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# An Evaluation of Phoenician Ships and Maritime Activities

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*Abstract*

*The Phoenicians, appeared on the stage of history from the 12th century BC onwards, was one of the most important civilizations of the ancient world. They lived along the coastline of modern-day Lebanon in the form of city states. They engaged with maritime activities influenced by their geography. They became an important and powerful seafaring civilization in time. The basis of these successes lies in maritime knowledge and advanced shipbuilding techniques. They also developed direction-determining techniques using the stars. Phoenician ships typically were crafted from cedar wood and divided into two main categories as merchant ships and warships. Via them the Phoenicians expanded across the Mediterranean. In this way they established colonies and extensive trade networks along the Mediterranean. They carried purple-dyed textiles, glass, and precious metals to their colonies. Thus they became a major economic power of their times. Phoenicians played a critical role in forming both ancient trade routes and maritime culture. Their influence was not limited to commerce. They also facilitated cultural exchange between different areas. For instance the spread of the Phoenician alphabet, which laid the foundation for modern alphabets and marked a turning point in world history a development driven by Phoenician merchants. To sum up, the Phoenicians' maritime activities and accomplishments extended beyond the economic realm. They contributed to the dissemination of art, religion, and culture. In this regard, it is aimed to examine the types of ships used by the Phoenicians and their areas of application as well as to assess the impact of Phoenician seafaring on the Mediterranean in this study.*

***Keywords:*** *Phoenicians, Navigation, Vessel, Colonization, Trade.*

## Genişletilmiş Özet

*MÖ 1200'lerden itibaren Doğu Akdeniz'de, bugünkü Lübnan kıyı şeridinde tarih sahnesine çıkan Fenikeliler, denizcilikteki becerileri, kurdukları ticaret ağı ve teknolojik yenilikleri sayesinde Antik Çağ'ın en önemli uygarlıklarından biri haline gelmiştir. Bu başarılarının temelinde sağlam denizcilik bilgileri ile yenilikçi gemi yapım teknikleri yatmaktadır. Byblos, Sidon, Arados ve Tyros gibi kent-devletlerden oluşan bu uygarlık, jeopolitik konumunun sağladığı avantajı ustalıkla kullanarak yalnızca ticarette değil, kültürel etkileşimde de belirleyici rol oynamıştır.*

*Fenikeliler kullandıkları gemi türleri ve bunların yapım teknikleri ile dönem ticaret ve savaş faaliyetlerini derinden etkilemiştir. Genellikle sedir ağacından yapılan Fenike gemileri savaş ve ticaret gemileri olmak üzere iki ana grupta toplanabilir. Fenikeliler bu gemiler sayesinde tüm Akdeniz'e yayılmış, koloniler kurmuş ve geniş ticaret ağları oluşturmuşlardır. Denizcilikte ustalaşan Fenikeliler, yıldızları kullanarak yön bulma tekniğini de geliştirmişlerdir. Özellikle mor boyalı kumaş, cam ve değerli metalleri gittikleri bölgelere ihraç ederek büyük bir ekonomik güç haline gelmiş; antik dünyanın ticaret yollarını ve denizcilik kültürünü şekillendirmişlerdir. Ayrıca yalnızca ticaretle sınırlı kalmayıp kültürün de taşınmasına aracılık etmişlerdir. Nitekim dünya tarihi açısından büyük bir dönüm noktası olan günümüz alfabesinin temelini oluşturan Fenike alfabesinin yayılması da Fenikeli tüccarların faaliyetleri neticesinde gerçekleşmiştir. Sonuç olarak, Fenikeliler denizcilikteki faaliyet ve başarılarıyla yalnızca ekonomik alanda değil sanat, inanç, kültür alanlarında da yayılım göstermişlerdir.*

*Fenike denizciliğinin başarısının temelinde, ileri düzey gemi yapım teknikleri ve bu alanda kullanılan kaliteli malzemeler yatmaktadır. Özellikle Lübnan dağlarından elde edilen sedir ağacı, hem dayanıklı hem de hafif olmasıyla Fenike gemilerinin uzun mesafeli deniz yolculuklarına uygun hale gelmesini sağlamıştır. Gemi üretiminde sistematik ve ölçüye dayalı bir yaklaşım benimseyen Fenikeliler, hem savaş hem de ticaret amaçlı iki temel gemi türü geliştirmişlerdir. Ticaret gemileri daha geniş gövdeli ve yük taşımaya uygun olarak tasarlanırken, savaş gemileri daha ince, hızlı ve manevra kabiliyeti yüksek yapılarıyla dikkat çeker. Her iki gemi türü de dönemin denizcilik standartlarını belirlemiş; hem Doğu hem de Batı Akdeniz'de deniz ulaşımına yeni bir boyut kazandırmıştır.*

*Fenikeli denizciler yalnızca gemi üretiminde değil, seyrüsefer tekniklerinde de çığır açmıştır. Geceleri yıldızları izleyerek yön bulma yöntemini geliştirerek açık deniz seferlerini güvenli hale getirmişlerdir. Önceleri sadece kıyıların takip edilmesiyle gerçekleştirilen yolculuklar Kıbrıs'tan başlayarak Ege Adaları, Kuzey Afrika, Sicilya, Sardinya, İber Yarımadası ve hatta Atlantik kıyılarına kadar ulaşılabilen açık deniz seferlerine dönüşmüştür. Bu genişleme yalnızca ticari bir hamle değil, aynı zamanda siyasi ve kültürel bir etki alanının oluşmasına da zemin hazırlamıştır.*

