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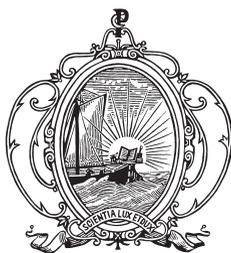
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# ABOUT TELL TWEINI (SYRIA): ARTEFACTS, ECOFACTS AND LANDSCAPE

Research Results of the Belgian Mission

edited by

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AN UNPRECEDENTED DEPICTION  
OF A SYRO-CANAANITE OARED GALLEY  
ON A JAR SEALING FROM TELL TWEINI

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Compared to Cyprus and the Aegean, the Levant suffers from a noticeable dearth of ship imagery for the Late Bronze Age (LBA) and Early Iron Age (EIA) periods alike. To make matters worse, a disproportionate number of the representations come from outside the Levant itself – chiefly from Egyptian, Assyrian, and Cypriote sources. Thus of the forty three known individual contexts, less than half are from the Levant itself.<sup>1</sup> The corpus furthermore skews heavily towards merchant vessels, in particular for the LBA. This means that prior to the representations on Phoenician coins (5<sup>th</sup> century onwards), there are only a handful of certain depictions of Levantine oared galleys, and virtually none before the mid to late-8<sup>th</sup> century Assyrian sources. Finally in terms of mediums, ship imagery on Levantine seals is particularly rare, counting a mere eight examples spanning a huge timespan from the 18<sup>th</sup> to the mid-6<sup>th</sup> century BC, to which two more can be added from Cyprus. The new sealing from Tell Tweini is therefore a highly significant addition to the corpus on both contextual and technical grounds, as it is not only unusual for its use on a jar handle, but currently represents the earliest secure indigenous depiction of a Levantine galley.

SEAL CONTEXT

The Tweini boat sealing was unearthed from locus 03325, located at Field A at the centre of the tell. Covering a surface of ca. 1.6 m by 4.8 m within quadrants C6, D6, C7 and D7<sup>2</sup>, this locus primarily presents a ca. 15 cm thick layer of debris (absolute heights<sup>3</sup>: bottom 25.44 m; top 25.55-25.59 m) within

<sup>1</sup> The following remarks are a condensed version of some of the conclusions reached in a forthcoming doctoral dissertation (Manolova forthcoming). Special thanks to Michael Wedde, Tatiana Pedrazzi and Claudia Wagner for their very helpful comments regarding various aspects relating to the Tell Tweini sealing.

<sup>2</sup> In a sounding within the confines of IA II/III walls.

<sup>3</sup> Heights are above sea level.

a large, shattered LBA building of which the northern (W03322), western (W04019) and southern walls (W07006) are only partly excavated.<sup>4</sup> The eastern limit of the edifice is undetermined at present. Consequently, the overall extension of the building remains inconclusive, as does its function. Evidence stipulates that the building was reoccupied during the EIA (Level 6GH-EF) after the LBA destruction (Level 7A).<sup>5</sup>

Locus 03325 contained a large amount of fragmentized ceramics dating to the LB and EIA (Level 7BC-6EF). Aside from local ceramic types the material culture excavated from this locus included Late Helladic IIIB imports and local imitations of Aegean style (Late Helladic IIIC?) ceramics. Several fragments of a new type of cooking pot made from steatite or talc fabric and classified as 'Fabric 3B ware' are also attested in locus 03325. This ware is significant for the latest LB and EIA occupation levels at Tell Tweini<sup>6</sup> and other sites in the vicinity, such as Ras Ibn Hani, Tell Sukas, and south-eastern Cyprus (Kition)<sup>7</sup>. An 11<sup>th</sup> century skyphos (Level 6EF) is currently the latest ceramic find from locus 03325.

The Tweini boat sealing provides evidence of a well-organized administrative and distribution system where vessels were marked during the production process itself. The only other example of a jar handle sealing with a ship depiction comes from Sidon, dating to c. 1800-1750 BC (Fig. 4).<sup>8</sup> A similar use of maritime themed markings in a commercial context is also observable on some of the copper oxhide ingots from Uluburun, where a ship, several forms of fishhooks, tridents, a fish, and possibly quarter rudders are all attested in the form of secondary incisions. Based on this choice of symbols, Çemal Pulak has hypothesized that the signs were made at a central collecting area for transshipment, more specifically a harbour town.<sup>9</sup> The Tell Tweini sealing points in a similar vein, but suggests oversight at the primary production stage, whereas the Uluburun secondary marks could have been added at any stage after the cooling of the metal, prior to their final shipment. The choice to depict an oared galley rather than a merchant vessel, while seemingly counterintuitive, could be an allusion to the possession of a fleet by the issuing authority and its ability to provide protection and oversight over commercial operations. This fits well with the LBA textual evidence which indicates that commercial ships often

<sup>4</sup> Locus 03325 was covered by loci of similar consistency – locus 03320 (absolute heights between 25.55-25.67 m) and 03315 (absolute heights between 25.55-25.69 m) – providing further ceramic evidence to be dated from Level 7BC to 6GH-6EF. The subjacent debris layers 03328 and 03336 can be associated with the LB to EIA transitional phase (Level 7BC-6GH) as well.

<sup>5</sup> For the LB and IA at Tell Tweini, see: Bretschneider, Jans and Van Vyve 2015 and 2014; Bretschneider *et al.* 2012.

<sup>6</sup> Vansteenhuyse 2010, 42, footnote 27; Vansteenhuyse and Bretschneider 2010, 190.

<sup>7</sup> du Pied 2010, 220-221.

<sup>8</sup> Doumet-Serhal 2015, 14-17.

<sup>9</sup> Pulak 1998, 194-96.

travelled in groups rather than singly in an environment where piracy as well as interceptions and blockades by hostile state actors were a recurrent problem.<sup>10</sup>

#### TECHNICAL FEATURES

The seal shows a single ship facing to the left with a low, slightly rockered keel line and high posts (Figs. 1-2). The bow is massive and square, with a vertical stempost (90° angle) ending in a long incurving horn device with a rounded extremity. The keel extends forward of the stem to form a bow projection that is integrated to the stempost, ending in a pointed tip. This gives the stempost a concave silhouette although in reality it was still vertical, with an additional timber connecting it to the bow projection.<sup>11</sup> The solid, rectangle-shaped forecastle is likewise integrated. The high incurving sternpost terminates in a similar horn device, except that it is marginally shorter and ends in a slightly flaring rounded extremity. The aftercastle is solid but smaller, with a curving, concave inner side in contrast to the straight edge of the forecastle. The mast is amidships, with a forestay and backstay attached to the castles. The mast step is indicated by two downward facing L-shaped carvings on either side of the mast, forming a low rectangular tabernacle. Five oars appear below the keel line. These flare out towards the oar blades, giving them a roughly triangular appearance. A single quarter rudder aligned with the backstay extends below the hull. It has a rectangular form in contrast to the oars and was rendered with a deeper incision in the seal. A crescentic baseline frames the oars at the bottom of the composition.

Perhaps the most difficult question to answer regarding the Tell Tweini vessel is whether its bow projection can be considered a functional offensive weapon, i.e. a ram. While it is generally agreed that the bow projections observable on the LBA imagery are neither sufficiently long nor robust to be considered rams, the timing of this critical innovation sometime during the EIA continues to be a hotly discussed issue. In the current state of the scholarly debate, the upper and lower limits of the ram's emergence range between c. 900 BC and as late as the 6<sup>th</sup> century BC following the textual evidence.<sup>12</sup> Michael

<sup>10</sup> On commercial ventures requiring multiple ships: EA 85, EA 110, EA 143; RS.18.101A, RS.18.031, RS 18.147, RS 26.158.

On hostile state actors: EA 98, EA 101, EA 104, EA 105, EA 113, EA 114; RS. 20.18.

<sup>11</sup> This timber is termed "chock" by Steffy in his discussion of the Athlit ram (Steffy 1991, 18, 28, figs. 2-13).

<sup>12</sup> For proponents of an early invention, see Paine 2000, xiv; George 1998, 13; Casson and Linder 1991, 67; van Doorninck 1982; DeVries and Katzev 1972, 40; Casson 1971, 49. For proponents of a late invention, see Mark 2008; 2005, 104-114, 185-186.

Wedde on the other hand adopts a more middling view by considering that the ram's development must have been a long, on-going process, allowing for the inception of a rudimentary form by c. 850 BC, while its ascendance as a salient feature of Aegean naval warfare did not occur until much later, possibly during the 6<sup>th</sup> century BC.<sup>13</sup> A recent experimental study has further complicated this issue by confirming that the bow projection functioned well as a cutwater by increasing vessel speed through more efficient hull dynamics.<sup>14</sup> While these findings do not disprove an early introduction of the ram, they do strengthen the hypothesis that the bow projection's initial development was motivated by the specific aim of increasing hull speed rather than the development of an offensive weapon. In light of the fact that the Tell Tweini ship has a bow projection that is morphologically very similar to the metal sheathed ones seen on the 8<sup>th</sup> century Assyrian representations of Phoenician single and multi-levelled galleys (Fig. 13: 1-2), a tentative conclusion is that it may be seen as an early prototype in a long process of improvements in design – with some capacity for ramming without it being the vessel's primary function.

