-states within its boundaries. Among the most prominent of these city-states were Aradus, Byblos, Berytus, Sidon, Sarepta, and Tyre. Other cities were founded on small islands of the coast and were well fortified. The islands and promontories located on the Mediterranean made Phoenicia a prime spot for trade. The Phoenicians were known to trade frequently with the peoples of the eastern Mediterranean and also with the Egyptians. Trading was so common to the Phoenicians that they often set up cities merely for commercial value (Moscati 1988, 26-27).

PHOENICIA and its colonies (approx. 1100 BCE - 500 BCE)



Phoenician Prehistory

The Phoenicians did not arise as an independent people until about 1200 BC. Their roots however can be traced as far back as the 5th millennium BC.

The oldest evidence of people living in the Phoenician region dates back to the 5th millennium BC. Scholars have found artifacts suggesting that an agricultural people lived in Byblos at this time. These people were farmers but also raised sheep and fished, the latter showing that even the earliest known inhabitants of the area relied on the sea much like the Phoenicians would centuries later. Pottery and woven goods (a staple of Phoenician culture) were also found.

Other features of prehistory suggest the trading roots of the Phoenician people. In the 4th millennium BC there is evidence that Byblos had a close relationship with Mesopotamia and the

two probably traded together. A millennium later, Byblos developed into a true city, with 2 ports and a defensive wall to protect residential areas, and a trading center for Syro-Palestinians, Egypt, Mesopotamia, northern Syria, and the Nile Valley.

Byblos' ties with Egypt were the strongest. The city developed a good relationship with the 2nd Egyptian dynasty. The Egyptians came to Byblos to obtain timber and metal. They were met with hospitality and in 2600 BC there was even an Egyptian temple erected in the city. The ties were severed at the close of the 3rd millennium when Egypt suffered a domestic crisis. This left the future Phoenician region open to attack by the Amorites, who are known to have caused destruction in Byblos.

The Egyptians resumed trade during their Middle Kingdom period, transforming Byblos into a lavish and wealthy city. Politically, Egypt was more or less in control of the region, though the city-states remained independent and new ones emerged (Acco and Tyre). The Egyptians once again withdrew from the region in the 18th century when the Hyksos took the throne of the pharaohs. Two centuries passed before Thutmose I ascended to the Egyptian throne and restored Egyptian control in the Phoenician region. During the 16th through 14th centuries the political situation in Phoenicia remained stable, and the culture was strongly influenced by the presiding Egyptians.

As Phoenician prehistory drew to a close, the Amorites of Amurru gained some power over the region. At one point it was said that half of the city of Byblos pledged their allegiance to the Amorites and the other half to the local king, Rib-Addi, who reported to the pharaoh, Amenhotep IV. During the late Bronze Age when the invasion of the "Peoples of the Sea" occurred, the Phoenicians emerged as an independent nation (Moscati 1988: 28-35).

Phoenician History

Compared to their prehistory, the Phoenicians had a relatively short history. The beginning of Phoenician history is marked by the invasion of the “Peoples of the Sea,” who pushed the Egyptians back into their own land. With this, the Phoenicians emerged as an independent people.

With the Egyptians no longer the dominant force in Phoenicia, the city-states enjoyed their first true independence. Sidon benefited the most, becoming the dominant city in Phoenicia. Around the same time as their liberation, the Phoenician cities had to contend with a budding Assyria, which was just beginning to expand its territories throughout the Near East.

Tyre, too, became an important city. Under king Hiram, the city supplied raw materials and labor in order to build the royal palace and temple in Jerusalem, a city with whom Tyre had a good relationship. Later under king Ethbaal (889-856 BC) Tyre gained even more power, prompting outsiders to call him “the king of the Tyrians and the Sidonians,” suggesting that Tyre had some sort of hegemony over the previous dominant city in the region.

At the same time, the Assyrians made their first conquests in Phoenicia. Assyrian king Ashurnasirpal II (883-859 BC) forced Tyre, Sidon, and Byblos into submission and forced them to pay tribute to him. For the most part, the cities were allowed to stay independent, but they did see a decrease in their commercial and trading powers. Private ship-owners and merchants kept the cities’ trade alive. It is also around this time that many Tyrian refugees under Pygmalion, king of Tyre (820-774 BC), fled to Northern Africa and founded the city of Carthage, which would later replace Phoenicia as the most prominent trading post on the Mediterranean.

The true downfall of Phoenicia began under the reign of Assyrian king Tiglath-pileser II (745-727 BC). It was he who started to annex the Phoenician cities instead of forcing them to

pay tribute to the Assyrian empire. Over the next century, Assyria slowly took control of Phoenicia. When the Assyrians were overthrown by the Medes in 612 BC, the Phoenician cities enjoyed a brief period of independence. Then beginning in the 7th century BC, Phoenicia went through several changes in leadership, starting with the Egyptians, then the Neo-Babylonians, the Persians, the Greeks, and finally the Macedonians in the 2nd century BC. The Phoenicians enjoyed the most prosperity under the Persians, who used the region as a military base to fight the Greeks and Egyptians. That did not last however, and Phoenicia was swallowed by the Macedonians, never to become an independent nation again (Moscati 1988: 38-44).

Phoenician Society

Much like everything else in their lives, the Phoenicians' social structure was determined by seafaring trade. Wealthy merchants constituted most of the upper class. These merchants usually became city elders and were bestowed municipal powers.

Under the merchants on the social ladder were the free wage laborers and the slaves. Slaves were used for a variety of jobs including working in mines, naval yards, the defense of the city, as field hands, industrial workers, artisans, or servants. Slaves were typically captives, prisoners of war, or convicts, but they could also be bought or traded for. Above the slaves in social standings were the freedmen, slaves who had been able to purchase their own freedom. It was common, especially in Carthaginian society, for slaves to be paid wages and eventually allowed to buy their own freedom.

The cities of Phoenicia were obviously of mixed races. The trade industry attracted people from all over the Near East and it was not uncommon for them to dwell in Phoenicia to take up business. Conversely, Phoenician citizens were often found living and working in other

countries. Not surprisingly with all the ethnic mobility within the country, social intermingling and intermarriage were common (Markoe 2000: 90-92).

Language and the Alphabet

The Phoenician language was a member of the North-West Semitic language family. This family is divided into Canaanite and Aramaic sections. Phoenician belongs to the Canaanite section. The Phoenician language spread rapidly in the Near East. It was a quickly evolving language and was easily taken up by others. The spread of the language can probably be traced to the Phoenicians' constant contact with other peoples through trade (Markoe 2000: 108).

The modern alphabet is often credited to the Phoenicians. In truth, the Phoenicians derived their alphabet from some peoples in the Syro-Palestinian area, but no one is really sure when or where this happened. What is known is that the Phoenicians adopted this alphabet and made it their own. Their alphabet had 22 consonants and no vowels. Reading was done horizontally, right to left. It was this alphabet that was transmitted to the Greeks, who later passed it on to the Etruscans, from whom the Romans derived their own version, used in most European languages today. The Phoenician alphabet, much like their dialect, spread quickly. By the 9th century it was in use by the Aramaic, Hebrew, Ammonite, Moabite, and Edomite peoples as well as in the Mediterranean region (Markoe 2000: 111-112).

Phoenician Ships

As mentioned before, the most important aspect of Phoenician society was its sea-bound trade industry. Their neighbors and people all over the Mediterranean regarded the Phoenicians

as the best ship-builders. Their ships saw them through voyages to the western Mediterranean Sea and the Atlantic coasts of both Europe and Africa. Once in the 7th century BC, a three-year voyage even succeeded in sailing around the entire continent of Africa. Most expeditions such as these were intended as a means for the discovery of precious metals or new trade areas.

Phoenician merchant ships were abundantly found in the Mediterranean. Called *gauloi*, meaning round, these transport vehicles could carry up to twenty men and plenty of cargo. The boats had rounded hulls, hence the name, and were usually about 20 to 30 m long and 6 to 7 m wide. Each had a mainmast and a rectangular sail set on a yard. These sails moved only with aft winds. The ships were sailed with rudders on the port side of the boat near the stern.

Phoenician minor ships and fishing boats also made their way through the Mediterranean, usually taking shorter trips than the merchant ships. These boats generally had the same length-to-width ratio as the merchants' boats. Their sterns were rounded and their bows pointed. They were typically propelled by sails on small masts or by oars. Steering was provided by rudders on the port side of the stern (Moscati 1988: 72-75).

Phoenician Commerce and Industry

Meager agricultural and mineral resources in the homeland forced the city-states of Phoenicia to take up trade and handicrafts as their livelihood. This is how the Phoenicians were known in the Ancient Near East; they were great manufacturers, shrewd traders, and even go-betweens for international trade.

At the beginning of their history, the Phoenicians were already well established as traders. They mainly dealt with Egypt, the eastern Mediterranean, Anatolia, and Cyprus, trading manufactured goods for raw materials. Later under King Hiram of Tyre, the Phoenicians

developed a good relationship with the Israelites, opening up trade channels between the two and even going out on joint ventures together. One such venture brought the two countries to Ophir (most likely modern day Ethiopia) where they managed to obtain sandalwood, precious stones, ivory, apes, peacocks, gold, and silver.

With such a vast area in which to trade, especially considering all the trade outposts the Phoenicians founded in other countries, the variety of materials traded by the Phoenicians is understandable. Imports were typically raw materials. The Phoenicians obtained tin from Anatolia, copper ore from Cyprus, linen from Egypt, and iron from Tarshish.

In addition to their affinity for trading, the Phoenicians were also known for their manufactured goods. The raw materials that they obtained from other countries were produced into desirable goods and in turn traded for more raw materials. Among the finished products that they exported were household furnishings, bronze or silver bowls, sandcore glass vessels, and purple cloth.

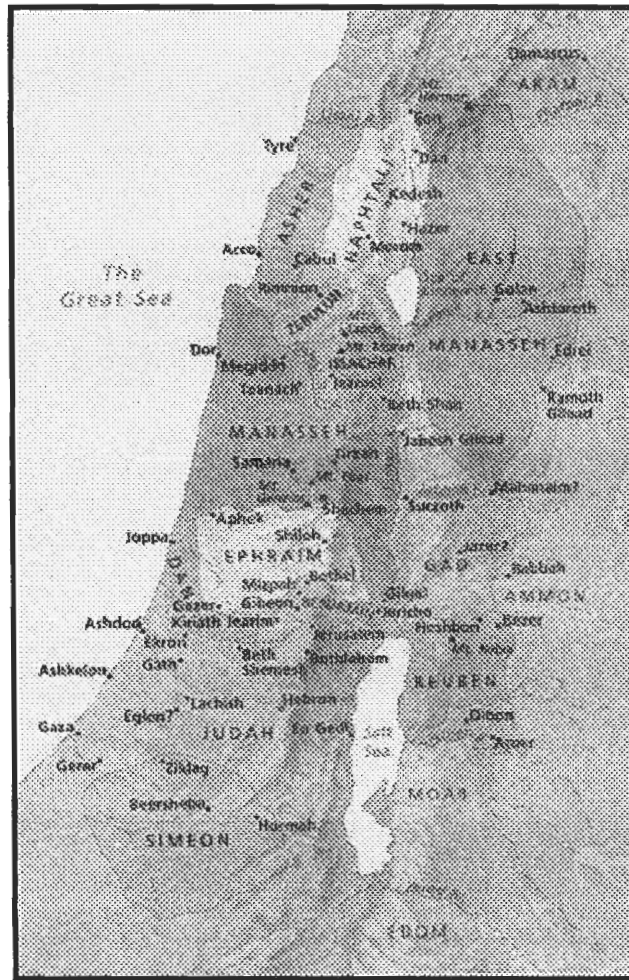
Phoenician laborers were skilled in many areas of manufacturing. They were known to be adept at work with ivory and precious stones. They adopted glass making from the Egyptians and subsequently became the leading glass producers in the Mediterranean. Perhaps their most important skill was their production of purple dye for linen and wool goods. The name Phoenicians is derived from phoinix, the name of the color of dye used. The dye was extracted from mollusks found in the Mediterranean Sea. Egypt was a big customer for such dyed wools and linens.

The Phoenicians were also skilled in metallurgy. Their favorite metals were of course gold and silver. The Phoenicians perfected the techniques for working with gold. Most notably, they would beat the gold into thin sheets and gild jewelry made out of base metals. Another

technique they used was gold granulation, in which small drops of gold were fused with charcoal, which was then applied with special solders. Aside from gold, the Phoenicians also were proficient at embossing silver and bronze bowls. Most of their copper, iron, lead, and tin items were of practical domestic use. Iron was also found in many of the Phoenician weapons of the time (Moscati 1988: 78-84).

ISRAEL

Geography of Ancient Israel



The land of Ancient Israel, also known as Canaan or Palestine, was located just to the south of Phoenicia. The two regions had much in common. Both had similar agricultural situations, lacking fertile soil to sufficiently grow crops. Neither region had a much of a problem with rainfall so they did not need to bother with irrigation. Also, Israel's geography, like Phoenicia's, split the region up into several sections.

Four strips of land made up the land of Israel. First were the Mediterranean coastal plains of Philistia and Sharon. These plains reached as far north as the Carmel Mountains. Another section lay beyond the lowland moors of the Shephelah. This section was the central

plateau, covered in thorns, scrub bushes, and steep, narrow gorges. This plateau was home to the tribes of Judah, Ephraim, and Manasseh. A third strip was Jezreel, an inland plain found in the northern part of Israel. This plain was surrounded by mountains on nearly all sides, including the Carmel and Gilboa mountains and the slopes of Galilee. The final section was found in the east, the hilly and mountainous fringe tracts of Edom, Moab, and Ammon. All together, the four sections were 150 miles from north to south and about 75 miles from east to west (Grant 1984: 7-9).

Origins of the Israelites

The Israelites, like their neighbors the Phoenicians, had a long prehistory before they ever became a distinct people.

The origins of the Israelites extend far back in prehistory. Jericho, 12 miles north of the Dead Sea and about 5 miles west of the Jordan River, was one of the first cities to emerge in this region. Important features of the city were its abundant water supply and the fact that it lay in the middle of an important trade route from across the Jordan River to the Mediterranean coastline. By 7000 BC the city of Jericho had reached a transition from food gathering to food producing. By 4500 BC the city began to produce pottery and the population had reached 2000 people.

Around the second half of the 4th millennium BC a Semitic-speaking people from the Arabian Desert invaded the region, causing destruction and displacing the native peoples. These people rebuilt and inhabited the land they had destroyed and introduced copper into the area, obtaining it in trade from the Iranians and the Mesopotamians. During the Early Canaanite Age (3150-2200 BC) city-states emerged, each controlling the lands adjacent to them. Populations

rose dramatically and trading became important. The dominant language was a Semitic one and was an ancestor to what would later become Canaanite, Phoenician, Hebrew, Aramaic, and many others.

In the coming years, the region had to deal with invading superpowers such as the Akkadians and the Egyptians. Much to the chagrin of the Egyptian pharaohs, Canaanite rulers in Palestine acted independently and were often rebellious towards Egyptian rule. The Egyptians exerted control over Palestine as a means to get to Phoenicia for necessary timber and also to defend the Nile Valley from invaders who would enter through the Mediterranean. When the Hyksos took over the throne in Egypt, they exercised stronger control over the Canaanite states. The Hyksos were ousted by Ahmose, the founder of the New Kingdom in Egypt. The violence between the two regimes led to the destruction of many Palestinian cities. These were later rebuilt in the late Canaanite Period (1550 – 1200 BC) when Thothmes III took the throne of Egypt and also complete control over Palestine and Syria.

During the second millennium BC, many nomadic peoples emerged from the eastern steppes of Palestine and began to settle in the Canaanite states. These nomads usually became slaves or mercenaries, but sometimes they would remain free and wreak havoc and destruction on the cities. They were of a mixed race and most likely spoke Semitic languages. These people are believed to have included the Israelites. The exact arrival of the Israelites is hard to pinpoint, but it seems to have occurred between the 19th and 16th centuries. Their language was a north-western Semitic one; in the years to come it slowly developed into the Hebrew language (Grant 1984: 30).

Early biblical accounts of the Israelites refer to several patriarchs who founded the first Israelite cities. First there was Abraham of Ur, who moved to Haran. There God told him to

move to Canaan, where he instructed Abraham to establish a great nation. Whether or not Abraham truly existed is unknown, but it is evident that early Israelite tribes each idolized their own family divinities, among them Abraham and his sons Isaac and Jacob (Grant 1984: 31-34). Later these three divinities were merged into one along with the Canaanite god El to form the basis of the God that appears in the Bible (Grant 1984: 43).

Another prominent figure of early Israelite history was Joseph, son of Jacob. Jealous of their father's favoritism for Joseph, his brothers sold him into slavery to the Egyptians. There, Joseph worked his way up, finally becoming a high ranking official. He invited his family to join him in Egypt so that they might escape the famine that was gripping the Palestinian region at the time. Unfortunately after Joseph died a new pharaoh, Ramses II (1290 – 1224 BC), came into power in Egypt. Ramses II forced Joseph's tribe, which would later become the Ephraim and Manasseh tribes, into slavery building Pithom and Raamses. This persecution of the Israelites continued under the next pharaoh, Merneptah (1224 – 1244 BC) (Grant 1984: 35-40).

According to the Bible, the Israelites escaped slavery in Egypt when Moses received help from God in leading them out. The Moses story was probably inspired three or four other exoduses and expulsions that occurred, including those of the tribes of Judah, Reuben, and Gad (Grant 1984: 40). From Egypt, the Israelites wandered through the desert for many years until finally Joshua guided them into Canaan, the Promised Land. Here they settled near Mount Ebal, amongst many other Israelite tribes. All told, there were ten tribes, each one named after Joseph and his brothers. When the Joseph tribe split in two, they were named after his sons, Ephraim and Manasseh (Grant 1984: 49-52).