*Fenikeliler, geliştirdikleri denizcilik ağı sayesinde Akdeniz'in birçok noktasında koloniler kurmuşlardır. En önemli kolonilerinden biri olan Kartaca, Fenike denizcilik mirasını Batı Akdeniz'de sürdürmüş ve bu alanda Akdeniz ticaretinde yeni bir merkez haline gelmiştir. Bu koloniler, sadece ticaretin değil, Fenike sanatının, dini inançlarının ve yazı sisteminin de taşındığı merkezler olmuştur. Özellikle cam işçiliği, metal işçiliği, mor boyalı kumaş üretimi gibi alanlarda sağlanan ihracat, bu toplumun ekonomik olarak büyük bir güç haline gelmesini sağlamıştır. Dolayısıyla Fenikelilerin ticaret yoluyla gerçekleştirdiği bu yayılım, sadece ekonomik alanla sınırlı kalmamış; kültürlerarası etkileşimi hızlandırmıştır. Bu bağlamda en dikkat çekici örneklerden biri, günümüzdeki Latin alfabesinin temelini oluşturan Fenike alfabesidir. Bu yazı sistemi, Fenikeli tüccarların hareketliliği sayesinde Yunanlar ve ardından Romalılar tarafından benimsenmiş, böylece yazı yoluyla iletişim ve idari düzen daha işlevsel bir hal almıştır. Fenikeliler aynı zamanda dini inançlarını ve sanat anlayışlarını da Akdeniz'e taşımış, bu etkileşim birçok yerel kültürde iz bırakmıştır.*

*Fenikelilerin ticari ortaklık sistemleri, deniz yoluyla taşımacılığın finansal sürdürülebilirliğini sağlarken, bu sistem aynı zamanda karmaşık bir ekonomik düzenin de temelini atmıştır. Sadece fiziksel ürünlerin değil, bilgi, teknoloji ve inanç sistemlerinin de dolaşımını sağlayan bu yapı, Akdeniz'in bir medeniyetler havzası olarak şekillenmesinde önemli rol oynamıştır. Özellikle Ege ve Mısır deniz ticaretine aktif olarak katılmaları, antik dünyanın ekonomik güç dengesini etkileyen stratejik bir faktör olmuştur.*

*Sonuç olarak, Fenike denizciliği teknik beceri, ticaret stratejisi ve kültürel etkileşimin eşsiz bir bileşimini sunar. Fenikeliler, Doğu'nun deniz yoluyla Batı'ya açılan ilk uygarlığı olarak, sadece ekonomik bir güç olmakla kalmamış; aynı zamanda kültür taşıyıcısı, yazı sisteminin yaygınlaştırıcısı ve teknolojik öncüsü olmuşlardır. Geliştirdikleri gemi türleri ve navigasyon teknikleri, yalnızca Antik Çağ için değil, modern denizcilik tarihi açısından da öncü nitelikler taşır. Bu yönüyle Fenikelilerin Akdeniz üzerindeki etkisi geçici değil, kalıcı bir mirasa dönüşmüştür. Bu miras, günümüzde denizcilik, ticaret ve kültür tarihine yönelik çalışmalar açısından hala ilham verici bir örnek oluşturmaktadır. Bu bağlamda bu çalışmada Fenikelilere ait gemi türleri ile bunların kullanım alanlarının incelenmesi hedeflenmiştir. Böylece Fenike denizciliğinin kapsamı ve Akdeniz'de meydana getirdiği etki daha görünür hale gelecektir.*

## Introduction

The Phoenicians were a maritime civilization that emerged in the Eastern Mediterranean around the 12$^{th}$ century BC, in the regions including present-day Lebanon and Syria. Although the earliest traces of Phoenicians in the Canaan region date back to the 3$^{rd}$ millennium BC and earlier, their appearance on the

historical stage is around 1200 BC. They used to call themselves as “Canaanites”. Though use of the term “Phoenician” is generally restricted to the first millennium BC, the seafaring roots of these people extend at least into the Bronze Age. Due to their geographically limited and agriculturally unproductive lands, they turned towards seafaring (Gottesman, 2005, p. 736; Aubet, 1993, p. 8-9; Friedman, 2011, p. 19; Ehsani-Sivrikaya, 2018, p. 397; Karageçi, 2019, p. 207; Tufanoğlu, 2017, p. 18). Although the land was rich with water sources, it offered limited resources and arable soil. This necessity eventually transformed them into one of the most active commercial civilizations in the Mediterranean world. Utilizing the cedar trees of Lebanon as raw material for shipbuilding, they expanded their trade networks by transporting valuable goods such as purple-dyed textiles, glassware, and processed metals (2 Chron. II: 14-15; Bayramov, 2019, pp. 44-45; Gottesman, 2005, p. 737; Tufanoğlu, 2017, p. 18, 68; Casson, 1967, p. 5, 67). They established colonies in Cyprus, Sicily, Sardinia, Carthage, and the Iberian Peninsula. Via new colonies they created long-term economic and cultural exchange networks in these regions (Kılıç-Uncu, 2011, p. 193, 199; Bayramov, 2019, p. 45; Tufanoğlu, 2017, p. 26, 61; Fox, 2005, p. 31).

Different type of ships were they produced and their maritime technology made them one of the most advanced civilizations of their time. This allowed them to play a central role in commercial relations in the Mediterranean world. In particular, the diversity and functionality of their ships were key to their success (Tufanoğlu, 2017, p. 29). Herodotus mentions their maritime success and superiority as follows: “Without the Phoenicians, there would be no remaining naval power. The Carthaginians thus escaped Persian control; Cambyses did not deem it proper to force the Phoenicians, who had voluntarily aligned with the Persians and held all naval power…” (Hdt. III.19). Indeed, they were highly sought after for their maritime knowledge and technology; major powers such as Egypt and Persia sought their assistance and benefited from their expertise. For instance, Phoenicians provided many units for the Persian navy at the Battle of Salamis, the fleet that Alexander sent by sea to Babylon, and the warships that Hannibal commanded in his final campaign against Rome (Hdt. VIII. 85; Livy 37. 8; Casson, 1971, p. 94). As it is clearly seen Phoenician sailors worked in the service of the Persians. They supported the Persian navy against their enemy (McGrail, 2004, p. 129; Gottesman, 2005, p. 738).

With their technical mastery of shipbuilding, the Phoenicians became the dominant maritime power of the Mediterranean and became a source of inspiration for other civilizations. They built a wide variety of ships with different functions according to the requirements of maritime trade. These ships range from large, high-capacity cargo ships designed for long-distance voyages to more agile and fast warships built for naval combat. Phoenician ships were mostly built of Lebanon cedar, which was water-resistant and provided long-term use (Casson, 1967, p. 5, 67). As stated before, in the Phoenician homeland, arable land was limited. The only region where agriculture could develop was the forests of Lebanon. Here, trees such as pine, cypress, and cedar grew. It is known that expeditions were organized from Mesopotamia and Egypt specifically for cedar wood. Cedar trees frequently preferred for building houses, temples, and ships during that period ( Gottesman, 2005, p. 737; McGrail, 2004, p. 69; Elayi, 2018, pp. 33-34; Günel, 2023, pp. 15-16).