#### PARALLELS AND DISCUSSION

It is unfortunate that the sealing comes from a mixed context, since a number of other criteria (seal shape, style and subject) which could be typically used for dating purposes are of little help in this particular case. In terms of the Canaanite jar itself, the partial preservation of the handle makes a precise identification of the jar type rather difficult. Pedrazzi has suggested that it could belong to her type 4-1 which is found along the Syrian coast and Cyprus starting in the final part of LB II but occurs primarily during IA I.<sup>15</sup> She cautions however that without further analysis of the fabric, the sealing type remains a preferable chronological marker. Sadly, the shape of the sealing itself is irregular and without good parallels. Its outline is narrow at the top (28 mm wide) and progressively flares out towards the bottom (38 mm wide), giving it a roughly bell-shaped form which possibly suggests a zoomorphic stamp seal.<sup>16</sup> The total height of the impression is 29 mm. As such, the overall dimension of the impression is rather large and unusual for conoids, disks and scaraboids of the LB and IA found in the Levantine region.<sup>17</sup>

<sup>13</sup> Wedde 2000, 144-172.

<sup>14</sup> Murray *et al.* 2017.

<sup>15</sup> Pedrazzi 2017, personal communication. For type, see Pedrazzi 2016, 68-69, fig. 7; 2007, 65-66.

<sup>16</sup> Wagner 2017, personal communication.

<sup>17</sup> For the use of conoids in LB and EIA context in Ugarit and Cyprus see: Matoian 2007, 201-218; Reyes 2001, 10; Reyes 2002, 215-217.

The sealing is located on the upper part of the handle and is well centred, with the image in the upright position (Fig. 3). Besides this impression, Tell Tweini has provided a great variety of sealing devices including several cylinder seals and scarabs, an inscribed bronze signet ring, and a biconvex seal with a hieroglyphic Luwian inscription.<sup>18</sup> The centre thus clearly made use of a wide range of sealing traditions, in the LBA as well as in the IA. The site has also provided a zoomorphic weight in the shape of a lion, of a type commonly encountered in the Levant and Cyprus during the LBA.<sup>19</sup> Stamped jar handles are attested in small quantities at a handful of sites in the southern Levant during the IA I,<sup>20</sup> but their sealings are very different in virtually every respect: morphologically, stylistically, and thematically. Tweini itself has yielded six seal impressions on jar handles; a noteworthy amount since such impressions are rare in the Bronze and EIA.<sup>21</sup>

As for the small group of seals bearing ship imagery, all but two date to the Bronze Age and come principally from the southern Levant and Cyprus (Fig. 5, table 1). The recently discovered MBA sealing from Sidon is currently the only other known example on a jar handle, but is much too early to represent a meaningful parallel despite being geographically close to Tell Tweini. It was made by rolling the cylinder seal lengthwise on the upper part of the handle, and shows a round-hulled seagoing vessel with a leonine dragon next to it (Figs. 4, 5:2). Most of the other seals show merchant vessels, with the Beth Shemesh example possibly depicting a very abstract version of a galley (Fig. 5:5). The closest parallel in terms of geographical and chronological proximity is a bifacial scaraboid dated c. 1200 BC from the house of Yabninu, an Ugaritan merchant who is associated with extensive maritime commercial operations (Fig. 5:4a-b).<sup>22</sup> Like the Tell Tweini seal, it features a ship as the sole element of the composition and similarly shows five oars. The morphology of the vessel is somewhat problematic because of how stylized it is, showing a flat rectangular hull, with a bulwark screen running the length of the sheer and a down-curving yard which is typical for LBA representations of Canaanite ships.<sup>23</sup> The emphasis of the oars and the flatness of the hull do favour a galley interpretation, but the representation is of no help with regards to the morphology of the stempost. Besides the seal from Ugarit, there is one more galley depiction from the region that is somewhat chronologically close, namely the

<sup>18</sup> Lebrun and Tavernier 2012. Also see Bretschneider and Jans in this volume.

<sup>19</sup> Bretschneider and Van Lerberghe 2008, 40. For zoomorphic weights of a couchant lion, see Pulak 2008, 370, n. 12 with further references.

<sup>20</sup> Münger 2009, 124 with further references and fig. 5 for distribution map of sealed handles of IA I date in the southern Levant.

<sup>21</sup> See Hirschfeld, Jans and Bretschneider in this volume.

<sup>22</sup> On Yabninu, see Monroe 2009, 134-135, 181-184; Courtois 1990.

<sup>23</sup> Wachsmann 1998, 51.

pictorial representation on the lid of a cremation urn from Hama (Fig. 12:5).<sup>24</sup> Both the form of burial and material culture of this cemetery however are considered as intrusive, a suggestion which is reinforced by the ship representation itself which is on an atypical medium for the Levant and shows a clear relationship to the Aegean LH IIIC artistic tradition. This includes the depiction of the rower's gallery, the zoomorphic figurehead with upturned beak, and the modest bow projection. The amount of comparative evidence from north Syria itself is thus extremely limited.

Table 1: Known seals bearing ship imagery from the Levant and Cyprus of the BA and EIA.

Date	Findspot	Reference
Early 13 <sup>th</sup> Dynasty c. 18 <sup>th</sup> c. BC	Tell el-Dab'a northern part of palace	Bietak 1996, 28, fig. 25; Porada 1948, pl. 65:1; Wachsmann 1998, 42, fig. 3.1
c. 1800-1750 BC	Sidon	Doumet-Serhal 2015, fig. 33
LBA c. 1550-1200 BC	Beth Shemesh	Keel 1994, 34, fig. 20; Wachsmann 2012, 64, fig. 2.35
14 <sup>th</sup> c. BC	Tell Miqne Ekron, tell	Gittlen 2007, 25-28, fig. 1
c. 1200 BC	Ugarit, House of Yabninu	Basch 1987, 70, fig. 131; Morrison and Gardiner 1995, 23-24; Schaeffer 1962, 134, 147, fig. 114; Wachsmann 1981, 212, fig. 28b; 1998, 49
c. 650 BC	Israel (n/a)	Basch 1987, 304-305, no. 641; Culican 1970, 32-33; Stieglitz 2000, 12, fig. 2; Vincent 1909, 121
c. 650 BC	Jordan (n/a)	Tushingham 1971; Wachsmann 1998, 181, fig. 8.34a
End of 13 <sup>th</sup> c. BC	Cyprus (n/a)	Basch 1987, 73-74, no. 147-48; Kenna 1967, 573, fig. 31; Wachsmann 1998, 66-67, fig. 4.10; Westerberg 1983, 18, no. 16, fig. 16
c. 1200-1050 BC	Enkomi, T. 6	Schaeffer 1952, 71, fig. 22; Wachsmann 1998, 175-176, fig. 8.21

Morphologically, the Tell Tweini vessel is remarkably similar to Geometric ship representations of MG (Middle Geometric) II and transitional MGII-LG (Late Geometric) I date, when a certain uniformity is already discernible in the predominantly Attic repertoire (Fig. 6). These parallels extend to all essential

<sup>24</sup> Wachsmann 2013, 63, fig. 2.33; 1998, 174-176, fig. 9.19a-b; Ingholt 1940, 69-84, pls. 21-26.

aspects, including the shape of the bow and stern, the transition of the bow projection to the stempost, and the stem and stern terminals.<sup>25</sup> According to Wedde's classification of bow morphologies, the Tell Tweini ship thus belongs to his Group 6, which is considered a very advanced form that comprises a prominent bow projection integrated to the stempost and a massive square bow.<sup>26</sup> While the connection between the Tell Tweini ship and the Geometric representations is undeniable, the urge to downdate the sealing on the basis of the negative evidence from the Levant prior to the 8<sup>th</sup> century is inadvisable. It is worth noting in this regard that the prolificacy of Attic Geometric art in depicting ships is highly unusual, creating a false impression of uniformity as most other regions are severely underrepresented. As such, the preponderance of this form in the Greek assemblage from MG II onwards should be contextualized in terms of differences in cultural practice which do not presuppose that the nautical tradition itself is either uniquely Aegean or that it provides incontrovertible evidence for the direction of the transfer.

