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A Canaanite jar with a Cypro-Minoan inscription from Tiryns: TIRY Avas 001

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Abstract: More inscribed Canaanite jars have been found at the palatial centre of Tiryns than at any other site on the Greek mainland. The Cypro-Minoan inscription TIRY Avas 001, on a Canaanite jar handle from Tiryns, was first published in 1988. Since then, however, a second (unpublished) inscribed handle from that jar has been identified, along with the vessel's rim, base, and enough body sherds to reconstruct the entire vessel. In this article, we present the reconstructed jar and its incised Cypro-Minoan signs, including a detailed account of the varied contexts of each recovered sherd, as well as a macroscopic analysis of the vessel's fabric and what this says about its place of origin. We then discuss the probable meanings and uses of the jar and of the writing on it, and outline the probable path of the vessel from its creation on the Levantine coast, to its inscription on Cyprus, to its deposition in a final palatial destruction context in the Lower Citadel of Tiryns.

Keywords: Argolid, Tiryns, Lower Citadel, Mycenaean, Late Bronze Age, Levantine Import, Canaanite Jar, Cypro-Minoan sign, inscribed handle, potmark.

Article note: Drawing of the vessel: Birgit Konnemann, Maria Kostoula, Soňa Wirghová, Kilian´s excavation archive; drawing of the inscription: Brent Davis; plan: Sveta Matskevich, Maria Kostoula; digitization: Maria Kostoula, Soňa Wirghová; photos: Brent Davis, Maria Kostoula, Joseph Maran, Susanne Prillwitz. Special thanks to Daniel Frank, Maria Kostoula, Georgia Papadimitriou, Philipp Stockhammer and Melissa Vetters for their support during campaigns 2021-2022 and their contributions while discussing the context of the vessel.

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1 Introduction

In the course of the excavation 1982–1983 under the direction of Klaus Kilian in the northernmost part of the Lower Citadel in Tiryns, fragments of a Canaanite jar comprising two vertical handles with three Cypro-Minoan signs were found in the passageway leading to the North Gate.[1] According to the contextual information originally provided by Kilian,[2] two Canaanite jars, one of which with a Cypro-Minoan "graffito",[3] were said to have been found together with other pottery vessels close to a hearth in one and the same context dating to the end of the palatial period immediately to the southeast of the North Gate, at the northeastern end of the passageway. After having checked this information, however, we found it to be incorrect in several respects:[4] The context mentioned by Kilian did not yield any fragment of a Canaanite jar, while the parts of that vessel type that Kilian was referring to derive from separate find contexts. During a study season in August and September 2021 it also became clear that all parts belong to one and the same vessel rather than two vessels and that additional fragments of the jar had been found, but not identified in the 1980s.

According to the available information, the following find history of the Canaanite jar can be reconstructed: The first fragments of its lower part,[5] including half of its base, came to light in September 1982 in the southern part of the chamber of the North Gate in sediment about 0.20 m above the floor of that chamber.[6] Subsequently, in late August 1983, the wall fragment with the first inscribed handle furnished with one Cypro-Minoan sign together with a joining wall fragment with the lowest part of the attached handle were found in the passageway more than six meters to the south of the jar base.[7] About a month later,

1 Kilian 1988a, 108; Olivier 1988, 255.

2 Kilian 1988a, 108, fig. 24:7.

3 Kilian 1988a, 108.

4 See already Rahmstorf 2008, 240.

5 The "upper part" and "lower part" of the vessel refer to the parts above and below the carination.

6 Original context of the base fragments together with joining wall fragments as excavated by Kilian is LXIII 34/36 III and LXIII 34/46 III (for further context see note 11). The floor in the southern part of the chamber was exposed by Kilian with surface Va.

7 The wall fragment with the first inscribed handle derives from the context LXIII 35/5 VI and the joining wall fragment from the context LXIII 35/15 VI. These sherds must have been found before 25 August 1983, since on that day the drawing of surface VII in the passageway began, which means that, by that time, Pass (Abhub) VI had been excavated.

on 23 September 1983,[8] close to the findspot of the first inscribed handle, three joining wall fragments from the transition between the upper and lower part of the vessel including the second inscribed handle bearing two signs were found in the southern section of Kilian's excavation in the passageway at a height of 13.27 m asl, which approximately corresponded to a position of about 0.12 m above the height of the final walking horizon of the palatial period (LH IIIB Final) in that section (fig. 1).[9] It is this second inscribed handle that was published by Jean-Pierre Olivier, whereas the first inscribed handle was not mentioned by him and remained unpublished until today. It can only be assumed that at the time of its discovery the first handle was not yet perceived to derive from an imported vessel. The sign on its handle may have been taken to represent a normal potter's mark, and the marked handle may not have been remembered anymore as possibly coming from the same vessel when the second handle came to light.[10] Additional sherds of the jar, including the other half of its base, were found in 1983 at the northwestern end of the passageway immediately to the south of the find-spot of the first half of the base, but these fragments had remained unrecognized during the excavation and were still in the boxes with the rest of the pottery when they were identified during the study season in 2021.[11] In August 2002,

8 Entry on that day on page 10 in the diary "Tiryns-UB: Fundbuch LXIII 34.35. Ausgrabung Tiryns Archiv Inv.-Nr. 28", in which the inscribed handle is described as a "*Amphorafragment mit Linear B Schrift*".

9 The find context of the wall fragments with the second inscribed handle was referred to by Jean-Pierre Olivier (1988, 255) as "TI LXIII 35/25 V 13 – 27". Unfortunately, there are three mistakes in this contextual information: first, the square meter of the find-spot of the handle was indeed noted in the small find-diary and written in ink on the sherds as LXIII 35/25. The southern section of Kilian's excavation, however, was positioned a few centimeters to the north of square meter LXIII 35/25 and thus still within square meter LXIII 35/15, which accordingly is the correct context. The square meter LXIII 35/25 was excavated only after the resumption of the excavation by Maran. Second, the designation "V", i.e. "Abhub V", must be based on a misunderstanding. The find spot of objects retrieved from sections of Kilian's excavation were inventoried only with the square meter and the topographical height. In the case of the fragments of the inscribed Canaanite jar from the southern section of Kilian's excavation, the small triangle (▼) preceding the topographical height of the find-spot was written on the sherds in such a large size that Olivier must have mistaken it for the Roman numeral "V". Third, the topographical height of 13.27 m asl was misread by Olivier as "13 – 27". Accordingly, the corrected context of the wall fragments with the second inscribed handle is LXIII 35/15 13.27 (rather than LXIII 35/25 13.27 as is written on the sherds).