The ports of Arados, Byblos, and Sidon were bustling centers filled with trading ships and export goods. Although the north harbour in Sidon was developed, the less sheltered south harbour served as a practical anchorage. Tyros, too, was originally an island settlement and later connected to the mainland, but it hosted early port construction techniques such as piers, sea walls and breakwaters (Hom. Il. 23.740; Strab. XVI.2.23; Plin. nat. V.17.1; Arr. anab. II.18; Friedman, 2011, p. 19; Ballard et al., 2002, pp. 165-166; Lopez-Ruiz, 2021, p. 11; Noureddine, 2010, p. 177, 180; Heing, 2018, p. 24; Casson, 1967, p. 30, 45; Holst, 2011, p. 62; Droysen, 2020, p. 292).

The Phoenicians also made significant contributions to the port infrastructure of the Eastern Mediterranean, developing rectangular shipyards and artificial inland harbors named cothon. Examples of such ports include the port of Motya in western Sicily and the port of Akko on the Israeli coast. An artificial port was also built at Carthage (Diod. V.16.3; Bass, 1972, p. 90; Haggi, 2010, p. 278; Hamza, 2006, p. 15; Orsingher, 2016, p. 283; Tusa, 2000, pp. 1397-1417). In Motya, Phoenician ships reached a sheltered rectangular quay via a canal. In the harbor of Carthage, the circular section was reserved for warships, while the rectangular section was reserved for merchant ships (Verg. Aen. I. 428; Strab. XVII. 3. 14; Harden, 1939, pp. 9-11).

One of the triggering factors in the Phoenicians' westward expansion was precious metals. Long-distance trade was driven by the search for metals such as copper, silver, and tin was influential in their expansion (Aubet, 2002, p. 97). An important indicator of this is the discovery of Tartessos in Spain, which is rich in mineral deposits. Eventually they managed to extend Spain and England (Elayi, 2018, pp. 122-123). Their maritime innovations played a significant role in their long-term expansion across a vast geographical area. Meanwhile they preserved their cultural heritage. Their advancements in shipbuilding and technology, along with the continuous improvement of their ports and vessels, were crucial for their survival (Elayi, 2018, p. 95).

Below, the types of ships belonging to the Phoenician civilization and their structural characteristics are detailed. The functional purposes of these ship types are also discussed. Additionally, working conditions and religious elements on board the ship are also discussed.

## The Types of Phoenician Ships

Information on Phoenician ship types seafaring is obtained primarily from from depictions. Especially Assyrian reliefs provide an iconographic evidence (McGrail, 2004, p. 126). The most detailed representations of seagoing Phoenician ships come from the palace of Sennacherib at Nineveh. In a relief depicting the Tyrian king Luli's waterborne flight to Cyprus, two types of ships are shown. These are galleys and round merchantmen ships (Wachsmann, 1998, p. 159). Additionally, concrete evidence of Phoenician ships is being obtained through archaeological research and underwater excavations. Rare examples of Phoenician ships have been unearthed during these excavations (Friedman, 2011, p. 28). The earliest Phoenician ships were very similar in design to their Egyptian counterparts, but were constructed from superior timber. Specifically, the large cedars of Lebanon, some of which reached up to 40 meters tall, made it possible to produce much larger and more durable hulls (Benincasa et al., 2024, p. 545). Phoenician ships and their areas of use formed the foundation of the civilization's maritime success. The Phoenicians developed different types of vessels according to their intended function. While they were generally categorized into two main groups - commercial and military- there were also various other types for specific needs (Hdt. III.136; Casson, 1967,p. 25).

Warships were designed for agility and speed, while the others were constructed to maximize cargo and passenger capacity. They were equipped with both sails and oars to ensure maneuverability and propulsion regardless of wind conditions. Phoenician warships were narrowly built and designed to be fast, strong, and lightweight. The primary focus in merchant ships, was on the use of sail power. This reduced crew size and provided more space for goods. Unlike warships cargo ships were wider. Warships, on the other hand, had narrower hulls and lower freeboards to increase speed and maneuverability (Benincasa et al., 2024, p. 545). The primary objective here was to neutralize enemies with high-speed attacks. Their long hulls allowed for easy turning and rapid maneuvers during battle. Other definig feature of Phoenician ships was the rams mounted on their bows. Made of metal or hardwood, these protruding structures were used to sink enemy ships by penetrating their hulls. (Casson, 1971, p. 95).

Small to medium-tonnage vessels (ranging from 20 to 120 tons), often distinguished by a horse-head protome on the prow -hence the Greek name hippos- were primarily employed for transporting timber and various supplies along rivers and coastal routes. These ships were typically manned by six to eight rowers, each operating a single oar. When favorable wind conditions prevailed, they were equipped with sailing apparatus consisting of a centrally placed mast and a square sail affixed to a yard. This rigging system proved more effective for swift navigation in open waters than rowing, particularly over extended maritime distances (Friedman, 2011, p. 19). In Byblos-renowned for building flat-bottomed boats and barges-small vessels known as hippoi, with horse-shaped bows or sterns, were produced for travel to trade ports and used to protect cargo from pirates (Strab. III. 3. 4; Plin. nat. VII. 56. 7; Lopez-Ruiz, 2021, p. 290; Bülbül & Filik, 2019, pp. 1-6; Stern, 1994, p. 10; Raban & Kahanov, 2003, p. 63; Casson, 1971, p. 66). And also the ships manned by Phoenician sailors which were drawn on the walls of Ken-Amun's tomb were deep-bellied freighters with curved ends terminating in short straight stems and sternposts (Casson, 1967, p. 25).