For approximately 150 years after Joseph's death, the tribes in Israel lived in a fragmented state. Legends of tribal leaders such as Othniel, Ehud, Deborah, Gideon, Jephthah,

and Samson all come from this period between the 12th and 11th centuries (Grant 1984: 55). It is also during this period that the Peoples of the Sea, mainly the Philistines, settled in the Canaanite region and disrupted the Israelite way of life. In order to contend with them, Samuel successfully installed his son Saul as the king of all the Israelite tribes in the 11th century. The plan was to have all the tribes to unite in one military force in order to fight the Philistines and drive them from the land. Saul was mildly successful, but he lost his life in a battle against them at which point they reoccupied the lands that they had been driven out of (Grant 1984: 72).

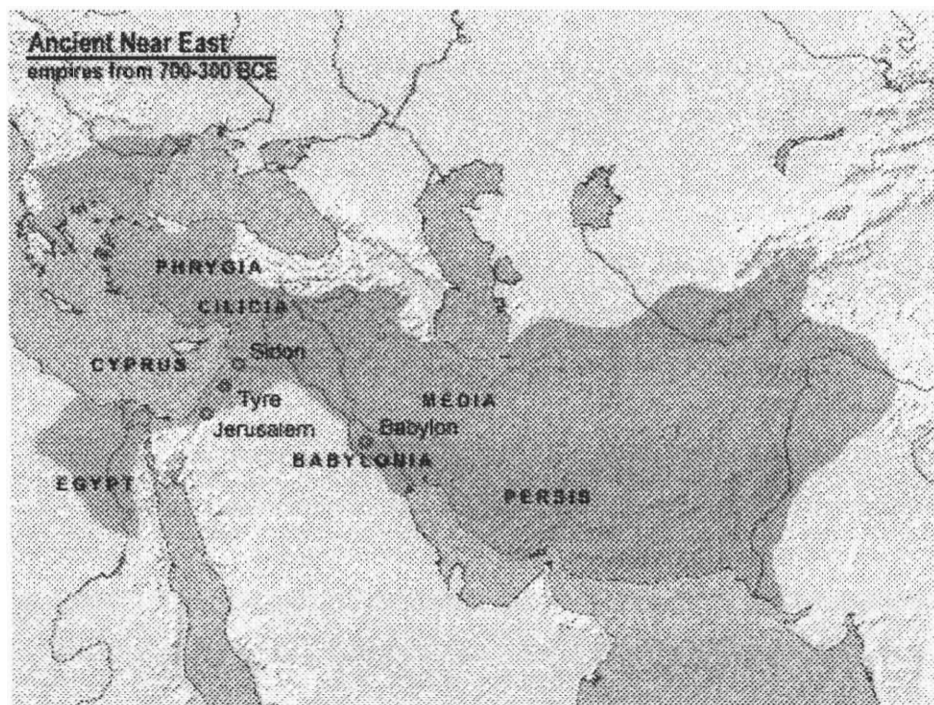
During the reign of Saul, David came to prominence. Born in Bethlehem, David joined Saul's entourage and quickly gained fame when he defeated the Philistine warrior Goliath. He advanced quickly to the top of the military, becoming the leader of Saul's royal guard. He also married Saul's daughter. David fled the country however, when he learned of Saul's jealousy towards him. After Saul died, David returned and deposed Eshbaal from the throne with the help of the Philistines he had befriended in his self-imposed exile. As king, David gained impressive victories over the Canaanites and managed to remove the Philistines from the land. His most important conquest was that of Jerusalem, which he made his capital. Under his reign, Israel became a major power in the Near East, conquering the entire Syro-Palestine region, save Phoenicia (Grant 1984: 77-78).

PERSIA

Persian Geography

The Persian homeland was located along a major trade route in the Near East. Situated between Asia and Mesopotamia, Persia was a thoroughway for nomads, traders, and travelers. Its location also contributed to the great diversity of people in its boundaries.

The Iranian Plateau was the center for life in this area in ancient times. It is there that the Persians first settled after arriving from Asia. The area did have its shortcomings. Like many of their contemporaries in the Near East, the Persians' homeland was quite arid, and they had to rely on irrigation from the mountains in order to survive. Also, being positioned along such a major trade route was not always the most desirable position for the Persians. The plateau left them open to attack from the north, west, east (Mackey 1996: 2).



The Persian Empire at its height

Persian History

The last empire to dominate the Near East before the Hellenistic empire of Alexander the Great was that of the Persians. The Persians built the biggest empire in the shortest time of all ancient peoples.

The Persians made their first appearance in the Near East around the 8th century BC. Along with several other groups of Indo-Europeans, such as the Medes who made the same move a century before, the Persians left their home in the steppe lands of central Asia and came to settle in western Iran. The Persians arrived at Fars, an area close to the center of the Iranian plateau. It was not until the 6th century BC that the Persians made the shift from a nomadic lifestyle to a settled one. As part of this transition the Persians constructed underground tunnels and wells to carry melting snow from the mountains to provide their dry land with necessary water (Mackey 1996: 15).

The beginnings of the fabled empire coincided with the ascension of Cyrus to the throne of Persia. In 559 BC Cyrus succeeded his father, Cambyses, as king. Just nine years later Cyrus had conquered the Medes. He allowed the Medes to keep their military and administrative organization intact, in effect making them subordinate partners to the Persians, rather than conquered peoples. Cyrus continued his conquest of the Near East in 547 BC when he took control of Lydians. Shortly thereafter he had a ceremonial capital constructed at Pasargadae. Persian expansion continued in 540 BC when Cyrus began his campaign to take Babylon. After sending a decoy army to Babylon that tricked the corrupt king Nabonidus to come out of the city, Cyrus entered the walls of Babylon and was given the kingship. There he was seen not as a conqueror but as a liberator. Much like when he conquered the Medes, Cyrus allowed the Babylonians all their own freedoms and permitted their religion. He also freed the Jewish slaves

in the city and sent them to their homeland to rebuild their temple.

Cyrus prided himself in being a just ruler. Justice was one of the main tenets of the Persian religion, Zoroastrianism. As an instrument of god on earth, Cyrus thought it was his duty to unite all the peoples of the land. He kept every nation happy by respecting and tolerating each of their individual cultures and allowing them most of the freedoms they had before the Persians arrived. These ideals allowed the Persian Empire to grow as large as it did.

Cyrus died in 530 BC while trying to squelch the rebellious Massagetaes, Scythians who lived in the steppes by the Jaxartes River. His son Cambyses took over and extended the empire into Egypt. Cambyses' death saw the rise of another great Persian king, Darius. At the start of his reign, Darius had to face several rebellions, as the people of Persia were less than satisfied with the conspiracy that surrounded his ascension to the throne. Once the rebellions were put down, Darius became a legendary ruler in the fashion of Cyrus before him. He managed to conquer parts of North Africa and India and add them to the Persian Empire. It was under Darius that Persia reached its greatest heights. At one time, Darius had 29 different peoples under his reign.

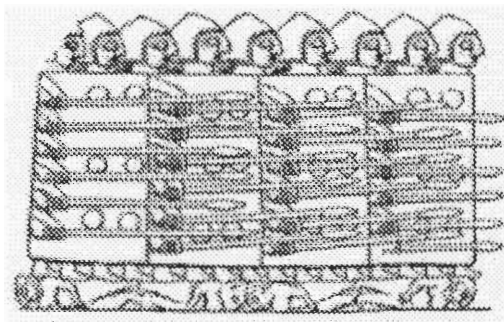
Xerxes took the Persian throne when Darius died. In an attempt to once again further the boundaries of the empire, Xerxes engaged the Greeks in combat in 481 BC. He was unsuccessful. At this point the Persian Empire went into decline. Constant battles with the Greeks and internal struggles for the throne left the Persians vulnerable. By 332 BC the Persian Empire was no more, having fallen to Alexander the Great (Mackey 1996: 17-30).

MILITARY OF THE MESOPOTAMIAN REGION

Sumerian Military

The Sumerians regarded war as a struggle between the gods of the city-states. They thought that success in battle depended not on strategy or military strength, but solely on the power of the god whom they worshipped. A triumph on the battlefield meant the god of the victorious city was more powerful than that of the defeated (Covensky 1966: 27).

In military matters, the Sumerians made many innovations. They were the first to use bronze in battle. They were centuries ahead of the Egyptians in using the wheel. They also originated the phalanx and the use of war chariots. The Sumerian chariot had four wheels and was pulled by wild asses. It could reach speeds of up to 15 miles per hour. Crashing through the ranks of the enemy was its main purpose.



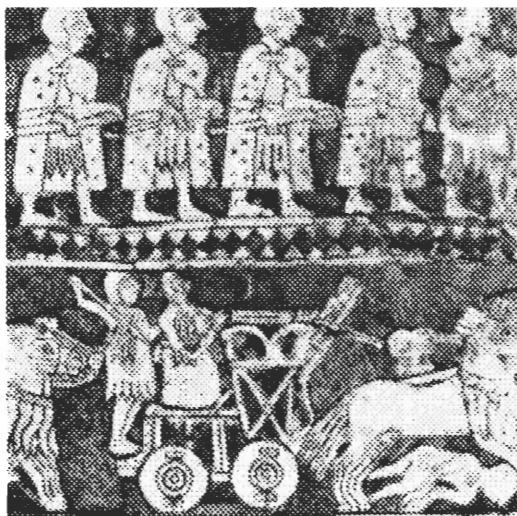
The Sumerian Phalanx

The Sumerian phalanx was rather simple. It was made up of six files, each with eleven men. A turn in either direction would make the phalanx eleven files wide, each with six men. Each unit had 60 men in it and a small number of officers.

The phalanx, because of its nature, relied on hand-to-hand combat. The Sumerian infantry were armed with javelins. Without the support of archers, the Sumerian phalanx fell easily to the Akkadians.

The national army of Sumer drew men from each city-state. Men served in the army due to hereditary obligation. In 2,400 BC, Lagash had to contribute 20 chariots and 1,000 infantry men to the war effort out of a population of about 30,000 (Wise 1981: 10-11). Any given city-state could have probably raised an army in the range of 5,000 to 10,000 men, most of them

coming from the farms (Bradford 2001: 3-4).



The Standard of Ur

Sumerian armor was typically made out of bronze.

The Standard of Ur depicts soldiers wearing cloaks and fringed kilts strengthened with pieces of metal

while the Vulture Stele shows them donning metal

helmets. Excavations in Ur have turned up copper helmets that may have been worn over leather caps.

Copper, while it provides better protection than

leather, is rather weak for the purposes of war. It

can be pierced quite easily and will lose its edge rapidly when used as a weapon (Keegan 1993:

134). Nonetheless, copper weapons were used. Most frequently recovered are copper spears and

axes (Bradford 2001: 3-4).

Babylonian Military

Until the reign of Hammurabi, the main army in Babylon consisted of small levies and an equally small royal guard. The royal guard created by Hammurabi was rather large, numbering between 10,000 and 20,000 men. Most of these men were either slaves or mercenaries.

Hammurabi also increased the size of the regular army by instituting a feudal system into the service. Citizens of Babylon were granted land in return for their participation in military efforts. While the men were out at war, it was the king's duty to find someone to look after the farms that would be left unattended (Wise 1981: 12-13). This policy, known as *ilkum*, is accounted for in Hammurabi's code (Flaherty 1993: 93).

By 900 to 626 BC, the makeup of the Babylonian army had changed. The royal guard

was recruited mainly from the Elamites and the men of the Sutu desert tribes. The royal guard was divided into 600 cavalry and 4,000 infantry. The Babylonians by this time were able to put up to 50,000 men on the battlefield. The army had three arms, the infantry, the cavalry, and the archers. Almost all the men in the infantry and the cavalry were also armed with bows (Wise 1981: 12-13).

Akkadian Military

The Akkadians relied on a citizen army of light troops and archers. In 2350 BC, Sargon's army supposedly totaled 5,400 men. His archers carried composite bows (Wise 1981: 11-12). The Akkadians were among the first people to adopt bronze into their war efforts and cast aside stone. They also were among the first to acquire metallic armor (Keegan 1993: 135).



Akkadian composite bow in action

Hittite Military

The Hittite army numbered up to 30,000 men. Its two main branches were the infantry and chariots. The infantry, especially during large campaigns, was made up of the local population and at times borrowed from vassal kingdoms when greater numbers were needed. Also, military service was often a requirement of feudal service (Macqueen 1986: 56).

Within the infantry was a small core of troops who served as bodyguards for the king. This core was also responsible for patrolling the frontiers and putting down rebellions. Mercenaries were hired at times to supplement the numbers of the core. Other specialized jobs

in the Hittite army were pioneers, who concentrated on siege-work, and messengers who may or may not have been mounted. Aside from the mounted messengers, horses were used exclusively for pulling chariots (Macqueen 1986: 56-57).

As in most ancient societies the king of the Hittites was the head of his army. More often than not the king would accompany his army into battle. When he could not, a member of the royal family was sent in his place. Minor command positions were held by lesser nobility (Macqueen 1986: 56-57).

The Hittites were skilled in the ways of the chariot. They built lightweight chariots consisting of a wooden frame covered with leather. The wheels were also made of wood (Macqueen 1986: 57-58). Each chariot carried three men. The men dressed in leather garments that ran down to their mid-calves and a helmet. One man drove the chariot, another wielded the weapons, a lance and a bow, and the third held the shield to protect all three (Bradford 2001: 30).

The weaponry carried by the Hittite army depended on the terrain. In northern Syria, the Hittites used long spears to complement the phalanx formation they used in open country. In the Anatolian hills they used a slashing sword that was shaped like a sickle but had a cutting edge on the outside of the blade. Also frequently found on Hittite soldiers were short stabbing swords or daggers (with either crescent-shaped hilts or ones with animal head decorations), axes and bows (Macqueen 1986: 59-61).

The construction of the weapons carried by the Hittites varied over time as new technologies became available. In the beginning of the second millennium BC, spearheads were attached to the shaft by either a bent tang, often with a button on the end of it, which was attached to the shaft, or by slots in the blade that could be tied to the shaft. Tangs were also used on the other end of the shaft to secure a metal spike that was used for balancing the weapon,

stabbing the enemy, or simply for sticking the spear upright into the ground. Later in the same millennium, a socket was used to prevent the spearhead from falling off the shaft (Macqueen 1986: 59).

The short stabbing blades mentioned above featured slightly curved blades which served to strengthen the weapon. These blades were attached to the handle with rivets. As metallurgy became more advanced, straight blades with wide central flanges came about. Blades were also cast together with the hilt, with an inlay of wood or bone held in place on either side of the hilt by flanged edges or rivets (Macqueen 1986: 59-60).

Axes, too, had two forms. The first had a hole where the shaft was fixed and another where the flat blade was inserted into a split shaft and tied into place. This second kind of axe usually had projections that appeared on either side of the blade where it was fitted into the shaft. It wasn't until the Hittite empire was near its end that iron axes came into use (Macqueen 1981: 61).

Another weapon prominent in the Hittite arsenal was the bow. The Hittites carried composite bows made of wood and horn glued and bound together. This form of bow was most likely introduced to the Hittites by the Babylonians during the Akkadian period. The arrowheads used by the Hittites were made of bronze and were connected to the shaft by a tang. The shaft was made of wood or reed with barbs at the rear corners. Quivers held 20 to 30 arrows and were made of either leather or bark. (Macqueen 1986: 61, 63)

Hittite armor, while more advanced than that of their ancestors, was still rather primitive. Helmets were pointed at the top and covered both the cheeks and necks of the soldiers. A distinctive plume ran down the back. Sleeveless leather jackets were worn over scale armor. The jacket was decorated with concentric circle patterns and the scale armor ended in a fringe

below the elbow of the soldier. Iron and bronze scales typically adorned these jackets. Shields carried by the chariot troops were in the shape of a figure-eight. They were made of a wooden frame covered in leather (Macqueen 1986: 63-64).

Assyrian Military

The Assyrian army was one of the most sizable and fearsome armies of the ancient world. Neighboring peoples feared the Assyrians, and rightfully so, considering all the atrocities committed by their ruthless kings. While instilling fear was an important aspect of maintaining the Assyrian empire, its military depended on good organizational skills and discipline in order to flourish (Saggs 1984: 243).

Until the 15th century, Assyria had been a trade-based culture. When the Mitannians dominated the region, the Assyrians fought back to regain their freedom. To prevent further domination by the Mitannians, the Assyrian people instead invaded Mitanni. While this provided some stability to the Assyrians, it opened the empire to invasion by new peoples on new fronts. Thus the Assyrians kept expanding their territory in order to keep their opposition at bay. Other reasons for the constant expansion of the empire were financial, to obtain necessary timber, and religious, to spread the belief in Ashur (Saggs 1984: 246).

At the core of the Assyrian military system was its standing army. In several historical resources it is noted that the Assyrians had little trouble in raising an army in excess of one hundred thousand men. Such large military campaigns usually began in June. This time was convenient for two reasons. First, was the favorable weather. Second, was that the harvest generally ended in May or at the beginning of June, making all the peasants available for service afterwards (Saggs 1984: 250-251). The army was not strictly made up of Assyrian peasants,

though. A prime example of this is the Itu'a, an Aramaean tribe who at one point were enemies to the Assyrians. The Itu'a were excellent fighters and frequently were called upon to perform special tasks for the empire, such as the squelching of rebellions. Ethnic groups like this were allowed to retain their traditional garb and weaponry, which probably made it more tolerable for the conquered peoples to fight for a nation that had defeated and forced them into military service (Saggs 1984: 243-244).

