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Iconography of Marine Vessels Depicted in Mosaics and Its Importance to Marine Archaeology

Mozaikler Üzerinde Betimlenen Deniz Taşıtlarının İkonografisi ve Deniz Arkeolojisi Açısından Önemi

Eva GROSSMANN*

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Abstract

This article deals with the iconography of ancient ships, depicted in mosaics of the Eastern Mediterranean coast, from Syria, Lebanon, Jordan, Israel to Egypt. As shipping was one of the most important transports for trade, and not only in the Mediterranean Region, artists frequently used ships as a subject of their artworks. Ships are depicted on frescoes (e.g. a drawing of a sailing boat in the Church of St. Vartan in the Church of the Holy Sepulchre in Jerusalem. Gibson 1994: 34-42), mosaics, coins, even engraved on walls, such as on the wall at the crusader castle in Akko Israel. It is important to mention that in ancient times artists tried to convey a precise image of the objects they represented, thing that helps us to understand the exact appearance of the researched boats; a trend not common in contemporary mosaic art.

The mosaics we are referring to here were predominantly made from tesserae cubes measuring 1 sq. centimeter, but often smaller cubes were used to depict faces (Figs. 11, 12). Mosaics depicting ships have been discovered in various places such as churches (Fig. 12), public and private houses (Figs. 8, 11, 12), even under a threshing-floor (Fig. 5). In buildings, they were frequently included in stories (Fig. 8) often from Greek mythology (Thesaurus on a boat with Ariadne, Daszewski 1977: pl. 30) and in churches in medallions (Fig. 13).

The earliest mosaic we describe in this article is the reed boat from El-Amarna, Egypt (Fig. 14), from the 1st century BC. Unlike wooden boats, remains from ancient reed boats have not been found, since they decay with time. Nevertheless, their uses are known to us from literature and artworks. Furthermore, from the 2nd century AD and onwards, decorating churches (Fig. 13) and rich houses (Figs. 8, 11, 12) with mosaic floors started to become a common custom in this region.

Keywords: *Ship construction, Mediterranean Sea, mosaics, vessels, Classic and Byzantine Period.*

Öz

Bu makalede, Suriye, Lübnan, Ürdün ve İsrail'den Mısır'a kadar olan alanda, Doğu Akdeniz kıyılarının mozaiklerinde betimlenen antik gemilerin ikonografisi ele alınmaktadır. Sadece Doğu Akdeniz'de değil, deniz taşımacılığı ticaret için en önemli nakliye araçlarından biri olduğundan, sanatçı da sanat eserlerinde konu olarak sıkça gemileri kullanmıştır. Gemiler fresklerde de tasvir edilmiştir (örneğin Kudüs'teki Kutsal Kabir Kilisesi'nin içindeki St. Vartan Kilisesi'ndeki bir yelkenli teknenin çizimi. Mozaikler, sikkeler ve hatta Akko/İsrail'deki Haçlı Kalesi'ndeki duvar kazımaları gibi). Antik çağlarda sanatçılar betimledikleri nesnenin kesin bir görüntüsünü eserleri üzerinde yansıtmaya çalışmışlardır ve bunun da araştırılan teknelerin tam bir görünümünü anlamamıza yardımcı olan ve çağdaş mozaik sanatında yaygın olmayan bir eğilimi yansıttığını söylemek önemlidir.

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Burada sözü edilen mozaikler büyük çoğunlukla 1 cm² büyüklüğündeki küp tesseralardan üretilmiş olmakla birlikte yüz betimlerinde sıklıkla daha küçük boyuttaki küpler kullanılmıştır. Gemi betimli mozaikler kiliseler, kamu ve özel yapılar hatta bir harmanyeri olmak üzere farklı yerlerde tespit edilmiştir. Yapılardaki gemi betimleri çoğunlukla Yunan mitolojisi (Ariadne ile beraber bir bottaki Thesaurus) ve Nilotik sahnelerde görülürken, kiliselerde madalyonlarda karşımıza çıkmaktadır.