Sea-going merchant vessels of the so-called Canaanite type were characterized by broad, rounded hulls and prominently elevated stem and stern posts. A notable depiction of such ships -identified as Phoenician- appears on the wall of a Theban tomb dated to approximately the 14$^{th}$ century BC, illustrating their presence

in trade along the Nile. These ships boasted substantial cargo capacities, ranging from 200 to 450 tons. Propulsion was achieved through a large, quadrilateral sail mounted on a yard, which was supported by multiple lifts running through rings affixed to either side of the masthead (Friedman, 2011, p. 19). As can be seen, although written records belonging to the Phoenicians indicate their existence from the around 1200 BC onwards, their presence in the region dates back even further. They developed commercial and political relations with the contemporary civilizations. This relations, which also influenced their maritime activities and ship technology, was reflected in the sources of the period.

Ships with broad hulls and rounded ends typically had two decks. Ships with vertical fore and aft masts had a lower deck composed of two overlapping decks, each accommodating four to five rowers per side. The superstructure, accommodated the passengers. These ships likely served auxiliary functions in naval operations, carrying soldiers and supplies or they served as flagships for merchant convoys sailing the Mediterranean. Warships are characterized by long hulls, pointed ram, a high rounded stern, and two decks. The lower deck housed the rowers, each holding one oar, arranged in two vertical rows. Each side had 8 to 11 rowers, for a total crew of 16 to 20 rowers. The upper deck is also surrounded by a parapet of round shields providing space for warriors. These ships were also equipped with sailing rigging, featuring a centrally stepped mast and a square sail, which was furled beneath the yard during rowing. Warriors stationed on the upper deck were responsible for managing the sails when the vessel navigated open waters to reach its destination (Friedman, 2011, p. 20).

Phoenician galleys were long and open vessels with oarsmen generally numbering 15 to 25 on each side in earlier periods. Each galley featured a prominent offensive weapon at the bow: a sharp metallic ram used to strike and sink enemy ships. These early warships were eventually replaced by decked galleys, equipped with sails and rowed by oarsmen seated on two line. These biremes were soon followed by triremes (Thuc. I.13; Casson, 1967: 99; Lopez-Ruiz, 2021, p. 290).

The Phoenicians had access to biremes at an early times. Among Assyrian reliefs depicting Phoenician ships, there are examples with 8, 9, 11, and 15 oars per side (Casson, 1971: 58). Reliefs from the palace of Sennacherib (r. 705-681 BC) show fully developed biremes with two rows of oarsmen rowing from within the hull (Casson, 1971: 56; Friedman, 2011: 19). As mentioned earlier, this relief showing the waterborne flight of the Phoenician king Luli, along with merchantmen and warships filled with the men, women, and children of Tyre, c. 700 BC. Later, they adopted triremes, triple-decked warships. Some highly detailed depictions of Phoenician triremes show 31 oars on the upper row (Hdt. III.236; Hdt. II.159.1; Plut. Cimon 13.3; Plut. Alc. 25.2; Diod. XIII. 36.5, 13.38.4, 13.46.6; Casson, 1971, pp. 94-95; Fox, 2005, p. 104).



Fig. 1: Cargo ship model (Fawcett-Zietsman, 2001, 8, fig. 6)

The Phoenician trireme represented a balance between swift maneuverability and high velocity, achieved through its relatively small size and light weight, complemented by a large number of rowers. As combat approached, the mast was typically removed, leaving propulsion solely to the oars to ensure optimal control and responsiveness. Characterized by its elongated, narrow, and lightweight structure with minimal draft, the trireme was also designed for ease of beaching, allowing it to be brought ashore with little difficulty at the end of each day (Benincasa et al., 2024, p. 547).

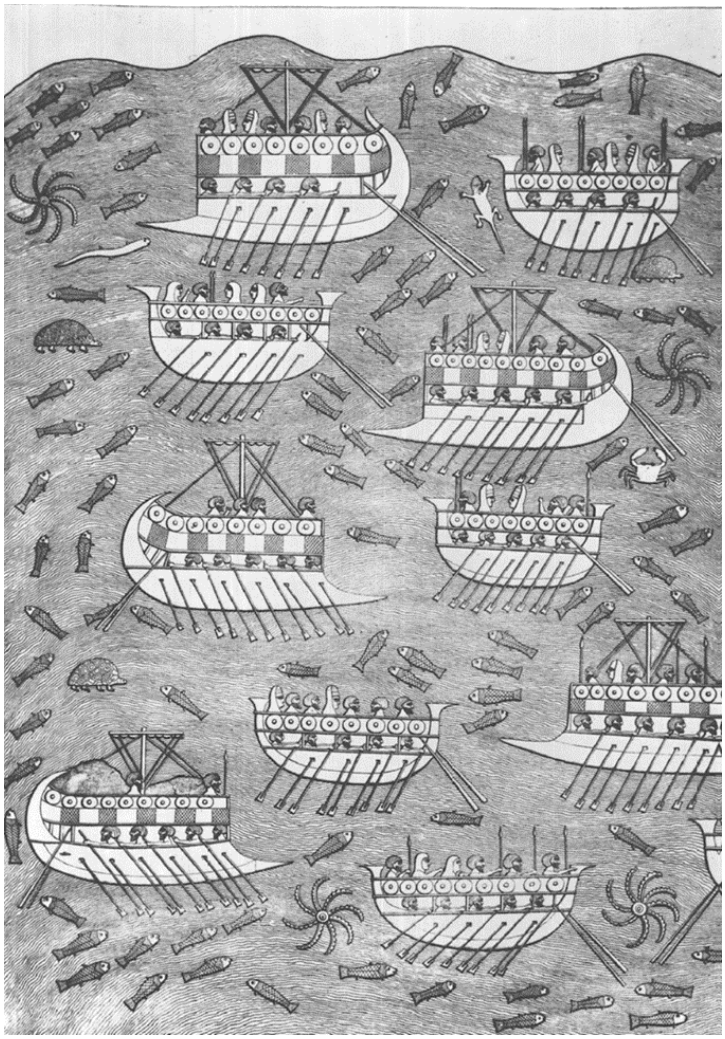

Fig. 2: Phoenician two-banked warships and Cargo ships c. 700 BC. A relief in the palace of Sennacherib (McGrail, 2004, fig. 4.30)