Aside from the purely technical aspects of the Tell Tweini representation, it should be stressed that both the medium and its use to stamp transport containers is completely unknown in the Aegean repertoire of ship imagery during the LB and EIA periods. Furthermore, the choices made by the artist in terms of selecting certain technical features for emphasis while omitting others is equally foreign to the Greek tradition. While the Tell Tweini ship is quite minimalist in terms of detail, the representation stands out for showing the mast-step system – a detail that is absent from the majority of Eastern Mediterranean representations of either period, with ship depictions on fibulae of the Attic-Boeotian type being the only notable exception. In total, there are only five cases from Cyprus where the mast step is shown and eleven more from the Aegean. In the Cypriot corpus, this element is attested across multiple mediums (graffito, pictorial pottery, terracotta model) and occurs earliest, although all cases save one show a distinctive triangular tabernacle which is so far unattested outside the island.<sup>27</sup> The Greek examples on the other hand include only three cases on pictorial pottery of the LG II period and eight more on fibulae.<sup>28</sup> These show a rectangular tabernacle which is significantly higher than the one of the Tell Tweini vessel (Fig. 7).<sup>29</sup> In terms of artistic omissions, the most glaring difference with both Helladic and Geometric galley depictions is the

<sup>25</sup> Wedde 2017, personal communication.

<sup>26</sup> Wedde 2006, 258-259.

<sup>27</sup> Westerberg 1983, figs. 13, 32, 53-55.

<sup>28</sup> For fibulae, see Basch 1987, 190-196; Manolova (forthcoming).

<sup>29</sup> It is interesting to note that none of the pictorial representations are Attic, despite the fact that the corpus in general is predominantly from this region. The choice to represent the mast step was thus clearly not part of the repertoire of Attic pictorial artists. In the case of the fibulae however, half of the entire corpus of ship depictions includes a tabernacle, including two Attic examples.

absence of the rower's gallery from the Tell Tweini vessel, an artistic choice which is also observable on some of the Cypriot galley representations. It may thus be concluded that although the vessel type itself indicates that there was a clear transmission of nautical technology and shipbuilding traditions, these transfers did not extend to either regional artistic conventions or the choice of medium.

While the Tell Tweini sealing is at present an isolated example and thus warrants some degree of caution, it is argued here that it provides a vital missing link showing that this particular galley design was first developed in the northern Levant and was subsequently transferred to the Aegean, most likely via Euboea.<sup>30</sup> This hypothesis not only fits well with the currently available evidence, but is moreover able to address some outstanding questions in both the Levantine and Aegean sequences while also accounting for the generally slow pace of change of nautical technology. It is usually argued that Greek geometric ships are direct descendants of the Mycenaean galley.<sup>31</sup> There is however one immediately noticeable divergence between the two, namely their starkly different post terminals. In the fairly sizable corpus of LH IIIC representations, the stempost of Helladic galleys is consistently decorated with an outward facing zoomorphic device that is usually identified as a bird-head, although more recently both Petrakis and Yasur-Landau have convincingly argued that it should instead be interpreted as a sea dragon (Fig. 8).<sup>32</sup> In contrast, after a long hiatus of over a century and a half, the earliest Late Proto-geometric (LPG) ship representations and all subsequent Geometric examples have replaced this decorative element with a slender inward curving horn. This new feature is also reflected in the Homeric adjective *κορωνίς* which is applied exclusively to ships and indicates a curved crowning element, as well as the epithet *νεων ὀρθοκραιράων* ("straight horned") which in addition to ships is used to describe cattle.<sup>33</sup> Since the figurehead constitutes a highly culturally charged element of a vessel that typically carries apotropaic functions, the wholesale disappearance of the outward facing device so characteristic of LH IIIC galleys represents a sharp break in tradition that requires an explanation. Ironically, this figurehead survives on Cyprus into the EIA after being introduced there during the 12<sup>th</sup> century, whereas the Aegean itself had seemingly abandoned it for good by the Proto-Geometric (PG) period.

Admittedly, the corpus prior to the MG period is so small that it may very well not be a representative sample, and indeed it is highly unlikely that the change in prow devices occurred swiftly or in a wholesale manner across the

<sup>30</sup> A study of the handle's fabric would be a valuable contribution to this issue.

<sup>31</sup> Wedde 2006, 1999; Kramer-Hajos 2016, 171-174.

<sup>32</sup> Petrakis 2004; Yasur-Landau 2010.

<sup>33</sup> Lenz 1998, 199-200.

Aegean. The process itself is thus unfortunately obscured by the prolonged gap in the evidence, yet it nevertheless remains true that the Helladic figurehead is never to be seen again. Surprisingly, the implications of this significant change have been largely overlooked. Wachsmann has attempted to explain it as a cyclic progression from naturalism to stylization and finally abstraction, where the Geometric galleys represent the final stage of a totally abstracted bird-device that has become no more than a compound curve.<sup>34</sup> Whereas such a development could be more plausibly argued for the Cypriot corpus, he readily admits that the middle stylizing stage is entirely missing in the Aegean representations. Even more problematic however is the supposed reversal in the figurehead's direction, since this change cannot be explained away as purely cosmetic and would clearly have semantic implications.

If its *terminus ante quem* 11<sup>th</sup> century contextual date is correct, the Tell Tweini ship offers a much simpler solution, where the LH IIIC galley figurehead simply went out of use sometime after the transition period, with EIA representations instead showing the adoption of an entirely new form from the northern Levant. The seal's chronology not only fits neatly within the long Aegean gap in representations between LH IIIC and LPG, but also allows for sufficient time for this development to occur. Although the evidence is rather sparse, it is possible furthermore to trace the basic outlines of this process and the likeliest protagonists involved in the transmission by contextualising the ship imagery with what we know of the earliest significant contacts between the Aegean and the Levant during the EIA. It is perhaps no coincidence that after a long pictureless phase, the earliest ship imagery of the Geometric period is connected to Knossos and Lefkandi – the two centres that enjoyed unusually early access to imports from the Levant and Cyprus.<sup>35</sup> In the case of Euboea, this maritime connection is also traceable in the other direction, with the first Euboean imported wares appearing in Tyre in the mid-10<sup>th</sup> century.<sup>36</sup>

The small group of EIA pictorial ship representations from the Aegean pre-dating the 8<sup>th</sup> century includes one image from Knossos, two from Lefkandi, and two more from Dirmil and Athens respectively which are both suspected to be Euboean imports (Table 2, Fig. 9).<sup>37</sup> As noted above, by LPG the zoomorphic figurehead has already been replaced with an incurving horn, but the bow projection is still small and flimsy in the tradition of the LH galleys. It is only with the Lefkandi Skoubris ship that the distinctive bow morphology of the Tell Tweini vessel begins to be recognizable, including the enclosed fore-castle and a more developed bow projection (Fig. 9:5). What is most interesting

<sup>34</sup> Wachsmann 1998, 183-190; 1981, 206-221.

<sup>35</sup> Kourou 2012; 2009; 2008.

<sup>36</sup> Descoedres 2006; Lemos 2005.

<sup>37</sup> **Dirmil krater:** Wedde 2006, 261; Lemos 2002, 51; Calligas 1990, 78; Popham 1987, 359, n. 7; **Kerameikos fibula:** Wedde 2006, 261, n. 48-49; Coldstream 1977, 64.

is that the contemporaneous Toumba ship (Fig. 9:4), while also sporting the incurving horns, shows a markedly different and older type of bow attested in the LH IIIc corpus, comprised of a vertical non-integrated stempost with latticed work and a rudimentary bow projection. Wedde's remarks on these curious differences are particularly revealing: "The most economical explanation for this more or less contemporary depiction of two forms of the early oared galley, the one rather retarded for its time, the other comparatively advanced, is to posit a simultaneous use of differing designs, a parallel existence of several galley-building traditions".<sup>38</sup> In light of the Tell Tweini sealing, it is now possible to suggest that the new improved design was in fact introduced through contacts with the northern Levant. By the mid-9<sup>th</sup> century, Lefkandi had already enjoyed a steady influx of Levantine imports for a few generations, giving ample time for the transmission to occur. It is also relevant in this regard that in addition to Tyre, some of the early Euboean imports (more specifically amphorae) have been found even further north, at Ras el Bassit.<sup>39</sup> As for the survival of the earlier Helladic bow type, the slow replacement of an older form is not altogether surprising. This is due first to the fact that ships are costly and thus – absent of an unfortunate accident – tend to have particularly long lives, and second, to the inherently cautious and conservative tendencies of shipwrights. A good example of the latter is observable in the critical shift in Greek shipbuilding tradition from lashed frames to mortise-and-tenon joinery, with Archaic wrecks showing that builders continued to shape frames in the old fashion despite its purpose having become obsolete.<sup>40</sup> The survival of older designs is furthermore even more probable in the case of more heavily built merchant/cargo galleys, since there would have been an inherent economic interest in prolonging their use for as long as possible through numerous repairs.<sup>41</sup>

The two Lefkandi representations may thus capture a rare moment in time when an older Aegean type of bow construction was still in use while a more advanced form was being introduced from the northern Levant. Once Euboean shipwrights became familiar with the tradition, its transmission to Attica is far less surprising considering the well attested contacts between these neighbouring regions. Aside from the Kerameikos fibula which was likely imported, the Toumba ship already anticipates features of later Attic representations, including the three parallel horizontal lines which are a precursor of the way in which the deck is represented on Dipylon ships, as well as the thematic placement of

<sup>38</sup> Wedde 2006, 261.

