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Inscriptions from the Timbers of the Late Antique Ma'agan Mikhael B Shipwreck*

Plates 28–31

Introduction

The recent underwater excavation of the Ma'agan Mikhael B shipwreck, which was found 70 m off the coast of kibbutz Ma'agan Mikhael, Israel, at a water depth of 3 m, has exposed a rich assembly of Greek and Arabic inscriptions carved on the ship's timbers.¹(Pl. 28 Fig. 1) The ship, a lateen-rigged merchantman, was about 24 m long, with a 17 m long mast and a 24 m long yard. The cargo and ceramics and shipbuilding materials date the ship to the late Byzantine–early Islamic period in the region – the late seventh/early eighth centuries CE.²

Inscriptions carved on the timber of shipwrecks are particularly rare (in contrast to those on cargo jars) and those found in the Ma'agan Mikhael B are the sole example available from the Eastern Mediterranean world of this period. In this paper we present, for the first time, details of the Ma'agan Mikhael B inscriptions. Readings of the letterforms as Greek and Arabic alphabetic signs are suggested, and the possible meanings of these inscriptions are discussed with a cautious approach.

* The underwater excavations (IAA permits G-41/2016, G-40/2017, G-26/2018, G-34/2019, G-42/2021, and G-54/2022) and research of the Ma'agan Mikhael B shipwreck were supported by the Israel Science Foundation (grant no. 1891/16), the Honor Frost Foundation, the Institute of Nautical Archaeology (INA), Texas A&M University (grant no. 039), the President and Research Authority of the University of Haifa, Kibbutz Ma'agan Mikhael, and anonymous donors, to whom the authors are grateful. The study of the inscriptions was made possible thanks to a scholarship from the Haifa Center for Mediterranean History. The authors owe a debt of gratitude to L. Di Segni, S. Heidemann, I. Bultrighini, and F. Scicolone, for their invaluable comments and feedback, and to the anonymous referees for their valuable suggestions and insights. The authors would also like to thank J. B. Tresman for the English editing.

¹ M. Cohen, D. Cvikel, *Ma'agan Mikhael B, Israel: A Preliminary Report of a Late Byzantine–Early Islamic Period Shipwreck*, *IJNA* 48, 1 (2019) 189–207; D. Cvikel, *The Late-Antique Ma'agan Mikhael B Shipwreck, Israel*, *Near Eastern Archaeology* 83, 1 (2020) 30–37.

² Cohen, Cvikel, *Ma'agan Mikhael B* (note 1) 301; M. Creisher, Y. Goren, M. Artzy, D. Cvikel, *The Amphorae of the Ma'agan Mikhael B Shipwreck: Preliminary Report*, *Levant* 51, 1 (2019) 105–120; D. Cvikel, *The Ma'agan Mikhael B Shipwreck, Israel*, *L'Archeologo Subacqueo* 73–74 (2021–2022) 1–6, http://dx.doi.org/10.4475/01116_2; A. Benzonelli, E. Natan, Y. Gori-Rosen, I. C. Freestone, *Composition and Affinities of Glass from the Ma'agan Mikhael B Shipwreck, Israel*, *Archaeometry* 66, 2 (2023) 340–351, <https://doi.org/10.1111/arcm.12929>.

During the late Byzantine period, merchant ships were built in shipyards along the coastlines of present-day Greece and Turkey.³ These shipyards exploited local timber, especially oak, pine and walnut, for shipbuilding. Analysis of the timbers of the Ma'agan Mikhael B revealed that the wood employed may have originated in Turkey and/or the Levant, given the presence in this area of high-quality oak (*Quercus ilex/Quercus suber*) and walnut (*Juglans regia*).⁴ The timber could indirectly show, and be evidence of, the geography of the shipyards, and the quality of the construction materials. The masthead especially is an item of sophisticated carpentry and shaped to a very high standard, thus providing evidence of the tools that were used for modelling both ship timbers and inscriptions.⁵ This distinguishes the Ma'agan Mikhael B shipwreck from other examples built in the Eastern Mediterranean coastal centres, given the fact that for the construction of this ship there was a clear preference for high quality timber and superior craftsmanship skills.⁶ The inscriptions, located along the planks and framing timbers of the hull and on the masthead, are not only indicative of the origin of individuals involved in activities on the ship, as highlighted by the alphabets that we can identify, but also offer further information about shipbuilding, timber trading, and perhaps the life of the merchant ship itself.⁷

The inscriptions

Several groups of marks have been identified on the timbers of the ship, depicting letter-forms and words in the Greek alphabet, as well as in Arabic.⁸

³ H. Ahrweiler, *Byzance et la mer. La marine de guerre, la politique et les institutions maritimes de Byzance aux VII^e–XV^e siècles*, Paris 1966; N. Günsenin, *Harbours and Shipbuilding in Byzantine Constantinople*, in: C. Buchet, M. Balard (eds.), *The Sea in History. The Medieval World*, Cambridge 2017, 412–424, see 412–418.

⁴ M. Cohen, D. Cvikel, *Rigging of the Ma'agan Mikhael B Shipwreck (7th–8th Centuries AD): New Finds*, *IJNA* 49, 2 (2020) 291–302, see 301–302; C. Beltrame, S. Medas, *The Hook-Shaped Masthead in Late Antiquity and the Early Middle Ages*, *IJNA* 50, 1 (2021) 34–44, see 35–42.

⁵ Cohen, Cvikel, *Rigging* (note 4) 295.