Speaking of maritime activities, the most significant and trustworthy sources are shipwrecks. In this context, Phoenician maritime activities and the technology used in their ships have been considered on the basis of information derived from shipwrecks. This information has further been supplemented with literary sources to draw more reliable conclusions. Two Phoenician shipwrecks are the Tanit and Elissa are so important to understand Phoenician ships. They are believed to be of Phoenician origin. They were discovered in the Mediterranean Sea west of Israel and dating to the 8$^{th}$ century BC and loaded with high-quality wine destined for Egypt or Carthage. The wrecks of the Tanit and Elissa are located in neart the on the ancient port of Ashkelon. In the route connecting the to Egypt and Carthage in ancient trade route. The Tanit contains 385 amphoras, and the Elissa contains 396. These two wrecks were filled with Canaanite amphorae containing more than 10 tons of wine. They are important because they are Phoenician ships primarily loaded with a single type commodity (Ballard et al., 2002, p. 158, 166; Master, 2003, pp. 47-64; Alpözen et al.,1995, p. 53; Porter, 2016, p. 396; Stewart & Martin, 2005, p. 87; Gilboa, 2015, p. 252; Master, 2014, p. 88). Another Phoenician shipwreck is Xlendi. The Xlendi site can be considered one of the best-preserved underwater archaeological sites in the Central and Western Mediterranean. It is also important in

terms of its mixed cargo, which is the first example of its kind found intact (Renzullia et al., 2019, p. 340; Abdelhamid, 2015).



Fig. 3: Phoenician cargo vessels, ca. 700 BC (Casson, 1971, fig. 78)

### Exploration and Long-Distance Vessels

The Phoenicians' maritime knowledge enabled them to explore regions beyond the Mediterranean and reach the Atlantic Ocean. The ships they built specifically for long-distance voyages featured large, streamlined sails adapted to the wind and hulls resistant to the harsh conditions of the open sea. Phoenician ships were equipped with multiple sails to increase speed and directional control. They featured advanced waterproofing techniques. These enabled them to establish expand trade networks. These voyages of exploration opened up new markets for them. Colonies were established more easily thanks to the opportunities offered by well developed ships (Plin. nat. VII. 56. 7; Reece, 2005, p. 25; Stieglitz, 1984, p. 140). The Phoenician maritime network eventually extended to the Strait of Gibraltar. 8$^{th}$ century BC, in particular, marked a significant turning point in the western opening of the Eastern Mediterranean. Indeed, biblical accounts of King Solomon's fleet suggest that Phoenician ships sailed to Tartessos, Spain, on voyages lasting three years (1. Kings 10. 22; Jeremiah 10. 9; Benincasa et al., 2024, p. 542; Smith & Roux, 2013, p. 328).

The Phoenicians' proficiency in seafaring and navigation techniques influenced other powers. It is not a coincidence that Persians strengthened their navy and, as a result, were able to gain influence in the Eastern Mediterranean after gaining superiority over Phoenician territories. The Ophir Expedition, undertaken in the 10$^{th}$ century BC, is another example. It demonstrate Phoenicians' mastery of seafaring and their ability to undertake long sea voyages. The fact that their ships could embark on such long journeys shows the level of technological sophistication they possessed (Elayi, 2018, p. 121, 125). These commercial expeditions, undertaken in partnership between Hiram and King Solomon, shows Solomon's need for the Phoenicians' maritime expertise (Elayi, 2018, pp. 119-120).

Because the Phoenicians' economic power was primarily based on maritime trade, merchant ships were generally designed to be wide, sturdy, and capable of carrying heavy loads. The wide, flat hulls of cargo ships were facilitating anchoring and unloading. Large cargo ships also had deep keels below sea level, allowing for stability and the safe transport of valuable cargo. The primary purpose of these ships was to safely transport goods. While merchant ships lacked the speed of triremes, they were able to safely transport significant

quantities of goods. Goods carried included agricultural products such as grain, oil, and wine; containers and household goods such as terracotta pots and glassware; luxury goods such as textiles and jewelry; Precious metals and utilitarian items such as metal tools, millstones, and lumber (Tufanoğlu, 2017, p. 104; Benincasa et al., 2024, p. 547).

The Phoenicians regularly reached points along the trade route to their colonies in Carthage, Sardinia, and Sicily with the large, deep-water cargo ships mentioned above. The likely route from the Phoenician homeland to Cadiz was along the northern coast of Cyprus, the Anatolian coastline, then via Rhodes, Crete, Malta, Sicily, Sardinia, and the Balearic Islands, then along the southern coast of the Iberian Peninsula to Cadiz. On the return journey, sailors likely made use of the prevailing eastward currents of the central Mediterranean, achieving a more efficient return (Benincasa et al., 2024, pp. 548-549; Tufanoğlu, 2017, p. 104). The Phoenicians' superiority in seafaring and shipbuilding enabled them to expand throughout the Mediterranean. Their ability to spread to France, Italy, Spain, and North Africa was rooted in their profound knowledge and experience of maritime navigation (Treumann-Watkins, 1992, p. 14; Gottesman, 2005, p. 737; Günel, 2023, p. 266).

Tanit and Elissa wrecks provide evidence for seafaring at some distance from the coast in the early first millennium BC. As mention before their proximity to each other suggests that they were sailing together and foundered in the same nautical event. Cooking pots and bowls supports an image of life at sea in which the preparation and consumption of food was carried out on board cargo vessels during long journeys, when sailing at some distance from shore (Ballard et al., 2002, p. 161).