<sup>39</sup> Courbin 1993; Descoedres 2006, 11, Table 1.

<sup>40</sup> Polzer 2011, 368.

<sup>41</sup> Many thanks to Michael Wedde for pointing this out.

Table 2: EIA pictorial ship depictions from the Aegean of pre-MG II date.

Date	Findspot	Reference
LPG (c. 950-900 BC)	Knossos, Fortetsa tomb VI	Basch 1987, 159, fig. 320; Doorninck 1982, 281-283; Morrison and Williams 1968, 12, geom. 1; Wedde 2000, 168-169; 2006, 261
LPG (950-900 BC)	Dirmil, chamber tomb Halicarnassus Peninsula	Basch 1987, 189, fig. 400; Bass 1963, 357-359 (tomb); Doorninck 1982; Wedde 2006, 261, fig. 10
Trans. EG II- MG I (c. 850 BC)	Athens, Kerameikos T. 41	Basch 1987, 191, no. 402; Mark 2005, 110-111, fig. 49; Tzahou-Alexandri 1990, 353, fig. 3; van Doorninck 1982, 283, fig. 7
MG I (c. 850-825 BC)	Lefkandi, Toumba cemetery, fill of T. no. 61	Calligas 1990, 77-79, fig. 1; Popham 1987; Wedde 1999, 510-511; 2006, 260, fig. 5
Early SPG III (c. 850-825 BC)	Lefkandi, Skoubris cemetery gully fill	Calligas 1990, 78, fig. 2; Popham <i>et al.</i> 1980, 267, pl. 274.918 and 284.11; Wedde 2006, 260, fig. 4 (left)

spears at the bow or stern.<sup>42</sup> When the earliest Attic pictorial representations emerge during MG II, they already show a uniform tradition in the full-fledged version of the Tell Tweini ship.

In addition to the Skoubris vessel, later Euboean ship representations continue to provide links with the Levant in terms of nautical technology. These include the rectangular mast-step as mentioned above (Fig. 7:1), the down-curving yard which is atypical for the Aegean,<sup>43</sup> and the earliest attestation of a three-levelled galley on a late 8<sup>th</sup> century krater from Eretria.<sup>44</sup> The latter representation has been surprisingly overlooked considering how disruptive it is to the current established Aegean sequence, and is suspiciously contemporaneous with the Phoenician ships from the palace of Sennacherib which are at least two-levelled, and possibly three-levelled with the uppermost level of rowers resting to accommodate the transport of passengers.<sup>45</sup> As an in-depth

<sup>42</sup> For examples of spears placed at the bow or stern in Attic compositions, see: Basch 1987, nos. 336, 349, 352, 373-374; Kirk 1949, no. 11.

<sup>43</sup> As seen on an Euboean import dated c. 750 BC from Knossos (Verdan 2006, 101, fig. 5).

<sup>44</sup> The Eretria ship was published as a dieres (Verdan 2006) but Wedde agrees that it is three levelled in view of the stagger (Wedde 2017, personal communication).

<sup>45</sup> Morrison 1995, 146. There is of course no way to prove this suggestion, although the later Erment model of a Phoenician trieres does provide some support for it, with Basch noting that the arrangement of the lower two levels are identical to those of the Sennacherib ships (Basch 1987, 328-329, figs. 703-711).

examination of the Euboean EIA shipbuilding tradition is beyond the scope of this paper, it suffices to say that the imagery certainly offers good evidence that the island acted as a critical interface for the transmission of nautical innovations from the Levant, while Euboea's precocious maritime connections with the region from the mid-10<sup>th</sup> century onwards provided ample opportunities for this transfer to take place.

This does not mean, of course, that there weren't multiple points of transmission. Another likely channel was through the Ionian centres via Cilicia, as suggested by the late 8<sup>th</sup> century ship from Karatepe which shows a very similar bow morphology to the Tell Tweini ship (Fig. 10). Despite the excavators identifying this vessel as Aegean,<sup>46</sup> it is worth reminding that the monumental reliefs to which the ship scene belongs were accompanied by a bilingual text in Phoenician and hieroglyphic Luwian. Yet a third channel may be identified via Cyprus, as attested by the three pairs of iron firedogs of Cypro-Archaic (CA) I date which show the exact same bow morphology (Fig. 11).<sup>47</sup> These too were previously identified as depictions of Aegean galleys since near identical firedogs have been found on Crete and Argos.<sup>48</sup> This interpretation is however problematic considering that the practice of meat roasting using metal *obeloi* or spits (and accompanying firedogs) first appears in Cyprus during the LBA-EIA transition and only much later in the Aegean, beginning initially with Crete during the EPG and spreading to the Greek mainland only in the 8<sup>th</sup> century.<sup>49</sup> It is quite telling that the only exception to this late introduction in the Aegean beyond Crete is once again from Lefkandi, where iron spits were discovered in a Sub-Protogeometric (SPG) II (c. 875-850) context.<sup>50</sup> The ship-shaped firedogs are hence another prime example where an Aegean origin of transmission is assumed despite the archaeological pattern pointing in the opposite direction. Although the nature of the evidence is highly fragmentary, it is thus possible to identify at least three possible channels of transmission from the northern Levant to the Aegean, with the earliest discernible one via Lefkandi, and later examples via Anatolia and Cyprus.

<sup>46</sup> Çambel and Özyar 2003, 84-89.

<sup>47</sup> **Salamis, tomb 79:** Karageorghis 1973, 19, nos. 127-128, pls. LVIII, CCXXXVII: 127-128; **Palaepaphos, tomb KA-T1/1962:** Karageorghis 1963, 265-300, figs. 17-18; **Patriki, tomb 1:** Karageorghis 1972, 170-172, fig. 12, pl. XXXI.2.

<sup>48</sup> **Kavousi:** Boardman 1971, 6-8, no. 12; **Eleutherna, T. A1K1:** Vonhoff 2011, 146, 148, fig. 11; **Argos, tomb 45:** Courbin 1957, 370-379, figs. 54-57.

<sup>49</sup> Haarer 2000, 30-31.

<sup>50</sup> Popham *et al.* 1982, 229, nos. 6-7.

## POSTSCRIPT

The oared galley is currently considered an Aegean invention on the basis of the representational evidence.<sup>51</sup> Since galley depictions in Cyprus and the Levant are scarce for the LBA and are more or less contemporaneous with the much larger corpus of LH IIIC imagery, they have been invariably interpreted as Aegean ships (Fig. 12). While this interpretation is convincing in certain cases, other depictions are far less straightforward, as they show an amalgamation of elements drawing from multiple traditions. The Enkomi graffito represents one such example as it omits the open rower's gallery typical of the Aegean imagery, while at the same time displaying the down-curving yard characteristic of Levantine ships as well as a triangular mast step which is otherwise solely attested in later CA I Cypriot depictions (Fig. 12:1). A similar assumption is noticeable when it comes to the treatment of ships with outward-facing zoomorphic figureheads, which on the basis of the Medinet Habu reliefs tend to be identified with the Sea People and by extension with the Aegean. The re-interpretation of the Helladic prow devices as sea-dragons brings into focus the strong possibility that the scholarship could in fact be conflating two distinct decorative elements which were current in the Eastern Mediterranean at the end of the LBA – one bird-headed, the other representing a hybrid creature.<sup>52</sup> This could explain the curious fact that realistic bird-headed devices only appear during the EIA on Cypriot and Phoenician ships, including on both posts as in the case of the Medinet Habu Sea People vessels (Fig. 12:6).<sup>53</sup> In addition to the decorative outward-facing bird heads on both posts, the Medinet Habu ships also display the down-curving yard and top-mounted crow's nest which are typical features of Canaanite ships yet completely unknown in the Aegean LBA corpus. As far as the Egyptian artists can be trusted, these two elements suggest that the Sea People ships are much more closely connected to a Levantine, rather than an Aegean nautical tradition. The problem with ruling out the Levant in the early stages of the development of the oared galley is that most of the precious few known representations in the region are associated either with contexts characterised by an intrusive material culture, or with high traffic maritime nodes which enjoyed wide-ranging connections.<sup>54</sup> The one exception to this state of affairs is the ship from Ugarit, although the stylized rendering of its hull creates room for interpretative disagreements.

<sup>51</sup> Wedde 2006; 1999.

<sup>52</sup> See Manolova (forthcoming).

<sup>53</sup> For a recent discussion on the Sea People ships, see also: Jung 2017, 31-32, figs. 1-5.

<sup>54</sup> Notably the Hama urn and the graffiti from the Carmel Ridge, which are difficult to attribute because the nearby site of Tel Nami was an international entrepôt showing an amalgamation of religious and funerary practices including Canaanite, Syrian, Cypriot and Aegean elements (Artzy 1995).