⁶ Ü. Akkemik, *Woods of Byzantine Trade Ships of Yenikapı (Istanbul) and Changes in Wood Use from 6th to 11th Century*, *Mediterranean Archaeology and Archaeometry* 14, 2 (2014) 301–311, see 301–308.

⁷ H. Mor, *The Carpenters' Tool-Marks: Their Significance in Ancient Shipbuilding*, in: Y. Kahanov, E. Linder, *The Ma'agan Mikhael Ship: The Recovery of a 2400-Year-Old Merchantman, Volume II*, Jerusalem 2004, 165–172, see 166–171.

⁸ Recent scholarship has not significantly developed our understanding of Byzantine epigraphy. Notable works include L. Di Segni, *Dated Greek Inscriptions from Palestine from the Roman and Byzantine Periods* (PhD dissertation, Hebrew University of Jerusalem), Jerusalem 1997; L. Di Segni, *Epigraphic Documentation on Building in the Provinces of Palaestina and Arabia, 4th–7th c.*, in: J. H. Humphrey (ed.), *The Roman and Byzantine Near East, Volume 2* (JRA Supplementary Series 31), Ann Arbor 1999, 149–178; L. Di Segni, *Unrecognized and/or Misunderstood Toponyms in Inscriptions*, in: A. Coniglio, A. Ricco (eds.), *Holy Land: Archaeology on Either Side. Archaeological Essays in Honor of Eugenio Alliata*, Milan 2020, 323–327 (especially for Byzantine inscriptions in Judaea and Palaestinae); D. Feissel,

The first set of inscriptions was carved on an internal plank, which was found between the aft bulkhead and the stern. Both ends of this plank are broken; it measures 1.58 m long, with an average width of 25.2 cm and average thickness of 9.7 cm. The timber has a sequence of well carved motifs and six Greek capital letters, written from left to right (Pl. 29 Fig. 2). The sequence of marks measures ca 30 × 9 cm. The sequence appears to be C (lunate *sigma*?), Λ (*lambda*) or Α (*alpha*), Β (*beta*), then a space, followed by Γ (*gamma*), Κ (*kappa*), and the top of Λ (*lambda*) or perhaps Α (*alpha*), i.e.:

C Λ Β Γ Κ [Λ or Α]

On the right-hand side, the plank is damaged, and there may have been further letters that are now unreadable. Given the space between the two groups of three letters, we are not able to read any complete word, and therefore it is more likely that these letters should be interpreted as either numerals or abbreviations for trading and construction purposes, or in the context of a calendar. More specifically, the initial three letters (C *sigma* = 200; Λ *lambda* = 30; Β *beta* = 2), could be read as numerals, corresponding to the number 232; thus, this figure may relate to technical aspects of the assemblage of the timber in the shipyard in the timber dealer's shipping operation.⁹ Perhaps this indicates the original length of an unknown timber of this merchantmen.

A second hypothesis could relate to calendars. Two creation calendars attested in the region are: the Byzantine calendar, also known as Creation Era of Constantinople, which placed the date of creation at 5509 BCE; and the Alexandrine calendar, which fixed the date of creation at 5492 BCE. While the Alexandrine calendar was attested in Egypt and Israel, the Byzantine one was more widely adopted in Syria and Jordan.¹⁰ If we interpret the inscriptions as creation data, the letters could correspond to (6)232, where the number 6 is missing, if we assume that this sequence of letters is an abbreviation. Thus, if we take the Byzantine calendar, we calculate 6232 – 5509 = 727 CE. If we suppose that the calendar is the Alexandrian one, we calculate 6232 – 5492 = 740 CE. In the second three-letter group, the letter Γ could denote 3, and the combination KA could perhaps refer to the Syrian month of Kanun, thus making a complete calendar date: day 3 of the month Kanun in the year 727 or 740 CE.¹¹ This date could mark an event, such as the shipping date of the timbers, the completion of the shipbuilding, or the ceremonial ship launching. We can assume that the author of these signs was the shipwright, or the timber dealer, or the captain/owner of the merchantman. If this interpretation is correct, these letter-marks can provide insights into the dating of the ship, confirming the archaeological evidence of the first half of

Chroniques d'épigraphie byzantine 1987–2004, Paris 2006; A. Rhoby, *A Short History of Byzantine Epigraphy*, in: A. Rhoby (ed.), *Inscriptions in Byzantium and Beyond. Methods – Projects – Case Studies*, Wien 2015, 17–29; see also M. D. Lauxtermann, I. Toth (eds.), *Inscribing Texts in Byzantium. Continuities and Transformations*, London 2020.

⁹ W. Johnstone, *Cursive Phoenician and the Archaic Greek Alphabet*, *Kadmos* 17 (1978) 151–166, see 158–163; S. Verdan, *Systèmes numériques en Grèce ancienne*, *CultureMATH* (2007) 1–13.

¹⁰ V. Grumel, *Traité d'études byzantines I. La chronologie*, Paris 1958.