10 Even at the time of the discovery of the second handle, the vessel may not yet have been recognized as imported, since the two signs are referred to as "Linear B" in the diary entry (see above).

11 These fragments come from the following contexts: LXIII 34/65 Vb (second half of the base); LXIII 34/55 Vb and LXIII 34/55 Va (wall fragments).

Fig. 1: Tiryns, northern tip of the Lower Citadel. Final walking horizon of the palatial period (LH IIIB Final, Hor. 17a5) and distribution of fragments of the Canaanite jar. Scale 1:100. Plan with photos: S. Matskevich, M. Kostoula, J. Maran

during the resumption of the excavation in the passageway under the direction of Joseph Maran, the area excavated by Kilian was extended towards the south. This led to the discovery of many more fragments of the upper part and the transition between the upper and lower part of the inscribed Canaanite jar, in the zone immediately to the south of the findspots of the two inscribed handles and in sediments connected to the destruction horizon at the very end of the palatial period (LH IIIB Final).[12] Most of the fragments of the inscribed Canaanite jar that were spread over several square meters were encountered in an ashy sediment about 0.20 m thick immediately above the final palatial walking horizon, which was situated in this part of the passageway at heights between 13.22 and 13.33 m asl, whereas other sherds of the vessel were found in sediments about 0.30-0.50 m above this walking horizon. Thanks to the additional fragments it could be finally proven that the upper and lower part of the Canaanite jar fit together, which in 2021 enabled the reconstruction of the shape of the entire vessel.[13] Also in 2002 a single wall fragment of another Canaanite jar of a different fabric group than the largely preserved vessel was found in sediments in the passageway and in the immediate vicinity of the sherds of the inscribed jar.[14] The inscribed vessel together with the wall fragment of the second Canaanite jar are all dated to the final sub-phase of the LH IIIB period in the northern Lower Citadel, a part of the site that has yielded particularly strong indications of long-distance contacts for the harbor of Tiryns, especially with Cyprus and the Near East.[15]

Kilian hypothesized that the inscribed Canaanite jar may have fallen, together with the allegedly second such jar and other vessels, into the passageway, when the upper floor of Building XV to the east of the passageway collapsed.[16] This interpretation was consistent with Kilian's assumption of a major earthquake having led to the all-out destruction of the site at the very end of the palatial period. Yet, the fact that the fragments of the inscribed vessel were significantly spread along a horizontal axis in the zone between the North Gate and the southernmost excavated part of the passageway, and, to a lesser degree, were also distributed

12 Maran 2008, 56, fig. 35. The fragments found in 2002 come from the following contexts: LXIII 35/25 Ofl. IVH Nr. 24/02; LXIII 35/35 IVH; LXIII 35/34 IVH; LXIII 35/43 IVG; LXIII 35/23 IVG; LXIII 35/43 Ofl. IVF Nr. 3/02; LXIII 35/32 IVE; LXIII 35/51 IVF; LXIII 35/25 V.

13 That the base and the upper part of the jar belong to the same vessel was already suspected by Stockhammer 2015, 80; see also Day et al. 2020, 9 with footnote 69.

14 This wall fragment was found in LXIII 35/33 Ofl. VB, Nr. 69/02. It was sampled and analyzed: Day et al. 2020 (sample T112).

15 Maran 2004, 13–18; Maran 2008, 56–59, 90–91; Cohen – Maran – Vetters 2010; Kostoula – Maran 2012; Rahmstorf 2008; Vetters 2011; Brysbaert – Vetters 2013; Vetters et al. 2016, 100 –101; Wirghová 2022, 64–73.

16 Kilian 1988a, 108.

along a vertical axis, contradict the notion that the vessel was encountered in the position where it had fallen or had been placed at the time of the destruction. Indeed, the find circumstances rather suggest that the jar and other objects in the destruction deposit of the passageway and the North Gate were introduced from somewhere else in an already broken state, and that their parts had been distributed through human activity. In particular, there is evidence that at least some of the objects that were part of the destruction deposit in the passageway had originated from surrounding buildings, but their relocation into the passageway must have been due to different factors than Kilian had envisaged. Thus, the base and some joining fragments of the lower part of a large hydria,[17] also found in the passageway in close proximity to the Canaanite jar, has most of its joining fragments deriving from LH IIIC-sediments overlying Building XI to the west of the passageway. In addition, fragments of an animal-headed faience vessel found in the destruction deposit of the passageway belong to parts of the same or a very similar faience vessel encountered on the LH IIIB-Final-floor inside of Building XI; and also, a large part of a wall bracket found immediately to the north of the fragments of the faience vessel in the passageway closely resembles wall brackets of Building XI.[18] Such a displacement of fragments of the same or identical objects may have happened when items, some of them already broken, were thrown out of windows or doorways of Building XI, and perhaps other buildings, into the passageway, probably as the result of activities that were aimed at searching for and retrieving valuable items in the aftermath of the destruction. Subsequently, secondary or even tertiary displacements of vessel fragments may have ensued inside the passageway. That the described relocation processes did not take place after, but before the destruction and originated in looting activities, for which there may be evidence in the area of the palace,[19] cannot, in my opinion, be supported by arguments based on the distribution of finds. The objects in the passageway were found embedded in an ashy sediment, which points to the destruction already having happened prior to the deposition of the objects.