There were several specialized groups within the Assyrian army. One such group was a division of the infantry, the permanent bodyguard for the king. The bodyguards, along with other professional soldiers, also held watch at key garrisons located throughout the kingdom. Important too was the pioneer corps, which was in charge of clearing paths for chariots and wagons, building bridges and rafts in order to cross rivers too deep to ford, and constructing ramps and overseeing mining operations at cities under siege. Scribes were on hand at battle in order to record the booty taken from the conquered peoples and to preserve a general account of what occurred in the struggle (Saggs 1984: 244). The Assyrians also had what is equivalent to a Chaplain's department. The members of this department were dedicated to the cultic aspects of religion. Their duties ranged from sacrificing animals to interpreting omens in order to boost troop morale (Saggs 1984: 244-245). As mentioned above, due to the vast reaches of the empire the Assyrians had a good knowledge of the languages of most of their contemporaries. The efficiency of their interpreters allowed the Assyrians to translate most of the messages received by another branch of the military, the intelligence department. Intelligence was gained through the use of spies and taking prisoners (Saggs 1984: 256-257).

Next to its strength in numbers, the Assyrian army relied on its ability to scare its opponents. Propaganda came in the form of horrible atrocities committed against those who

resisted the Assyrians. This gave the impression that the Assyrians were not to be opposed and that Ashur was a powerful and unforgiving god. One particularly gruesome incident occurred in 716 BC when the king of Urartu convinced two Mannaeen governors to kill their pro-Assyrian king. Sargon, who was the king of Assyria at the time, caught one of the governors and flayed his entire body. It was then put on display for all the Mannaeans to see what happened to dissenters (Saggs 1984: 248-250).

The large standing armies in Assyria required equally large housing. Each capital city had bases, known as *ekal masharti*, for just this purpose. These bases served not only as barracks but as arsenals too. The bases were also effective in preventing threats of rebellion against the king (Saggs 1984: 251-252).

As mentioned above, the armies taken into war were often very large. In 845 BC, Shalmaneser III crossed the Euphrates with an army of 120,000 men. Divisions of the larger army were raised under provincial governors. Saggs mentions one governor who had 1,500 cavalry and 20,000 archers under his command. The order of the march was as follows: The standards of the gods and religious functionaries marched up front. Behind them was the king, usually riding a chariot, with the chariotry, cavalry, and his bodyguards surrounding him. Near the king was a crack infantry team who fought with the king and under his direct command. Following the crack infantry was the main body of the infantry. Taking up the rear were the transport columns. On a good day, this marching formation could cover up to 30 miles (Saggs 1984: 253-254).

The Assyrians were adept at several types of warfare. They were known to have participated in guerilla warfare in the mountains, set battles on open ground, and the strategic siege of cities. Often after seizing a new land, the army would cause mass destruction. Common

practices included felling trees and destroying entire orchards. Sometimes the army did even more damage, demolishing essential canals in conquered cities (Saggs 1984: 258-259).

The Assyrian siege was a highly organized operation. Siege engines would be wheeled up to city walls, often on ramps built by the pioneer corps in order to access and destroy higher and less thick sections of the fortification. Sappers mined tunnels under the walls to make them collapse. The infantry placed ladders at weak spots and climbed over into the city. Archers shot arrows, which were sometimes lit, over the walls in an attempt to cause confusion or to burn the city down, while others used slingshots to launch rocks into the city. The infantry also guarded the entrances to the cities, preventing any supplies from going in. This would often result in cities falling due to famine. Outside the city, fortified camps were erected to house off-duty soldiers (Saggs 1984: 259-260).

Upon the completion of a successful siege, the Assyrians would take many prisoners. Some would be deported to other areas of the empire. Others were brutally tortured. While many think that the Assyrians were a barbarous people, torture was purely punitive. Rebellious peoples were cut, flayed, or burned in order to set an example for anyone else in the empire who might commit rebellion (Saggs 1984: 261-264).

Phoenician Military

Today little survives in the way of evidence about the Phoenician army. With few inland holdings, the Phoenicians could not adequately provide themselves with a large infantry. This was not an issue, as the need for an army rarely presented itself. During the early colonization period, the people were focused on trade and not war. When the need arose for military power, the Phoenicians would hire mercenaries, mostly from Anatolia. (Moscati 1988: 132) Iron arms,

dating back to the 7th century, have been discovered in many Phoenician graves, giving the impression that a good number of Phoenicians either volunteered or were drafted into the military (Markoe 2000: 80).

The Phoenician army had all the typical branches found in armies of that time. Infantry troops were armed with spears, daggers, axes, and maces. They were supported by scythed chariots and teams of archers. Helmets, armor, and shields appear rarely in art from this period, suggesting that the Phoenicians were poorly equipped for defense. Around the 6th and 7th centuries BC, iron weapons appeared in the Phoenician army, found on spear points with serrated edges, spear-butts, and short daggers with curved blades (Moscati 1988: 132).

Not surprisingly, a great deal more is known about the navy of the Phoenicians than that of their army. Warships traveled the Mediterranean Sea year-round, patrolling the coast or on open seas to prevent piracy (Moscati 1988: 72, 74). Phoenician warships were, in fact, among the most common ships on the Mediterranean.

Phoenician warships were narrower than merchant ships and were seven times longer than they were wide. This feature allowed more oarsmen to fit on the ship. Their stern was similar to those found on the merchant ships. The prows of the boats were used as weapons, and were fitted with a rostrum, a bronze beak that was used to ram enemy ships. Eyes painted on each side of the prow were intended to allow the ship to see the route it was traveling and also to instill fear into the enemy. On the deck of the ships was the forecastle, a structure that held bowmen or a catapult for use in battle. The aftercastle, located on the stern end of the ship, was intended as a refuge and as quarters for the captain and the officers. The ships were steered by two rudders on each side of the stern. Two masts bore the ship's sails. One in the center of the ship held the mainsail and the one at the prow held a smaller sail that allowed maneuvering in

crosswinds. If the ship was unmasted in battle, oarsmen along the inner sides of the hull would propel the boat by rowing (Moscati 1988: 74-75).

Certain boats were more dominant on the seas than others. The penteconter was one of these. This ship was 25m long and could sustain 50 oarsmen. A captain, first mate, pilot and a sail maneuvering team of no more than 10 rounded out the crew. The trireme followed the penteconter. Being 36m long, it accommodated 80 oarsmen on each side, a crew that worked on the sails and the decks, and a small contingent of assault infantry. (Moscati 1988: 74-75) This ship could reach speeds of up to nine knots. In the 8th century BC, the invention of the raised deck allowed the Phoenicians to employ double-banked galleys, which had two superimposed and staggered lines of rowers on the inside of the ship. The upper line of rowers was on the gunwale while the lower line rowed through ports in the hull (Markoe 2000: 80).

Two tactics were used on the open seas when the Phoenicians found themselves in battle. The first was known as *diecplus*. In this technique, the fleet would depart quickly in a straight line towards the enemy. The ships would then make their best effort to break through gaps in the enemy lines. If they were successful, they would turn their ship sharply and attempt to deliver a blow to the stern of the enemy. The second tactic was known as *periplus*, a maneuver in which the ships were navigated towards the sides of the enemy crafts in order to ram them with the prow (Moscati 1988: 75-76).

Judean Military

The various tribes that inhabited the lands of Israel could muster together to form armies that numbered in tens of thousands of men. For instance, when Deborah defeated the Canaanites in the 12th century she commanded army of between 10,000 and 20,000 men. Later under Saul's

reign, the tribes once again united to battle the Philistines, amassing an army of 33,000 men (Wise 1981: 29).

Like so many other armies of the ancient Near East, the army of the Israelites was centered on a royal bodyguard. This bodyguard was first formed under Saul who desired a small standing army. The army, about 3,000 strong, became the core around which all the tribes of Israel would rally their individual levies (Wise 1981: 29).

When Judah and Israel united into one kingdom after their civil war, the Israelite army was the leading military in the Syro-Palestinian region. While in exile, David formed the basis of this powerful army, a band of men known as the Thirty. These warriors served as his bodyguards. Eventually their numbers grew to 600. When David received the crown of Judah, he formed a new band and merged them with the Thirty. Together the two groups became his royal guard. David's new royal guard comprised of two corps. The first was primarily Israelites and was called *gibborin*, or "mighty men." The second corps contained mainly Philistines and was dispatched primarily to address internal struggles in the kingdom. David also promoted many of the original members of the Thirty to be his top military commanders. Together these commanders became an army council responsible for framing war regulations and deciding appointments and promotions. Other members of the Thirty went on to become commanders of the tribal militias during war time (Wise 1981: 30).

Every able-bodied man over the age of twenty was required to participate in military service. The entire army was made up of twelve corps with 24,000 per corps. One corps was active each month while the others were on reserve (Wise 1981: 29). Initially, the entire army of Israel was comprised solely of infantrymen. Gradually chariots and cavalry were introduced. Solomon was said to have had 4,000 stables and horses for chariots. He had 1,400 chariots and

two horses to pull each, with one horse on reserve for every chariot (Wise 1981: 32).

Under David, each corps used the weapon or weapons that were native to them. The Benjamin tribe was full of archers and slingers. The Gad, Reuben, and Manasseh tribes were sword-and-buckler men with some archers. The men of the Zebulun tribe were supposedly experts in all manners of war and could gather 50,000 strong. It is possible that their weapon of choice was the spear. The Naphtali tribe too used the spear and also carried a shield. The Dan and Asher tribes also claimed to be experts in all manners of war. Raiding and scouting were the specialties of the Issachar tribe. Finally, the Levites provided their troops to guard unstable border areas (Wise 1981: 31).

Persian Military

The Persian army consisted mainly of Persians themselves, the infantry almost exclusively made of farmers. A large section of the male population in Persia served in the military. Boys were trained starting at age five in horseback riding, archery, and javelin throwing so that they could serve when they reached age twenty. Other peoples, including those of the Bactria and the Sakai tribes, were an integral part of the Persian army. Both groups were allowed to join the Persian infantry and along with the Medes they made up the majority of the cavalry (Dandamaev 1989: 223).

Whereas the infantry was relatively weak (the average soldier had little to protect himself other than a light, hide-covered shield) other parts of the Persian army proved to be imposing battlefield presences. Persian archers were among the most skilled in the Near East, taking not only lessons but actual bows and arrows from the more-than-adept Scythians. These bowmen would throw the enemy into a frenzy with a shower of arrows. The cavalry would then move in

to eradicate whoever was left standing. The typical horseman in the Persian cavalry was armed with an iron helmet, a suit of armor covered in iron scales, a bronze shield, and two iron spears. Horses also served to pull chariots, which were adopted in the 5th century BC when those of the scythed variety emerged (Dandamaev 1989: 224-225).

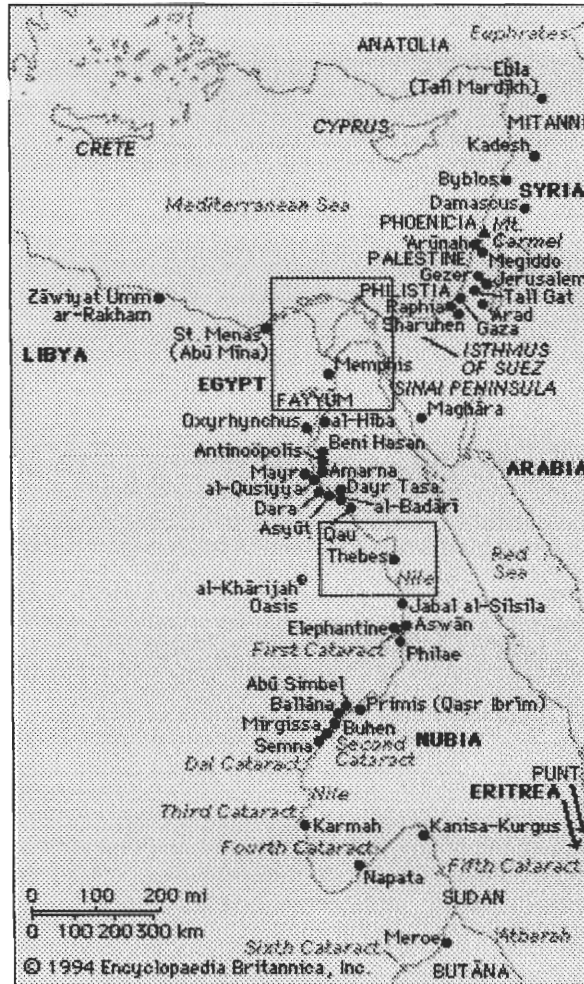
The Persian army featured 10,000 soldiers who were called “immortal” warriors, “immortal” because whenever one would die another soldier would be sent up to take the deceased’s place. About 1,000 of the Immortals were specially trained as bodyguards of the king. The Immortals were mainly Persian, but a few Elamites and Medes were permitted to join their ranks. Cyrus II instituted this group of men to watch over his home and to accompany him to war. The leader of the Immortals, the *hazarapatish*, was the highest civil servant in the state (Dandamaev 1989: 227-228).

The Persians had no true navy of their own. Instead they borrowed heavily from the lands that they conquered. During the Greek campaign of Xerxes the navy consisted of 300 Phoenician and Syrian ships, 200 Egyptian, 150 Cypriot, 100 Cilician, 50 Lycian, 70 Carian, and 100 Ionian. Each ship while occupied by its locals also had a contingent of 30 Persians, Medes, or Sakai on it who were in charge (Dandamaev 1989: 236).

During the 5th century, the Persian infantry grew weak due to the increasing oppression of the Persian people by the kings. To supplement the army, Greek mercenaries were hired. By the 4th century, the Greek mercenaries were no longer part of the Persian army. This left the Persians all but unable to carry on a war (Dandamaev 1989: 225).

EGYPT

Geography and People



Ancient Egypt, referred to by its inhabitants as Kemet, was comprised of two parts: Lower Egypt and Upper Egypt. Lower Egypt was all the land from Memphis northward; the land of the Delta, which consisted of enormous swamps and sandy islands, and was thickly populated and cultivated. It was called by the Egyptians *ta-meh*, the “land under water.” Upper Egypt lay to the south of Memphis and stretched to Aswan (Ruffle 1977: 11; Montet 1964: 4).

Egypt was a land defined by the Nile; its annual floods caused by the equatorial rains brought mineral-rich black silt to the dry desert lands. The land could only be cultivated and

settled as far as water could be brought. The region was arid: warm and dry with 10 centimeters of rainfall per year in the Delta, and only 2.5 centimeters of rainfall every 10 years in Upper Egypt. Thus, only on the Nile's banks could an agricultural society survive (Ruffle 1977: 11).

The desert surrounding Egypt was its best defense, and kept the region fairly isolated. The river highway was sealed at the southern end by a series of six cataracts from the city of Aswan to Khartoum, and passage could be easily controlled. In fact, the weakest defense was to the east, across the Isthmus of Suez toward West Asia—therefore it was a major point of contact with the outside world (Ruffle 1977: 11).

There have been inhabitants in the Nile river valley since very early in pre-history. These peoples consisted of nomadic tribes of hunters, probably of African origin. Around 5000 BC a warming and drying climate in the region drove those people nearer the Nile, and prompted a shift toward an agricultural lifestyle (Montet 1964: 16).

The early settlers along the Nile grew crops of barley, wheat, and flax. Having no real source of timber, they built their dwellings from mud and straw bricks dried in the sun. These dwellings were cool in the summer and warm in the winter, and lasted quite well in the dry environment (Aldred 1961: 55). Also found along the Nile was papyrus, a versatile plant used in many applications. The stalk could be chewed, much as sugar cane is today. It was also used in basket weaving and to make small skiffs. The main use of papyrus however, was for paper, as it was suitable for writing and drawing and lasted indefinitely (Montet 1964: 11). Many ancient papyrus scrolls last to this day, recording the culture and language of the ancient Egyptians.

It is thought that the early Egyptians spoke a form of Hamitic, like the Berbers of Libya or the Somalis of East Africa (Aldred 1961: 59). With immigration of Semitic peoples from Asia there was a shift in the language and incorporation of their language into the original

tongue, much like modern English is a combination of Anglo-Saxon and Norman French. The writing of the hieroglyphs, and a simplified form, demotic (developed around the seventh century B.C.), were comprised only of consonants, making it difficult to know the pronunciation (Harris 1971).

Egypt was a great melting pot and meeting point for many races. The inhabitants of Lower Egypt had aquiline noses, thick hair and beards, and are considered to be of Asiatic origin. To the west were the Timihu, also of Asiatic stock, but with different customs than their northern counterparts. To the south were the Nehesiu, a black-skinned people probably of African descent. The appearance of the native Egyptian, recognizable by their round heads and short square beards, lay somewhere between the Asiatics and the Africans (Montet 1964: 21).

Pre-history

In the late Paleolithic era, the retreat of the European ice-cap caused the climate in North Africa to become gradually dryer. Searching for water, the inhabitants of the region were drawn steadily nearer the banks of the Nile. Early settlers in the Nile valley were nomads, gathering edible roots and plants like the papyrus rhizome or Abyssinian banana, as well as hunting and trapping game, fish, and fowl (Aldred, 1961: 64).

Eventually immigrants, probably from Palestine, brought knowledge of agriculture, sowing barley or emmer wheat in the moist soil left after flooding or rare rainstorms. The nomadic tribes would stay in one place during the growing season, then harvest and move on. At some point in the past one of these tribes must have made a decision to settle permanently and grow grain as a main food. In the rich soil following the Nile inundation, crops could be grown in abundance (Aldred 1961: 65).

By the end of 3600 B.C., the agricultural life led by the early Egyptians differed little from that of the pagan tribes of the Upper Nile today (Aldred 1961: 66). Wheat and barley was grown and stored in mat-lined pits. Garments were made either of woven linen or tanned animal skins. Needles were made of bone, as were some arrowheads. Most tools and weapons, however, were made of stone or flint (Aldred 1961: 67).

In the later prehistoric period, the essentially African culture of Egypt was exposed to new ideas from Asia. Copper tools and weapons became more popular, though flint continued to be used for various tasks. It was at this point that Mediterranean Bronze Age culture was combined with native African culture to create the “essential Egyptian civilization” (Aldred 1961: 71).

