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The Things They Carried: Classical Greece Maritime Exchange

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Abstract

Since the dawn of civilization, the Mediterranean Sea was a place of significant maritime activity and ancient sailors took advantage of the accessible transportation and trading opportunities it provided. The Ancient Greeks were no exception and by the 5th century BCE, they were using the Mediterranean to not only transport physical objects but also exchange ideas and beliefs as well. However, microscopic organisms would also catch a ride on these ships, which led to the spread of certain diseases throughout Greek communities. Primary sources, such as Herodotus and Thucydides, give modern scholars information about maritime transportation. And where the primary sources do not provide answers, the archaeological record can.

Keywords: Archaeology, Ancient History, Maritime Studies

Introduction

By the Classical Period in Greece, the Mediterranean Sea was already swarming with ships that contained both sailors and merchants, who set out from their homeland with their own individual reasons for seafaring. Whether it be for conquering foreign peoples or transporting goods, these sailors were on a mission, and with them, they carried products from their native land. Not only did they pack the physical items that was required for their journey, and those that
they desired to trade, they also carried with them both microscopic and bodiless goods as well. As ships moved from one port to the next, these things, both physical and nonphysical, moved with them, and at times exchanged and diffused across the society. Using both primary sources and the archaeological record, the exchange network in the Mediterranean can reconstruct a broader picture of the material items, cultural practices and diseases Greek sailors carried with them on their voyages. Furthermore, connections can be made about the spread and integration of these elements into Greek society once they reached port.

**Physical Material**

The more obvious product that sailors carried with them were the physical materials that were either exchanged for the resources not available in their native land, or those necessary for a long journey. In the ancient world, certain items were not regularly and locally available in particular regions as opposed to the modern-day industrial society. Merchants traveled from port-to-port exchanging materials from their native lands for foreign minerals, craftsmanship, and exotic food. Ships were used to transport armies and marines to fight in wars against enemies overseas. Warriors carried the equipment necessary for not only battle, but to survive both physically and mentally away from their homelands. In addition, seafaring required specific tools and provisions onboard the ship in order to effectively sail across the Mediterranean Sea. Contemporary Greek historians write about the type of physical material ships transported by Greeks in the Classical Period, and the archaeological record also provides clues as well.

*Evidence in Primary Sources.* There are primary sources that mention materials that ships transported in Classical Greece. In Herodotus’ account of Xerxes’ march toward Europe, he mentions a case in 480 B.C.E. when Xerxes observed grain ships passing by the Hellespont:
Xerxes had once expressed when he was in Abydos and he saw boats carrying provisions sailing from the Pontus through the Hellespont on their way to Aegina and the Peloponnese. Those sitting beside him learned that these were enemy ships… Xerxes asked them where these ships were headed. They answered, “To your enemies, my lord, carrying grain.” (Herodotus 557-558)

Herodotus is referring to the Greek ships that transported grain from the Black Sea. On the north side of the Propontis is a narrow passage that leads into the Black Sea. There were two Megarian colonies on this passage: Byzantium was established on the western side, while Chalcedon was located on the east side. There were already multiple Greek colonies that were established around the Black Sea by the 5th century B.C.E. Most importantly, there are many rivers that connect to the Black Sea that lead inland. For example, the Ionian colony of Olbia was located where the Bug River meets the Black Sea, and just to the east is the Dnieper River.

Herodotus describes tribes that inhabited the regions north of the Black Sea and along these rivers. He also gives a description of their connection with the Greek colonist, in which interpretations can be made about the resources being traded and transported back to Greece. Note that the Greek name for the Bug River was Hypanis and for the Dniper was Borysthenes (Herodotus 289). Herodotus describes this as such:

Starting from the trading post of the Borysthenites, which lies at the midpoint of the coast of Scythia, the first inhabitants are the Kallipidai who are Greek Scythians. Beyond them live another people called the Alazones. Both these and the Kallipidai practice the same customs as Scythians do in all respect except that they sow and eat grain, as well as onions, garlic, lentils, and millet. Above the
Alazones live the Scythian plowmen, who grow grain not for their own consumption, but for sale. (Herodotus 288-289)