The Canaanite jar under discussion has only two joining fragments from outside the area of the passageway and the North Gate that derive from the area where Building XI had stood, but these fragments come from disturbed LH IIIC sediments much later than that building.[20] It is therefore impossible to say where

17 This vessel, perhaps of Koan provenance, has a dark slip with a metallic luster, Wirghová 2022, figs. 10.3, 13.1.

18 Kostoula – Maran 2012.

19 Jung 2016, 555–556.

20 The context of the fragments is LXIII 35/51 IVF and LXIII 35/32 IVE.

the jar had been originally stored before the destruction and the displacement of its fragments.

Joseph Maran

2 The vessel

2.1 Morphological description

After a study season in 2021, it was possible to reconstruct the entire vessel (five rims, three base fragments and a larger number of body fragments with two attached handles; figs. 2, 3).[21] The concave-splaying short neck with thickened rim shows a narrow and shallow groove[22] approximately in the middle of its height (around 2.7 cm under the rim). The two preserved vertical handles have an oval section and are placed on the widest part of the shoulder reaching to the middle of the body. Both handles show post-firing marks – one with two signs already published,[23] and the other one with one sign presented and discussed here. The rim diameter is 11.75 cm and is up to 97 % preserved, while the base is 100 % preserved and has a diameter of 8 cm. The maximum diameter slightly below the shoulders is between 38–38.5 cm, and compared with the measured height of the vessel (59.1 cm), the maximum diameter is located approximately in the upper third of the height of the body. The shoulder slopes down for about one third of the height of the vessel. The transition point between shoulder and body is marked, but not strongly carinated. We can speak of a detached shoulder. The tapering body under the shoulders gives us an idea of the whole shape ending in a button-like base[24]. The volume of the vessel was calculated to be approxi-

21 Maran 2008, 56, fig. 35; Kilian 1988, 108, fig. 24:7; Cline 1994, 171, no. 313. The fragments of the vessel were fitted together and the missing pieces were reconstructed with gypsum, which made it impossible to determine the original weight of the vessel and exact number of wall fragments. (With the gypsum reconstructions, the upper part of the vessel weighs about 5.2 kg; the base fragment found in LXIII 34/36 III and LXIII 34/46 III weighs 1 kg; the additional base fragment from LXIII 34/65 Vb weighs 606 g.) The base shows signs of secondary burning on the inside of the lowest part of the bottom of the vessel.

22 Killebrew divides rim profiles into four categories, in which the simple rim would best correspond to our vessel (2007, 167, fig. 3.1).

23 Olivier 1988, 255, figs. 2:13, 5:13; Cline 1994, 171, no. 316; Hirschfeld 1999, 72, tab. 3.2; Kilian 1988a, 108.

24 The shape of the base is represented in Killebrew 2007, fig. 3.16 and Pedrazzi 2007, fig. 3.17f.

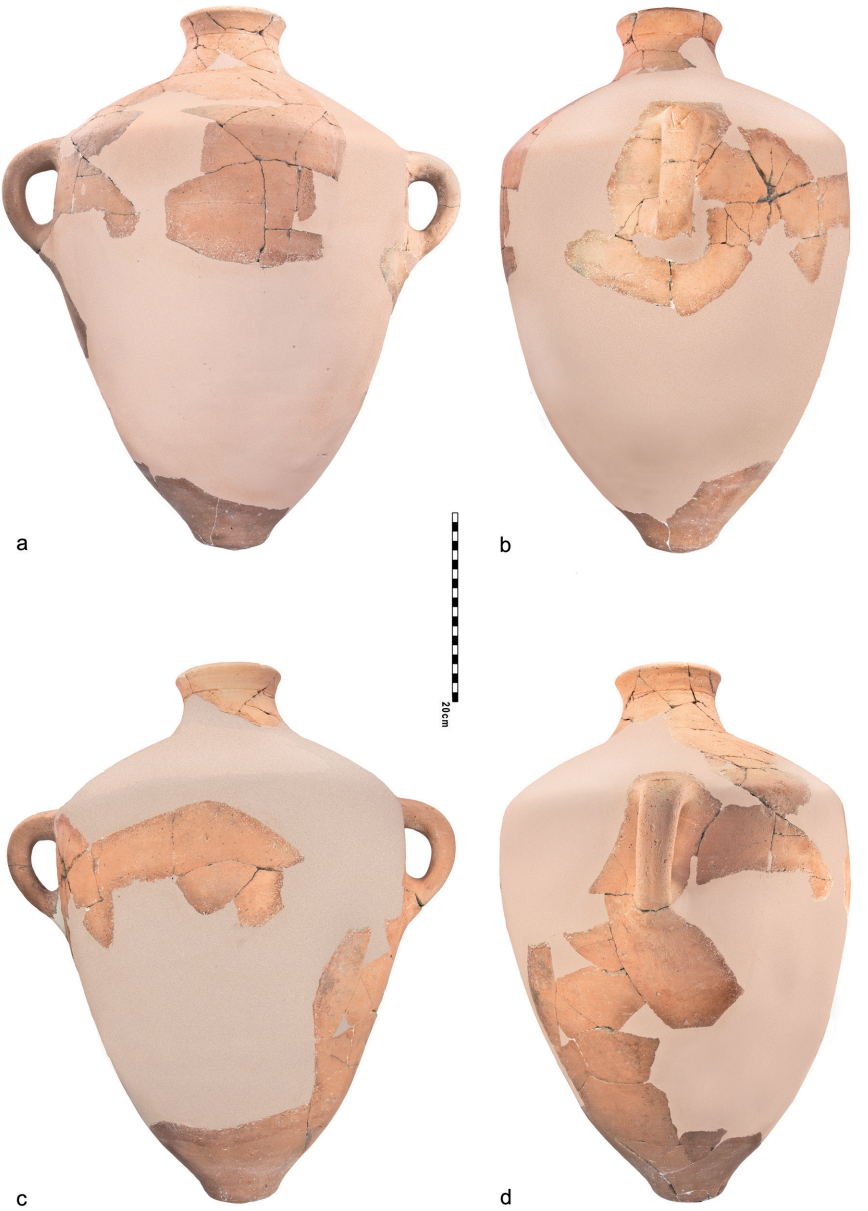

Fig. 2: Side view of the belly (a, c) and side view of the belly with handles (b, d) of the Canaanite jar. Scale: 1:8. Photos: M. Kostoula