Around 3400 to 3200 B.C. there is evidence of increased political activity, and a struggle for predominance developed between Upper and Lower Egypt, perhaps as a result of increased contact with western Asia (Aldred 1961: 72). Prior to this, the basic unit of government was a group of villages under the leadership of a headman. These districts, called *nomes*, were independent and the task of uniting them difficult, because some, like the *nomes* of the Delta, were more technologically advanced and protective of their local traditions. The unification of Egypt under Menes, thought to be a southern king, began the Archaic period (Aldred 1961: 72).

The Old Kingdom

There are few concrete records from the 1st Dynasty, which lasted from 3100-2890 B.C., but it is thought that Menes was a second name for one of three kings of Upper Egypt: Scorpion, Narmer, or Aha. Each of these kings has left a claim to the conquest of the northern kingdom, but it is thought that perhaps King Aha could have capitalized on temporary conquests by his

predecessors, and established his capital at Memphis (Ruffle 1977).

The 1st Dynasty was a time of economic and cultural expansion which continued for more than two centuries. The Palermo Stone, a large black basalt slab from the 5th Dynasty containing a record of every king and the principal events during their reigns, records that the kings of the 1st Dynasty made expeditions to the eastern border and into Nubia to the south. Unfortunately the stone is fragmentary, and large pieces of valuable information are lost. Even less is known about the 2nd Dynasty, from 2890-2686 B.C., and even the order of the kings is disputed. During the reign of Peribsen, there appears to have been a political upheaval, perhaps resulting in the breakdown of the union of the two lands. It was not restored until several years later under the rule of Khasekhem, who is believed to have changed his name at that point to Khasekhemwy, "The Appearance of the Two Powers." However, the cultural development of Egypt during that period seems to have continued basically without interruption (Ruffle 1977).

The first two dynasties are known as the Archaic Period, during which time buildings evolved from mud hovels and reed windbreaks to using baked mud bricks and imported timber. Stone also came into use in the later Archaic Period for parts of buildings subjected to hard wear, but no building during that time was made completely out of stone. Egypt created the core of its culture during this time period. The hieroglyphic script was developed, principal art styles were established, and the cultural framework was set up for the next three thousand years (Aldred 1961: 83; Ruffle 1977).

The next four dynasties constitute the Old Kingdom proper. Politically, not much is known about the 3rd Dynasty. Like the 2nd Dynasty before it, the number and order of kings is not firmly established. King Djoser, whom we know the most about, left inscriptions claiming control over copper and turquoise mines in Sinai. The tomb of Djoser was the first step toward

the Great Pyramids built in the 4th Dynasty. Credit is given to Imhotep, Vizier to King Djoser who planned and designed the Step Pyramid, for the first stone buildings. The Step Pyramid, with six stages, showed a growing faith in the new material, yet also hesitancy and doubt, as certain structures within the pyramid are unnecessarily reinforced, and built of smaller stones than the later Great Pyramids (Aldred, 1961: 84; Ruffle, 1977).

The Palermo Stone records kings in the 4th Dynasty initiating raids against Libya and Nubia. There is also mention of the construction of several large boats with timber from Byblos, one of the first recorded mentions of trade with that city. The country's resources were well organized and fully exploited by the strong central government, as shown by the monuments of the time. The Great Pyramids were built with large stones that had to be transported over long distances and then carefully positioned on the pyramid itself. The pyramid of Cheops, known in the chronicles of Heterodotus as a cruel despot, was the height of its form. It is the largest and plainest of the Great Pyramids, and reflected Cheops' great self-confidence and power. Two of his successors, Chephren and Mycerinus, also built pyramid tombs at Giza, yet not to the same scale (Aldred 1961: 87; Ruffle 1977).

The building of the Great Pyramids put a tremendous drain upon human and material resources, and leading into the 5th Dynasty, the power of the king was weakening. There was increased influence of the priesthood at Heliopolis, and combined with economic trouble from expenditures in the 4th Dynasty, the central government was on the wane. There were campaigns in Libya, Syria and Palestine in the 5th Dynasty, much the same as in the dynasties preceding. Wood was imported from Byblos and expeditions were made to Nubia and Punt. Pyramids were still built, but their size had decreased as the size of the temple of Re had increased (Ruffle 1977).

The 6th Dynasty saw the fall of the kingship, but it happened slowly. During the beginning of the dynasty, King Pepi I sent an army of Egyptians, Libyans, and Nubians into Palestine, led by a loyal noble. Some of the aristocracy remained loyal to the monarchy, but increasing economic demands, including temple and pyramid maintenance, further weakened the government, and caused an increase in self-interest among the nobles. The monarchy could not hold out in the final years of the reign of Pepi II, and after his death, Egypt fractured into a federation of feudal districts, much the same as it was before the unification in the 1st Dynasty (Aldred 1961; Ruffle 1977).

With the dissolution of the strong central monarchy, the First Intermediate Period began. Some *nomes* remained loyal to the monarchy which continued at Memphis, whose kings constitute the 7th and 8th Dynasties. In return, the kings granted the nomarchs almost complete independence. This period was regarded as a complete and unmitigated disaster, which resulted in political disintegration and social revolution. Life for the commoners was poor; poverty and anarchy brought famine and disease. The history of the First Intermediate Period is concerned with the attempts of several strong families to restore order. A powerful family at Herakleopolis managed to unite middle Egypt and expand their influence over most of the Delta. These Herakleopolitans form the 9th and 10th dynasties, and during this time were able to expel Asiatic squatters from the Delta, fortify the eastern borders, improve irrigation, and restore trade with Byblos. Sometime during this Intermediate Period, the nomarchs of Thebes constituting the 11th Dynasty revolted, and occupied the *nome* of Thinite, where they stayed for a while before pressing north until they had defeated the Herakleopolitans, assumed power, and unified Egypt under the rule of Mentuhotep I (Aldred 1961; Ruffle 1971).

The Middle Kingdom

The rule of Mentuhotep II and the founding of the Middle Kingdom began around 2040 B.C. with the defeat of the Herakleopolitans, and a policy of restoration was implemented almost at once. Trade with the Mediterranean was restored and contact with Nubia was reestablished. The kings in the 11th Dynasty restored much of the prosperity that was lost during the Intermediate Period. The throne was usurped during the reign of Mentuhotep IV by the vizier Ammenemes (Aldred 1961; Ruffle 1977).

The transfer of power is thought to have been smooth, and the central government increased its hold on the country, and the capitol was moved from Thebes to Ithet Tawy, near Memphis. From a more central location, it was easier to administer the reunified kingdom. It is thought that Ammenemes I was murdered by his own subordinates, but his successors were vigorous rulers. Sesostri I conquered Nubia and was an energetic builder, erecting a new temple at Heliopolis with obelisks to honor his jubilee. One of those obelisks still survives to this day. The reigns of Ammenemes II and Sesostri II were peaceful, and trade with West Asia was established, and mining in Sinai was reopened. Sesostri III built a canal through the first cataract, and also gained more complete power by breaking the power of the feudal nobility and reducing them to Crown officials. The kings of the 12th Dynasty devoted their attention to land reclamation and hydraulic engineering, especially in Lisht, making it one of the most fertile districts in Egypt (Aldred 1961; Ruffle 1977).

The last great king of the 12th Dynasty was Ammenemes III, and after his reign the line of kingship was weakened. The last ruler of the 12th dynasty was Queen Sobekneferu, which suggests that there was no male heir. The lack of dynastic continuity was a major weakness in the 13th Dynasty. There were 60 kings in a span of 150 years, mostly of Theban origin, and

some were of humble birth. The central government was weak, and during this time Asiatic intruders, called the Hyksos, were strong enough to claim authority in the eastern Delta. In the western Delta, an independent rule was established at the city of Xoïs, forming the 14th Dynasty. This line of rulers retained their local independence until about 1603 B.C. (Ruffle 1977).

In 1674 B.C., the Hyksos occupied Memphis and established the 15th dynasty. This dynasty constituted a line of six powerful kings, who continued Egypt's foreign trade contracts. Egyptian opposition, centered at Thebes, grew and eventually forced the Hyksos rulers to withdraw to the Delta (Aldred 1961, Ruffle 1977).

The 16th Dynasty was made up of minor Hyksos chieftains who could not afford to antagonize their neighbors, and thus had little ambition to establish rule in Upper Egypt. As the Theban resistance grew stronger, the policy of mutual tolerance became strained. One Hyksos chieftain wrote to the Nubians, who had regained their independence during Egypt's weakness, asking them to attack the Thebans. Although independent, the Nubians maintained an Egyptian culture, and came instead to support the Thebans and fight as mercenaries against the Hyksos when they began the final stage in the battle for independence (Aldred 1961; Ruffle 1977).

The rulers of the 17th Dynasty left little in the way of monuments, for too much of their energy and resources went into fighting for independence. There was simply not enough time and money to invest in sculpture and large public buildings (Aldred, 1961).

The Hyksos rule can be considered a great influence on the culture of Egypt. They brought fresh ideas and different techniques into the Nile Valley, and introduced bronze to the Egyptians, who, despite mining copper, had never learned how to alloy it to make bronze. During the end of Hyksos rule, a new variety of weapons and armor was introduced from Asia, including scale armor, composite bows, and horse-drawn chariots. The Egyptians adopted the

weapons in their wars against the Hyksos both in Egypt and Palestine (Aldred, 1961: 126).

The New Kingdom

The first king of the 18th Dynasty and the New Kingdom was Ahmose, who finally defeated the Hyksos, and was regarded by the Egyptians as the founder of a new and glorious era in Egyptian history. Following the victory against the Hyksos, he turned his attention on Nubia, campaigning as far south as the second cataract. He fought a campaign in Phoenicia, a violent interruption into the affairs of Palestine and Syria, a tradition continued by his successors, particularly Tuthmosis III, the great warrior-king. Egypt's new policy was one of military control with vassal states paying annual tribute, instead of establishing trade-links and merchant colonies (Aldred 1961: 131; Ruffle 1977).

With the advent of the New Kingdom came a standing army, which helped the kings of this era fight wars in Asia. The advantage in these encounters lay heavily with the Egyptians, with a standing army of high morale, who were ready to take the field just as the Asiatics were about to harvest their crops (Aldred 1961: 131).

Queen Hatshepsut was regent for the young Tuthmosis III, who ascended the throne when he was nine years old. Two years later, she assumed full regal powers for herself, becoming the dominant force in the co-regency. She embarked on a program of building and restoration, exploration and trade. During this time, the military was weakened, but after she died and Tuthmosis III came to power, he undertook a vigorous program of yearly campaigns in Syria and Palestine to win back and consolidate his control (Ruffle 1977).

The rulers of the 18th Dynasty abandoned the traditional pyramid tomb for a less conspicuous tomb in the Valley of the Kings. The size of the tombs vary, and one of the largest

found is that of Rekhmire', a vizier in the time of Tuthmosis III. The tombs of this era were decorated by paintings on a plastered surface, although a few tombs are decorated in a fine low relief, depending on the quality of the rock (Ruffle 1977).

The early campaigns in the 18th Dynasty brought much wealth into Egypt, much of it ending up in the hands of the priesthood of Amun. The increased power of the priests became a serious threat to the stability of the throne, and taking a lesson from the problems in the later Old Kingdom, the pharaohs sought to lessen their power. The city of Memphis was given increasing importance and men who could be counted on to be loyal to the king were given political appointments. Amenophis IV took up an almost fanatical worship of the sun, Aten, although this was not just a political move, for he seemed to just trade one set of priests for another, going so far as to change his name to Akhenaten. It is thought that the king was either incredibly single-minded, or mentally unbalanced (Ruffle 1977).

Following his death, Tutankhaten, the ten-year-old heir of Akhenaten, abandoned the Aten cult, and changed his name to Tutankhamun, "Pleasant is the Life of Amun." He began a building program and reestablished Egypt's claim to Syria, but before these projects really got underway, the young king died, and was succeeded by the priest Ay who ruled for four years, followed by Tutankhamun's general Horemheb, who was considered the first pharaoh since Amenophis III not tainted by the heresy of Aten. In the following years, the Egyptians strove to remove all trace of the heretics (Ruffle 1977).

Horemheb appointed his vizier Pramesse as his successor, who took the name Ramses I, the first king of the 19th Dynasty. He was succeeded two years later by his son Seti I, whose intention it was to establish a national renaissance. This plan consisted of campaigns to Syria to reclaim those cities lost under the rule of Akhenaten, and to encourage those who had stayed

loyal. Seti and his successors undertook extensive work at Abydos, the city of Osiris (Ruffle 1977).

Ramses II continued his father's work when he took the throne in 1290 B.C. He also fought campaigns against the Sherden and the Hittites, who were attempting to expand their influence southward. Ramses did nothing in a small way; he built temples and monuments throughout Egypt, Nubia, and Palestine on a scale larger than all pharaohs. Following the reign of Ramses' son Merenptah, the 19th Dynasty dissolved in a few short reigns of uncertain succession (Ruffle 1977).

The 20th Dynasty began with Ramses III, the last great native pharaoh. In the eighth year of his reign, the Sea Peoples attacked, ending the respite granted by Merenptah, who had defeated them years earlier. The Egyptians trapped their boats in the Nile Delta and defeated them. In the eleventh year of his reign, Ramses III crushed the Libyans, and thereafter enjoyed a peaceful and prosperous rule. Eight more Ramses (IV-XI) followed him, but none were as strong, and the country struggled through administrative breakdowns, theft among high officials, and possibly civil war (Ruffle 1977).

The Late Period

The 21st Dynasty was established at Tanis by Nesubanebded, possibly a son-in-law of Ramses XI. The monarchy was weak at this point, and there was little political importance placed on the pharaoh. The major works of the time were at Tanis, where a new temple to Amun was erected by the pharaoh Psusennes I, and extended by Siamun. The last pharaoh of that dynasty, Psusennes II, died without a male heir, and the kingship was passed to his daughter's father-in-law, Sheshonk I, leader of the Libyans who had settled in the eastern Delta (Ruffle

1977).

The 22nd Dynasty saw two main problems, the growing threat of Assyria, and the power of the High Priests of Amun. The Assyrian empire endangered the security of Palestine, and to face that threat, Osorkon II made an alliance with Israel. To counter the power of the priests, Sheshonk I named his heir to the office of High Priest, abandoning the hereditary history of that office. Unfortunately, Sheshonk's nomination was not supported, and civil war broke out during the reign of Takelothis II. At that point a rival dynasty came into being in Leontopolis, supported by high Theban officials. However, both dynasties were very weak, and lacked the resources to challenge each other (Ruffle 1977).

The 25th Dynasty was established by the kings of Nubia around 760 B.C. Kashta, ruler of Nubia proclaimed himself "King of Upper and Lower Egypt" but made no move to conquer the land to the north. His son Piankhy moved into Egypt, and was welcomed by the priests of Amun at Thebes. Tefnakht, a pharaoh of the 24th Dynasty, moved south, forcing Piankhy to besiege and capture Memphis to force him back. Piankhy then returned to Nubia. His successor, Shabaka, deposed Bakenrenef, the king of the 24th Dynasty, and with the fall of the 22nd and 23rd Dynasties, occupied the whole of Egypt. He maintained an uneasy peace with the Assyrians, but his son Shebitku and his successors were not as peaceful, and attacked the Assyrians. They were defeated and retreated to Nubia (Ruffle 1977).

Around 656 B.C. a powerful Assyrian prince came to power by having his daughter named high priestess of Amun at Karnak. Doing so, he gained the loyalty of Thebes, in effect re-uniting the kingdom after the wars in the Nubian dynasty. The 26th Dynasty was preoccupied by its own internal problems, and thus succumbed to the Babylonians, who in turn were conquered by the Persians in 539 B.C. So began the dynasties of Persian rule that lasted for two

hundred years (Ruffle 1977).

In 332 B.C. Alexander the Great occupied Egypt and ended Persian rule, and was hailed by the people as a deliverer. After occupying Egypt and securing his authority there, Alexander left to conquer the Persian Empire. After his death ten years later, Ptolemy Lagus took power, and was eventually confirmed ruler in 306 B.C. Ptolemy began the Ptolemaic period, a dynasty of thirteen rulers who did a remarkable job of merging traditional, conservative Egyptian culture with their own. Cleopatra was the last ruler before the battle of Actium and the Roman takeover of Egypt (Ruffle 1977).

Social Structure

The monarchy of Upper and Lower Egypt persisted with varying degrees of power through the dynastic period. The pharaoh, from the Egyptian word *Per-ao*, the Great House, was the divine figurehead who represented the gods' presence on earth. In the Middle and Old Kingdoms he traditionally wore a triangular pleated apron and the double crown that represented the union of the two lands. The king would appoint various officials, originally members of his close family, to administer the day-to-day running of the country. These positions often became hereditary as the pharaoh appointed the official's heir to his father's position. The vizier, the pharaoh's greatest advisor, handled general administration, as well as the treasury and the judiciary (Aldred 1961; Ruffle 1977).

At times during the dynastic period, the priesthood held the true power, rendering the king a figurehead, as was the case with the priesthood of Re and Amun, in the Memphite and Theban dynasties respectively. Priests lived in the temples. They shaved their heads and wore a sash across their chests as the symbol of their office. The priesthood of the god in favor was

seldom without food, for when oxen were slaughtered for sacrifice, the meat ended up on the priest's plates (Ruffle 1977).

Noblemen, officials, and merchants lived in the cities and indulged themselves in long kilts, pleated and held in place by belts, and a short sleeved tunic. Their heads were shaved, but they wore increasingly complex wigs made from human hair. Townhouses were the abode of the noblemen. The entrance and reception rooms faced north to take advantage of the cool breeze, and contained apartments for household servants. Craftsmen were often employed by the nobility and paid with food, oil and clothing, and were sometimes given bonuses of wine, salt, meat, or other luxuries. Egypt was a nation of producers, and barter of goods and services was the chief financial system (Ruffle 1977).