These are not the only tribes that made up this region and Herodotus does mention a few more that had settlements on other rivers around the Black Sea. However, the tribes mentioned above would have traded with Greek colonies such as Olbia. He also states how long it took to travel up-and-down the rivers to reach these tribes and provides information about the general environment in this particular region. One characteristic of Herodotus’ description that demonstrates that there was communication between the Greek colonists and these tribes is by his very method of gathering data. He indicates that he interviewed Greeks at the trading points around the Borysthenes River and those in the Propontis, who provided him with details relating to the cultures and nature in the regions beyond the Black Sea (Herodotus 282-292). According to this primary source, it can be assumed that the grain Herodotus is referring to in the account of Xerxes is coming from these regions. As noted, the Alazones tribe that lived along the Borysthenes River were harvesting grain, and certainly other agricultural products such as the “onions, garlic, lentils, and millets” previously mentioned (Herodotus 289). Therefore, ships were significant for transporting agricultural products, such as grain, throughout Greece.

Even a few decades later, these grain ships remained essential in carrying provisions for military expeditions, such as the Athenian expedition to Sicily in 415 B.C.E. Thucydides indicates this concept in his version of Nicias’ speech: “we must take our own grain in merchant vessels, that is to say, wheat and roasted barley, and bakers… not to be dependent upon others” (Thucydides 374-375). A large-scale sea voyage, especially one that involves bringing a sizeable army, requires a significant amount of planning to successfully execute. The general, Nicias, takes into account the provisions it required to make such a journey, and in this case, the most
sustainable food source was grain. Considerable quantities of grain could be packed tightly onboard a ship, and by having ships that operated exclusively to transport grain, along with other necessary provisions, was the best use of space on the ships. In addition, Nicias suggests that the Athenians should not rely on others to supply these provisions, but to harvest and transport it themselves. It is uncertain whether Thucydides is referring to the grain and other agricultural products that come from the Black Sea, or if he is referring to the possibility of receiving the proper provisions from the Sicilians. Whatever the case may be, primary sources propose that agricultural products, particularly grain, was a regular product that ships were transporting in Classical Greece.

Although there is a lack of evidence for grain in the archaeological record, that does not mean that the primary sources are inaccurate. Both Herodotus and Thucydides indicate the importance of grain in their accounts, and the information that they provide is just as relevant and reliable as the archaeological record. For one, the two men were contemporary with one another, and were also either first or second-hand-witnesses to the events in their narratives. Thucydides was an Athenian official so his knowledge on the provisions that the Athenians imported and those used in their expeditions is dependable. Herodotus was well-educated and traveled to many places to gather information for his research. However, the archaeological record can paint a broader picture for maritime trade in the Classical world.

*Physical Material in the Archaeological Record.* Artifacts and the DNA samples taken from shipwrecks can provide further insight on the physical objects that ships transported in the Aegean and eastern Mediterranean. Artifacts found in a 5th-century shipwreck off the coast of Tektas Burnu, Turkey demonstrates the objects that ships carried during this period. Scholars
determined that the ship was of Ionian origins and sank sometime between 440-425 B.C.E (Carlson 581). The ship mainly consisted of 6th and 5th century-style “pseudo-Samian amphoras,” and also contained “Chain pottery” as well. Both Samos and Chios are located in the general area that the ships sank so it is likely that this was a merchant ship from that vicinity (Carlson 583-596). The ship was carrying nearly 200 amphoras, which archaeologist, Carlson Deborah, suggests held wine because Chios had a reputation for its wine. Although wine is a fitting assumption for what was in these amphoras, amphoras in general were also used to hold olives and olive oil, grapes, nuts and other consumable products (Carlson 590). Additionally, there were ten amphoras of Mende-an-style on the ship. The author notes that Mende was largely recognized as a producer of wine, but in this case, 9 of the Mendean amphoras contained “pine tar” (Carlson 588). The last Mendean amphora held “beef bones,” which Deborah suggests were apart of the crew’s provisions. Other items that were found were table wares, oil lamps and cups (Carlson 591-592). Pottery that contains the characteristics mainly found in Attica is evidence for an Aegean exchange system between the Ionians and Athenians (Carlson 593). The date range for when the ship sank does correspond with the early stages of the Athenian naval empire, and the Athenian-styled pottery discovered in the cargo just further proves the Athenian influence in this particular region. A question that results from this find is whether the Ionians traveled to Athens and acquired these items or if the Athenians came to the Ionian colonies to trade and this is how the items ended up on this ship. In any case, another method that archaeologist uses to analyze the cargo found on shipwrecks is by testing DNA samples.