Bu makalede ele alınan üzerinde sazdan bir tekne betimi olan en erken tarihli mozaik El-Amarna / Mısır'da bulunmaktadır ve MÖ 1. yüzyıla tarihlenmektedir. Ahşap teknelerden farklı olarak, antik çağ sazdan teknelerin kalıntıları zamanla çürümeleri nedeniyle bulunamamıştır. Bununla birlikte, saz teknelerinin kullanımları edebiyat ve sanattan bilinmektedir. Ayrıca, MS 2. yüzyıldan itibaren kiliseler ve zengin evlerin mozaiklerle dekore edilmesi bu bölgede ortak bir gelenek haline gelmiştir.

Anahtar Kelimeler: Gemi yapımı, Akdeniz, mozaikler, tekneler, Klasik ve Bizans Çağları.

Introduction

What can be learned from vessels illustrated in mosaics?

The numerous representation of early vessels found on a variety of artistic media is of great importance to marine archaeology.

The study of excavated shipwrecks found on the seafloor as well as in ship-burials enhances our knowledge of shipbuilding in ancient times. Unfortunately, these studies focus mostly on the hull, or often only on some parts of it, as the remains of deck, rigging and mast are rarely found.

By examination of the large variety of ship images found on mosaics, coins, frescoes, and tapestries, we can learn on how they were built. All these media are equally important, but we will nevertheless concentrate only on vessels appearing on mosaics.

Many mosaics discovered around the Mediterranean Sea show ships every so often depicted either to the last detail, or only stylized, and sometimes influenced by the shape or size of the space into which their images were placed, such as medallions (Fig. 13) or triangles. But often they give additional information on some items of importance. This can be the technique of building, or the utilization of the vessel as means of transportation, combat, fishing or trade. The mosaic floor in Althiburus, (Tunisia) (Fig. 1) (Casson 1971: fig. 137) providing

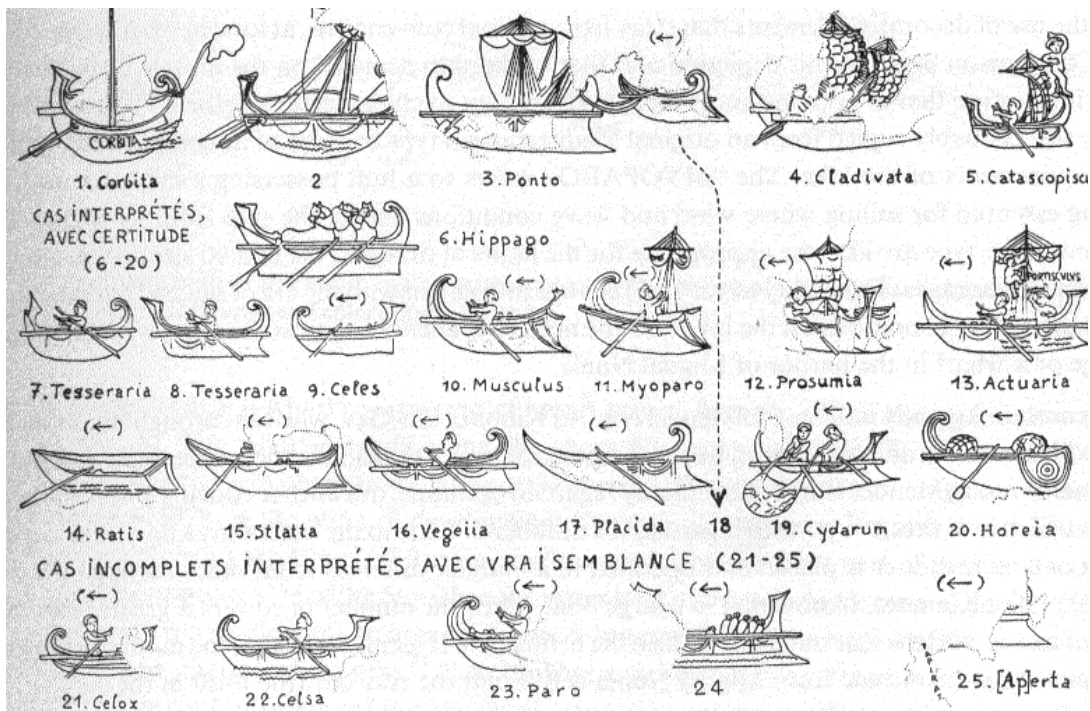


Figure 1
Diagram of ships depicted
on the mosaic floor in
Althiburus, Tunisia (Casson
1971: fig. 137).