¹¹ Grumel, *Traité* (note 10).

the eighth century CE (to which both dates resulting from the calculations mentioned above, 727 or 740, would point).¹²

The second set of marks occurs on the masthead timber, which is made entirely of walnut and has a hook-shaped tip (Pl. 29 Fig. 3). The masthead is an item of high-quality carpentry, worked with chisel and saw.¹³ The sequence consists of two capital Greek letters, I (*iota*) and Φ (*phi*), carved on the front of the masthead. It measures ca. 15 × 5 cm. and provides very few linguistic clues, and therefore it could only make sense if related to the provenance of the wood or the context of construction of the ship, and may be the initials of the carpenter. These symbols could also be related to forestry, traders, deliverymen, craftsmen/carpenters, the shipowner, and/or seamen. If we consider the traces of the tools used to carve the letters, they could date to the period of construction of the ship itself, and therefore the letters could correspond to a ‘code’ used for assembling the various parts of the ship. Alternatively, this mark bow, forward or front, might also been used to indicate the direction of the masthead. On the other hand, it is very likely that these two letter-forms are the initials of a proper name.¹⁴

The third set of inscriptions shows various signs found on a single stringer (an internal longitudinal support of the hull) located at the bow and designated HL-12. This stringer is 4.94 m long and was found broken at its western end. The sequence includes letters and perhaps a complete word, and measures ca. 27 × 11 cm (Pl. 30 Fig. 4).

From left to right / on the left end of the sequence, on the bottom, a burnt mark of what seems to be the word *Allah* (الله) in Arabic (Pl. 30 Fig. 4-1) precedes a sequence of Greek capital letters, which could be identified as Γ (*gamma*), Υ (*psilon*), Σ (a three-stroke *sigma*) (Pl. 30 Fig. 4-2). On top of the letter Γ the sign of an accent is visible, which could also be the marker of an abbreviation.¹⁵ In this case, the ‘accent’ sign places emphasis on whether the letter underneath could be an abbreviation or a numeral, i.e. 3.

About 20 cm to the right, is a group of letters and signs which includes capital Β (*beta*) and Π (*pi*). Above the Π, there is what could be the letter ε (*epsilon*) or a symbol, such as an anchor or a trident (Pl. 30 Fig. 4-3). This sequence measures ca. 15 × 13 cm. If these Β (*beta*) and Π (*pi*) are read as numerals, the result would be 82 (Β *beta* = 2; Π *pi* = 80). Otherwise, and more plausibly, another reading could be as follows: Β is 2; Π

¹² Creisher et al., *The Amphorae* (note 2) 105–120; Benzonelli et al., *Composition* (note 2).

¹³ Cohen, Cvikel, *Rigging* (note 4) 291–295.

¹⁴ M. F. Hendy, *Studies in the Byzantine Monetary Economy c. 300–1450*, Cambridge 1985; P. Ariès, G. Duby (eds.), *A History of Private Life Volume I. From Pagan Rome to Byzantium*, Cambridge 1992; R. Feind, *Byzantine Monograms and Personal Names. An Alphabetized Lexicon*, Regenstauf 2010.

¹⁵ Grumel, *Traité* (note 10); C. Mango, *Byzantine Epigraphy (4th to 10th Centuries)*, in: D. Harlfinger, G. Prato, M. D’Agostino, A. Doda (eds.), *Paleografia e codicologia greca. Atti del II colloquio internazionale (Berlino-Wolfenbüttel, 17–21 ottobre 1983), Volume 1*, Alessandria 1991, 235–249, see 235–240; A. Rhoby, *Inscriptions and Manuscripts in Byzantium: A Fruitful Symbiosis?*, in: M. Maniaci, P. Orsini (eds.), *Scrittura epigrafica e scrittura libraria: fra Oriente e Occidente*, Cassino 2015, 15–44, see 15–38. Evidence suggests that minuscule letters, accents and abbreviations feature prominently in a wide range of inscriptional material irrespective of the quality of execution.

and ε represent an abbreviation for the Greek $\pi\eta\chi\upsilon\varsigma$ (cubit), thus a possible interpretation might be 2 cubits (corresponding to the forearm, c. 44 cm), so perhaps indicating a measurement related to the shipbuilding process.¹⁶

Two capital Greek letters, Π (*pi*) and M (*mu*), may be the initials of an individual from the shipyard or the crew (Pl. 30 Fig. 4-4). This sequence measures ca. 14×3 cm. No further evidence allows us to suggest that this could be an abbreviation. In these circumstances, this sequence is very difficult to make out.

Further to the right, we can read the letter λ (*lambda*), followed by a space and a sequence of letters consisting of B (*beta*), I (*iota*), B (*beta*); this sequence measures ca. 32×12 cm (Pl. 30 Fig. 4-5). The usual value of this abbreviation is $\lambda(\tau\rho\alpha)$, could suggest an indication of weight.¹⁷ The letter I (*iota*) was carved by intersecting a nail hole in the timber, and complicating further the reading of the marks. It is unlikely that these letter-forms should be interpreted as the abbreviation of a name (e.g. *Bibulus?*).¹⁸ It is, however, possible — assuming numerical values — to interpret Λ/BIB as $\lambda(\tau\rho\alpha)\beta'\iota\beta$, meaning 2 pounds and 1/12 of a pound (equivalent to 1 ounce). If this might represent a monetary value, then the total would be equivalent to $2 \times 72 + 6 = 150$ solidi in Byzantine currency.¹⁹

The fourth inscription, found on framing timber F110 on the port side of the hull, measures ca. 20×9 cm. It is in Arabic letters, probably carved by using a sharp tool, perhaps a chisel, reads as *al-saleh* (الصالح), which signifies either the proper name 'Sala' or the name for God (Pl. 30 Fig. 5).²⁰ The frame is located in an area which was accessible only during construction, thus the inscription was apparently made prior to installing it in the hull.