Despite the great lacunae in the Levantine corpus of ship representations, the few images available do indicate that the region was a major source of nautical innovation during the LBA and EIA periods alike. For the LBA, this includes the crow's nest and most importantly, the brailed rig and loose footed sail, which are first attested in an Egyptian depiction of Canaanite ships of the late 14<sup>th</sup> century.<sup>55</sup> This hugely important innovation was quickly adopted across the Eastern Mediterranean, with later Helladic galleys all sporting it. Were it not for the Egyptian interest in depicting Canaanite commercial vessels, this element might have easily been misattributed as another Aegean invention, since the evidence from the Levant itself is once again scant and roughly contemporaneous with the Helladic material. After the LBA-EIA transition period, Levantine galley representations disappear until the 8<sup>th</sup> century, when the Assyrian imagery shows a gigantic leap in development, including a robust bow projection covered in metal sheathing, the earliest attestation of oarports, and a much more advanced version of a dieres (if not an actual trieres) compared to contemporary representations from the Aegean (Fig. 13:1-2). The main problem prior to the Tell Tweini sealing was thus in tracing this gradual development, from the single levelled galley with a modest cutwater unsuitable for ramming, to a multi-levelled vessel with a continuous deck (Fig. 13:4), oarports, and an early version of a ram. Whether or not the initial invention of the galley should continue to be located in the Aegean, there is no question that the Levant was significantly ahead innovation-wise during the EIA. This should not be seen as altogether surprising considering not only that the northern Levant had a very strong, continuous maritime orientation since the Bronze Age, but also because the Phoenician city-states suffered no substantial scaling back in terms of their socio-political organisation during the LB-EIA transition and therefore maintained their ability to upkeep large fleets. This is particularly relevant considering the fact that the exorbitant costs of maintaining specialized warships and trained crews are often pointed out as prohibitive structural reasons for placing the invention of the ram in the Geometric period for the Aegean. Mark's argument for the need of Greek ships to transition to pegged mortise-and-tenon joinery, which is much more suitable to withstand the repeated shocks of ramming, is also not in play for the Levant where the technique was already well-established by the 14th century BC.<sup>56</sup> Despite the much smaller representational corpus, all indications at present thus point to the northern Levant and the Phoenician city-states more specifically for the early development of the multi-levelled galley and the ram.<sup>57</sup> The

<sup>55</sup> Emanuel 2014; Vinson 1993.

<sup>56</sup> Mark 2008, 266.

<sup>57</sup> Cf. Gray 1974, 74-75 highlighting the primacy of the Phoenicians in developing multi-levelled ships.

Tell Tweini seal thus adds a vital missing link and a first step towards a better understanding of the EIA Levantine galley and its impact on the Aegean ship-building tradition.

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Fig. 1: Jar handle sealing with an oared galley to the left, Tell Tweini (after Bretschneider and Van Lerberghe 2008, 38, ill. 39).

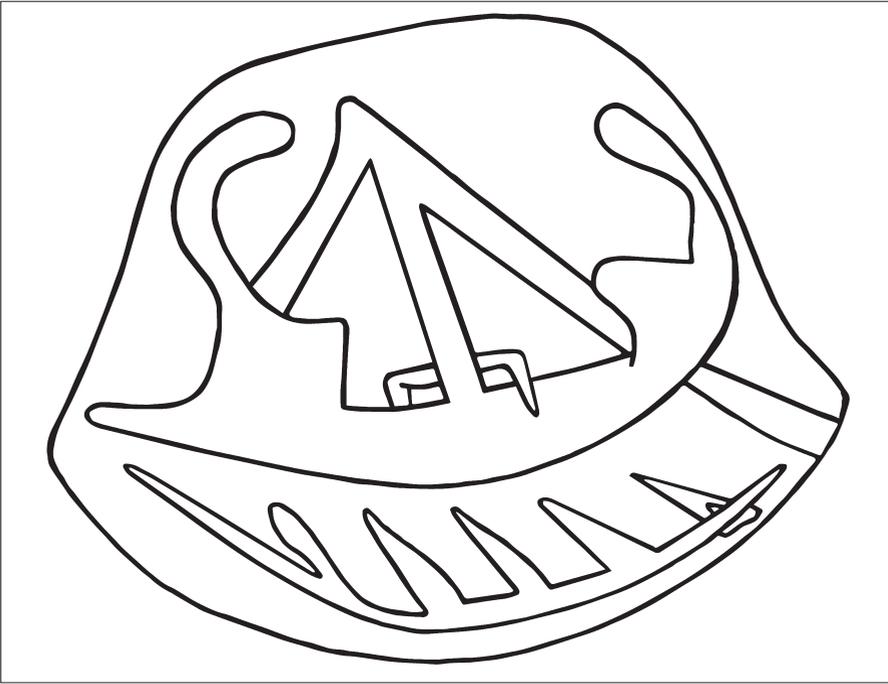


Fig. 2: Close-up of the oared galley (drawing by T. Manolova).

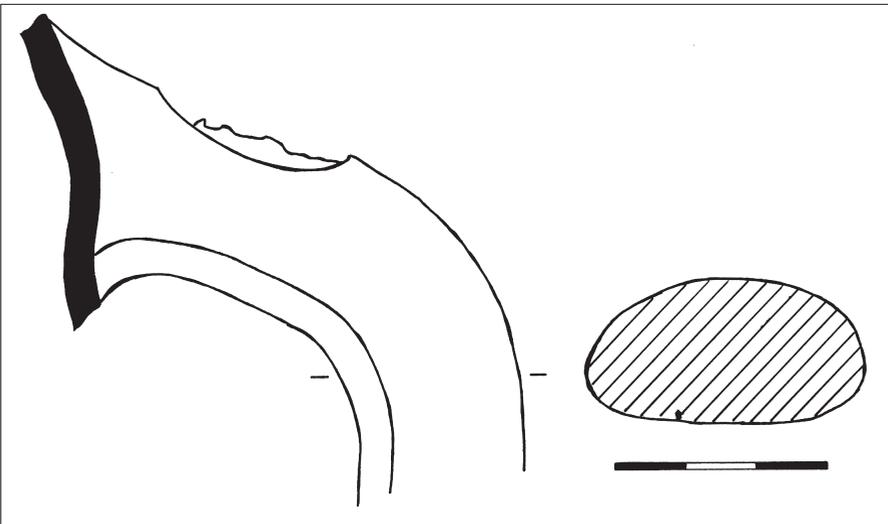


Fig. 3: Profile view of the jar handle fragment with the placement of the sealing (drawing K. Vansteenhuyse).



Fig. 4: MBA jar handle fragment with a cylinder seal impression from Sidon (courtesy of C. Doumet-Serhal).