A DNA analysis on samples taken from random amphorae gives further insight on the products held in them in the Classical Period. In a case study, several amphorae were randomly selected from a museum. Seven were of Corcyraean origin, along with one Mendean, and
another of indefinite North Aegean appearance. Before the results of this study, the notion was that amphorae were primarily used for holding wine, but the DNA findings may change this perspective (Foley et al. 391). Six amphorae contained “Olive DNA,” while “Grape DNA” was identified in five. In addition, one amphora had “either thyme or sage” DNA, while three amphora samples matched to “pine” DNA. However, the researchers state that the “pine resin” was applied to the foundation of amphorae in its making-process (Foley et al. 395-396). In conclusion to the study, the researchers present three ways that these amphorae were used:

One possibility is that in their first use, these jars carried the single-species commodity olive oil or dual-species resonated wine… but later the amphorae were re-used for shipping different goods. The second possibility is that the jars were one-time-use carriers for olive oil or wine, but that these products were more complex than previously imagined… A third possibility is that Greek amphorae transported a very wide range of goods that can now be brought into view through remnant DNA studies. (Foley et al. 397-398)

Greek merchants carried amphorae on their ships to hold products that they intended to trade. In this case, the products were mainly wine and olive oil, while one amphora contained spice specimen. However, a setback to this test is the only amphorae examined were of Corcyraean and Mendeian origin. Regardless, the DNA results does give a broader insight on the physical objects that were transported on ships.

Physical objects are the more obvious essentials that ancient sailors took with them. Trade was one reason for sailors to carry products from their local land on their ships, and exchange them for materials that were not accessible in their native environments. Sailors also had to stock provisions and bring the necessary implements on ships to sustain themselves during
the journeys. Lastly, if the crewmen were going to war, or patrolling their naval domain, they had to carry weapons and protection to defend themselves against enemies. However, physical material was not the only things sailors were carrying with them on their maritime voyage. Culture was also transported on ships and at times, merged into foreign territories along the way.

**Culture**

Culture tends to follow individuals outside their primary social sphere and this was naturally the same between Greeks and non-Greeks in the classical world. Note that it is not unusual for societies to borrow both customs and concepts from other cultures. Therefore, maritime travelers not only traded materials, but cultural practices and ideas could be exchanged as well. The sharing of concepts is not limited to only traders, but also occurred in times of war as well. Soldiers could spend years emerged in foreign ways of life, and undoubtedly encountered unfamiliar, and imaginably strange, customs along the way. Evidence for this notion is found in both primary sources and the archaeological record.

*Evidence of Cultural Exchange in Primary Sources.* Herodotus gives an example of Egyptian religious customs that fused into Greek society. First, it is important to bring attention to Herodotus’ statement that the Greeks sailed to Egypt, which demonstrates that the two cultures were at the least connected by seafaring (Herodotus 118). In addition, traveling between Greece and Egypt was more convenient by ship compared to going by land. By land, the traveler has to take into account how long it would take to cross through the Near East and Greece’s mountainous terrain. Furthermore, the likely reason one would travel so far would be for trade because of the time and resources it took to do so. In the 5th and 4th centuries B.C.E, seafaring would be the best transportation method between Greece and Egypt. Herodotus argues that most
of the Greek gods originated from Egypt and makes this connection after seeking answers from the Egyptians themselves (Herodotus 141). He states:

I myself concluded that they derive specifically from Egypt, for the names of the gods have been known in Egypt since the earliest time, except for Poseidon and the Dioskouroi… as well as Hera, Histia, Themis, the Graces, and the Nereids.