We suggest that *al-saleh* refers to the divine, or more exactly, to the only God. This word could be a unique textual representation of the religious dimension in a maritime context. It may be conjectured that the word was used and applied as an *ex-voto* or prayer to the divine for a safe journey. This valuable piece of evidence also emphasises the importance of multiethnic shipwrights and crew in the Mediterranean.

A fifth example is a carved inscription of Greek letters, found on a framing timber at the forward end of the mast-step (Pl. 31 Fig. 6). This is a well-preserved inscription that appears to be an abbreviation or a formula. The whole sequence of letters measures ca. 90×9 cm. From left to right, it reads X (*chi*), Ω (*omega*), P (*rho*), Φ (*phi*), A (*alpha*), P (*rho*), A (*alpha*), Θ (*theta*), E (*epsilon*), N (*ny*), O (*omicron*), Y (*ypsilon*), Π (*pi* or *double tau*), and P (*rho*), i.e.:

¹⁶ M. Avi-Yonah, *Abbreviations in Greek Inscriptions (The Near East, 200 B.C.–A.D. 1100)*, London 1940; A. N. Oikonomides, *Abbreviations in Greek Inscriptions: Papyri, Manuscripts and Early Printed Books. A Manual*, Chicago 1974.

¹⁷ C. Entwistle, *Byzantine Weights*, in: A. E. Laiou (ed.), *The Economic History of Byzantium: From the Seventh Through the Fifteenth Century*, Washington 2002, 611–614, see 612.

¹⁸ See Feind, *Byzantine* (note 14).

¹⁹ See Hendy, *Studies* (note 14); P. Grierson, *Byzantine Coinage*, Washington 1999.

²⁰ L. Di Segni, *Greek Inscriptions in Transition from the Byzantine to the Early Islamic Period*, in: H. M. Cotton, R. G. Hoyland, J. J. Price, D. J. Wasserstein, *From Hellenism to Islam. Cultural and Linguistic Change in the Roman Near East*, Cambridge 2009, 352–373.

X Ω Ρ Φ Α Ρ Α Θ Ε Ν Ο Υ Π (or TT) Ρ

X(ριστ)Ϟ {ρ} <π>αρ{α}θένου <τ>(ό) ρ (ου)

In this case we can also assume the existence of letters that are now unreadable. However, given the marks and the space between the groups of letters, we are not able to read any proper words. In this case we suggest that this sequence might be interpreted as either abbreviations of two or three words in a context of invocation or dedication to Jesus Christ. The first two letters XΩ could be the abbreviation of the dative Χριστῶ, which is used here instead of the genitive Χριστοῦ that would agree with the following genitives παρθένου and τόκου.²¹ The letter Ρ (*rho*) should be removed, as this is superfluous; its presence is perhaps due to confusion with the Ρ that was about to be inscribed later in the line.²² As anticipated, the second abbreviated word would be παρθένου: Φ for Π (*phi* for *pi*) is a phenomenon attested in the region, specifically in inscriptions from Zoar (fifth century CE).²³ The second Α (*alpha*) also seems to be superfluous (see above on the first Ρ); this could be explained as a repetition of the first Α, and perhaps also as an indication of the writer's uncertainty about an either left-to-right or right-to-left (i.e. Semitic) manner of writing. Then an incomplete Θ (*theta*) could be read; the graphic uncertainty could also be interpreted as the result of an exchange between sibilant sounds S/Th. The third abbreviated word could be τόκου: if TK is to be read here (perhaps with Π *pi* carved instead of T *tau*, or with an instance of duplicated T *tau*) this could be the whole abbreviation of the term τόκου.²⁴ The two Ο (*omicron*) are thus omitted, and perhaps a diagonal stroke could be identified in the Κ (*kappa*) to signal the abbreviation.²⁵

²¹ Cf. *I.Zoora* 223, l. 4 ἐν Χ(ριστο)ῶ, which has the abbreviated genitive instead of the abbreviated dative; on this, see Y. E. Meimaris, K. Kritikakou, *Inscriptions from Palestina Tertia. Vol. Ia: The Greek Inscriptions from Ghor es-Safi (Byzantine Zoora)*, Athens 2005, 312. See also *ibid.* no. 121, l. 6 for the abbreviation XΩ for Χριστός in the dative.

²² For the carving of superfluous letters, for instance in the inscriptions from the necropolis of Zoar (Ghor es-Safi), see Meimaris, Kritikakou, *Inscriptions* (note 19) 64–65.

²³ As in e.g. *I.Zoora* 113, l. 1: Φασωφή for Πασωφή (on which see Meimaris, Kritikakou, *Inscriptions* (note 19) 208–209; on this phonetic phenomenon, see *ibid.*, 63); for other examples, see *SEG* 37.1489, 40.1471–1472; cf. also Φροτίνας in *SEG* 8.128 (Nablus, second century CE), possibly a vernacular form of the Greek name Πρωτίνας, as observed (with further examples from the same region) in Di Segni, *Unrecognized* (note 8) 324 and 326 n. 12.