Local administration of the numerous *nomes* was handled by the nomarch, and run as separate economic units. The principal city in each *nome* was generally built around the temple of the local deity. There were very few people in Egypt not linked to agriculture. The farmers' season began in mid-July with the three-month long Inundation. During this time, the farmers could be called to labor duty by the pharaoh, doing heavy hauling for the building of pyramids, temples, and other public works. Housing was provided for them in the city, planned for efficient administration and able to accommodate a large population density. These worker's villages were the high-rises of the time, although probably no less comfortable than other contemporary housing (Ruffle 1977).

When the flood waters receded, the farmers returned to their houses and began the planting. If they were lucky, two crops per year could be produced. The most common grain grown during the Old and Middle Kingdoms was barley, and in the New Kingdom, emmer. Other crops were grown by the farmers as well. Vegetables and fruits in particular were well

suited to the Nile valley. Flax was grown for oil and for the production of linen textiles. Vineyards of both green and black grapes were common in the Delta and oases. The land was ploughed by oxen, the seed spread by hand, and then trodden into the ground by a herd of sheep or pigs. Cattle were the most valuable of livestock, both as a draught animal and for treading out the grain at harvest. Milk could be obtained from them, and finally meat when the animal had served its purpose. Meat in general was rare, except among the very rich (Ruffle 1977).

A new social class was established in the New Kingdom—the soldier. The New Kingdom saw the creation of a standing army, consisting of both infantry and chariots. Although there had been a small army in the past, it had most consisted of local levies and the elite guard of the pharaoh. After the defeat of the Hyksos, the army became much more prominent, almost too large for the population of Egypt to support. It became composed more and more of mercenaries from Nubia, Asia, and Libya (Aldred 1961: 171; Ruffle 1977).

The army was the place for an uneducated man to rise to a position of importance and affluence. The highest staff positions in the army, however, were open only to the educated man, who would perhaps begin his career as a scribe. All members of the army were not allowed to do any manual labor, and enjoyed great privileges (Aldred 1961: 173; Montet 1964: 107).

Technology of Egypt

Egypt was, for the most part, not a land of great innovation, but rather one of application. Precious few advances were made by the Egyptians themselves, and most important technical advances came from other cultures. Their culture had an “innate conservatism”, a desire to do things as they had always been done. There was a great reluctance to learn from other cultures, and as a result, Egypt was usually the last country of the Near East to make technological

advances, especially in metallurgy and engineering. Their genius instead lay in the ability to marshal a large force of workers for long hours of mining and quarrying, and in the building of large, mathematically precise structures (Harris 1971).

Prior to the New Kingdom, there were only two major technological revolutions, and both of them due to the influence of the Near East. In the late predynastic period, successive waves of intruders from Western Asia transformed material culture. Bifacial flint was replaced by a developed blade technique, and the use of copper weapons and tools came into being. With the invention of sturdier tools, carpentry made advances. The other industrial revolution was brought about by the reign of the Hyksos, who brought many advances in weaponry and armor, as well as the upright loom for weaving. Before that period, all weaving had been done on a horizontal ground loom, and the fabric produced had been very fine, but characteristically irregular (Harris 1971).

The first craft skills in Egypt, such as pottery, weaving, basket making, wood working, and the dressing of hide, seem to have arisen independently, but rarely were advances made without the influence of other cultures. In pottery, for example, mud from the Nile was used originally until outside influence prompted the use of clay. The kiln and the potter's wheel were introduced somewhere around the third millennium B.C., and the compound wheel was dated sometime prior to the 18th Dynasty (Harris 1971).

A material that undeniably arose from Egypt itself is faience, which was made from crushed quartz crystals that could be cast and fired to produce a blue or green glaze on pottery. Over time, they were able to create red, yellow, purple, white and black faience, and could produce pottery in two or more different colors. The majority of faience pieces are pottery, but it was also used to make glassy beads and inlays for statues (Aldred 1961: 78).

Papyrus was another material that the Egyptians discovered, and was used as early as the 1st Dynasty, made by laying strips of the inner pith side-by-side and crosswise, and then beaten together. The natural juices of the plant worked as an adhesive. The individual sheets of papyrus rarely exceeded seventeen inches square, but were gummed together to form scrolls up to 45 yards long. A form of early parchment from animal hides was sometimes used as well, but was not as common (Harris 1971).

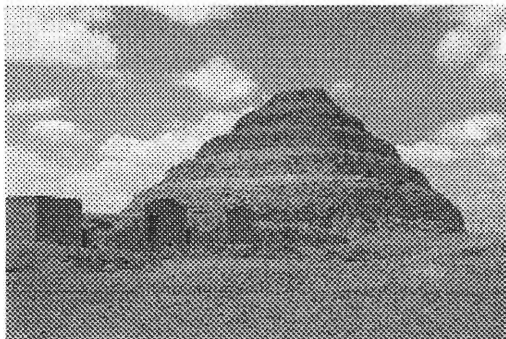
The advent of papyrus made possible the spread of writing, which in turn made possible the organized administration of the Egyptian government, as well as mathematics. Units of measurement were based upon the dimensions of the human body, the royal cubit being composed of seven palms and 28 digits (the width of a palm and finger, respectively). The art and architecture of ancient Egypt was very exact. A plan was drawn out ahead of time and followed faithfully (Aldred 1961: 80; Ruffle 1977).

The stone statuary of Egypt was very precise and symmetrical because it was planned out with a grid ahead of time. The sculptors used different methods of stone working depending on the hardness of the mineral. For hard materials, stone mauls and picks were used to chip away at the rock, and the statue was smoothed by metal saws, originally made of copper, and later bronze. For limestone, chisels and adzes with copper blades were used. The style of the statuary influenced other cultures, especially the Greeks and the Romans, whose statues took on similar attributes of symmetry (Harris 1971).

For a long time, Egyptian metallurgy was fixed in the copper age, originally brought from northeast Persia in predynastic times. Bronze was known in the Near East for centuries before it was used in Egypt, even though there was trade between the countries. It took longer still for the country to enter the Iron Age; Egyptian iron-working was still primitive in the 22nd Dynasty. In

fact, the only metal in which Egypt produced independent advances was gold, which was advanced by the Middle Kingdom (Harris 1971).

The brilliance of Egypt lay in the ability to build large-scale structures with the simplest technology. Most of the great stone structures were created using only direct manpower and simple wooden levers. Their building style was directly influenced by the geography of the land. Wood was uncommon, so scaffolding on a great scale was nearly out of the question. Instead, ramps of mud-brick were used to transport the stone up to the top of the structure (Harris 1971).



The first of the great stone buildings was the 3rd Dynasty step-pyramid, and the peak of pyramid building was the creation of the Great Pyramids at Giza a few hundred years later. Working with stone was a matter of trial and error, and the properties of various materials were worked out as they went along (Harris 1971).

Picture of the step-pyramid of Djoser

Another advancement made by the Egyptians was medicine. It has been said that Athothis, the second king of the 1st Dynasty, and Imhotep, the vizier of Djoser, were accomplished physicians. Athothis wrote anatomical works which were still in existence in the third century B.C. Medicine in the Old Kingdom was a thriving discipline, and by the New Kingdom, it had a considerable reputation and influence on outside cultures. The founder of the Ionian school of medicine was said to have been taught by Egyptian priests. Egyptian physicians were so well regarded that the rulers of Persia preferred to employ them over any others (Harris 1971).

The Egyptians were, if anything, adverse to change. Many new ideas from Asia failed to make an impact until many years later. Although Egypt traded heavily with other countries, the

means to produce the goods were not learned. Egypt instead relied upon high quality gold work as its primary means of trade, thus obtaining goods of bronze and iron, even if they lacked the ability to produce them (Harris 1971).

Egyptian Military

The Egyptian army of the Old Kingdom was supplied chiefly by the various *nomes* as needed, or operated as local levies under regional commanders. It was composed only of infantry, with both heavy and light divisions. Heavy infantry was more completely armored and probably armed with spears, while the light infantry was made up of archers. The troops were more loyal to their home *nomes*, or in the case of the mercenaries, to their home country, than to the pharaoh. The pharaoh could call muster when needed, and probably had a small bodyguard which comprised the core of his army. In battle, the army was commanded by the vizier, but for administration purposes, officers were appointed to such positions as ‘director of arsenals’ and ‘director of infantry.’ The former supplied food and weapons to the army, while the latter was in charge of organization and training of the corps (Wise 1981: 14).

The means of recruitment in the Middle Kingdom was slightly different than in the previous dynasties. Each *nome* had a quota of troops, who then left their homes to enter military service under the pharaoh. There were fewer mercenaries than in the Old Kingdom, and their duties consisted more of policing than fighting with the main army. The army itself was made up of heavy spearmen and archers, and probably did not exceed 10,000 to 13,000. As a form of incentive, those who proved themselves in battle were rewarded with a dagger of honor and a gold collar (Wise 1981: 15).

The standing army in the New Kingdom was composed of professional soldiers and

mercenaries. The army grew as the empire did. In the early years of the New Kingdom, it was made up of two divisions named after the gods Amun and Re. Seti I added another, the Set division (Wise 1981: 16). Under Ramses II, the army was composed of four divisions, each with between 5,000 and 20,000 men. Each division was further broken down into regiments of 200 infantry and chariot squadrons of 25 (Ruffle 1977; Montet 1964: 106). By the end of the New Kingdom, however, the army was comprised mostly of mercenaries as Egyptians left their military careers to foreigners, among them Nubians, Sudanis, and Libyans (Aldred 1961: 148).

Much of the knowledge of the army of the Late Period comes from Heterodotus, who reported the size of the army to be around 410,000 men at total strength. The army was divided up into the *Hermotykieis* and the *Calasiries* based on both home *nome* and armament. While it is unclear what is meant by the names, it is known that citizens from the same *nome* often went to the same division of the army (Wise 1981: 19).

Accounts of certain battles suggest that discipline and coordination were not strong points in the Egyptian military, although high morale and bravery were not lacking. There are records of long sieges in Palestine, and it is believed that a frontal attack was used in these instances, scaling the walls with ladders and using a battering ram to breach the walls. In the open country, battles would end in hand-to-hand fighting (Ruffle 1977; Montet 1964: 108).

Traditionally, a fixed day would be proposed for a battle, and would be postponed if one side was not ready. Thus, surprise attacks were forbidden to the Egyptians. This noble weakness was exploited from time to time by their enemies. When Ramses II was fighting the Hittites over Syria, they made a surprise attack on his camp when the four divisions of the army were still a long way off (Montet 1964: 108). During that same campaign, the Hittite forces staged a trap for Ramses and his men, but were thwarted by the arrival of Egyptian

reinforcements and the personal valor of the pharaoh, who led his demoralized army in a series of charges in order to rally them (Aldred 1961: 136).

There is not much information on the Nubian forts of the Old Kingdom, but in Middle Kingdom Nubia, forts were carefully sited, with both good defensive position and access to a water supply. Fortresses in the New Kingdom were built on a larger scale, with perimeter ditches in front of the thick mud-brick walls up to twelve meters high (Ruffle 1977).

The Egyptians also had considerable sea-power, but used it mainly as support for the ground forces. The Egyptians battled the Sea Peoples many times over the course of their history, and thus gained their respectable navy. Their boats were powered by oarsmen and manned by skilled archers. Battles on land were sometimes assisted by this type of naval power (Aldred 1961: 137).

Arms and Armor

The earliest weapons known to the Egyptians were the bow and arrows and the stone mace. The early bows were single-convex, and these were used even after the development of the double-convex bow with increased range (Ruffle 1977: 122). Archers used a leather or metal brace attached to their forearm to protect their arms from the rub of the bowstring. Arrows were about 75 centimeters long, and tipped with flint, and later bronze. Arrowheads were long and sharp at first, made to cut flesh, but as armor was developed arrowheads became short, thick, and heavy in an attempt to pierce it (Ruffle 1977: 122).

The mace was common in the Old Kingdom, but was not commonly used after its fall. It was replaced by wooden clubs and metal battle-axes. These axes had plain, D-shaped blades that fit into a slot in the handle and were secured by rawhide lashing. The Egyptians did not use

socketed axe-heads, even in the Middle Kingdom when they copied the epsilon-shaped socketed heads of the Asiatics. They instead developed a flat, socketless version. These axes were effective against unarmored troops, but in the New Kingdom a narrower blade was used that could penetrate armor (Ruffle 1977:123).

Daggers were rare before the Middle Kingdom, but over time developed from a short wide blade to a longer weapon more like a sword by the New Kingdom. The handles were made from either wood or ivory, and sometimes elaborately decorated. In the New Kingdom the *khopesh*, a sickle shaped sword with a sharp outer edge, was introduced from the Near-East, but it was relatively rare due to the amount of bronze needed to make it (Ruffle 1977: 123).

A staple of Egyptian armament was the spear. Common in all ages of the country, it was the main weapon of the heavy infantry, also known as the phalanx. In the Middle Kingdom, spears were long with heavy heads, but by the New Kingdom they were shorter and more likely to have been used as javelins (Ruffle 1977: 124).

The Hyksos rule brought many technical advances in warfare, among them new types of armor and weaponry. Prior to their rule, the Egyptians were still using double-convex bows and a copper axe-blade which was lashed to the haft. The compound bow introduced by the Hyksos was made from laminated wood and horn, and replaced the double-convex bow. The compound bow had a range of up to 400 meters. Scale armor, also brought by the Hyksos, was made by sewing about four hundred small leather or bronze plates onto a short sleeved leather tunic (Ruffle 1977: 122).

Close-fitting leather helmets protected the heads of the common soldier. The pharaoh wore the blue, or war crown, made from gilded metal discs sown on leather, and was adopted into his regalia in the New Kingdom (Aldred 1961: 127). Egyptian soldiers carried long shields

made of rawhide with the hair left on for added strength. These shields had a pointed or rounded top (Ruffle 1977: 121). But perhaps the most important technological advance was the chariot. Egypt, for the first time, had a mounted unit to support their infantry. At first it was a part of the main infantry force and used to augment the infantry, but later was separated into its own unit. Chariots carried skilled archers and battle commanders (Wise 1981: 16).

Table of Principal Rulers

Time Period	Selected Pharaohs	Significant Events
<p>Archaic and Old Kingdom 1st Dynasty 3100-2890 B.C.</p> <p>2nd Dynasty 2890-2686 B.C.</p> <p>3rd Dynasty 2686-2613 B.C.</p> <p>4th Dynasty 2613-2494 B.C.</p> <p>5th Dynasty 2494-2345 B.C.</p> <p>6th Dynasty 2345-2181 B.C.</p> <p>First Intermediate Period 7th-10th Dynasties 2181-2040 B.C.</p>	<p>Menes</p> <p>Peribsen Khasekhem (Khasekhemwy)</p> <p>Djoser</p> <p>Cheops Chephren Mycerinus</p> <p>Userkaf Wenis</p> <p>Pepi I Pepi II</p> <p>Monarchy at Memphis (7th & 8th) Herakleopolitans (9th & 10th)</p>	<p>Unification of the two lands</p> <p>Breakdown of the union Restored the union</p> <p>Built the first stone pyramid</p> <p>The three builders of the Great Pyramids at Giza</p> <p>Rise in the importance of Heliopolis and the god Re</p> <p>Decentralization of government; rise in feudalism</p> <p>Anarchy and economic strife</p>
<p>Middle Kingdom 11th Dynasty 2133-1991 B.C.</p> <p>12th Dynasty 1991-1786 B.C.</p> <p>13th Dynasty 1786-1633 B.C. 14th Dynasty (Xois) 1786-1603 B.C.</p> <p>Second Intermediate Period 15th Dynasty 1674-1567 B.C. 16th Dynasty 1684-1567 B.C.</p> <p>17th Dynasty</p>	<p>Mentuhotep I Mentuhotep II</p> <p>Ammenemes I Sesostris I Sesostris III</p> <p>Great Hyksos chiefs Minor Hyksos chiefs</p>	<p>Reunification; capitol at Thebes Restoration of prosperity</p> <p>Conquered Nubia Broke power of feudal lords</p> <p>Introduced new weapons and armor to Egypt</p> <p>Restored power to Egyptians</p>
<p>New Kingdom 18th Dynasty 1552-1306 B.C.</p> <p>19th Dynasty 1306-1195 B.C.</p> <p>20th Dynasty 1195-1069 B.C.</p>	<p>Ahmose Queen Hatshepsut Tuthmosis III Amenophis IV (Akhenaten) Tutankhaten (Tutankhamun) Horemheb</p> <p>Rameses I Seti I Ramses II Merenptah</p> <p>Ramses III</p>	<p>Defeated the Hyksos Regent for Tuthmosis III Increased the army and wealth Tried imposing worship of Aten</p> <p>Not tainted by heresy of Aten</p> <p>Increase in the size of the army, numerous campaigns. Great building activity</p> <p>Decrease in prestige of kingship</p>

Late Period 21 st Dynasty 1069-945 B.C.	Nesubanebted Psusennes I Siamun	
22 nd Dynasty 945-715 B.C.	Sheshonk I Osorkon II Takelothis II	Libyan dynasty
23 rd Dynasty 818-715 B.C.		
24 th Dynasty 727-715 B.C.	Tefnakht Bakenrenef	
25 th Dynasty 760-656 B.C.	Kashta Piankhky Shabaka	Nubian dynasty
26 th Dynasty 664-525 B.C.	Psammetichus	Assyrian dynasty
27 th Dynasty 525-404 B.C.	Persian	Beginning of the Persian dynasties
28 th and 29 th Dynasty 404-378 B.C.		
30 th Dynasty 380-343 B.C.		Defeated Persian rule in Egypt
Ptolemaic Period 323-30 B.C.	Alexander the Great Ptolemy Lagus Ptolemy III Cleopatra	Built library at Alexandria Last ruler before Roman takeover

GREECE

Geography of Greece:

The homeland of the ancient Greeks was the area encompassed by the Aegean Sea, and its many islands. This area is bordered on the northwest by the Balkan Peninsula (modern-day Greece), and on the east by Anatolia (modern-day Turkey). Some other areas that the Greeks later colonized include: the islands Crete and Cyprus, the coast of North Africa, southern Italy and Sicily. Mainland Greece is filled with various mountain chains that isolate the many valleys and plains. This caused communities to remain separate politically, while still retaining trade and diplomacy with other communities.