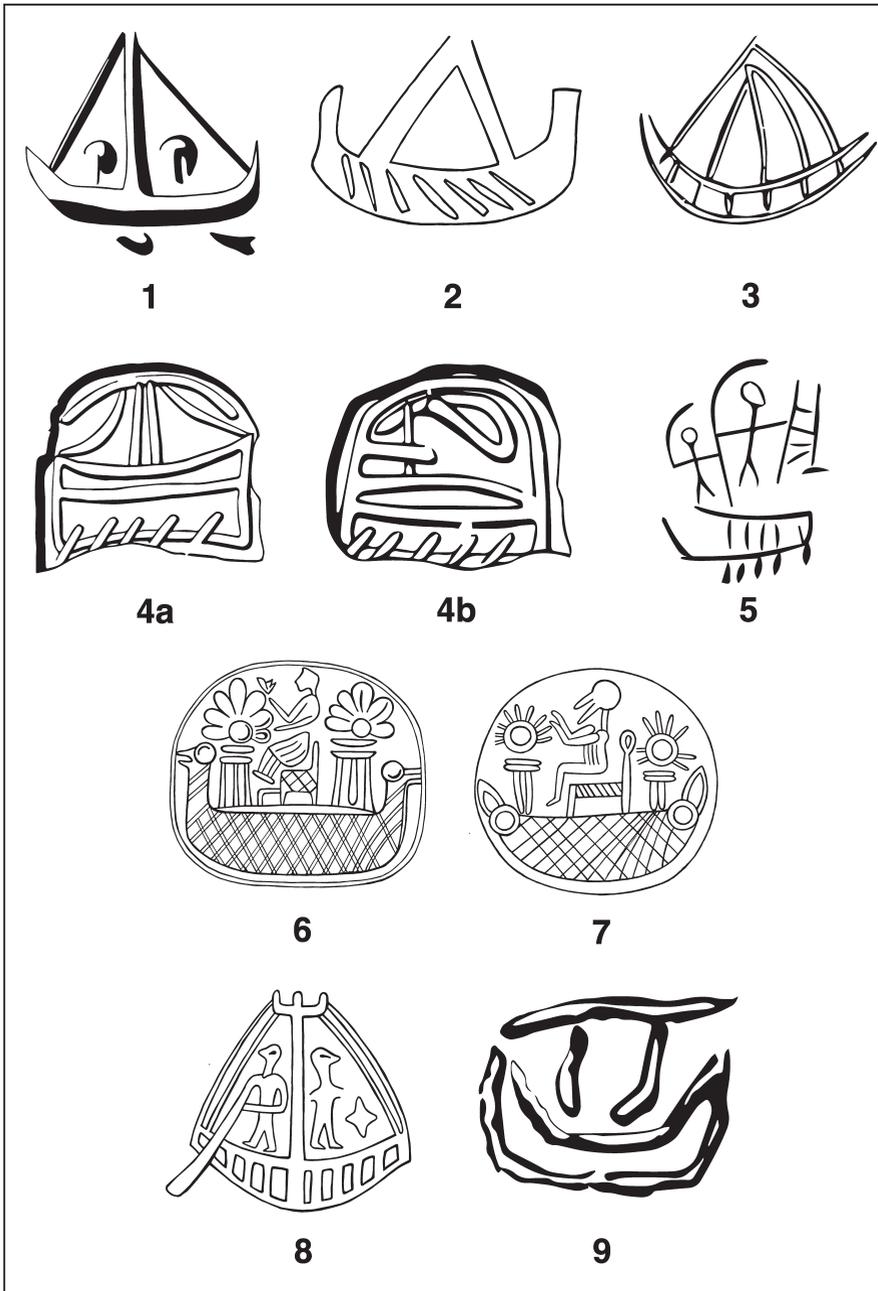


Fig. 5: Seals bearing ship imagery from the Levant and Cyprus.

1. Tell el-Dab'a (after Porada 1984, pl. 65:1); 2. Sidon; 3. Tell Miqne Ekron (after Gittlen 2007, 25-28, fig. 1); 4. House of Yabninu, Ugarit (after Schaeffer 1962, 147, fig. 114); 5. Beth Shemesh; 6. Israel; 7. Jordan; 8. Cyprus (unknown); 9. Enkomi, T.6 (after Schaeffer 1952, 71, fig. 22). Figs. 2, 5-8 drawn by T. Manolova.

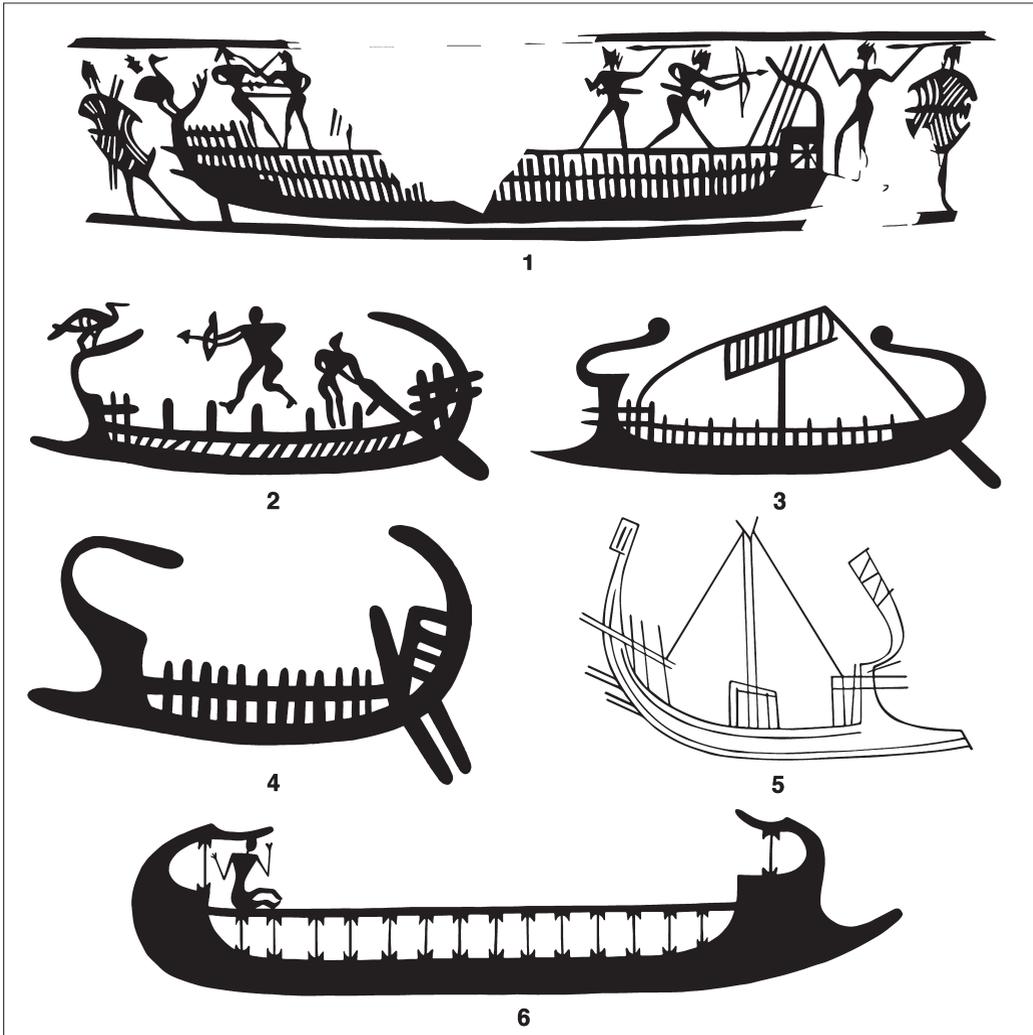


Fig. 6: Morphological parallels for the Tell Tweini ship of MG II date from Attica and Argos.

1. Attic, MG II, c. 800-775 BC (after Basch 1987, no. 374);
  2. Eleusis, late MG II (after Basch 1987, no. 372);
  3. Moulki, Attic import, MG II, c. 775-760 BC (after Tzahou-Alexandri 1990, 352, fig. 2);
  4. Anavysos, transitional MG II-LG I, c. 760 BC (after Kahane 1940, pl. XXI: 6);
  5. Athens, c. 775-750 BC (BM GR 1960.1101.45);
  6. Argos, transitional MG II-LG I, c. 760 BC (after Pappi 2006, 232-33, figs. 2-5);
- Figs. 2-6 drawn by T. Manolova.

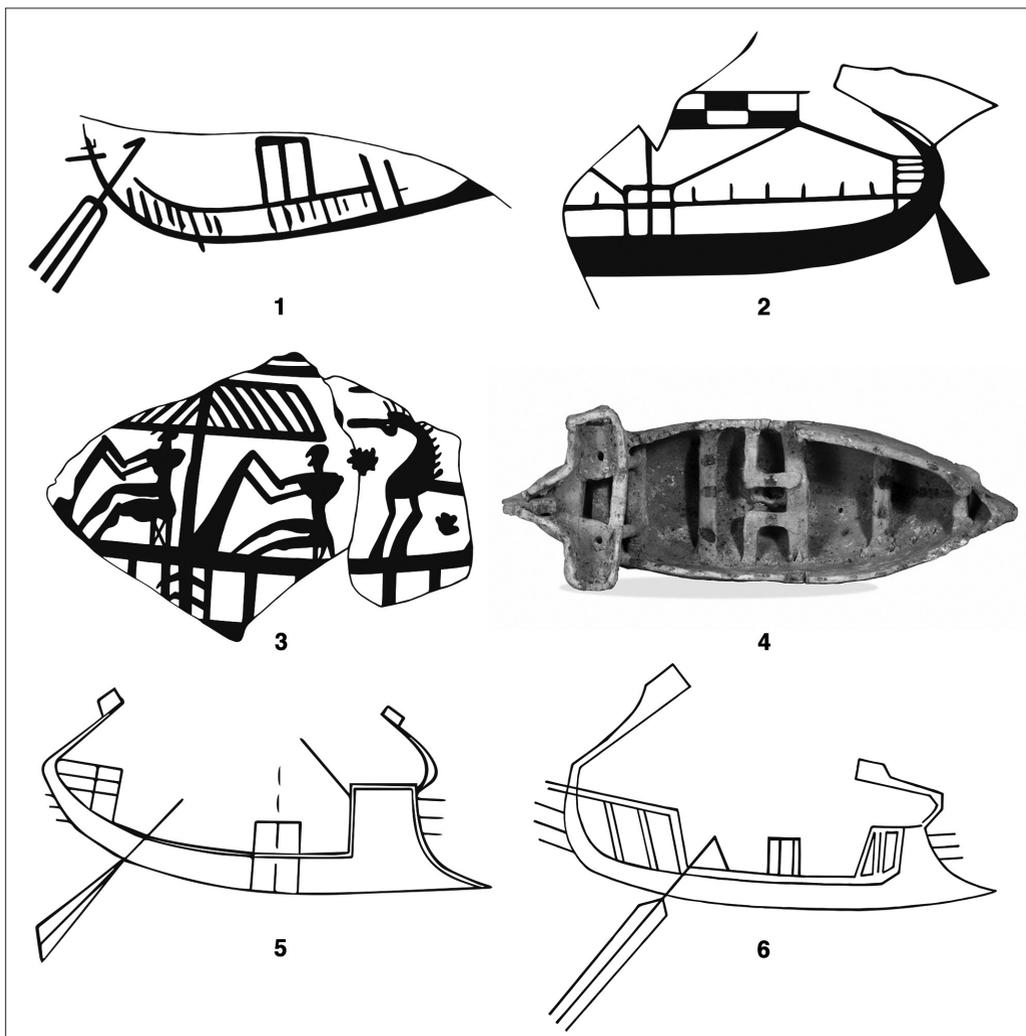


Fig. 7: Rectangular mast steps from the Aegean and Cyprus.