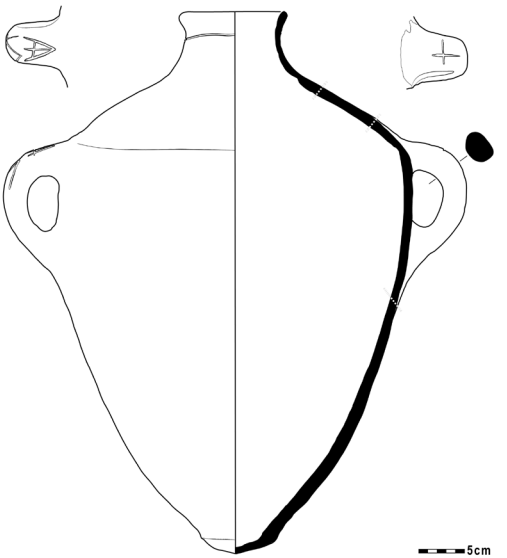

Fig. 3: Drawing of the Canaanite jar. Scale: 1:8. Drawing: B. Konnemann, M. Kostoula, S. Wirghová, Kilian's excavation archive, digitization: M. Kostoula, S. Wirghová

mately 32 liters.[25] This capacity fits in the third volume category of the jars from the Uluburun shipwreck.[26]

Soňa Wirghová

2.2 Fabric description and technological features

Unfortunately, the jar under discussion could not be included in the recent project focused on scientifically determining the provenance of Canaanite jars from

25 The measurement was taken from underneath the rim to the bottom. We are grateful to Maria Kostoula for calculating the volume on the basis of a free online tool generously provided by the Université Libre de Bruxelles (https://capacity.ulb.be/index.php/en/home/) and suggested to us by Cydrisse Cateloy, whom we would also like to thank. Cateloy defended her dissertation "La mesure des échanges en Méditerranée orientale à l'âge du Bronze moyen et récent: les amphores levantines à l'étude" in March 2022 at the Université Paris 1 Panthéon-Sorbonne. Many thanks also go to Birgit Konnemann and Maria Kostoula for the drawing of the vessel and to Maria Kostoula for providing the photos and the digitization of the drawings.

26 Pulak 1997, 240. The Canaanite amphoras were divided into the following categories: Category 1: 6.7 liters, Category 2: 13 liters, and Category 3: 26.7 liters. The average capacity of Pedrazzi's type 4-2 is 25–30 liters (Pedrazzi 2016, 70).

Tiryns, because no spare sherds were available from that vessel at the time of sampling for the project. Based on the macroscopic appearance, we can assume that the vessel is of foreign provenance. A detailed macroscopic study was done to find parallels among published fabric samples of Canaanite jars so as to discuss potential areas of provenance. We are well aware that this is a risky undertaking and that a petrographic and/or chemical analysis is necessary for proper attribution. However, no thin section or other sample is available at present, and publications of fabrics from Canaanite jars at least enable us to exclude some areas and to narrow down the jar's provenance to more likely ones. No more than this is intended here.

Coming from different find spots and two different excavations, the fragments of the jar show different states of post-depositional alteration. The fragments of the base deriving from Kilian's excavation exhibit calcareous deposits on the surface of the base, and many whitish to greyish inclusions are visibly embedded in the vessel's surface. Fragments of the upper part from the 2002 excavation instead have a very "clean" and very porous surface, with comparatively few visible inclusions. Thus, we conclude that the 2002 fragments were cleaned with diluted acid, which was a common practice at that time. The detailed fabric description was therefore carried out using the untreated base fragments, where fresh breaks are also present.[27] Since several inclusions were less well visible in the greyish part of the fresh break, inclusions in the surface were separately recorded as well.

Tab. 1: Macroscopic fabric description of the Canaanite jar

Fresh Break (fig. 4a-c)
sorting: moderately to well sorted; av. amount: abundant; av. size: 0,5mm
type: greyish to whitish, matt, sa–r, <1mm, common
grey to black, glossy, r-sa (high sphericity), <1mm, av. ca. 0,5mm, common
white, glossy, a-r, <1mm, few
reddish brown, glossy, sa, <1mm, few
mollusc, 4 mm, rare
red, matt with grainy texture, sa, <5mm, rare
voids: elongate and rounded, <2 mm, frequent
colour: near ext. sf. 7.5YR 6/3-4, towards int. sf. GLEY 1 4/10Y

27 The description follows the main criteria given by Schneider et al. 1989 and Sanders 1999, 477–478.

fired core: not fully oxidised, diffuse to sharp boundary, interior surface reduced with light coloured surface, exterior surface oxidised; interior surface at the base strongly reduced
hardness: very hard

Surface (fig. 4d-e)	
exterior	*interior*
smooth, 5YR 6/4-2.5YR 6/6	rough, 10YR 6/2-3 (– 2.5YR 4/1 only at the bottom)
visible inclusions:	visible inclusions:
overall frequency: common	overall frequency: abundant
greyish to whitish, matt and glossy, a-sa, <2mm, frequent	grey to black, glossy, r-sa (commonly rounded and spherical), <1mm, frequent
white, glossy, a-sa, <1mm, few	grey to black, matt, sa-a, <2mm, few (same as greyish to whitish ones on ext.?)
dark/black, matt, r-sa, <1mm, rare	white, glossy, a–r, <1mm, few
reddish brown, glossy, sa, <1mm, rare	mollusc, 2mm, rare
dark red, glossy, a (elongate), <2mm, rare	
red, matt with grainy texture, a–sa, 1–5mm, rare	
voids: 3%, <2mm, sa-r	voids: 3%, <4mm, r–sa

The exterior surface of the vessel is unevenly smoothed, with some areas in the lower half of the body retaining traces of forming and surface finishing procedures, such as rough wiping streaks. The neck of the vessel, which exhibits traces of wheel-finishing, seems to have been attached separately, as indicated by a set-off in the interior profile that appears like a coil seam.