²⁴ Cf. *I.Zoora* 4, fourth century CE, for a similar phenomenon. Another possibility is that the last sign is actually closed at the top (not clearly visible from photographs) and is therefore a Ρ (*rho*): the abbreviation would be ΠΡ standing for πρ (εσβύτερος), with the diagonal stroke on the Ρ indicating the abbreviation, as in *SEG* 7.327 (Tyros, sixth century CE, l. 2); *MUSJ* 36 (= R. Du Mesnil du Buisson, *Inscriptions sur jarres de Doura-Europos*, Mélanges de l'Université Saint Joseph 36 [1959] 1–50, see 36 no. 123, Dura-Europos, third century CE), where the abbreviation ΠΡ is written to resemble a crucifix; further examples in Oikonomides, *Abbreviations* (note 16) 96.

²⁵ See a possible parallel for this in Meimaris, Kritikakou, *Inscriptions* (note 19), 71, esp. *I.Zoora* 240 where ΥΠΟΔΙΑΚ (with oblique stroke in the Κ) stands for the genitive ὑποδιακόνου, as in this case the stroke could mark the shortening of a genitive ending, which is anticipated by the ending of the previous word <π>αρ{α}θένου.

There is thus the possibility to read here a two-word qualification of Jesus Christ as *παρθένου τόκου*, meaning ‘born of a virgin’; alternatively, these two words could also have been intended as the one-word epithet *παρθενοτόκος*, carrying the same meaning, which would be parallel to analogous ones, also applied to Christ, like *παρθενογενής* and *παρθενογέννητος*.²⁶ This inscription, hints at the presence of a mixed and possibly multiethnic crew. This inscription was located along the mast-step, a place difficult to access, and would have been made when the ship was under construction. Perhaps this could indicate some sort of blessing to keep the ship safe.

A sixth inscription, in Arabic characters, is carved on a framing timber placed at the aft end of the mast-step (Pl. 31 Fig. 7). How the inscription in Figure 7.1 could be read is difficult to say: *ابصلا* could mean ‘The east wind,’ which might be suitable for a ship, however, *انضلا* could translate as ‘the weakness’ or ‘the grief.’ Figure 7.2 is part of a longer phrase, and it is possible that it could be some form of blessing or another religious expression seeking God’s protection. In case of rendering all the letters carved into the timber, an interpretation of the lettering could be *مرکوب*. In this instance, the letters at the beginning may be plausibly read as *Shenut*, which is related to a Coptic name. Therefore, the inscription can be rendered as: (...)*وط طس سد* (...)*نمه مرکو*, and at least the first part seems to include the name ‘*Ibn Shanūt*’. The following word appears to be defective and may possibly be a verb with a suffix (Heidemann, 2025, personal communication). As can be seen from Figure 7, the rest of the inscription is almost illegible.

Discussion

The letter-forms from the Ma'agan Mikhael B shipwreck represent a unique example of epigraphic evidence in context, for which no other direct comparisons are available from the archaeological and epigraphic records from the Late Antique period. While similar evidence from the Archaic, Classical, and Medieval periods typically involves marks or abbreviations of names, the alphabetic signs in this case appear to offer a richer set of information, including details on calendars, names of individuals, weights or currency, religion and votive practices, and shipbuilding techniques.

The letter-forms from the Ma'agan Mikhael B shipwreck share some common ground with the timber inscriptions of the Marsala shipwreck, which dates to the third century BCE, as well as with the Saint-Gervais 3, Caesarea Maritima, La Bourse, Arles-Rhône 3, and Sea Llumetes shipwrecks which date to the Late Republican and early Imperial periods.²⁷ Although the Marsala shipwreck relates to a very different

²⁶ Both recorded in G. W. H. Lampe, *A Patristic Greek Lexicon*, Oxford 1961, 1037; perhaps *παρθενοτόκος* was created by similarity to compounds like *θεοτόκος*. Nevertheless, if the abbreviation ΠΡ for πρ (*εσβύτερος*) is instead to be read here, the whole sequence of letters could be interpreted as *Χριστῶ (= ου) (ἐκ) παρθένου πρ (εσβύτερος)*, giving a meaning similar to ‘Presbyter of Christ (born) of the Virgin’.

²⁷ The only exception is represented by the timber marks on the Punic shipwreck from Marsala and the Roman shipwrecks from Saint-Gervais 3, Caesarea, La Bourse, Arles-Rhône 3, and Sea Llumetes. See W. Johnstone, *The Biblical Hebrew WĀWĪM in the Light of New*

chronological period and linguistic context, i.e. Phoenician, these examples represent the only comparative pattern for timber inscriptions from the nautical dimension. About these Marsala inscriptions, Johnstone recorded over a hundred marks, of which some 40 were letters from the Phoenician alphabet, and he identified two complete words.²⁸ These signs were lost after the excavation due to the exposure of the timber and to the fading away of the pigments, though some of them survived. The letters appear to be painted, as soon as the keel was laid, at intervals which correspond to the frames, namely the floor-timbers crossing the keel and alternating with the half-frames. The alphabetic sequence revealed that the marks were used in this context as numerals, probably for sequencing and for marking distances and assemblages of the timbers within the shipyard context.²⁹ Regarding the timber marks from the above-mentioned Roman shipwrecks, these appear to be abbreviations for names, i.e. Saint-Gervais 3, La Bourse, Arles-Rhône 3, and Sea Llumetes, and perhaps also numbers instead of names, i.e. Caesarea Maritima.³⁰ While the Punic shipwreck marks relate to the assembly process, the Roman shipwreck inscriptions seemingly refer to names of professionals intimately involved in the maritime dimension, such as carpenters, shipowners, shipwrights, and possibly seamen.