(Herodotus 141)

During his trip in Egypt, Herodotus investigates their culture by asking the priests and locals questions concerning their religious practices and lifeways. He discovers that the Egyptians recognized the names of certain Greek gods as their own and determined that the Greeks must have adopted particular gods from the Egyptians. For the Greek gods that the Egyptians did not know, Herodotus suggested that these gods were emerged into Greek society from another source. He relates all the others, except Poseidon, to be originated from the Pelasgians, and Poseidon from Libya (Herodotus 141). Religious beliefs are not the only notions that the Greeks shared with other cultures, Herodotus also mentions knowledge that Greeks borrowed from foreign societies as well.

Additional cultural principles besides religion was transported with sailors, including intellectual and innovative insights. Herodotus insists that the Egyptians were the ones that developed geometry and the Greeks learned it from the Egyptians (Herodotus 163). However, scholar, Robert Strassler, states in a footnote that Herodotus was incorrect because the Greeks did in fact invent geometry (Herodotus 163). Herodotus does give another example of an invention the Greeks adopted: “although it was from the Babylonians that the Hellenes learned of the hemispherical sundial with its pointer and the twelve divisions of the day” (Herodotus 163). Herodotus states that the Greeks discovered their timekeeping method from the Mesopotamians.
Having a way to track time was certainly useful and improved different aspects of daily life in the Greek world. As for a writing system and assigning meaning to a combination of written symbols, Herodotus credits the Phoenicians for bringing their alphabet to the Greeks (Herodotus 391). However, he states that how the symbols were pronounced and formed changed over time (Herodotus 391). The most potential reason that the Greeks were communicating with foreign cultures, such as the Phoenicians, was to obtain certain resources and to trade their own. A writing system would have made accountability, documentation for transactions and other trade aspects more manageable. Maritime contact with the Phoenicians seems to be common enough for the Greeks to borrow their alphabet and integrate it into their language and society. Archaeological evidence also demonstrates Herodotus’ claim that the Greeks adopted the Phoenician alphabet.

In the 5th century, Herodotus claimed that the Greeks adopted their alphabet from the Phoenicians, but changed the form and sound of the letters over time. The question is whether the archaeological record can validate Herodotus’ statement. As Phoenician sailors traveled port-to-port across the Mediterranean, they carried innovations and knowledge from their native cultures with them, such as their writing system. Not only did they introduce writing in general, but they also presented the importance of writing in their occupation. The Greeks borrowed and integrated the idea into their own society for the benefits it gave in organizing and recording valuable information. John Papadopoulos further investigates this notion in his research on the development of the Greek alphabet:

The growing number of non-alphabetic Early Iron Age potters’ marks, and contemporary post-firing marks in the Aegean, point to a time before there was an
alphabet… the evidence from Eretria, Methone and Pithekoussai… for the adoption and adaption would be around 750 BC. (Papadopoulos 1245)

The idea that the Phoenician writing system was being incorporated across the Aegean in the 8th century B.C.E. still supports the diffusion of inventions and its impact on Greek society centuries later. It is also noted that the alphabet was adopted and modified by the Phrygians as well, and there are similarities in Greek and Phrygian vowels (Papadopoulos 1239). The adoption of the Phoenician alphabet and the blending of Greek and Phrygian vowels fits into the notion that there was a maritime relation between the three regions. Around the 8th century B.C.E. the Greeks were establishing colonies along the Phrygian and Thracian coasts, and as sailors went along this route, the concept of writing spread with them. The introduction of writing in the Aegean led to new ways to communicate. Not only in an administrative sense, but also served as a method to communicate in a socially as well.