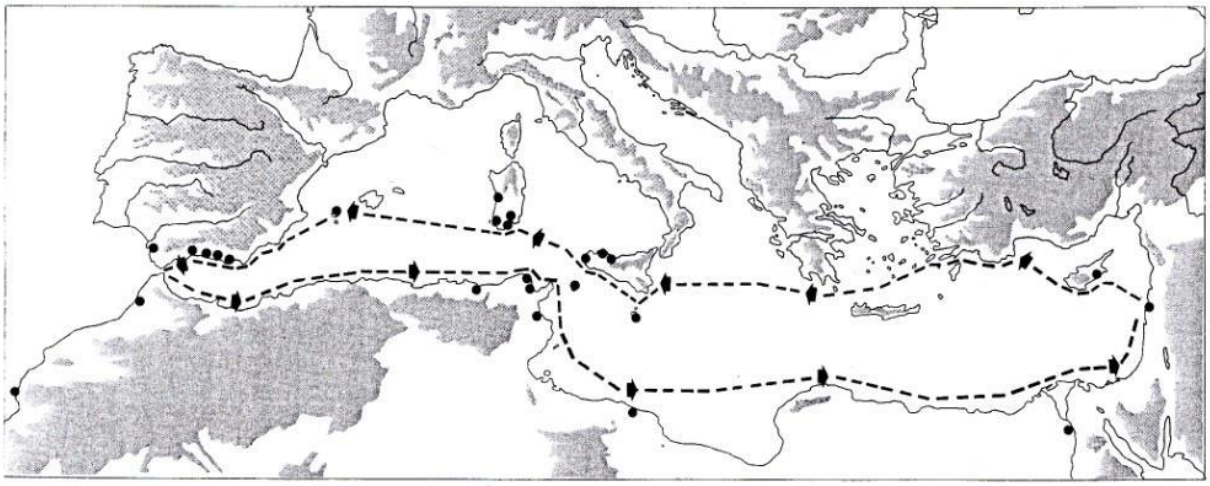

Fig. 4: Shipping routes in the Mediterranean (Aubet 1993, p. 161)

Herodotus narrates that the longest voyage undertaken by Phoenician sailors was to the African continent. They circumnavigated the continent around 600 BC with order of Pharaoh Necho (Hdt. IV. 42; McGrail, 2004, p. 48). This journey lasted approximately three years and they sailed westward across the Red Sea. Two more voyages followed this. The first, Himilco, around 450 BC, circumnavigated Spain and reached the British Isles. The second, around 425 BC, Hanno sail past the Pillars of Hercules and into the Gulf of Guinea. These two voyages are a natural consequence of Phoenician seafaring (Panagiotopoulos, 2011, p. 38; Bresson, 2005, pp. 94-114; Köktürk, 2004, pp. 32-40).

### Other Types of Vessels

The Phoenicians also traded in seafood, so they produced specialized ships for the hunting and transportation of whales and other marine creatures. These ships were generally small, fast, and agile for ease of use. Carrying equipment such as nets, harpoons, and other fishing gear, these ships likely served primarily as whaling vessels. This may have stemmed from the demand for valuable whale oil, which was used in the purple dye industry and the production of other commercial products. The captured marine animals were often salted for preservation and transported as commercial goods (Theodoropoulou, 2018, pp. 395-396; Trakadas, 2005, p. 47). In this respect, fish salting can be said to have been a typical industry in the Western Punic world. The city of Gadir became famous for the production of garum, a fish sauce widely

used in Roman cuisine (Plin. nat. XXXI. 43. 1). Archaeological and literary sources also confirm that the region was engaged in fishing, salt production and maritime trade (Higueras-Milena Castellano, 2018, pp. 98-99; Trakadas, 2005, p. 48; Güveloğlu, 2018, p. 79, 92, 124; Bergeron, 2011, p. 176; Celestino & Lopez-Ruiz, 2016, p. 64, 191-198). Numerous factory remains have been found throughout the surrounding area. The salt flats developed in Punic colonial territories were closely linked to this fish-processing industry (Raban-Gerstel et al. 2008, p. 49; Jigoulov, 2021, p. 19). Major Punic colonies such as Sexi, Malaca, and Abdera minted their own coins during the Roman period, possibly indicating their important status as centers of fish-drying operations (Negueruela et al. 1995, pp. 192-193; Lopez-Ruiz, 2011, p. 36; Sestier, 2017, pp. 101-102).

Before embarking on a voyage, the Phoenicians decorated their ships with religious and mythological symbols to protect them from evil forces and to sanctify the journey. They designed their ships to withstand harsh sea conditions and often decorated their prows with animal-head motifs. While building their ships, they used advanced tying and knotting techniques instead of nails to increase structural integrity and water resistance. They completed their journeys by observing the movements of stars in the earliest periods before navigation instruments existed, and for this reason they became known as the most famous sailors of the Mediterranean (Tufanoğlu, 2017, pp. 30-31, 33; Güler, 2023, p. 60). When sea voyages were carried out by following the coast, the Phoenicians, used the stars for navigation before the invention of the compass. Indeed, the North Pole was also called the "Phoenician Star." They made their voyages by following the North Pole. Establishing trade colonies in a vast area stretching from Cyprus to Spain, the Phoenicians transported goods and ideas across the Mediterranean by observing constellations and determining their routes accordingly (McGrail, 2004, p. 129; Aubet, 1993, p. 142; Quinn, 2018, p. XV; Gottesman, 2005, p. 738; Günel, 2023, p. 231). They have found their way by following the Pole Star and have reached the level of being able to sail both day and night (Strab. XV; Benincasa et al., 2024, p. 542).

The Phoenicians controlled trade routes spanning the eastern to the western Mediterranean and are thought to have crossed the Strait of Gibraltar into the Atlantic Ocean. Their major trade destinations included Egypt, Anatolia, and Cyprus in the east, and Carthage, the Iberian Peninsula, and Sardinia in the west (Lopez-Ruiz, 2011, p. 660; De Souza, 2002, p. 47). They engaged in mineral trade with indigenous peoples along the Atlantic coast and are believed to have reached as far as Britain. Their exploration and trade routes extended through Cyprus, Rhodes, Crete, Egypt, Carthage, Sicily, Sardinia, and the Iberian coast via the Strait of Gibraltar (Üçler, 2022, pp. 57-58; Smith & Roux, 2013, p. 321; Treumann & Watkins, 1992, p. 14; Dietler & Lopez-Ruiz, 2009, p. 7; Benincasa et al., 2024, p. 542).