Since several inclusions had been dissolved through the treatment with diluted acid, we can conclude that these inclusions consisted of carbonates, probably mainly limestone, based on the macroscopic appearance of the whitish matt inclusions. Judging by the porosity of the acid-treated sherds, the quantity of carbonate inclusions was originally relatively high. The identification of other minerals or rock types is more difficult, and since misidentifications of them would be highly likely, we avoid using geological terms to name them in the description.

The characterisation, grouping and geographical attribution of the various fabrics of Canaanite jars already has several decades of scientific analysis behind it.[28] In some publications, macroscopic descriptions and/or photographs of fresh

28 For a recent summary see Day et al. 2020, 30–36.

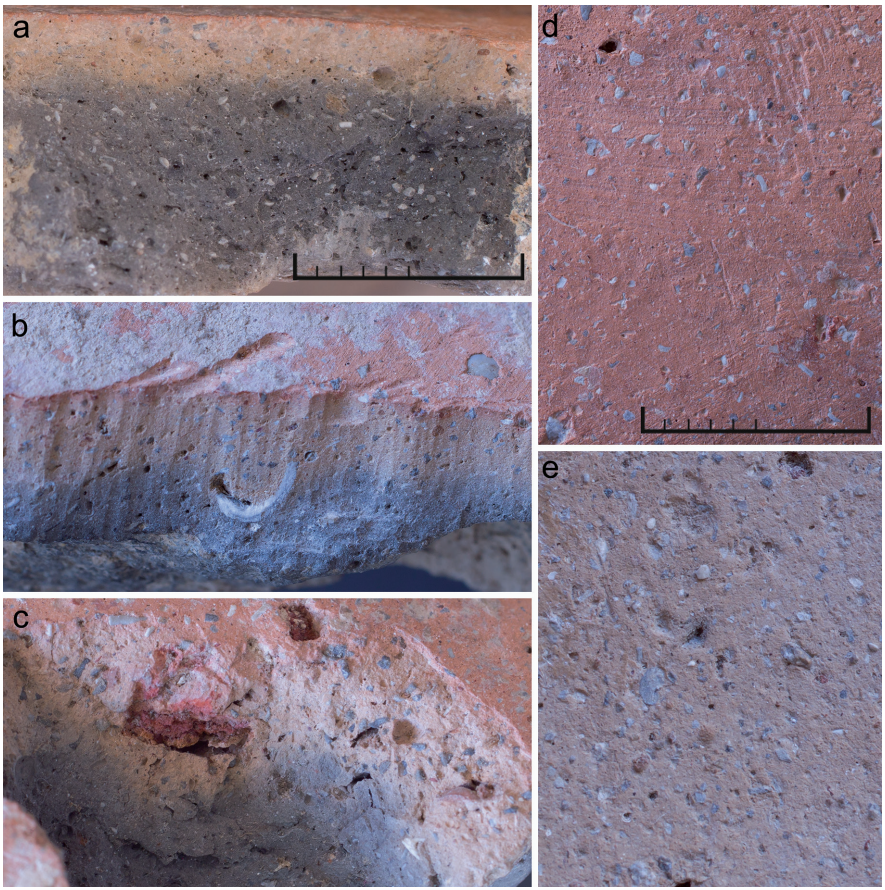

Fig. 4: Close-up photographs of the lower part of the vessel, chemically untreated (a–c equal scale, d–e equal scale); a. fresh break of wall fragment with average appearance of the fabric, b. scraped break[29] with large mollusc fragment, c. fresh break at the base with large red inclusion with grainy texture, d. exterior surface, e. interior surface. Photos: S. Prillwitz

breaks are presented as well, which facilitates preliminary attributions based on visual criteria.[30]

A macroscopic comparison of our jar with fragments of Canaanite jars from Tiryns studied using petrographic analysis and Neutron Activation Analysis

29 These scraped sherds are known from an older sampling project from the time of Klaus Kilian. The analyses were not carried out.

30 Serpico 2017; Online database of the Levantine Ceramics Project https://www.levantineceramics.org/.

(NAA) shows strong parallels with samples of two defined groups, namely petrographic Fabric C/NAA group CAN-B2 (?South Syria – Lebanon) and petrographic Fabric D/NAA group CAN-C (?Haifa area).[31] These parallels apply not only to the coarse components but also to the appearance of the clay matrix, the texture, and the firing technique. These observations are also in good agreement with other samples from both of these regions along the Levantine coast.[32] Similar combinations and quantities of inclusions, identified as bioclastic/fossiliferous limestone, basalt, chert and macrofossils, are also known from the area between Haifa and Southern Syria. Chalk and serpentinite can be present too. When observed through a hand-lens, the fossiliferous inclusions in Serpico's Group 5 of the Amarna Canaanite Amphora Project, assigned to the Lebanese coast, range in colour from "white to cream coloured to dark grey"[33] and strongly resemble the calcareous inclusions in our jar, but the glossy grey to black inclusions in our jar are not present in Serpico's description. Such darker inclusions, however, are characteristic of the northern and southern edges of this coastal section, i.e. the Akko bay and at the border between Lebanon and Syria, where basalt, visible as dark inclusions, is also present.[34] In contrast, our jar lacks the high quantity of coastal quartz sand that is characteristic of the fabrics associated with the coast south of Haifa.[35] Hence, this region may be excluded with some certainty. Macrofossils, present in our jar, were described for five Fabric Groups (A, C, D, E and F) in the Tiryns samples, which are all located between Southern Syria and Akko. Despite several similarities, Fabric A (Northern Lebanon/South Syria, esp. Akkar Plain) and the related Fabric E (North Lebanon, Akkar to Syrian border) can be

31 Day et al. 2020, samples T117, T119 (Fabric C/ NAA group CAN-B2) and T115, T116, T118 (Fabric D/ NAA group CAN-C). For petrofabrics similar to Fabric C, a Cypriot origin is discussed as well, but comparative samples from Cyprus other than Canaanite Jars are still missing, which is why a Cypriote origin was excluded by Day et al. 2020, 46.