the ships' names and uses, is an example of it. Fig. 2 is a picture of the diagram shown in Fig. 1 (top row on the left) of the vessel *Corbita*. Another example of the various types of the display is the great number of ships depicted on the 2nd century floor of Foro delle Corporazioni, Ostia (Italy), and the Nile mosaic at Palestrina (Italy) from the 1st century BC (Meyboom 1995: fig. 6).

Figure 2
Ship '*Corbita*' from the mosaic in Althiburus (by courtesy of S. Kingsley) (Grossmann 2011: 40 fig. 67).



Description of Vessels

The mosaic floor of Foro delle Corporazioni, Ostia (Italy), is dated to the 2nd century AD. The image of the ship (Fig. 3), given here as an example, shows a device extending the keel at the bow, possibly signifying that this device could have been either a battering ram or a cutwater. This is also represented in other specimens, such as on the 1st century floor at Migdal Nunia (Israel) (Fig. 4), the Haditha mosaic (Israel), 6th century AD (Fig. 5) (Avi-Yonah 1972). Raban (1988: 50-51) explains that the main reason for extending the length of vessels by lengthening the keel at the bow was to improve their hydrodynamics and stability.



Figure 3
Ship from the mosaic floor of Foro delle Corporazioni, Ostia, Italy, 2nd century AD (Basch: 1987: 1056 Station 32).



Figure 4
Migdal Nunia, Israel, floor of the 1st
century AD (by the courtesy of the
Israel Antiquities Authority).



Figure 5
Detail of ship from the Haditha mosaic,
Israel, 6th century AD (photo by R. Kotzer,
by courtesy of the Israel Antiquities
Authority) (Grossmann 2011: 41 fig. 69).

Shipwrecks found on the sea floor, not only in a shallow but also in deep waters, (Stemm - Kingsley 2013: 123-126 fig. 2) are mostly covered by ballast stones and cargo, and only small parts of the hulls remain preserved. The upper parts are mostly missing.

Description of shipbuilding in literature is incomplete. Ancient literature has some fragmentary references of shipbuilding (Stronk 1992-93: 126), such as



Figure 6
The Ma'agan Michael ship, as salvaged from the sea. Today in the Hecht Museum, Haifa (Linder - Kahanov 2003).

Homer describing how Odysseus built himself a boat when he left the island of Calypso (Hom.Od. XII, 432), or Vitruvius (Vitr. 2. 9) describing the wood used for boat building.

We will take as an example for the importance of iconography the wreck of the merchant ship found on the Israeli shore at Ma'agan Michael (5th century BC) (Figs. 6-7). Here too, only part of the 11.25 m long and 4 m wide hull was preserved. It was decided to build a replica, which was finished in 2016. The replica was launched as Ma'agan Michael II and is suitable for seafaring.



Figure 7
Ma'agan Michael II (Photograph by Ilan Ben Zion - University of Haifa).
(<https://www.haifa.ac.il/index.php/en/bogrim-top-white-2/68-english/tehuda-eng/2548-after-2500-years-the-ship-from-ma-agan-michael-goes-back-in-the-water.html>)

We can find vessels resembling the Ma'agan Michael ship on the mosaic of Haditha from the 6th century (Fig. 5), as well as the two ships depicted on the mosaic of Beth Shean dated to the 5th century (Figs. 11-12). The same is true of the Kyrenia merchant ship (from the 4th century BC), discovered in 1967 in Cyprus. Also here only the remains of the ship's hull, 14.5 m long and 4.4 m wide were preserved. In 1985, a replica the Kyrenia II was built, comparable to the Ma'agan Michael ship. The Kyrenia II is sea-fit and visited harbours all over the oceans. The construction of both replicas has been based to a great part on iconography.