1. Oropos, LG (after Mazarakis 2002, 172, fig. 11b);
2. Elean Pylos, LG II (after Daux 1968, 833, fig. 2);
3. Argos, LG II (after Tzahou-Alexandri 1990, 361, fig. 24);
4. Amathus, CA (BM 1894.1101.182);
5. Chaeronea, c. 700 BC (after Hampe 1936, no. 150, pl. 6);
6. Unknown, Ashmolean Museum 1893.266.

Figs. 1-3, 5-6 drawn by T. Manolova.



Fig. 8: Outward-facing zoomorphic figureheads on LH ships.

1. Ashkelon, LH IIIB (after Mountjoy 2011, 484, fig. 1);
2. Bademgediği Tepe, LH IIIC early (after Mountjoy 2005, fig. XCVI);
3. Kynos, LH IIIC middle (after Dakoronia 1993, 128, fig. 1);
4. Gazi, LM IIIB (after Wedde 2000, no. 608);
5. Kynos, LH IIIC middle (after Dakoronia 2006, 28, fig. 8);
6. Skyros, LH IIIC (after Wedde 2000, no. 655);
7. Tragana, LH IIIC late (after Wedde 2000, no. 643);
8. Enkomi, LH IIIC middle (after Mountjoy 2005, pl. XCVIId);
9. Tiryns, LH IIIB2 (after Wedde 2000, no. 315);
10. Kynos, LH IIIC (after Wedde 2000, no. 334).

Drawings by T. Manolova.

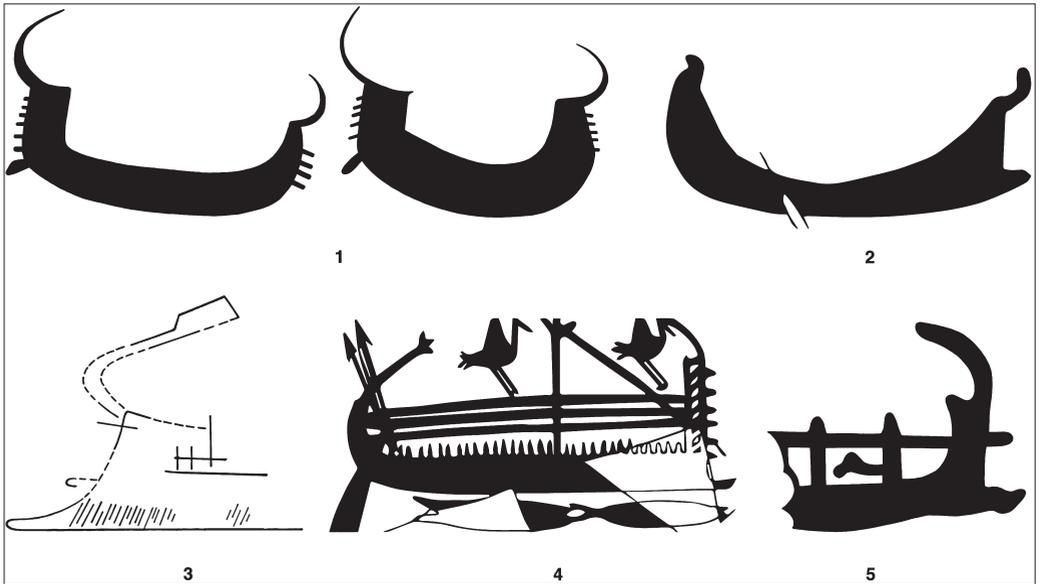


Fig. 9: EIA pictorial ship depictions from the Aegean of pre-MG II date.

1. Knossos, Fortetsa tomb VI;
2. Dirmil, Halicarnassus Peninsula (after Wedde 2006, 261, fig. 10);
3. Athens, Kerameikos T. 41 (after Basch 1987, 191, no. 402);
4. Lefkandi, Toumba T. 61 (after Popham 1987, 357, fig. 4);
5. Lefkandi, Skoubris.

Figs. 1 and 5 drawn by T. Manolova.

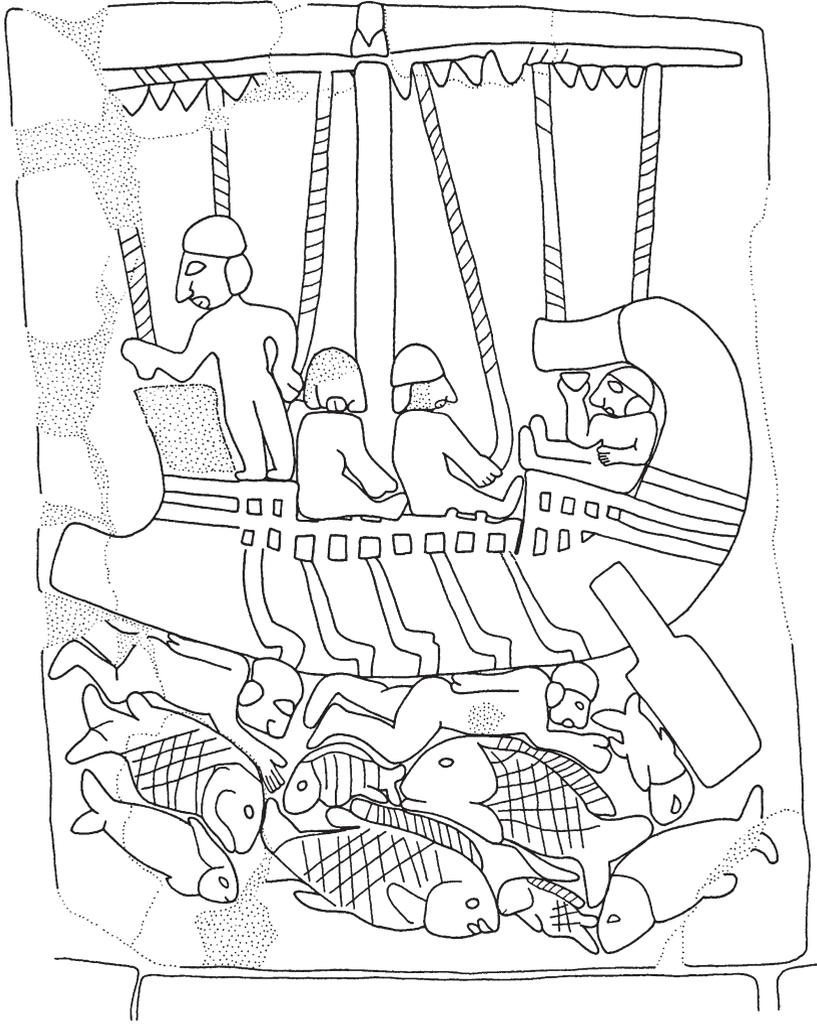


Fig. 10: Orthostat with carved relief of a galley from Karatepe.  
Late 8<sup>th</sup> century (after Çambel and Özyar 2003, Tafel 96).

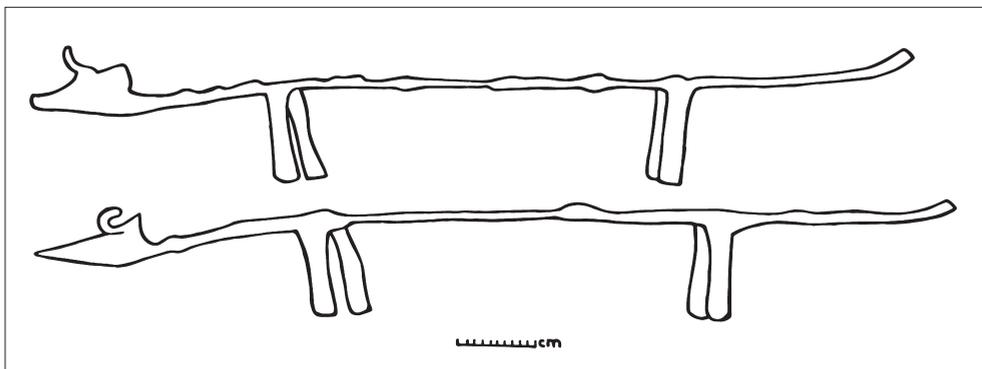


Fig. 11: Ship-shaped iron *obeloi* from Salmis tomb 79  
(after Karageorghis 1973, CCXXXVII: 127-128), drawn by T. Manolova.