On the mainland, only about 20 - 30% of the land was arable. Because of this, and since most of the land is very rugged, when the Greeks first started raising animals in the Stone Age they focused on pigs, sheep and goats, because horses and cattle were too large to raise. When the Greeks learned to farm, they started with barley, which “formed the cereal staple of the Greek diet” (Martin 1996: 2). Two other main areas of Greek farming were olives and grapes. In fact, wine diluted with water was a favorite drink of the Greeks.

Minoan & Mycenaean Culture:

Around 3000 B.C. is when historians consider the Bronze Age to have begun in southeastern Europe. The advent of different metallurgical techniques developed in this period greatly changed the way weaponry was made. Before this time, weapons had been made of stone, and copper. Bronze weapons could hold an edge much better than earlier materials which would lose their shape and dull easily. Daggers and later swords were now used extensively, and also soon became a way to measure status, because people began to value the aesthetic values of

having ornate weaponry. Soon, people started to desire metals as goods for trade, just as food and land were desired. Due to this increase in demand, many metalworker specialists emerged and developed their trade.

Another important development was the emergence of Mediterranean polyculture. This was when people began to diversify the types of food in their diet, and began to cultivate olives, grapes, and grain in large supply. Because of this increased diversification of agriculture, food supply was vastly increased and population was boosted accordingly. Another important result of this was that agriculture became much more specialized. Thus people began to devote themselves to one type of agriculture, and had to trade for other essential foodstuffs, and materials. This slowly caused society to become more interdependent, both economically and socially. (Martin 1996)

During the period from about 3000 B.C. to around 1300 B.C. the dominant society of Greece was the Minoan society, based on the island of Crete and named after the legendary Cretan king Minos. The Minoans built large palaces to govern from, and to store large amounts of food and other goods. They also had a form of writing known to scholars as Linear A that has yet to be decoded or translated (Martin 1996). The Minoans were largely a peaceful society as they didn't have any defensive walls around any of their palaces.

The Minoans had a passion for accounting, and recorded almost every economic transaction in trade, and in palace life. Most of the recording was done for economic purposes, as they used a redistributive economic system. This is when the authority figures collected agriculture and goods from everyone, and distributed the materials among everyone. This economy was also augmented by trade with Egypt.

In fact, much of the early Greek artistic and religious culture was absorbed from Egypt

(Martin 1996: 21). For example, during the Archaic Age, sculptors in Greece chiseled statues in proportions established by Egyptians artists. Also many of the classical Greek religious ideas were “infused with stories and motifs of Near Eastern origin” (Martin 1996: 21). Examples include the geography of the underworld, and the weighing of the souls of the dead in scales. Also reinforced in religious myths are the life-giving properties of fire, as shown in the initiation ceremonies of the international cult of the goddess Demeter of Eleusis. However, even with the considerable contact between Egypt and Greece, the Egyptians always referred to the Greek as “foreigners” rather than colonists, and therefore considered themselves completely separated cultures.

The Dark Ages

After the disruptions caused by the end of the Mycenaean era of Greek history (1200 B.C. to 1100 B.C.), the economy was in shambles and nearly all of Greece and the Near East were in complete poverty. There were many causes for this economic disaster, among them that “the Greeks apparently lost all of their knowledge of writing when Mycenaean civilization was destroyed, although it has recently been suggested that the loss was not total” (Martin 1996: 37). This is believed to have happened because the Linear B written language that was used by the Mycenaean was extremely hard to learn, and was used almost exclusively by the scribes of the various palaces.

Because of this economic decline and the loss of writing, much of what actually happened during this time remains unknown to historians. In fact, apparently even less was known by later Greeks about this period, because they believed that the Greek-speaking Dorians from the north launched a massive invasion of southern and central Greece. However, there

appears to be almost no indication that the Dorians indeed performed this invasion, and that “many scholars reject this ancient idea as fiction, at least if it is taken to mean a large-scale movement of people all at once” (Martin 1996: 38).

Due to the destruction of the Mycenaean civilization and the violent upheavals associated with them, the population of Greece had significantly diminished. Now instead of large towns or palaces filled with people, the population existed as tiny settlements in “groups of as small as twenty people in many cases” (Martin 1996: 38). Also, much of the trade diversity was lost during this period. No longer were there many people in various specialized fields, but people all reverted back to being herders, shepherds, and sustenance farmers. In fact as the population shrank, there were fewer people to cultivate the land, which caused less food to be made, which lowered the population even more. Thus began a cycle of dwindling population, and there arose a need for an alternative primary food source.

Because of this decline in agriculture, Greeks once again shifted towards herding animals as a larger part of their living. When the animals had grazed all of the grassland in the nearby area, the farmer would have to move to a different place. Thus the Greeks of the dark ages tended to live in simple huts for their houses, and existed on very few possessions.

Despite this impoverishment, there was one notable change in Greek technology. A burial in Athens dated around 900 B.C. consisted of a dead man’s remains and a group of metal weapons that were made from iron (Martin 1996: 40). It was around this time that iron began to become the predominant metal used for tools and weapons, rather than bronze.

The technology of smelting iron is believed to have been learned from various workers in Cyprus, Anatolia, and the Near East. Iron began to be used extensively, but “above all in the production agricultural tools, swords and spear points, although bronze remained in use for

shields and armor” (Martin 1996: 40). The main reason for this shift in metals is because iron is a far superior metal compared to bronze, as it can hold an edge a lot longer, and most importantly, because iron was easier to produce than bronze, making it the cheaper of the two. Also because trade had been heavily disrupted during this period, tin (used to make the alloy bronze) was fairly unavailable, while iron was available within Greece. With this increase in iron better farm implements were soon created, which led to an increase in the supply of food. Just like 300 years before, the increase in food led to an increase in population, which would help bring Greece out of the Dark Ages.

Gradually, toward the end of the Dark Ages, a class of elite citizenry began to emerge in Greece called the “aristocracy”. This is not to be confused with a simple hereditary nobility, as to stay as one of the culturally elite, you had to consistently perform to a set of standards. Some examples of what were expected were “make displays of status by acquiring fine goods and financing celebrations, to cement relationships with social equals by exchanging gifts and with inferiors by doing them favors, and to pay due homage to the gods by expensive sacrifices, especially of large animals” (Martin 1996: 42). Therefore although someone might be born into aristocracy, if they failed to consistently live up to the code of behavior required for this, they might be cast out from the system.

Another important development that took place around the time from 950 B.C. to 750 B.C. was that Greek poets started to write down their poems, now that the Greeks had begun to relearn writing from communication with civilizations in the Near East. It was around this time that the Greeks began to implement a Phoenician alphabet having the letters represent the various sounds of the language, and utilizing the innovation of vowels. Around 800 B.C. Homer’s two epic poems *The Iliad*, and *The Odyssey* were at last written down, as opposed to being recited

orally.

Beginning in 776 B.C., the Olympic Games were first started in Olympia, an area located in northwestern Peloponnese. This series of games heavily emphasized strength and fitness, and fit in with the idea of the ideal masculine Greek figure. The principal event in the early Olympics was the event of a 200 yard sprint called the *stadion*. While viewing the events was open to all males, there were no married women allowed to enter on pain of death, although women who were not married were allowed to view the proceedings. Apparently there was another set of games held on a different date for women who were not married, using a track that was 5/6 the length of the male counterpart. People who won the events in the Olympics initially didn't get any material prizes besides a garland made from wild olive leaves, but for many participants victory itself yielded many rewards.

The organization and holding of the Olympics was an important shift in Greek thinking, as it marked a beginning in a trend for Greeks to come together in communal activity. The Olympics were open to anyone regardless of social status or political background. In fact it is important to note that even if there was a war going on, an international truce of several weeks was called, and safe passage was guaranteed to both participants and spectators, traveling to and from the events.

The Archaic Age

One of the most important things to come about during the Greek Archaic Age was the idea of a *polis*, or city-state. A polis usually consisted of a city center, and several miles of countryside, populated by several settlements. In a polis, men were the only ones who had political participation, but women were legally, socially, and religiously members of the

community as well. Each polis was independent from its neighbors and had “political unity among its urban and rural settlements of citizens” (Martin 1996: 53). Central to the political organization of the polis was the idea of “citizenship for all its indigenous inhabitants” (Martin 1996: 53). In this was also central the idea that legally, everyone was to be treated equally, although certain differences occurred in cases concerning women’s control of property, and acceptable sexual behavior.

Toward the end of the Dark Ages the population of Greece expanded tremendously. However, this soon produced a shortage of workable farmland, and during the Archaic Age, there was intensive colonization by the various city-states. Generally in order to decrease competition and tensions, the city-states would send its landless men to colonize new territories as a new city-state. Another purpose of colonization was the removing of a city-state’s unwanted population. For example, in 706 B.C., the Spartans colonized the city of Taras in southern Italy with a group of illegitimate sons that could not be successfully integrated into Spartan society. (Martin 1996: 58)

This increased traveling helped revive trade with the people of Anatolia and the Near East. The Greeks vastly admired the wealth and art created by these cultures, and in fact much of the art created by the Greeks during this time period emulates what they found elsewhere. As the economy began to improve during the later Archaic Age, the Greeks began to erect temples and other architecture in the manner of the Egyptians. Later, around 600 B.C., the Greeks began to start minting coins, although barter was still the primary method of economic exchange for a long time afterward. This is an extremely formative moment in a culture’s history, because coinage represents more than just a form of barter, but also is symbolic of the country’s growth and power.

Around 800 B.C. a type of soldier called a hoplite became widely used in Greek phalanxes in battle. A phalanx was the basic group of soldiers in Greek armies, formed by solid rows of soldiers. The hoplite was outfitted in metal armor, and was the main strike force of Greek armies before they began to extensively use naval forces. The hoplites are believed to have caused much political change in Greece. Because hoplites “paid for their own equipment and trained hard to learn phalanx maneuvers, [they] felt [that] they too were entitled to political rights” (Martin 1996: 62). It is believed that if the hoplites formed a revolution, they could refuse to fight for the upper class, and would therefore have crippled the army. Eventually poor and lower class men would be allowed equal say in the law, although holding public office was still usually reserved for the more upper-class citizenry.

Beginnings of Democracy

Although the city-states of Greece were very different from each other in upbringing, by the end of the Archaic Age, they all shared the following aspects: “citizenship, slavery, the legal disadvantages and political exclusion of women, and the continuing dominance of wealthy elites” (Martin 1996: 70). Still, despite these similarities, they all had different ways of ruling over the citizenry. Sparta and a few other city-states were ruled by an oligarchy; a very small group of men having all of the political power. Other city-states were occasionally ruled by tyrants, men who took all of the political power in an unconstitutional manner. Finally, other city-states were ruled by an early form of democracy; all male citizens had the power to participate in governing.

The Spartans had begun to use an oligarchy as a political base for military strength early on in its development. Originally Sparta had been made up of 4 villages, ruled by the 2 most

powerful. In order to form a collective city-state, the two most powerful of the villages merged all 4 of the villages into a single polis of sorts. One consequence of this unification was that it would now be ruled by 2 hereditary kings, who were now the leaders of religion, and of the Spartan army. This was both fortunate and unfortunate because if there was a large dispute or rivalry occurring between the two, then the Spartan military could be paralyzed with inaction. Eventually it was decided that only one king would decide on military tactics at a time.

In addition to the two kings, there was a group of 28 men (*gerousia*) over the age of sixty that helped make political decisions with the kings. Together, this group of 30 would come up with ideas, and would tell them to an assembly of all free adult males. This assembly had very limited power to repeal or amend any propositions made to it. In fact, the job of the assembly was mostly just to validate the council's proposals as law.

To balance the power held by the kings and the *gerousia*, every year a group of 5 "overseers" (*ephors*) would be elected from the adult male citizenry. The job of the ephors was to ensure that the laws of the city-state would have supremacy, even over the rulings of the kings. In fact, the ephors had considerable power and could even bring charges against the king, and hold him until his trial. The ephors "diluted the political power of the oligarchic *gerousia* and the kings" (Martin 1996: 74).

Because the Spartans lived amongst the conquered people of the surrounding land, and were vastly outnumbered by the enslaved people, they changed their lifestyle to that of a military state constantly on guard. To do this required an enormous change in traditional family values, and required "strict adherence to the laws and customs governing practically all aspects of behavior" (Martin 1996: 75).

Some of the conquered people living in Sparta were a type of slave called a *helot*. A *helot*

was not the property of an individual Spartan, but rather property of the whole community.

Helots had some aspects of family life; however this was mainly to ensure that they continued to have enough offspring to continue the line of helots for later Spartans. The helots were forced to do farming labor and be household slaves for the Spartans so that they wouldn't have to do such work. Every day the helots "lived under the threat of officially sanctioned violence" (Martin 1996: 76). In fact, any Spartan was allowed to kill a helot without any civil or religious penalties.

Because the helots freed the Spartans of any household work, they were free to train as hoplites in the Spartan army. In fact, "the entire Spartan way of life was directed toward keeping the Spartan army in tip-top strength" (Martin 1996: 77). Until the age of seven Spartan boys lived at home, but then were required to live in a communal barracks until the age of thirty. Most of this time was spent in hunting, exercising, weapons training, and learning of the Spartan values by listening to tales told by older men. Discipline in the barracks was extremely strict, as boys weren't allowed to speak at will. They were also continually underfed so that "they would have to learn the arts of stealth by pilfering food" (Martin 1996: 77), however if they were caught, they were immediately punished and disgraced. This harsh discipline was all to prepare them for the hard life of a military campaign.

Many Greek states opposed an oligarchic political system and tyrants began to emerge politically in various states. The most famous early example of Greek tyranny is that of Corinth, and the oligarchy of the Bacchiad family. While under the domination of the family, Corinth had become the most economically advanced city in Archaic Greece; so much that other Greek states constantly contracted with them to have ships made. Because the Bacchiads ruled violently, they were very much disliked by the populace.

One member of the social elite, whose mother had been a Bacchiad, was Cypselus.

Cypselus wanted to overthrow the oligarchy held by his family, so he tried to become extremely popular with the citizens by becoming everything that the Bracchiads were not – “courageous, prudent, and helpful to the people” (Nicholaus of Damascus, FGrH 90 F57.4-5). When he finally did overthrow the oligarchy, he ruthlessly suppressed any who opposed or rivaled him, but was so well loved by the populous that he often traveled around the city without any form of bodyguard. Under his rule, Corinth increased its economic power even more, by exporting large amounts of fine pottery overseas.

Cypselus’ son Periander succeeded him when he died in 625 B.C., and he set about expanding the economic power of Corinth even further than his father. He created many commercial contacts with Egypt (even naming his son Psammetichus, an Egyptian name), and caused a great development in crafts, art, and architecture. However, because Periander ruled harshly, the public soon began to dislike him, and when his son inherited his position, Psammetichus was quickly overthrown by the populous, and government based on a board of eight magistrates and an eighty-man council was installed.

There are a few fundamental differences between Greek tyrants and those of other countries. Although the tyrants took power by force, they were generally themselves members of the socially elite, who rallied support for their cause in the general citizens of the state. Usually tyrants also preserved existing laws and political institutions to help keep a general state of social stability. To keep support for their cause, once they were in power many of the tyrants undertook many public works to benefit the general populace, such as the excavation of a great tunnel eight feet high and almost a mile long underneath a 900-foot mountain, to better the quality of water on the island Samos, in the eastern Aegean Sea.

Unlike most sites that were inhabited during the Mycenaean period, Athens did not suffer

destruction at the end of the Bronze Age. It did however experience a severe population loss during the initial period of the Dark Ages. But, by around 850 B.C., the Athenian agricultural economy was beginning to revive. Around the period of 800 B.C. to 700 B.C., there was an extremely rapid population growth around the area of Athens, consisting mostly of free peasants. It is suggested that because of this growth, and the growing importance of the hoplites that by 700 B.C., all citizens of Athens, rich and poor, had the first limited form of democracy.

In this new democracy, “all free-born adult male citizens had the right to attend open meetings, in a body called the assembly (*ecclesia*), which elected nine magistrates called archons (‘rulers’) each year” (Martin 1996: 83). The archons were both government leaders, and judges in criminal cases and disputes. Yet despite this limited form of democracy, the elite class still tried to dominate politics by exploiting their status and securing positions for themselves as archons.

Due to an increasing economical crisis, tensions began to arise between the lower-class and the upper-class citizens of Athens. Things began to get so bad that civil war threatened to break loose, and so Athens gave a man named Solon special authority to change the laws to deal with the crisis. Solon tried to find a middle path in the crisis that allowed the rich to keep hold of their wealth, while also allowing the poor to have their land redistributed from the holdings of large landowners. He also forbade selling poor people off as slaves, and liberated many citizens who had become slaves due to their debts.

Balancing power between the rich and the poor, Solon created a system of classes that ranked people into one of four types: “five hundred-measure men”, “horsemen”, “yoked men”, and “laborers”. The higher a class someone was, the higher political office that person could hold, with the laborers being barred from all offices. However, all men still had the right to

attend the assembly. Solon also created a council of 800 men (*boule*) to create an agenda for the assemblies, trying to keep the assemblies from falling into the sole power of the elite class. One of the most important aspects of this class system was that people could increase their political abilities by increasing their income. Thus the Athenian class system was far more open to individual initiative and reform than the Spartan system.