Merchant ships being heavy, were moved mainly by sails. Nevertheless, they were equipped also with oars, to be used in harbours and in emergencies. This feature is also mentioned in literature by Aristotle, comparing a merchant ship using oars to a heavy insect having small wings and not able to move them (Aristot.an.).

Examples for understanding the substance of vessels can be taken from various mosaics, as the 200 m² mosaic carpet discovered in the town of Lod (Israel) (Avisar 1998: 169-172). The carpet consists of five sections. The middle section shows two merchant ships encircled by marine life, one of them under sail (Fig. 8). Regrettably part of one of the ship's image in the centre of the carpet was damaged. Both ships as in most mosaics are shown floating on water, to emphasize the deep body and keel. They are drawn into the last detail. It seems that the image of the ship in the damaged section was represented even more

accurately than the other ship, which is shown under sail. The mosaic is executed to such perfection that the wind in the sail can be sensed. The massive, tapered mast stands slightly forward off the middle. The yard holding the sail is about one third of the length of the mast, located close to its top. It was possible to raise or lower the yard, as required by sailing conditions. Above the yard is a small triangular sail. The main square sail when not in use, would have been folded and tied to the yard, similarly to the ship from the mosaic at Salzburg (Austria), depicting Theseus and Ariadne (Fig. 9) (Daszewski 1977: pl. 30). On the bow of the Lod ship is a 'castle', possibly the captain's cabin. At the stern is a projecting beak with railing, decorated for luck by a goose-head. The two Lod ships, as said, show the finest details of the hulls, masts, rigging, sails, decks and

Figure 8
Lod, Israel. Mosaic with two merchant ships. 3rd to 4th century AD (by courtesy of the Israel Antiquities Authority) (Grossmann 2011: 28 fig. 45).



Figure 9
Theseus and Ariadne (Daszewski 1977: pl. 30).

the head with the bird on the railing. They are characteristic of medium-range Roman merchant vessels, less than 20 m in length and of 100 - 200 tonnage (Parker 1992: 89). The representation of marine craft, especially on this mosaic, enriches our understanding of how ships, including the deck, mast and rigging, were built during the Late Roman period.

The square sail used in antiquity had to be shortened or released as required by sailing conditions, as mentioned previously. This was done by brails, short ropes sewn to and hanging from the sail. The brails were also used when folding and lashing the sail to the yard when not in use (Fig. 9). On the 5th - 6th century AD mosaic from Zea al-Gharby (Jordan) (Piccirillo 1993: fig. 660) the brails are marked by vertical lines on the sail (Fig. 10).

Figure 10
Sailing vessel, Zay al-Gharby,
Jordan, 5th-6th century AD
(Piccirillo 1993: fig. 660).



In a more stylistic illustration of the same period, in the Beth Shean (Israel) 5th century AD mosaic (Fig. 11), the sail is partly lifted and the brails, here too, are depicted by vertical lines. Examples are abundant.

On the two examples from Haditha (Fig. 5) and Beth Shean (Figs. 11-12) the ships are loaded with amphorae. These are shown disproportionately larger in relation to the boat, as also are the figures of sailors or fishermen. The ships' cargo is wine or oil, the main merchandise traded during the Roman period. The amphorae in figure 11 are of the Byzantine bag-shape type. On the second picture (Fig. 12) the amphorae are more stylized, only confirming that the ship is a merchant ship.



Figure 11
Boat from the Nilotic scene,
Beth Shean, Israel. 5th century
AD (photo by courtesy of the
Israel Antiquities Authority)
(Grossmann 2011: 34 fig.
58).



Figure 12
Boat from the
Nilotic scene, Beth
Shean, Israel. 5th
century AD (photo
by courtesy of the
Israel Antiquities
Authority)
(Grossmann 2011:
33 fig. 56).

Figure 13
Ship from the Church of Beith Loya, Israel,
500 AD (photo by courtesy of the Israel
Antiquities Authority) (Grossmann 2011: 39
fig. 66).