Fig. 12: Galley representations related to the Levantine tradition of LBA date.

1. Enkomi, c. 1200 BC (after Basch 1987, 147-148, no. 312);
2. Naḥal ha-Me'arot, c. 13<sup>th</sup> c. BC (after Artzy 2003, 241, fig. 13);
3. Naḥal Oren, c. 13<sup>th</sup> c. BC (after Artzy 2003, 242, fig. 14);
4. Naḥal ha-Me'arot, c. 13<sup>th</sup> c. BC (after Artzy 2003, 236, fig. 6);
5. Hama, c. 1200-1075 BC (after Wachsmann 1998, 174, fig. 9.19b);
6. Medinet Habu, c. 1176 BC (after Emanuel 2014, 23, fig. 2b).

Figs. 1-4, 6 drawn by T. Manolova.

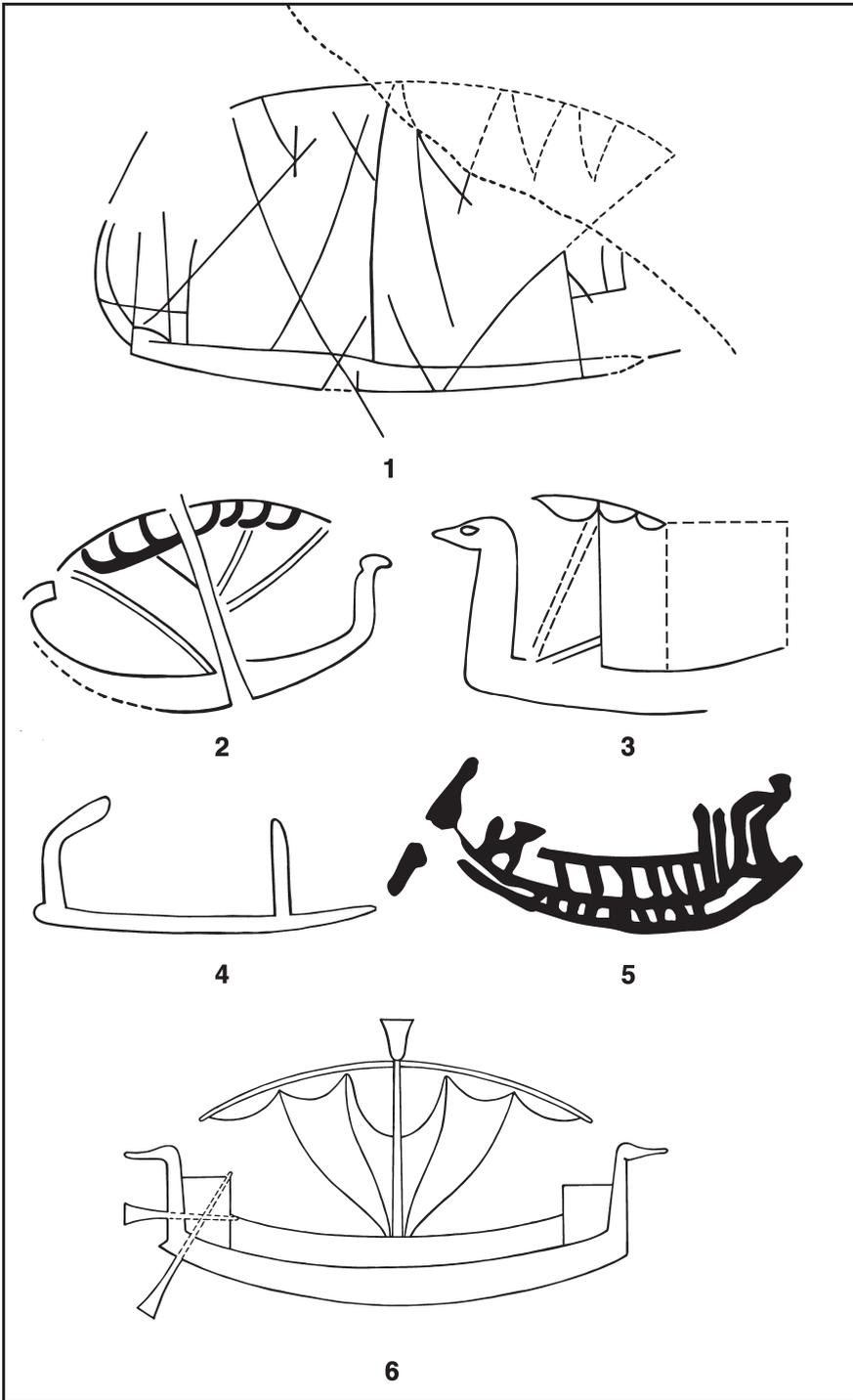


Fig. 12

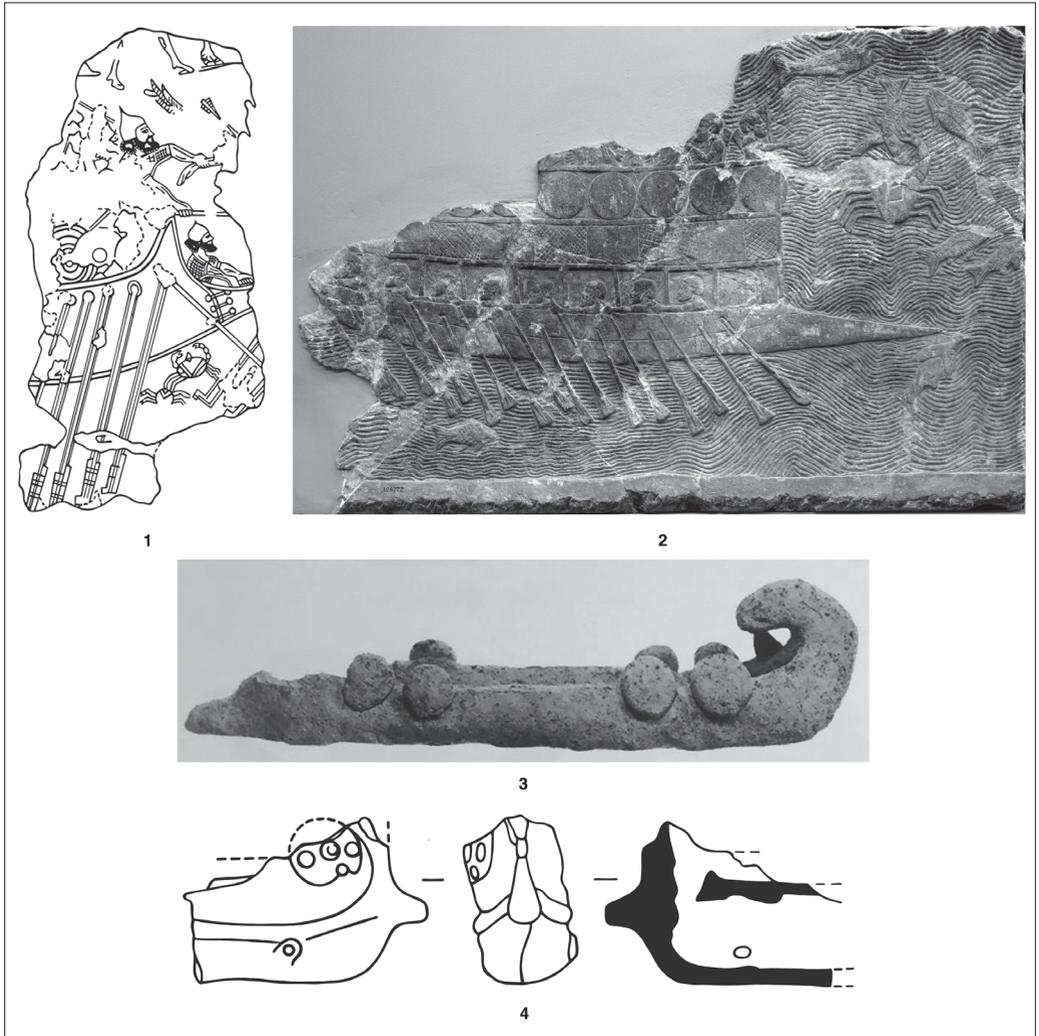


Fig. 13: Galley representations related to the Levantine tradition of EIA date.

1. Til Barsip, c. 745-727 BC (after Tomabechi 1983/1984, 76, fig. 1);
  2. Sennacherib, c. 705-681 BC (BM 1851, 0902.30) Photograph by T. Manolova;
  3. Amathus tomb 429, CA (after Karageorghis 1996, pl. XLII: 4);
  4. Salmis, CA (after Monloup 1984, 159, no. 601).
- Figs. 1, 4 drawn by T. Manolova.