32 We thank Paula Waiman-Barak for her helpful advice and for providing us with photographs of fresh breaks of various petrographically studied samples from the Levantine Coast (published in the database of the Levantine Ceramic Project and unpublished samples) for comparison.

33 Smith et al. 2004 and Serpico 2017: Group 5.

34 Serpico 2017 and Smith et al. 2004: Group 1 (Akko Bay/Haifa/Jezreel Valley) and Group 3 (Southern Syria/Northern Lebanon); Waiman-Barak et al. 2017, 93: Petro-Fabric Group A (Tel Achziv Local Production); https://www.levantineceramics.org/petrofabrics/20-israel-northern-coastal-plain-calcareous-biogenic-sand: Petrofabric: Israel/Northern Coastal Plain/calcareous/biogenic sand (Haifa/Akko bay to Achziv); Day et al. 2020, 41–43 (costal Akkar Plain) and petrographic Fabric D (s.a.).

35 Smith et al. 2004 and Serpico 2017: Group 2; Day et al. 2011, 531 Fabric 3; Day et al. 2020, 43–44, 50–53, Fabrics B, G and I.

excluded as direct parallels because they lack black inclusions, while Fabric F (Akko/Acre) can be excluded because it contains too much quartz sand.[36]

To conclude, the coastal region from southern Syria to Haifa appears to be the most probable region of origin based on macroscopic criteria, with the northern and southern ends of this region providing our best parallels. The nearly identical appearance of rim fragment T117 of petrographic Fabric C/NAA group CAN-B2 among the Tiryns samples in Day et al. 2020 supports this tentative hypothesis.

Susanne Prillwitz

2.3 Typology and chronology

In looking for parallels to our vessel, an almost complete vessel from Kommos dated to LM IIIA1 should be mentioned.[37] Another, almost completely preserved example from Kommos bears a post-firing Cypro-Minoan mark. The vessel is a LB IIA Levantine import and dates to LM IIIA2.[38] The thickened rim of a transport jar from Kommos dated to LM IIIA2 Early[39] finds a parallel in our Canaanite jar, except that our vessel has a groove about 2.7 cm under the rim instead of the slight ridge seen on the amphora from Kommos. Rutter published another two well-preserved jars from Kommos, House X, which find a parallel in the jar presented here.[40] A Canaanite jar from the Agora of Athens (Tomb of Ivory Pyxides) of Grace's first fabric dated to LH IIIA1 Early[41] would be another parallel to our

36 Day et al. 2020, 41–42, 48–50.

37 Watrous 1992, 160, 175, fig. 72, pl. 53, no. 1951; Rutter 2014, fig. 5.1:b. Typologically, the vessel could be assigned to Killebrew 2007, fig. 4, form CA 21a.

38 Rutter 2006, 526–528, pl. 3:62, 56e/9. This transport jar is of Amarna fabric IV.1a (Rutter 2006, 528) and of Group 5 of the Canaanite Amphora Project. Fabric Group 5 originates along the Lebanese coast and was used primarily to transport oil (Serpico et al. 2003, 372, fig. 4; Smith et al. 2004, 73). According to Bennet this handle is of yellow fabric (5 YR 7/6) and of type I: Southern (1996, 317, no. 13, pls. 4:47, 4:51). See also Rutter 2014. Killebrew 2007, fig. 4, form CA 21a.

39 Rutter 2006, 577, pl. 3:87, MI/SP/1. This rim is a Levantine LB IIA import and of the same fabric as the transport jar from Kommos mentioned above (see no. 37). Also published in Cline 1994, 175, no. 352. See also Rutter 2014.

40 Rutter 2014, fig. 5.2:a, b, tab. 5.2. For petrographic and chemical group determination see Rutter 2014, tab. 5.4.

41 Grace 1956, 86, pl. IX:1, fig. 5:3; Amiran 1970, pl. 43:6; Kilian 1988b, fig. 4, variant 2; Cline 1994, 168, no. 294; Hirschfeld 1999, 77, tab. 3.4; Killebrew 2007, fig. 4, form CA 21a. Identification Number Agora P 15358. The vessel is 58 cm high with measured wheat capacity of 22.575 cc. "Coarse clay full of large bits, many of which are white; fired brownish grey, with buff to red, occasionally dark grey, surface, in bruise-like mottling" (Grace 1956, 101). On one of the handles there is probably an incised Cypro-Minoan sign 057.

vessel. The morphology of our vessel also corresponds to the published examples of Killebrew's "Family 11", Form CA 21a with a button shaped base.[42] The transition point between shoulder and body on our Canaanite jar is marked, but not strongly carinated. This leads me to assign it to Aston's Type A2 with "mildly angular shoulder".[43] According to Pedrazzi's typology of Levantine transport jars, our vessel most closely corresponds to her Type 4-2 with a slight carination on the shoulder and a "bellied" profile,[44] while the vessels from Kommos mostly seem to belong to her Type 3-2,[45] whose "belly" is less pronounced in comparison to Type 4-2. Pedrazzi assigned the geographical distribution of Type 4-2 mostly to coastal Syria and Cyprus, where it occurs especially in contexts dating to LB II and sometimes also in contexts dating to the LB/Early Iron Age transition.[46]

In conclusion, although some of the cited typological parallels are dated to LH IIIA/LM IIIA, the particularly close similarity of our vessel to Pedrazzi's Type 4-2 that in the Northern Levant often occurs in contexts dating to LB II and the LB–Iron Age transition[47] suggests a date of manufacture not much earlier than the date of the LH IIIB Final destruction horizon, in which our vessel was found.