### Phoenician Sailors and Their Working Conditions

In antiquity, seafaring relied predominantly on the experiential and empirical knowledge of sailors, as navigational instruments and systematic methods for determining key maritime parameters -such as position at sea, direction, speed, and weather conditions- had yet to be developed (Benincasa et al., 2024, p. 542). As a profession, seafaring enjoyed considerable respect in Phoenician society. Sailors could improve their social status through wealth acquired from trade. The captain’s responsibilities included determining the course of the ship and ensuring a safe voyage by evaluating weather and sea conditions. On merchant vessels, the captain also managed the secure transport of cargo. Phoenician captains were skilled in celestial navigation, using stars and other heavenly bodies as guides. The proreus (first mate) was intimately familiar with every part of the ship and its equipment, ensuring nothing was lacking. If the captain was incapacitated, the proreus or the highest-ranking sailor would assume command (Casson, 1971, p. 319).

Wall paintings provide an important information about crews. A wall painting from the tomb Ken-Amun, one lavishly dressed mariner, presumably the captain, is depicted standing on deck. Before him, is another high-ranking sailor was kneeling. Similarly, on another docked ship a high-ranking sailor is seen. Next to him stands another deck hand (Artzy, 1987, p. 80; Brody, 1998, p. 73ff; Lopez-Bertan et al., 2008, p. 347, Fig. 1). Most Phoenician sailors began their seafaring careers at a young age. Boys who were trained in seafaring in port cities were given basic training in navigation, cargo balance and transportation techniques, military tactics and the use of weapons. For example, oarsmen propelled the ship in the absence of wind on merchant vessels and provided speed and maneuverability in warships. In commercial ships, most of the workers were free men, either paid or volunteers. However, in warships, slaves were sometimes employed

for rowing and cargo duties. In addition, successful voyages required more than boats, weather and sea knowledge. Phoenician sailors also had to secure the favor and protection of gods/goddesses (Christian, 2013, p. 181).

Winter was typically dedicated to the repair, maintenance, and caulking of ships a practice reflected in Ezekiel 27: 9, which mentions the skilled craftsmen of Gebal working in Tyre to seal the seams of vessels. Maritime activity predominantly occurred during the summer months, as the adverse weather conditions of winter rendered navigation perilous and largely impractical (Smith & Roux, 2013, p. 331).

The Phoenicians even perfected ways of handling barter with natives whose language they couldn't understand. Herodotus reported that "..the Phoenician colonists of Carthage would arrive at a native village and unload their wares and lay them out along the beach. Then they would go back aboard their ships and raise a smoke signal. The natives, seeing the smoke, would come down to the shore, lay out the amount of gold they figured the goods were worth, and draw back some paces from them. Then the Carthaginians would come ashore and take a look. If it was enough, they took it and left; if not, they went back aboard ship and waited patiently. Then the natives would approach and keep adding to their gold until the sellers were satisfied.." (Hdt. IV. 196; Casson, 1967, p. 68).

### Religion and Rituals at Sea

Phoenician sailors worshiped deities associated with the sea and commerce, such as Melqart and Baal. These were the principal gods of the cities of Tyros and Sidon. They could also be considered the most active Canaanite deities. Therefore, worship practices related to these two are dominant during the sea voyages (Clifford, 1990, pp. 55-64 ). They tried to prevent storms and keep sea vessels on course and unharmed by the tribulations of the sea via sacrificial rituals before and after voyages. Sailors carried amulets, symbols, and figurines for spiritual protection. These objects served as talisman to ensure the crew's safety (Casson, 1971, pp. 95-96). Ships were often named after deities. On long-distance voyages, portable altars were used for sacrifices and prayers for divine assistance or gratitude. For instance, in the Uluburun shipwreck, possibly of Canaanite or Cypriot origin, the bronze statuette of a woman with gold-plated hands, feet, and head was discovered. This likely served as a votive offering for protection (Fawcett-Zietsman, 2001, p. 15). The stone anchors found on the ship, which Susan Sherrat claims originated in Cyprus, suggest they were produced in Cyprus, Syria-Palestine, or Egypt. However, the question of its origin remains uncertain (McGrail, 2004, p. 133; Alparslan, 2013, p. 83; Sherrat, 2000, p. 89, No: 3; Muhly, 2006, p. 513). Uluburun shipwreck also provides important evidence for an important development in ship construction. It is the earliest physical example of pegged mortise and tenon joints used to fasten together hull planking. It would be known in the Roman period as coagmenta punicana, that means "Phoenician joints". Uluburun shipwreck is important from this point because it demonstrates developed use of techniques on a vessel at a much earlier date (McGrail, 2004, p. 46, 133-134).



Fig. 5: Bronze statuette (Fawcett-Zietsman, 2001, p. 15)

In order to travel safely on the waters, Phoenician sailors maintained their connections with deities such as Ba'l Saphon, Tanit and Astarte and displayed their symbols on their ships. The incense burner and the cup in the wall paintings served the same purpose as the incense stand and wine decanter found in the galleys. These comes from a 14th century BC Egyptian wall painting from the tomb Ken-Amun (Ballard et al., 2002, p. 163; Christian, 2013, p. 179). A wall painting portrays Canaanite sailors performing rituals on board their vessel after arriving safely to port. The sailors are seen offering prayers, food, drink, and incense on board their vessels after arriving safely at port. Most of them are depicted simply offering thanks with their hands raised in prayer. Cults and rituals related to maritime activities were performed both on land and on board the vessel. These were performed before departure, on route, and at the successful conclusion of the voyage (Artzy, 1987, p. 80; Brody, 1998, p. 73ff; Lopez-Bertan et al., 2008, p. 347, Fig. 1). Similar rituals were no doubt performed during the Iron Age and Persian period. Among the items found in an Iron Age II Phoenician ship wreck off the coast of Ashkelon, was an incense burner, which may attest to such cultic practices (Ballard et al., 2002, p. 163).

Herodotus narrates that Phoenician triremes carried protective figures resembling the dwarf god Pataecus on their prows (Hdt. III.37), a motif also found on Phoenician coinage (BMCGr Phoenicia Pl. II.26). 5th century BC Tyrian coins similarly depict marine symbols such as murex shells, dolphins, and galleys (BMCGr Phoenicia, Pl. XXVIII.9-14; Pl. XXXI.14, 18-19; Günel, 2023, p. 38). These motifs reflect the Phoenicians' association with seafaring.