One of the most important aspects of Solon's reforms was that any male citizen "could bring charges on a wide variety of offenses against wrongdoers on behalf of any victim of a crime" (Martin 1996: 85). Also, if the citizen believed that the magistrate had given an unjust verdict, he could appeal to the assembly. Thus justice became an issue for the common people as well, not just the social elite.

Despite all these efforts to end the crisis, conflict eventually ensued and an Athenian named Pisistratus began a long and violent attempt to become the sole ruling force of Athens. On his third try, he finally succeeded and became the first tyrant of Athens. Pisistratus created many public works for the people of Athens, such as road improvements, a temple to Zeus, and fountains to increase water supply in the city. Like the tyrants of Corinth, he also vigorously increased trade by exporting large amounts of pottery overseas. His son inherited his position; however his time in power was brief, as an opposing family enlisted the aid of the Spartan army to oust him from power.

Eventually, a man named Cleisthenes sought support from the people and promised to implement great social reforms when his rival, Isagoras, became an archon in 508 B.C. Trying to block the reforms of Cleisthenes, Isagoras called in the Spartans to get rid of Cleisthenes, however the Athenian people grouped together and forced Isagoras and the Spartans back out, perhaps creating mutual distrust between the two city-states.

With popular support, Cleisthenes began a series of reforms that established the democratic system that Athens is now known for. The first thing he did was a vast rearrangement of the political map, so that local elite people could not control election results by “exercising influence on the poorer people in their immediate area” (Martin 1996: 87). This in effect destroyed many of the existing political alliances amongst the elite, and helped to further the cause of greater democracy and social stability. By around 500 B.C. Cleisthenes had finally succeeded in developing a system where all male citizens had as much direct participation in the government as possible. This tremendously helped further the notion that persuasion, rather than force was the best method for change and reform.

Persian Wars

In 507 B.C., Athens feared that the Spartans would once again try to interfere with the reforms that had been issued by Cleisthenes, so they sent ambassadors to Persia to look into a possible alliance with the king, Darius I. At this time “the Persian Empire... had become the richest, largest, and most powerful military state in the ancient world” (Martin 1996: 94). When the Athenian ambassadors arrived in Sardis, they accepted the usual Persian alliance terms, and offered “tokens of earth and water” (Martin 1996: 95) to the king’s representative. To do this act indicated that the Athenians were acknowledging the superiority of the king. Even though the Athenian ambassadors knew that this act admitted a position of inferiority, they still wanted to return with some sign of the alliance with Persia, but were turned down.

Upon returning back to Athens, the assembly of men was furious about the envoy’s display of inferiority to the king, and unofficially revoked the alliance. However, since no one was ever sent back to Persia, the king had no knowledge that the Athenians had broken the pact,

and still thought that the Athenians were voluntarily allied with him.

At this time, Persia had a population in the millions. Individual portions of the empire were ruled by satraps, who had very little if any interference from the king. Because of the large amount of people in the empire, the revenue generated was so large that the king was “wealthy beyond comparison. Everything about the king was meant to emphasize his grandeur and superiority to ordinary mortals” (Martin 1996: 97). Because of his enormous wealth and majesty, the Greeks called him “The Great King”.

The Persian Wars started out over the Greek city-states of Ionia. The Ionian Greeks had originally been taken over by the Lydians during the reign of King Croesus (560 – 546 B.C.), but were then lost to the Persians when Croesus attacked the Persians in the year 546 B.C. In 499 B.C. tensions had finally peaked in Ionia so they “revolted against the tyrannies that the Persian Kings had installed after taking over the area” (Martin 1996, 99).

Preparing the revolt, the Ionians sent pleas for assistance to other city-states. In Sparta, the king Cleomenes refused to send aid, because to attack the Persian capital would require a three-month march from Ionia’s coast. The Athenian assembly however, along with the city-state Eretria, voted to immediately help the Ionians by sending aid and a military force. The combined forces attacked as far as Sardis, Croesus’s previous capital, and burned the whole city to the ground. However, soon after this the Athenian and Eretrian troops retreated home when the Persians counter-attacked, massively confusing the Ionian troops. Ultimately by 494 B.C. the Persians had succeeded in destroying the Ionian revolt, and King Darius I sent his general Mardonius to help control and reorganize Ionia.

The Persian king was furious at the Athenians for breaking their allegiance and attacking his empire, especially after giving the tokens of earth and water. In 490 B.C. Darius sent a huge

navy of soldier-carrying ships to burn down Eretria and to land on the coast of Attica near a village named Marathon. Because the Athenians were so outnumbered by the Persian troops, they requested aid from a number of city-states. One famous courier from Athens ran the 140-mile distance from Athens to Sparta in the period of only 2 days to request help. However, when the battle finally took place, the only troops that had arrived were some troops from the city-state of Plataea.

The Persians had the advantage of vastly superior numbers, compared to the Athenian and Plataean armies. To balance out against the size of the Persian army, the Athenians took many troops out of the center of their line of battle, and used those troops to strengthen the sides of the line. Because they would be under heavy fire from Persian troops, the Athenians charged forward in their metal armor at a full run to engage in combat with the intruders. Once out of danger from the arrows, the Greeks found that they fared much better in combat because of their superior armor and longer weapons. Eventually the sides of the Persian army fell, and the whole line collapsed inward, and was defeated. When the Persian navy departed, the Athenians rushed back to Athens under fear of an attack, but the Persians had retreated back to their empire. For a long while after, “the greatest honor an Athenian man could claim was to say he had been a ‘Marathon fighter’” (Martin 1996: 101).

Although Darius vowed revenge on the Greek states, he never lived to see that happen, and his son Xerxes I inherited his realm. In 480 B.C. Xerxes led an enormous force to invade mainland Greece. Because the force was so large, the northern Greek city-states surrendered without a fight, as they were directly in the army’s path, and their city-states were so small that they couldn’t muster up any sizable defense. However, 31 city-states banded together and were led by the Spartan military to help defend against the Persian invasion force.

At the narrow pass called Thermopylae, on the eastern Greek coast, 300 Spartan soldiers, and a number of allied troops, stopped the Persian army for several days of fighting. Xerxes was at a loss to explain why such a small force could hold off his army, but when a local Greek told him of a secret way around the pass, he finally had a way to destroy the small force. While the Spartans were battling one group of Persians, Xerxes' forces snuck around the gap, and mercilessly slaughtered the Spartans who were forced to fight on both sides at once.

When the Persians arrived in Attica, they found that the Athenian civilians had abandoned the city, and left for safety in the northern coast of the Peloponnese. The Athenian general Themistocles convinced the other Greek generals to engage in a large naval battle with the Persians in the small gap between the island of Salamis and the coast of Attica. Because the gap was so narrow, the Persians couldn't make full use of their larger numbers, and the ships soon fell to the heavier Greek ships with their underwater rams.

Because of the victory, Xerxes retreated back to Persia, but left a huge infantry force behind to offer the Athenians an ultimatum: If they surrendered, they would be occupied but unharmed. The Athenian assembly refused, and once again abandoned their city to the Persians. However, in 479 B.C., a large infantry force, led by the Spartan king Pausanias, defeated the Persian infantry at the battle of Plataea, and the Greek navy defeated the Persian navy at the battle of Mycale in Ionia.

The Persian Wars were won because the Greek armies had superior armor and weapons, and because they used the geography of the land to their advantage. One amazing aspect of this is that 31 of the Greek city-states had banded together in an effort to purge Persia from their lands. Chief among these were Athens and Sparta, who "had put aside their mutual suspicions stemming from their clash at the time of the reforms of Cleisthenes to share the leadership of the

united Greek forces” (Martin 1996: 105).

Peloponnesian War

Even though Athens and Sparta had worked together during the Persian Wars, they still had a very deep distrust of each other. Eventually, after a series of disputes over their allies, the two city-states came to war with each other. This war lasted for 27 years, and nearly destroyed the economic status and population of Athens and its allies.

The initial causes of the war stem from the allied city-states of both Athens and Sparta in the decade 440 - 430 B.C.. Some of the worst disagreements were over Athens’ aid to Corcyra, which was in conflict with Corinth (a Spartan ally), Athenian economic sanctions against Megara (a Spartan ally), and an Athenian blockade of Potidaea which was seeking aid from Corinth (Martin 1996: 150). Tensions finally came to a head when Sparta “threatened open warfare unless Athens lifted its economic sanctions against Megara and stopped its military blockade of Potidaea” (Martin 1996: 150).

Because Athens had been invaded multiple times during the Persian Wars, a great stone wall had been built around the center of the city. Because the siege weaponry at the time was unable to breach the walls of the city, the Athenians were safe while inside. Also, any damage done to the agriculture outside of the city could be remedied by importing food into the harbor, paid for by the massive sums that the Athens had gathered from its allies, and from the Athenian silver mines. Also, while they were safe inside the city, they could launch surprise naval assaults upon any Spartan territory that bordered the sea.

For the Athenian strategy to work, it required all of the citizens that worked outside of the city to abandon their homes and belongings, and move into the city for generally “no longer than forty days” (Martin 1996: 153). When the Spartans started the war in 431 B.C., the men from

Archarnae, the most populated deme of Athens, were so enraged that it took tremendous effort from the Athenian military leader, Pericles, so that the men didn't run out onto the field of battle right then. Fortunately for the Athenians though, because of the ever-present threat of a helot revolt, the Spartans returned home from the Athenian countryside.

Despite the impregnability of Athens disaster soon struck the city, as a plague swept through the city for several years. Because of the unsanitary conditions inside the city, the plague devastated the population and morale of Athens. Pericles himself was killed by the disease, and the people began to think that the gods themselves were against the Athenian cause. Because there were so many deaths, Athen's ability to launch surprise naval assaults on Spartan territory was severely crippled.

Even though Athens was being devastated by the plague, it still won many military victories during the beginning of the wars. In 430, Potidaea, a former ally whose rebellion was one of the many causes of the war, was forced to surrender; in 429 the Athenian navy won two major victories in the western Gulf of Corinth; and in 428-427 a revolt of allied forces on the island of Lesbos was put down forcefully.

War continued annually with neither side gaining any real dominance until 425 B.C., when the Athenian general Cleon "won an unprecedented victory by capturing some 120 Spartan Equals and about 170 allied Peloponnesian troops" (Martin 1996: 155). Before this stunning capture no Spartan troops had ever been captured alive, because their code of battle demanded that troops either come home victorious or dead. The Spartans offered generous peace terms in return for the hostages, but Cleon advised heavily against giving into the Spartan terms, so the Athenians rejected the peace talks.

As the Athenians prepared for war, the Spartans decided that they needed a major change

in campaign strategy. The Spartans decided to abandon their usual tactic of short-range military operations, and started to undertake long-term military campaigns, starting with attacks on Athenian strongholds hundreds of miles north of Athens in 424. The most important of these attacks was the victory at Amphipolis, Athen's primary source of gold and silver, and timber for religious worships.

Deprived of their gold and silver mines, Athens' army, led by Cleon, was sent to Amphipolis in 422 to destroy the Spartan threat there, and regain their territory. Both Cleon and Brasidas (the Spartan military leader) were killed before the battle actually began, and the battle was eventually won by the Spartans. However, now with the two most outspoken military leaders killed, cooler heads prevailed and peace talks began again.

In 421 B.C., both sides agreed to the Peace of Nicias (named after the Athenian who convinced the assembly to agree on peace), and it was decided that both sides would bring their troops back to the size that they had in 431 B.C.. This treaty was supposed to last for 30 years. One of the problems was that some of the Spartan allies, Corinth and Boeotia, refused to sign the treaty. On the Athenian side, a man named Alcibiades managed to create an alliance of Argos, Athens, and a few Peloponnesian city-states. Because this alliance was intended to be hostile towards Sparta, and because Argos was so close to Spartan territory, it was considered a great threat in the eyes of the Spartans. In 418, the Spartans attacked the forces of the coalition in a battle at Mantinea. "The Peace of Nicias was now a dead letter in practice, whatever its continuing validity in theory" (Martin 1996: 157).

The island of Melos, off the southeast Peloponnese, had been considered an enemy by Athens ever since in 426 B.C., Nicias had led an unsuccessful attack on it. Ten years later, in 416 B.C., an Athenian force put the city to siege and demanded that Melos support the Athenian

alliance, or be destroyed. Despite the overwhelming numbers in favor of the Athenian army, Melos did not submit to the demands. Consequently, when they were forced to surrender to the army of Athens and its allies, all of the males in the city were killed, the women and children were sold off into slavery, and an Athenian community was settled on the island.

In 415 B.C., Alcibiades convinced the Athenian assembly to attack the Spartan allied city-state of Syracuse. Because Syracuse had a large naval force it was deemed one of the biggest threats to the Athenian alliance, yet it was also considered one of the richest areas for victory. However, just before the expedition was about to set sail, various political enemies of Alcibiades accused him of crimes of vandalism and sacrilege. Because the campaign was so important, his enemies had his trial postponed until after the campaign was finished. However, he chose to surprise them all by defecting to Sparta just after the campaign had started.

Now, with their main military leader on the Spartan side, the Athenians were led by Nicias. With their superior numbers the Athenians won many of the initial battles against Syracuse, however because Nicias was indecisive as a military commander the tide of war soon turned, and the Athenian army was starting to lose to Syracuse. To counter this, the Athenian assembly ordered in a large number of reinforcements, led by Demosthenes. Although faced with superior numbers, the forces of Syracuse had much better military strategies, and in 413 B.C. ended up penning up the Athenian naval forces in the harbor of Syracuse, and completely destroying the Athenian navy.

While in Sparta, Alcibiades gave lots of advice to the Spartans on what to do militarily. One of these suggestions, implemented in 413 B.C., was to build a garrison in Attica within sight of the city of Athens. With this garrison, created in Decelea, an area in northern Attica, the Spartans could now raid the Athenian countryside year round, instead of only having raids that

lasted up to 40 days. Because of this constant pressure on the land, it became extremely dangerous for Athenians to farm outside of the city walls, and so they had to rely on imported food from their harbor. Further problems came about when 20,000 slaves who worked in the Athenian silver mines “sought refuge in the Spartan camp” (Martin 1996: 160).

It was around this time, in 413 B.C., that the Persians once again tried to influence Greek politics. Supporting the Spartans, they managed to convince the city-state of Ionia to revolt against Athens. Now, because Ionia was no longer in Athenian hands, Athens had a great threat to the shipping lanes it used to import grain from Egypt.

Despite all of these misfortunes, the Athenians displayed extremely strong resolve and by 412-411 B.C. had managed to rebuild most of their naval forces. With this newly rebuilt force of ships, Athens was successfully able to “prevent a Corinthian fleet from sailing to aid Chios, to lay siege to that rebellious island ally, and to win some other battles along the Anatolian coast” (Martin 1996: 160).

Although the Athenian navy had recently won battles, there was so much political turmoil inside Athens that a few influential men made an oligarchic coup d'état. One of the biggest factors that furthered their cause was that Alcibiades said that he would make an alliance with Persia, and have them supply funding only if he could return and an oligarchy was installed. The Spartans had begun to rightly suspect Alcibiades of trying to further his own good, rather than that of Sparta. He had also made a great enemy in Sparta, by seducing the wife of Agis (one of the two Spartan kings).

In 411 B.C., the Athenian assembly turned over all its power to a smaller group of 400 men. These 400 men decided to keep all the power to themselves, even though they were supposed to create a group of 5000 men to help govern. However, the downfall of the group of

400 men began when they started to fight amongst themselves. Eventually the Athenian navy threatened to sail back home, and restore democracy by force if need be. Under this threat, a mixed government of democracy and oligarchy was formed by 5000 men. This government was considered by the Greek commander Thucydides “the best form of government that the Athenians had known, at least in my time” (Martin 1996: 161).

This government, called the Constitution of the Five Thousand, voted to allow Alcibiades back into Athens, and made him one of the military leaders of their forces. Now with a navy greatly augmented by Persian funds, Athens won a great military victory of Spartan forces in 410 B.C., at Cyzicus on the southern shore of the Black Sea. Just as before, the Spartans offered peace after their defeat, but the Athenians once again refused.

The Spartan military leader at the time, Lysander, started to use Persian funding to rebuild the Spartan navy, and wanted to ensure that it was led by capable men. In 406 B.C., he caused a large defeat of the Athenians near Ephesus (on the Anatolian coast), which made the Athenians force Alcibiades into exile due to the loss. After a few more battles, Lysander finally eliminated the entire Athenian fleet in 405 B.C. in a battle at Aegospotami on the Anatolian coast. In 404 B.C., after being blockaded by the Spartan navy, the Athenians were finally forced to surrender after 27 years of war.

Although the Corinthians wanted to have Athens completely destroyed, the Spartans refused, and instead installed a government known as the Thirty Tyrants. These tyrants brutally suppressed any opposition, and stole from anyone who was rich enough to have possessions that they desired. Finally, due to all the brutality, “a pro-democracy resistance movement came to power in Athens after a series of street battles in 403 B.C.” (Martin 1996: 162). Once again Athens was a fully functioning democracy, but now no longer had any resemblance of the

military and economic strength that it once had known.

Alexander the Great:

During the years after the Peloponnesian wars, many Greek city-states attempted to expand their power elsewhere. What followed was a series of shifting alliances and failed expansions by most of the Greek city-states. In fact, “by the mid 350s B.C., no Greek city-state had the power to rule more than itself on a consistent basis” (Martin 1996: 177).