Soňa Wirghová

3 The inscription and potmark

3.1 Description

According to a longstanding convention amongst scholars of Aegean pre-alphabetic scripts, an "inscription" is defined as consisting of two or more consecutive signs, whereas an isolated sign is designated as a type of "mark" – for example,

42 Killebrew 2007, 167, figs. 1:1-3, 3:16, 4:1-3, form CA 21a. The carination of our jar is not as pronounced as in form CA 22 (corresponds to type 13a by Furumark 1972, 74, fig, 21:13a), which leads me to assign the jar to form CA 21a, where Killebrew 2007, fig. 4:1 especially corresponds to the morphological description of the vessel presented here.

43 Cateloy 2016, 44. For typology see Aston 2004. Cateloy sees type A2 as "a transitional shape between the rounded to carinated-shouldered types" (Cateloy 2016, 42).

44 The main reason for mentioning type 4-2 is the fact that the maximum diameter of our Canaanite jar is situated about a third of the height of the vessel from the top, with the lower body constantly tapering in an oblique inclination towards the reinforced base.

45 Pedrazzi 2007, 62.

46 Pedrazzi 2007, 66–68, fig. 3:17; Pedrazzi 2016, 67–68.

47 Pedrazzi 2022, 122.

a "potmark" when on ceramics.[48] Thus this vessel displays a two-sign Cypro-Minoan inscription on one handle, and a Cypro-Minoan potmark on the other. The notion that the potmark is not part of the inscription is supported by the fact that if it were, there is ample room on the handle below the inscription to have included it there.

3.2 Designation

Of the three Cypro-Minoan inscriptions that have been found at Tiryns, this inscription was the first one found.[49] Its designation, according to Olivier's classification system, is TIRY Avas 001, while its inventory number within the Cypro-Minoan corpus (following Ferrara) is ADD##245.[50]

3.3 Method of inscription

A sharp instrument such as a file or small saw has been used to incise the three signs into the fired fabric of the two handles, beginning approximately one centimeter from the handle's upper join with the body in the case of the two-sign inscription, and beginning approximately two centimeters from the handle's upper join with the body in the case of the potmark (fig. 5).

3.4 Text

The transnumeration[51] of the signs in the inscription and potmark is as follows:

Inscription: 025-087 Potmark: 005

The normalized transcriptions are shown in fig. 6.

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48 For example: Godart – Olivier 1976, xi–xii; Ferrara 2012, 18–19; Ferrara 2014, 3–4; Valério 2016, 59.

49 Kilian 1988a, 108; Olivier 1988, 255–258, 266–267, fig. 2.13; Maran 2008, 56, n. 18, fig. 35. The other two inscriptions are TIRY Abou 001 / ADD##244, a three-sign inscription on a clay *boule* (Vetters 2011); and TIRY Avas 002 / ADD##246, a four-sign inscription on a painted jug from a context dating to the beginning of LH IIIB Final (Maran 2008, 56; Davis – Maran – Wirghová 2014, 92).

50 Olivier 2007; Ferrara 2012.

51 The transnumeration system is that of Olivier (2007), Ferrara (2012, 2014), and Valério (2016), all of whom follow that of Masson (1972, 1974).

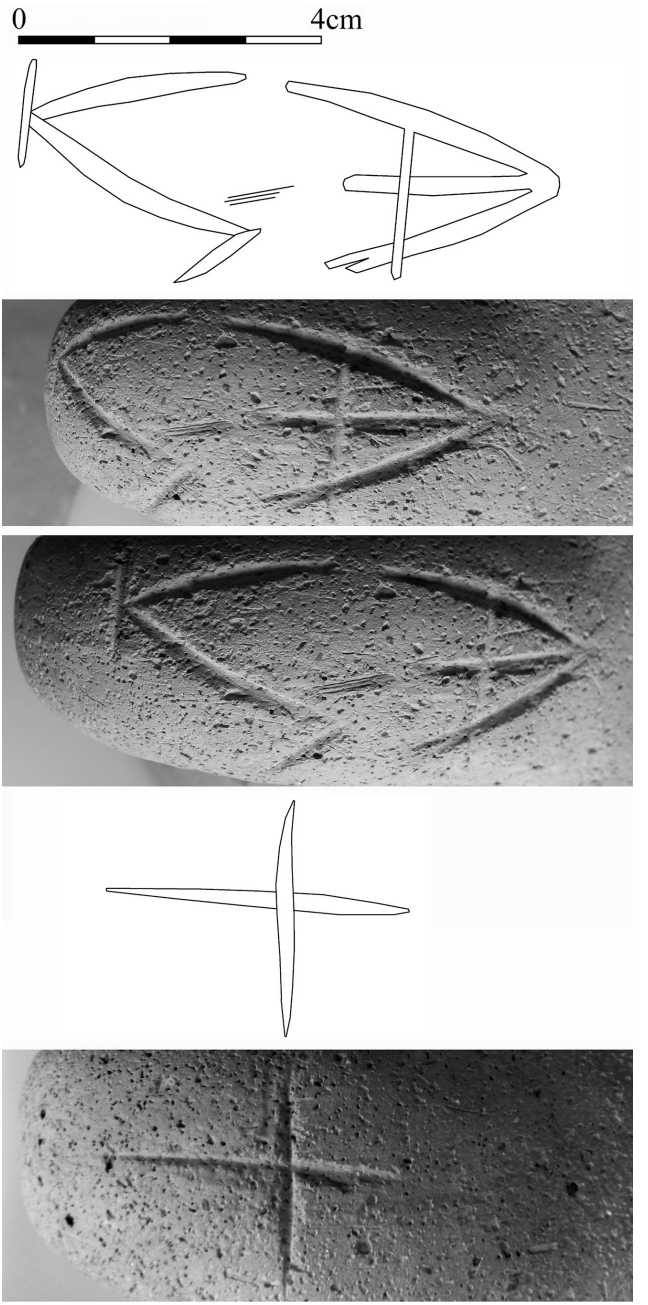

Fig. 5: The inscription and potmark. Drawing and photos: B. Davis

Fig. 6: Normalized transcriptions of the inscription (left) and potmark (right). Drawing: B. Davis

3.5 Direction of reading

The positioning of the two signs in the inscription, with their tops oriented toward the mouth of the jar, indicates that the inscription is to be read from top to bottom on the handle, and from left to right in the normalized transcription above.