Despite their maritime talent, some ancient sources portrayed the Phoenicians with criticism. For instance Diodorus (V. 35. 3-4), recounts that greedy Phoenician merchants, when their ships were full and still had silver left to load, cut their anchors' lead and used silver instead. Homer similarly describes Phoenician sailors as cunning and deceitful (Hom. Od. 14. 290-300; 15. 414-415).

Apparently, the Phoenicians also engaged in piracy during their voyages, specializing in the abduction of children to be sold into slavery. In the Odyssey, Eumaeus recounts how greedy Phoenician traders lured him and his nurse onto a ship under false pretenses and kidnapped them (Hom. Od. 14. 290-297; 15. 403-484). Similarly, Odysseus mentions that a Phoenician attempted to abduct and sell him in Libya. Herodotus corroborates such acts with accounts of Io being abducted and transported to Egypt, and Egyptian priestesses being taken to Libya (Hdt. I. 1; I. 5; II. 54, 56; Martin, 2015, p. 1). Diodorus highlights the brutality of the Phoenicians and Carthaginians too (Diod. XVII. 44. 1-3; XIII. 57. 1-3).

## Conclusion

The Phoenicians played a decisive role in Mediterranean trade as one of the most significant seafaring civilizations of the Ancient World. Phoenician cities such as Byblos, Tyros, and Sidon took advantage of their geographical location to develop an economy based on maritime activities on the Lebanese coast. These Phoenician cities, which turned to the sea and engaged in trade, became important trade centers. For instance, Byblos was famous for its flat-bottomed boats. They produced "Hippoi" called small boats with the front or rear part resembling a horse's head. By producing these types of boats they could protect goods from pirates. After the development of navigation skills and the increased use of stars for navigation, they began to build more developed boats and vessels. The Phoenician civilization, where shipyards in port cities possessed mass production capacity, also played a significant role in setting maritime standards in the Mediterranean. It is known that ship crews performed different duties depending on the type and function of the ship, and this played a significant role in their naval superiority.

The Phoenicians produced many types and functions of ships. These were primarily warships and merchant vessels. Main factor behind their success in colonization was undoubtedly durability of these ships. The most important material used in shipbuilding was Lebanon cedar. They used cedar wood for their ships because it is easily shaped and durable. Its durability and lightness made cedar an ideal material for shipbuilding. Therefore, it was widely used by the Phoenicians in ships for trade, exploration, and military purposes. By carving Lebanese cedars they obtained long and large beams. They placed planks on these beams and added ribs on top to build their ships. They designed the bows of their ships in the shape of a horse's head, and the sterns in the shape of a fish's tail. Thanks to this type of technique in their ships, they were able to transport their commercial goods without damage and deliver them to new markets during the

voyages. Their trade network, which extended from the Eastern Mediterranean to the Atlantic Ocean, enabled the transportation of a wide range of goods, including purple dyes, precious metals, spices, glass, and textiles, to new markets.

The Phoenician maritime model was not limited to trade; it also pioneered a process of colonization. Phoenician colonies, particularly Carthage, inherited Phoenicia's maritime tradition, ensuring the continuity of trade in the Mediterranean. The Phoenicians achieved advancement through their maritime knowledge, technology and strategies. Their ships served a variety of purposes beyond warfare and trade. Thus, the Phoenicians' ships, which enabled them to expand to every corner of the Mediterranean, made them the first Eastern civilization to establish a significant maritime presence in the West. To summarize briefly, the ships used by the Phoenicians and their maritime knowledge were the most decisive factors in their continued existence in the Mediterranean. Their seafaring has also shaped the culture and economy of the region. So much so that maritime traditions influenced shipbuilding in Greece and Rome; maritime trade facilitated the spread of the alphabet, artistic works, and religious beliefs among Mediterranean civilizations. The maritime trade network enabled them to participate in the Aegean and Egyptian maritime trade, thus becoming a partner in the balance of power in the Mediterranean economy.

Although the historical process of the Phoenicians, who called themselves Canaanites, began in the 1200s, their presence in the region goes back much further. Their development in seafaring and shipbuilding took a long time. This study aims to show their gradual growth and achievements in colonial activities and seafaring up to the Roman era. We can look at this from different angles, such as the Phoenicians' technical skills or their cultural impact in the Mediterranean. The goal here is to demonstrate that the Phoenicians were technically advanced and influenced their contemporaries. As a result, they played a key role in bringing Eastern culture to the West throughout the Mediterranean. Their commercial activities, which started out of economic need, evolved into large-scale colonization. Their success was due to their maritime knowledge and the strong ships they built. With their versatile ships, they helped create a trade network in the Mediterranean and supported cultural exchange across a wide area.

It is possible to look at Phoenician civilization in a multifunctional way across history. First, it should be mentioned that developments were not same from beginning to end, but this also is true of maritime and ship technology. An effort initially based on and viewed from nothing other than an economic standpoint grew and evolved over time. Phoenician civilization later expanded influence into the western Mediterranean, shaping the ship technology and relevant maritime activities of those civilizations with which it came in contact, such as Greece and Rome. The extent of that growth over time is emphasized by this work. Many of the underlying factors which underscored the expansion of their influence from the eastern Mediterranean coastline far to the west are discussed. Again, it also aims to show that their knowledge of maritime affairs was not solely an issue of trade but also included culture, art, and religious life together with the economy. Phoenician seafaring offers a unique combination of technical skill, trade strategy, and cultural interaction.

Examples that discuss the topic in relation to the context of cultural transfer are very essential in this context, since, as discussed in this paper. The seafaring abilities of the Phoenicians should not be confined merely to statistical information, but rather to the context in which these abilities are important from a cultural transfer perspective. Thus, in this paper, an attempt has been made to prove the validity of the concept with different examples from diverse sources. One common element that the main and secondary sources meet at is the fact that their civilization was very advanced in the realm of sea-faring and ship-building. The necessity for its growth and spread in the Mediterranean Sea was followed by its interaction and transfer with other civilizations, in relation to culture and religion. In short, the Phoenician ship typology and maritime knowledge played a major role in the establishment of economic networks and cultural exchange in the Mediterranean.

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