Culture in the Archaeological Record. There are many tablets and pottery found across the Greek world that display Greek inscriptions on them and contain the same symbolic meaning behind it. For example, curse tablets that share similar themes are found in Lesbos, Sicily and around the Black Sea. At the Sanctuary of Demeter on Lesbos, three curse tablets were discovered at the altar that date around the 4th or 3rd centuries B.C.E (Jordan 16). The inscriptions seem to be for legal purposes and contain different male names on them (Jordan 16). In Sicily, there were three 4th century tablets found at the Cemetery at Passo Marinaro in Kamarina (Jordan, 18). All three were found in a similar context as one another. Male names were also written on them, and two having indications that nails were tacked to them (Jordan 18). However, it does not seem that these were written for the same reasons as the three at Lesbos.
The last example is five 4th century tablets uncovered in the Greek colony of Olbia in the northern part of the Black Sea. All were found in a cemetery, with only three of them having eligible inscriptions on them. These three had several male names written on them, one had a woman’s name, and one had the genitive forms for fathers’ names on it (Jordan 29-30). These three examples are among the many other Greek tablets found across the Mediterranean. The tablets function in the culture demonstrates that the Greeks carried their traditional beliefs with them as they colonized foreign lands.

**Disease**

The last example of substances that were carried with sailors were not physical, nor those that occupy the mind, but were microscopic. As seen with incidents such as the Black Plague in 14th century A.D., diseases can also catch a ride from one place to another with the help of maritime transportation. In some cases, contact with alien illnesses proved to be deadly for the societies that came in contact with it, and even led to a reorganization in cultural norms and beliefs. One could make the argument that the spread of disease is the price humans have to make to maintain physical contact with one another, and even acquire material and innovations that led to humanities technological progress. Since there is limited archaeological evidence for the plague that struck Athens during the Peloponnesian War, inferences can be drawn from the 14th-century Black Plague in order to better understand maritime influence on the spread of disease.

*Disease in Thucydides.* During the Peloponnesian War, Thucydides describes the plague that hit Athens in 430 B.C.E. and resulted in many deaths. However, what is significant about this in regards to maritime affairs are Thucydides statement on the origins and spread of the disease. He
states: “It first began, it is said, in the parts of Ethiopia above Egypt, and thence descended into Egypt and Libya… Suddenly falling upon Athens, it first attacked the population in the Piraeus” (Thucydides 118). First note that the disease started in Piraeus, the Athenian port, and spread throughout the rest of the community from there. The disease’s origins, based on Thucydides’ account, came from the northeastern region of Africa. The notion that it first hit Piraeus demonstrates that the illness came into Attica by ship. In addition to its origins, Thucydides reported the disease’s symptoms:

- violent heats in the head, and redness and inflammation in the eyes, the inward parts, such as the throat or tongue, becoming bloody and emitting an unnatural and fetid breath… sneezing and hoarseness, in which the pain soon reached the chest, and produced a hard cough. When it fixed in the stomach, it upset it; and discharges of bile of every kind named by physicians ensued. (Thucydides 119)

The first symptoms that were experienced was a fever, swelling in the eyes, and infection in the mouth causing one’s breath to give off a bad odor. As the illness progressed and the infection reached the lungs, it caused coughing, loss of voice, and sneezing. Lastly, once it hit the stomach, one began experiencing diarrhea. Although connections can be drawn from the primary sources about the spread of the plague in Athens, the archaeological record can provide a broader picture of the epidemic.