Phoenician Evidence, Palestine Exploration Quarterly 109 (1977) 95–102; Johnstone, *Cursive* (note 9); W. Johnstone, *The Epigraphy of the Marsala Punic Ship: New Phoenician Letter-Forms and Words*, in: *Atti del I Congresso Internazionale di Studi Fenici, Volume 3*, Rome 1983, 909–917; A. Raban, J. Oleson, *The Harbours of Caesarea Maritima: Results of the Caesarea Ancient Harbour Excavation Project, 1980–1985* (BAR International Series 491), Oxford 1989; B. Liou, J. M. M. Gassend, R. Roman, *L'épave Saint-Gervais 3 à Fos-sur-Mer (milieu du II^e siècle ap. J.-C.). Inscriptions peintes sur amphores de Bétique. Vestiges de la coque*, *Archaeonautica* 10, 1 (1990) 157–264; N. Tran, *Marques au fer et graffites imprimé dans le bois du chaland Arles-Rhône 3: Étude épigraphique*, in: S. Marlier (ed.), *Arles-Rhône 3. Un chaland gallo-romain du I^{er} siècle après Jésus-Christ* (*Archaeonautica* 18), Paris 2014, 165–170; E. Aragon, J. Rodriguez, S. Agusta-Boularot, M. P. Jézégou, *A Question of Marks: Timber Marks from the Ses Llumetes Shipwreck, 1st Century AD, Mallorca (Spain)*, *IJNA* 52, 2 (2023) 271–286.

²⁸ Johnstone, *Cursive* (note 9) 161–166; Johnstone, *The Epigraphy* (note 26) 909–917; Aragon et al., *A Question* (note 26) 271–286.

²⁹ Johnstone, *Cursive* (note 9) 161–165; R. Meiggs, *Trees and Timbers in the Ancient Mediterranean World*, Oxford 1982, 116–153.

³⁰ On La Bourse (late second/early third century CE), Tran reads the inscription M VIB AVXE as an abbreviation of *M(arcus) Vib(ius) Aux(e)tus*, interpreted as the name of the shipwright; see Tran, *Marques* (note 26) 169; on Saint-Gervais 3 (mid-second century CE), for the mark C ANT IOR VM, Liou identified the plural genitive name of Cantius, and associated it with shipwright; see Liou et al., *L'épave* (note 26) 245; on Arles-Rhône 3 (first century CE), for the mark C-L-POS(TV) as *C(ai) (et) L(uci) Postu(miorum)*, Tran interpreted it as a shipwright and the following six marks (see Tran, *Marques* note 26) as names of a society of marine carpenters; see Tran, *Marques* (note 26); on the Caesarea Maritima (first century CE), for the mark ΧΙΛΙΑΨΙΝ, Fitzgerald interpreted it as a number; see M. Fitzgerald, *The Ship*, in: P. John, M. A. F. Oleson, A. N. Sherwood, S. E. Sidebotham (eds.), *The Harbours of Caesarea Maritima: Results of the Caesarea Ancient Harbours, Excavation Project 1980–1985. The Finds and the Ship* (BAR International Series 594), Oxford 1994, 163–223, see 166; Aragon et al., *A Question* (note 26) 271–286; on the Sea Llumetes (first century CE), Aragon identified C I VL TELE S, as abbreviations for the *tria nomina C(aius) Iul(ius) Teles(...)*, perhaps a shipwright or a shipowner, see Aragon et al., *A Question* (note 26) 271–275.

Besides these examples, the timber inscriptions of the Ma'agan Mikhael B shipwreck remain the only known pattern of carved epigraphic evidence from a maritime and nautical context of the Late Antique period. The inscriptions are evidence of the activities of the shipwright/carpenter or seaman of the period 700–750 CE, and the variation in letter-forms, both in the Greek and Arabic scripts, suggests that the inscriptions were made by different individuals. Apart from the inscription containing names and numerals, the presence of inscriptions with religious abbreviations suggest that the devotional sphere developed within the marine context, along the coast running from Asia Minor to the Levant, passing through the main harbour cities of the Eastern Mediterranean. These pieces of evidence allow us, albeit indirectly, to identify and understand proper names, chronological periods and religious notions that pertain to shipwrights, carpenters, sailors and seafarers. The crew of seamen, or the team of shipbuilders, perhaps developed and alluded to religious practices within the shipyard context, thus establishing a link between commercial and seafaring activities, coastal centres, the exploration of the sea, and the need for divine protection in a maritime environment. Such association transformed the microcosm constituted by actors, i.e. shipwrights, carpenters, sailors, seafarers, and objects, timbers, sails, ropes and rigging, pertaining to seafaring into a 'space' with multifaceted purposes, which may have involved also the invocation of divine presences. Through the presence of abbreviated names, numerals and references to the calendar, as well as through possible attestations of religious behaviours in the timber inscriptions, the Ma'agan Mikhael B shipwreck provides unique evidence of writing practices that accompanied the construction and sailing operations of this merchantman.

The fragmentary character of the inscriptions from the Ma'agan Mikhael B shipwreck does not tell us about who carved them and for what purpose. Most of the letters were carved in places where the shipwrights worked, so may well have been made by the carpenters. As to the purposes of the carvings, we cannot exclude *a priori* the existence of links with the activities of timber dealers, a practice widely extending across the centuries and attested in examples of shipbuilding, which could have direct contact with various professional figures and seafarers. Thus, the inscriptions must have been carved when the timber was shipped to the shipyard, or when the ship was assembled in the shipyard itself, as also the calendar interpretation of one of these inscriptions would suggest. The letter-forms, alphabets and abbreviations in use also confirm the date suggested by the archaeological evidence — close to the early eighth century CE, when the ship would have been launched and sailed the Eastern Mediterranean. Finally, the few letters in Arabic and the inscription containing religious abbreviations could be interpreted as some of the first inscribed testimonies of a multiethnic crew, either in the shipyard or on board the ship operating across the Mediterranean.