At Beth Loya (Israel) (Fig. 13), situated halfway between Hebron and Ashkelon, the region of the ancient Roman town Eleutheropolis (Patrich - Tsafirir: 1993a; 1993b), a church complex paved with mosaic carpets was excavated. In one of the aisles a medallion of 1.47 m diameter showing a fishing boat can be found. Here too the brails are emphasized, but most important is the massive ring, connecting the yard with the sail to the mast, making it possible to raise and lower the sail, as well as to turn it into the wind. The planking of the hull is represented by different colors. There is a railing on top of the gunwale.

Figure 14a
Nilotic scene on mosaic fragment, El-Amarna,
Egypt, 1st century BC (Photographed by the
author at the Museum of Agriculture, Cairo).

Figure 14b
Drawing of the Nilotic scene on the mosaic
fragment, El-Amarna, Egypt, 1st century BC
(Drawing by the author).

Reed boats from antiquity have not been found, as obviously their substance disintegrated, but they are known from present day use. From various mosaics we can assume that they were commonly used in antiquity. A very interesting example is a fragment believed to originate from El-Amarna (Egypt) (Figs. 14a-b), that after changing hands found its way back “home” to Egypt and is today in the



Museum of Agriculture in Cairo. Daszewski (1985: 167 cat. no. 44 pl. 37) suggested that it originated rather in the northern region of Egypt, the Delta, Alexandria or Canopus. He dates the fragment to the Late Hellenistic period, probably to the beginning of the 1st century BC, based on the realistic and unconventional representation of the scenery and the image of the pygmy intimating Hellenistic art.

Conclusion

This article is essentially a study of information from mosaics and other artistic media, concerning ship construction techniques, their spreading throughout the Hellenistic period and into the modern era, by combination of artistic depiction and oral traditions. By carefully comparing details of mosaics, such as the 3rd-4th century AD Lod floor in Israel, with the 18th century ship *Amsterdam*, it is clear that many of the same components, such as shrouds and pulleys, remained in principle unchanged during the course of time. This could also hold true for hull construction. Ancient techniques of reed construction discernible in ancient floor mosaics may be observed in the modern era on Lake Titicaca in Bolivia and Peru.

Most notable is the unique character of boat and ship forms, of what may be classified as regional “Near Eastern Mediterranean vessels”. Merchant vessels powered by sail, especially as represented at Zay al-Gharby (Jordan) and Lod, Beth Shean (Israel), feature comparable broad hulls crafted in tesserae, with false perspective semi-circular hull shapes and with outward turned, beak-like stem-posts. Clearly the artist wished to convey a sense of the merchant vessel being burdened by heavy weight; keels are of course in reality not rounded along their lengths.

The fishing boat illustrated on the mosaic from Beith Loya (Fig. 13) gives a detailed picture of the mast, yard and sail, from which can also be understood how the sail was moved into the wind.

Merchant vessels were probably also often used for fishing or transportation. There was not a difference shown in iconography between merchant, transport or fishing ships. They can be distinguished from the cargo, as amphorae (Figs. 5, 11, 12) or sailors fishing (Fig. 13). We would therefore deduct that the same vessels were used for trade, fishing and transport.

War-ships are not discussed in this paper, since they have been scarcely represented on Eastern Mediterranean mosaics. It is known that they were longer and narrower than merchant ships, with a hull not as deep, powered by sail and oars. They were depicted abundantly on Greek pottery. Likewise, the Viking ships, mainly war-ships, known from excavations of ship burials, were longer and narrower than the Mediterranean merchant ships.

To fully conceptualize the art of boat building in the ancient Mediterranean, it is important to embrace the fact that these were inherited skills passed down from father to son. Therefore, applying ethnographical archaeology to the study of ancient marine architecture is likely to provide a fruitful avenue of research, since there are clear parallels between pictures on floor mosaics and marine constructions found in the same region.

Studying marine crafts in mosaic pavements also reveals the transmission of technical configuration throughout time, evidenced by the replication of identical details into the modern era.

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