*Analysis of the 14th-Century Black Plague.* Data on the 14th century Black Plague can provide a better understanding for the bacterial agent that was transported to Athens. The plague bacteria, or *Yersinia pestis*, caused great damage to the European population in the 14th century, and transmitted along the ports in the Mediterranean (Ditrich 25-26). It begins with a black rat that is
infested with the Asian flea, or *Xenopsylla cheopis* (Ditrich 29). Humans are more prone to encounter black rats because black rats are normally found in vessels and human living-areas, particularly where it can feed on human food. In the pre-modern world, rats were not regarded as a source of disease, and usually left unnoticed. In addition, the plague bacteria is confined to environments similar to that of the Mediterranean, and can spread inland from there. When the disease is transmitted to a person, it enters the blood stream and circulates throughout the individuals body. However, the infection becomes very dangerous to a population once it reaches the lungs because the illness becomes contagious at that point (Ditrich 29). This knowledge of the plague is essential in understanding how the bacterial agent was able to make its way to Athens in the 5th century B.C.E. Since Thucydides describes the disease as starting in the port of Athens, it makes sense to speculate that it was imported by ships that contained both flea-infested rats and conceivably already infected humans. For the illness to effectively spread across the city, the infected rats were likely infesting buildings, in which food was stored. Also, the bacteria that infected the people reached the lungs, which made it transmittable from one person to another. It was unable to spread outside of Athens and into the rest of Attica and Greece because the Peloponnesian war led Pericles to restrict outside communication with other Greek communities. Therefore, the Athenian people were enclosed in a diseased infested city. Although making parallels with the 14th century Black Plague can give a better insight on the plague that effected Athens, there may be inaccuracies in the method. Just like with any living organism, microorganisms evolve over time. Testing DNA samples from possible victims of the disease can ensure more accurate information on the illness that swept over Athens in the 4th century B.C.E.
DNA Analysis of 5th-Century Burials in Attica. A DNA analysis was taken on randomly selected bodies from a mass burial site in an Athenian cemetery. The individuals were buried at the time the plague was affecting Athens (Papagrigorakis et al. 210). Based on the symptoms that Thucydides gives, the researchers chose to test for seven “putative causative agents,” such as the “plague (*Yersinia pestis*), typhus (*Rickettsia prowazekii*), anthrax (*Bacillus anthracis*), tuberculosis (*Mycobacterium tuberculosis*), cowpox (cowpox virus), cat-scratch disease (*Bartonella henselae*),” and “typhoid fever (*Salmonella enterica* serovar Typhi).” The analysis showed that three tested positive for typhoid fever and none of the samples tested positive for the plague agent (Papagrigorakis 212). The researchers concluded the following:

the results of this study incriminate typhoid fever as a probable cause of the Plague of Athens. Considering the overcrowding and insanitary conditions (especially regarding the water supplies) … a typhoid epidemic would have been likely to break out. (Papagrigorakis 213)

However, the researchers also state that further examination needs to be done on the mass grave because typhoid fever may have operated alongside another more deadly disease (Papagrigorakis 213). Therefore, it is still not certain what actually the epidemic was that killed many people within Athens during the Peloponnesian War.

**Conclusion**

Seafaring was essential for the Greek culture’s development leading up to and during the Classical Period. The Classical Period introduced the rise of the Athenian Naval Empire and further maritime advancements of other Greek city-states as well. Even in the centuries prior to this period, maritime contact with foreign cultures shaped Greek society and contributed to its transformation. As sailors packed the items required for their journey, they tend to put on the
ship the supplies and provisions necessary for a long voyage at sea. If the mission is for trade, the merchants bring the products they wished to exchange in the Mediterranean exchange network. As noted, the primary sources emphasize grain as a product imported into the Athenian ports, particularly from the Black Sea. The archaeological record shows that amphoras were used to carry products such as wine and olive oil. The sailors also carried their cultures with them when traveling port-to-port as well. In certain circumstances, religious notions are imported and diffused across a society, such as the similarities seen between Egyptian and Greek gods. Innovation can also be shared and transformed cross-culturally as with the development of the Greek writing system. Lastly, diseases can be transported on ships. Athens experienced this notion with the plague that struck during the Peloponnesian War. The DNA analysis results was negative for the plague bacteria, but three samples tested positive for typhoid fever. However, that does not discredit Thucydides account. In addition, it does not disprove that disease can be transmitted by maritime contact with other infected communities, as demonstrated by the data from the 14th century Black Plague in Europe. In any case, the information gathered from both the primary sources and archaeological record demonstrates the significance maritime relations held in the Classical Mediterranean and how it influenced the Greeks way of life.
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