Conclusions

The inscriptions found on the timbers of the Ma'agan Mikhael B shipwreck could be interpreted as markers of normal sailing and shipyard activities. However, the epigraphic evidence may indicate that these shipwrights and workers also supervised

and effectively conducted the project management of the shipbuilding, using their own technical and professional skills. The epigraphic evidence indicates, although often indirectly, the sophisticated level of shipbuilding activities in Levantine coastal cities during the late Byzantine period. These inscriptions are evidence of a multiethnic crew, either in the shipyard or on board the ship, and support the dating of the ship to the early eighth century CE. Nevertheless, the inscriptions are sometimes incomplete, which makes their reading not unequivocal, and the suggested interpretation should be approached with caution.

The variety of letter and mark groups, particularly in Greek and Arabic scripts, is noteworthy. One set may pertain to calendar details, while another could relate to weights, currency, or measurements—potentially linked to shipyard and shipbuilding activities. Another group of inscriptions may be religious or votive in nature, including blessings for the ship's safety, and could also involve references to crew or shipyard workers. For example, some letter combinations, possibly abbreviations of names, suggest the individuals may have been mariners or carpenters involved in the ship's construction or operation.

By cautiously interpreting these letters and marks, and considering their possible references to locations, time periods, religions, and individuals, we gain a more complete understanding of the merchant ship's life. This paper further illuminates shipbuilding practices, onboard activities, and potential cross-cultural interactions among crew members and seafaring traditions in the Eastern Mediterranean during the Late Antique period.

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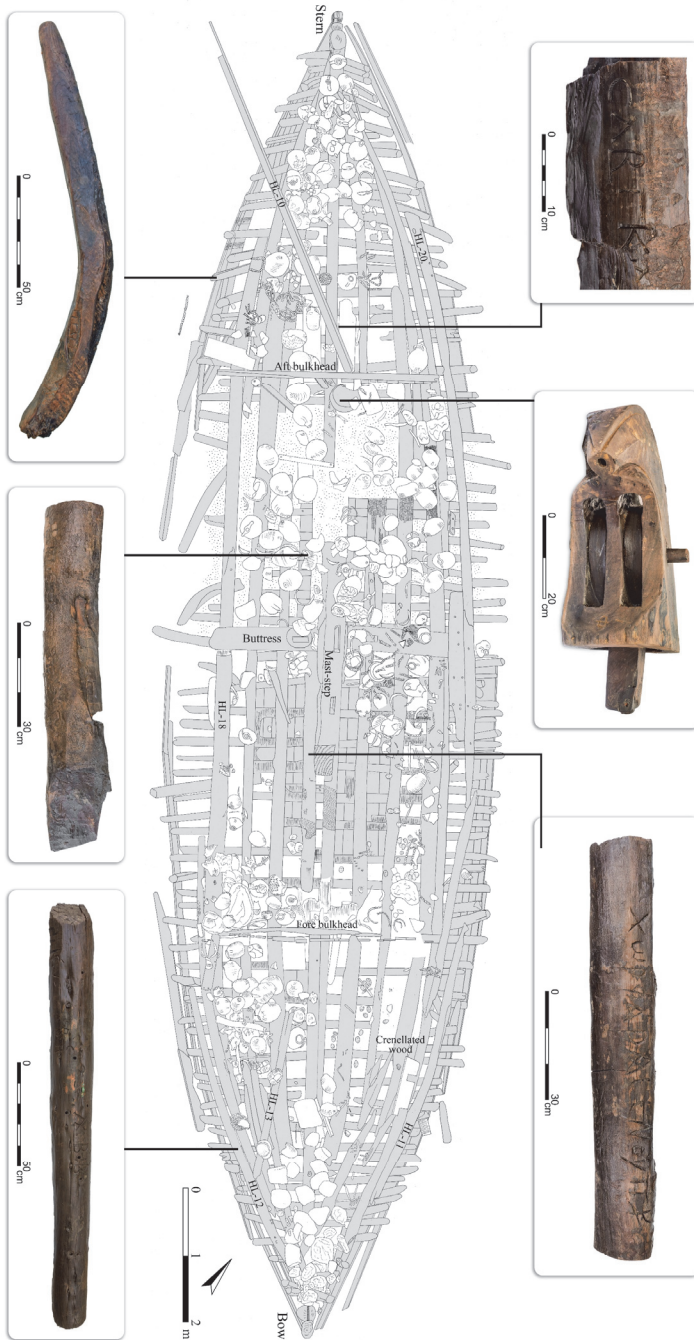


Fig. 1: The Ma'agan Mikhael B shipwreck showing locations of the inscriptions.
(Drawing: P. Sibella, Photos: A. Efremov; adapted by S. Haad and D. Cvikel)