In 359 B.C., the country Macedonia was under heavy attack from its northern neighbors, the Illyrians. During this time, King Perdiccas and 4000 Macedonian troops were all killed in a climactic battle. This caused Phillip II, at only 22 years old, to persuade the important Macedonian leaders to acknowledge him as king, as opposed to his infant nephew for whom he was acting as regent. Phillip then set out to create an unstoppable tactic to use in the Macedonian army. Using 14-foot spears, he instructed the infantry to hold the spears in phalanx formation “like a lethal porcupine” (Martin 1996: 189). Using cavalry as a strike force, Phillip led the army to repel the attackers, and destroyed any opposition to his position as king.

Using a combination of bribery, diplomacy, and military action, Phillip was able to convince the most powerful leaders in Thessaly that he should lead their alliance. Soon after, he was involved in a great dispute with the Phocians (a Greek city-state just south of Thessaly) involving the oracle of Apollo at Delphi. This conflict matched Phillip and his Greek allies against the Phocians and their allies (which included Athens). Eventually, by the late 340s B.C., most of northern and central Greece had been forced to follow him as a leader. Now with a sizable portion of Greece under his control, his next aim was to conquer the Persian Empire. However, to do this, he needed to first conquer the rest of Greece.

As he began to expand his influence southwards, Athens and Thebes led a coalition of

southern Greek city-states against his forces. In 338 B.C. Phillip and his Greek allies defeated the coalition at the battle of Chaeronea in Boeotia. Although the coalition city-states retained their independence, they were forced to join an alliance led by Phillip, later called the Corinthian alliance. This battle marked a huge turning point in Greek history, as it was the last time that Greek city-states would make any foreign policies without at least considering, or even following outside influence.

In 336 B.C., a very disgruntled Macedonian killed Phillip II and command of the alliance went to his son Alexander. At barely 20 years old, he managed to masterfully execute a series of extremely fast campaigns against Macedonia's traditional enemies to the north and west. When Greece heard about Phillip's assassination, a number of the southern city-states left the alliance. Alexander told the city-states to rejoin, and to demonstrate the price of disloyalty, destroyed Thebes in 335 as punishment.

Now with all of Greece firmly under his command, Alexander set out to accomplish his father's goal of conquering Persia. Because of his amazing successes in Persia, he attained the title "the Great" in later ages. Alexander tremendously impressed his own troops with remarkable disregard for his own life. He would often charge into battle at the front of his troops where no one could mistake his plumed helmet, bright cloak, and polished armor. He was so involved with conquering other lands, that he disregarded the advice given by his advisors to stay in Macedonia at least until he had married and fathered a child.

After a series of battles, in 333 B.C., the Persian king Darius faced off in battle against Alexander at Issus, near the southeastern corner of Anatolia. Using bold military strategies, Alexander defeated the more numerous troops of Darius. Darius himself had to flee the battle, leaving behind his wives and daughters. Because Alexander treated the women with chivalry, his

reputation increased tremendously with the people of the Persian empire.

In 332 B.C., the heavily fortified city of Tyre refused to surrender to his forces, so Alexander unleashed the forces of assault weapons and catapults designed by his father. After a long siege, the walls of Tyre were finally breached, and this meant that no longer were cities fully protected just because they had large walls surrounding them.

Next, Alexander took over Egypt, where “hieroglyphic inscriptions seem to show that he probably presented himself as the successor to the Persian king as the land’s ruler rather than as an Egyptian pharaoh” (Martin 1996: 193). In 331 B.C., on the western coast of the Nile River, Alexander founded a new city named Alexandria. After Egypt was conquered, he generally left the governmental system alone, as long as they acknowledged him as their leader in international policy. Later that year, he destroyed the Persian king’s main army at the battle of Gaugamela. He then proclaimed himself king of Asia, and began to conquer into the lands of India.

It is thought that Alexander planned to travel all the way into China, but after 70 days of monsoon rains, his soldiers began to rebel. They finally mutinied in the spring of 326 B.C. in western India, and he was forced to begin the march back home. On the way, he split his army up into three groups. The group he led went through what was previously considered impassable terrain; the desert of Gedrosia. Though many people died on the way through, by 324 B.C., the remains of his army reached safety in the heart of Persia.

Although he intended to invade and conquer Arabia and North Africa, he died prematurely on June 10, 323 B.C. due to fever and heavy drinking. The catalyst that set this off was the death of his boyhood friend Hephiastion due to excessive drinking. It is thought that while he was preparing for the invasions by exploring southern Mesopotamia, he contracted a malaria-like disease, which when combined with his heavy drinking at the time, led to his death.

The Hellenistic Period:

Following Alexander's death, his top military commanders sought to rule their own areas of Alexander's conquest. The following era of Greek history, which ranged from Alexander's death in 323 B.C. to the death of Queen Cleopatra VII in 30 A.D., was called the "Hellenistic" Period. The name, coined in the nineteenth century, signifies the merging of cultures that occurred between the Hellenic culture (classical Greek), and the traditions of the eastern regions of Alexander's conquests. To further this mixing of cultures, the Hellenistic kings also developed new Greek cities throughout the region.

Although Alexander's mother sought to have Alexander's son Roxane as the Macedonian king, kingship of Alexander's conquests were taken by his army's commanders over a period of the next 20 years. The areas around Greece and Macedonia were taken over by Antigonus and his son Demetrius, Seleucus took over Syria and the old Persian empire, and Ptolemy took over Egypt. Since they had taken over Alexander's conquests in the same manner as if they had been his heir, they were referred to as the "successor kings".

To ensure that their rules would last longer than their deaths, they had to "establish a tradition of legitimacy" (Martin 1996: 199). Because of the strong need for a royal line, Queens rose to have an extremely high status in political standings, as they would be mothers to the continuing royal line. To sustain their positions as the ruling class, they needed to constantly fully utilize "their [own] personal ability and power" (Martin 1996: 199). For instance, it was said of Seleucus's son Antiochus I, "He has made his kingdom prosperous and brilliant mostly through his own excellence but also with the good will of his friends and forces" (OGIS 219)" (Martin 1996: 199).

To help police and protect these new kingdoms, the rulers formed a different core army makeup. Instead of the typical citizen militias of the city-state armies, the royal armies were composed primarily of professional troops. The city-states also began to hire mercenaries instead of calling up its citizens. During this time, military expenses rose due to new technological innovations. New advancements such as catapults, huge warships that required hundreds of men to crew, and war elephants all contributed to the growing military costs (Martin 1996: 203).

For the needs of their kingdoms, the kings had a group of “king’s friends” which consisted of various advisors and courtiers. Although the top levels of government usually consisted of immigrant Greeks and Macedonians, the kings also employed the indigenous population for mid and lower-level government tasks. In general, the best qualification a local man could achieve, was the ability to read and write in Greek and their native languages. People with this skill could then be used to communicate between the upper-level government and the local people.

Arms and Armor:

The beginnings of weaponry in ancient Greece takes root in that of the Mycenaean civilization. Most of the information known from this era was found in various “shaft-graves”. The initial type of weapon found in these graves was a long rapier-type weapon, initially thought to be Minoan in origin. These rapiers usually exceeded 3 feet in length and would have probably been limited in use to fencing duels, as they were purely a thrusting weapon. In fact, if these rapiers were hit on their edge, they would most likely have shattered, or broken from their hilts.

A new type of sword was also found during this period. The long rapier blades began to take new forms as they evolved for new purposes. The new swords shortened to a medium-sized

length and adapted a flatter blade in order to make cutting strokes easier and more effective. Another profound change in production was the extension of the tang into a full hilt, so that the sword wouldn't break off when hit.

The most popular weapon during this period was the spear. Borrowed from the Minoan civilizations, these spears were enormous in length. The shafts of these spears often totaled 10 feet in length, while the spearheads themselves totaled 2 feet long.

Mycenaean armor was very interesting in that it was composed of 40 small disks, perforated so that it could attach to a backing or a helmet. The helmets themselves were of an interesting construction, as they were cut from many wild-board tusks. It is estimated that a completed helmet would have required the tusks of 30 to 40 wild boars. This would also probably have been some symbol of physical status amongst the warriors. To keep the owner comfortable the insides of the helmet were often padded with some soft materials.

Recently, an astounding historical find has been made in Dendra, dating back to approximately 1500 B.C.. In a chamber tomb archeologists found a piece of bronze plate armor. This in itself is astounding because this type of plate-mail wasn't put into general use until almost 3000 years later by Louis XIV. Other finds indicated a technological advancement such as a bronze helmet found in a warrior grave. This helmet was similar in shape to the tusk helmets but had additional cheek plates with perforations to allow padding on as well. Another development that took place during the late Mycenaean period was the use of chariots. Unfortunately, this was short-lived due to the extremely rocky terrain of the country side.

At the end of the Mycenaean period the weapons had become more refined, and the armor easier to make. Swords were now shorter, stouter and much less showy than before, often with lengths of around two feet long. The type of corset found at Dendra is also no longer seen

from this point forward, as the armor worn switched to stiff jerkins, or non-metal corsets. The other advancement in armor was the use of leggings (some of which were bronze).

The most popular armor type soon became the linen cuirass. Although it had initially come into use during the late Mycenaean period, it became standard fare for troops during the late sixth century B.C.. This piece of armor was composed from many linen layers, all glued together, and totaled approximately 0.5 cm in width. This material extended down to the hips, and to facilitate movement had slits in the lower parts of the armor. In addition to the outside layer, an inner layer (called a *pteryges*) was used on the inside to cover any gaps. Often this cuirass would be reinforced with scales or plates to give additional protection from attacks. Cheap to produce, flexible and light, this armor was extremely popular, and remained in use largely until the 3rd century B.C.

Leg guards came first came into general use around the 7th century B.C.. At first, they only covered the lower leg area, but were soon extended to cover the knee area. To put on the leg guards, they would be pulled open & clipped onto the leg, as the metal was fairly durable. Later on arm guards began to appear as armor, however having an upper-arm guard was much more commonly equipped than a lower-arm guard.

Initially there were two prototype helmet types in Greece: the Kegelhelm and Corinthian designs. The Kegelhelm marks the earliest example of an iron-age helmet to be found in Greece. This type of helmet is known for its conical in design, and the formations used to add a crest to the helmet. Originally made in five pieces, it later evolved into an Illyrian helmet made with two halves. Eventually the helmet would evolve into being made with only one piece, however it lasted only up until around the 5th century B.C.. The other helmet type, Corinthian, was by far the most successful of the two prototypes. Covering the entirety of the head, it left only the eyes,

nose and mouth clear, providing extensive protection. The only one downside this design had was that hearing was impossible while in the helmet. As the helmet later evolved into the Chalcidian type it overcame this by developing holes where the ears would be.

Hoplites of Greek were mainly armed with spears that were 2-3 meters in length on average. These spears were headed with long leaf-shaped blades, while at the butt of the spear rested a metal spike, so that it could be placed in the ground when at rest. If combat ever came to intense close quarters, hoplites were also armed with a sword. During the Persian wars, this sword evolved into a shorter, leaf-shaped blade that averaged about 60-70 cm long.

During the time of Alexander the Great, phalanxes were primarily equipped with large two-handed pikes (called a *sarisa*). At most likely around 5.4 meters long, these pikes were made in two parts, joined by an iron sleeve. To augment this, soldiers were also occasionally equipped with a javelin for throwing at enemy troops. For protection, most men probably wore greaves, a helmet and a round shield that was about 60 cm in diameter. To protect their bodies, they would wear metal cuirasses if they were in the front of the ranks, while they would wear linen cuirasses if they were in other ranks. Some records seem to support the idea that equipment for troops was free, as there appears to have been fines if any of it was lost and had to be replaced.

Organization and Tactics:

During the period where Phillip II took control of Macedonia, many reorganizations of how armies were made took place. Before he took control, the Macedonian cavalry was considered the best in Greece, and was given the name "The Companions". The infantry however, raised from the local peasantry, severely lacked in discipline, training and a sense of organization. To bring his army up to speed, he created a very harsh, but effective training

program. To get the infantry used to the rigors of war, they had to take regular forced route marches with full equipment and baggage loads. Soldiers also had to carry at least 30 days worth of their rations when on a campaign. Phillip II also banned the use of most all wheeled transport, and allowed only one servant every ten men to carry the hand mills and ropes required. Cavalry also was limited in the number of servants they could have, and with one servant each, this kept the baggage train and the camp followers down to a minimum – a must during war time.

To update the army itself he reformed the infantry into a phalanx, initially subdivided into groups of ten. Later this number changed into two groups of 8, which was similar to the archaic lochos design. Each file of troops was commanded by dekadarch. Different units received different amounts of pay, and this could be increased by bravery or valor on the field of battle. To increase the dignity of the infantry they were now called “foot companions” in comparison to the greatness of the Macedonian cavalry. To break up the army units called taxeis consisting of 1500 men each were created.

Of the Greek navy battles, one of the most famous is the Battle of Salamis. This battle took place during the Persian wars when Xerxes’ forces had arrived in Attica, and were preparing to invade. The Persian fleet was estimated to be at around 500 ships, while the Greek fleet had only approximately 310 ships. The Persian fleet had entered the narrow straight at the entrance and were advancing upon the Greek ships in the middle of the straight. To watch the battle Xerxes had set up a throne at the top of Mt. Aegaleos.

Because the straight was so narrow, the Greeks had eliminated the Persian advantage of superior seamanship, as there was no room for them to maneuver. As the battle started, the Greek center backed off and waited while the Persians rushed in to attack. Soon a large swell came up and hit the rears of the Persian fleet, throwing their ranks into chaos. Seeing this, the Greeks

rushed into the over-extended Persian fleet. Now caught between a pincer movement, the same formation that lost the Persians the battle of Marathon, the Persian fleet tried desperately to turn around and disengage but kept colliding into each other.

As the Persian fleet began to retreat, a wing of the Greek fleet that had been kept in reserve swept in from the sides to hit the flanks of the Persians. Caught in the middle of the chaos, the Persian fleet was utterly destroyed, and Xerxes retreated back to Persia. This battle showed once again the benefits of the pincer movement, and how superior tactics can help a smaller army defeat a much larger force.

Conclusion

All told, we spent nearly a year on our IQP, the Arms and Armor of the Ancient Near East. Preparatory began in October of 2002, while the finishing touches were applied in October of 2003. From little more than an artifact list of museum holdings from Mesopotamia, Greece, and Egypt we began to research the respective areas. Each student studied and researched one of the three areas in order to cultivate enough information to create a website which the museum could display on their site. The process was long, often arduous, but always interesting.

In B term of 2002, PQP work began on the Arms and Armor of the Ancient Near East. This was, arguably, one of the more difficult terms. We were researching a time period that began almost five thousand years before any of us were even born! Information about the era was hard to come by because constant power struggles in the region routinely destroyed entire cultures. Mesopotamian information was particularly hard to come by because of this reason. War still rages on today that destroys priceless artifacts and erases history in its wake. Not only that, but written language had only recently been invented and was limited mainly to religious scribes. We tried our hardest, but probably came up shorter on information than most other Higgins IQP groups because of this fact. Particularly difficult to come by was information on military strategies and arms and armor, because little of it survives.

We returned in C term to put our research to use. Armed with information culled from WPI, Higgins, Clark, Holy Cross, and Worcester Public libraries, among others, we began the documents that would serve as the main texts to our website and final written report. Particular focus in the documents of each region was given to history, religion, technology, societal structure, military, and arms and armor. Pictures were added to the text wherever possible in order to better illustrate the passages that needed more visual clarification.

During the final term of the 2002-2003 school year the bulk of the IQP work took place at the Higgins Armory Museum itself. Each week we spent about two hours in the basement of the museum photographing the artifacts from our region and time period. Several photographs were taken of each artifact, each taking into account different lighting effects and often different angles on some of the more interesting pieces.

The final term for our IQP coincided with the first term of the following school year. All the past work was compiled into a new area, the website. Site design began in the previous term but was not implemented until A term. The website was designed to be quick, efficient, and, most of all, informative. An extra feature we added to the project this term was a 3D rotation photograph of one helmet. Of particular difficulty to implement was the search function.

Throughout the course of a year we've learned much about the ancient Near East. This has given us a good understanding of the region, but of the history of the world as well. Much of modern society has its roots 3000 years our project spans, building heavily on the inventions and discoveries made by the Egyptians, Greeks, and various other peoples of the Near East. We've also all learned other valuable skills, whether it be the proper way to research a topic, how to use a digital camera and take quality photographs with it, or new programming languages. This was an experience that is sure to stay in our memories for a long time.

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- *Geography, resources, flora and fauna. History of the area from the stone age up to today. A chapter on the army in Dynasty XVIII, XX, and under Ptolemy.*

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Yener, K. Aslihan. (1998). *Swords, Armor, and Figurines: A Metalliferous View from the Central Taurus*. Retrieved November 13, 2002 from:

http://www-oi.uchicago.edu/OI/PROJ/GOL/BA_95/BA_95.html

- *A survey of Hittite metallurgy. Contains information on the sources of metals and the manufacture of metal objects. Mentions several swords and spearheads that were discovered and are believed to have been dedicated to the Gods.*

About the IQP Team



From left to right: John Reynolds, Mike Crouch and Alison Jacob

John Reynolds:

John Reynolds is a Computer Science major at WPI. He is one of those few people who will list Programming on a "likes to do" questionnaire. He enjoys both writing classical music, and listening to all sorts of underground metal music. When not spending a 30-hour debug session at the computer, he can generally be found either sleeping, reading, at the gym, or at his drum set.

Mike Crouch:

Michael Crouch is a Technical, Scientific, and Professional Communication (TC) major at WPI and anticipates graduating in May 2004. He participates in both Masque and MWRep theatre productions on campus and also works at the Writing Center as a tutor.

Alison Jacob:

Alison Jacob hails from Detroit, Michigan. She is currently a senior at Worcester Polytechnic Institute, where she is completing her studies in biomedical engineering. In the near future she

hopes to attend graduate school at MIT or Johns Hopkins, studying tissue engineering and biomaterials. She enjoys skiing, listening to music, and writing. In her spare time (of which she has very little), she watches TechTV or catches up on some much needed sleep.