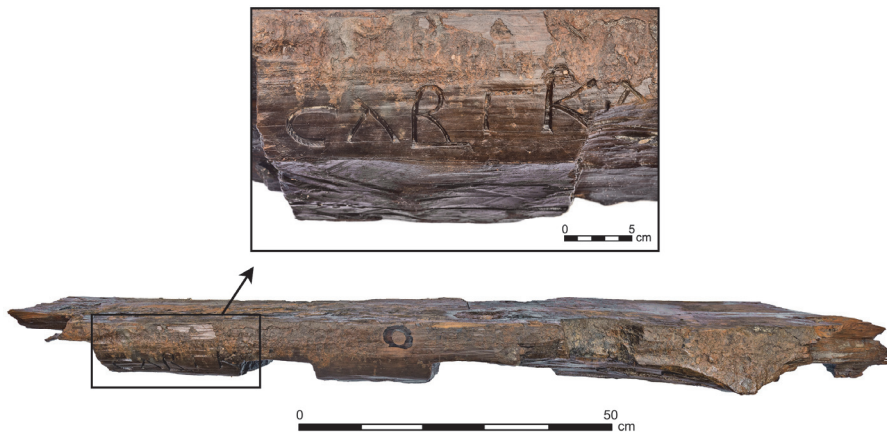


Fig. 2: The internal plank with inscription (Photo: A. Efremov)



Fig. 3: The hook-shaped masthead (Photo: A. Efremov)

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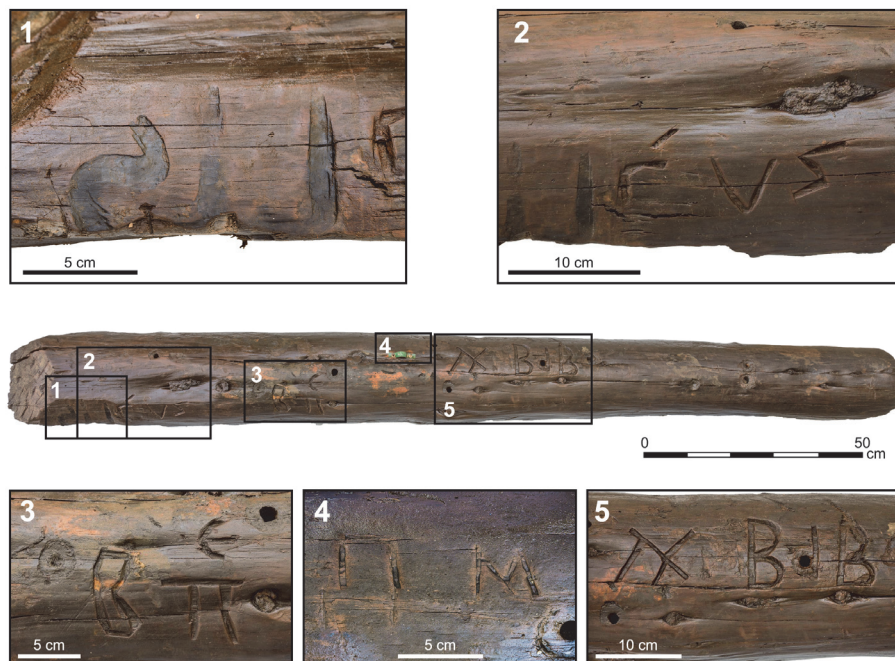


Fig. 4: Stringer HL-12 with inscriptions (Photo: A. Efremov)



Fig. 5: Framing timber F110 showing inscription (Photo: J. J. Gottlieb)

zu F. Ugolini, D. Cvikel, S. 218 und 219



Fig. 6: The inscription on the frame at the forward end of the mast-step
(Drawing: P. Sibella, Photo: A. Efremov)

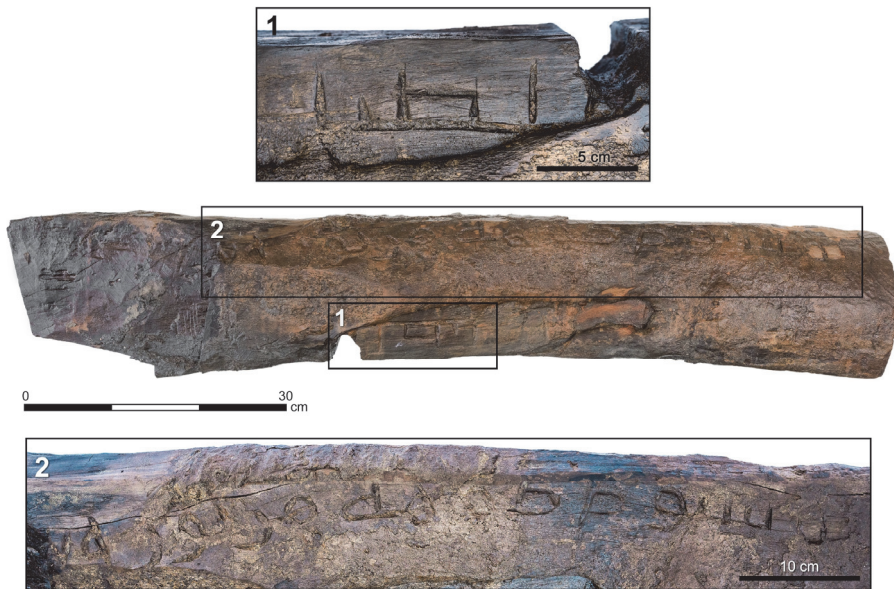


Fig. 7: The inscription on the frame at the aft end of the mast-step (Photo: A. Efremov)

zu F. Ugolini, D. Cvikel, S. 219 und 221