3.6 Signs

Sign 025

Of the 79 attested occurrences of this sign in the Cypro-Minoan corpus, 78 come from the two regions that are the source of most Cypro-Minoan inscriptions: Cyprus (69 instances) and Ugarit-*Ras Shamra* (9 instances).[52] Thus this occurrence of 025 in TIRY Avas 001 represents the *only* instance of this sign ever found outside those two regions.

In most attested examples of 025 (including all the examples from Ugarit), the central vertical stroke does not extend upward as far as the vertex where the two outer strokes meet (fig. 7a), but in some post-firing engravings on Cypriot pottery (figs. 7b–d), the central vertical stroke does extend upward as far (or nearly as far) as the vertex,[53] as it does in TIRY Avas 001.

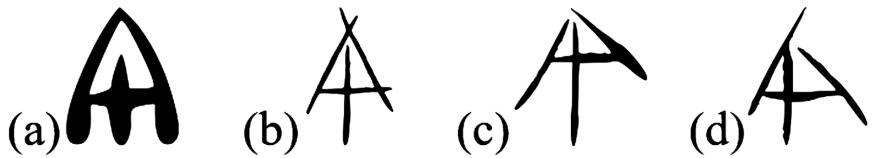

Fig. 7: Sign 025 in its most common form (a) and in post-firing engravings on Cypriot pottery (b-d). Drawing: B. Davis

Thus the form of 025 on the Tiryns vessel has its closest parallels on Cyprus.

52 Valério 2016, 576–577, 602, 629.

53 Fig. 7b: pithos ENKO Avas 001 from Enkomi (Olivier 2007, 175); figs. 7c–d: jug handle HALA Avas 001 from Hala Sultan Tekke (Olivier 2007, 189).

Sign 087

In TIRY Avas 001, just as in TIRY Avas 002,[54] the sides of this sign slope inward to form a point at the base of the sign. Aside from these two inscriptions from Tiryns, all inscriptions containing instances of 087 with inward-sloping sides (figs. 8a–b) come from Cyprus. Some Cypriot inscriptions contain a version of this sign with vertical sides and a broad base (fig. 8c); this is the only version of the sign attested at Ugarit-*Ras Shamra*.

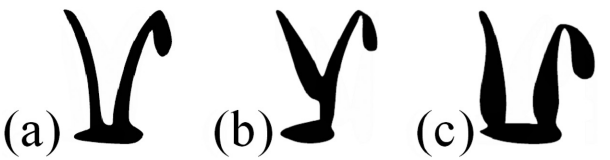

Fig. 8: Sign 087 on Cyprus (a, b) and at Ugarit (c). Drawing: B. Davis

Thus the form of 087 in both Tiryns inscriptions is distinctively Cypriot.

Among the corpus of post-firing marks from Tiryns, Sign 087 is attested on three other vessels: a large fine stirrup jar from the Lower Citadel dating to LH IIIB2,[55] a large fine stirrup jar from the *Epichosis* dating to LH IIIB2,[56] and a painted jug FS 105 with an inscription on the handle (TIRY Avas 002) from the northernmost part of the Lower Citadel of Tiryns, dated to the beginning of LH IIIB Final (LH IIIB2).[57]

Sign 005

This sign takes the form of a simple cross both on Cyprus and at Ugarit. Furthermore, whenever one stroke is longer than the other, the vertical stroke is routinely the longer one; thus the form of 005 in TIRY Avas 001 is the standard one.

There are three other instances of sign 005 attested at Tiryns, all with findspots in the Lower Citadel: on the handle of a closed shape (amphora, hydria or

54 Davis – Maran – Wirghová 2014, 96–97.

55 Context: LXI 43/9 XV (Hirschfeld 1999, 68, tab. 3.2; Olivier 1988, 255, fig. 1:12). Olivier (1988, 255) dated this stirrup jar to LH IIIB1 (late), but it was found in the filling (Einfüllung) between the older fortification wall and Room 214 (Kilian 1988a, fig. 36), which dates to LH IIIB Developed (LH IIIB2), Hor. 17a0 (Kilian 1988a, fig. 27).

56 Hirschfeld 1999, 68, tab. 3.2; Döhl 1979, 51, fig. 6:83, pl. VII:83. According to Mountjoy (1999, 34), the *Epichosis* material is one of the most significant assemblages of ceramic phase LH IIIB2. Kardamaki (2009, 313–314) maintains that the pottery from the *Epichosis* predominantly dates to LH IIIB Late, but also includes LH IIIC Early 1 fragments.

57 Maran 2008, 56; Davis – Maran – Wirghová 2014, 92.

jug) found in the long corridor of Building VI (LXII 41/82 Xb), dated to LH IIIB2 Early or older;[58] on a transport stirrup jar from the area of Building II (I AI 183), dated to LH IIIB2;[59] and on a painted jug FS 105 with an inscription on the handle (TIRY Avas 002) from the northernmost part of the Lower Citadel of Tiryns, dated to the beginning of LH IIIB Final (LH IIIB2).[60]

3.7 Palaeography

Additional marks

The inscription contains one small mark consisting of three parallel scratches or grooves, situated very close together, below and slightly to the right of the lower end of the central vertical stroke in the first sign of the inscription (sign 025). This mark does not appear to be an integral part of either of the signs in the inscription, and could very well have been produced by a slip of the engraving tool while creating the central vertical stroke in the first sign of the inscription, as the mark is approximately aligned with this stroke.

Ductus

In many cases, the strokes produced by the engraving tool reveal the order in which they were produced; thus the most probable ductus of the three signs on this vessel is shown in fig. 9.

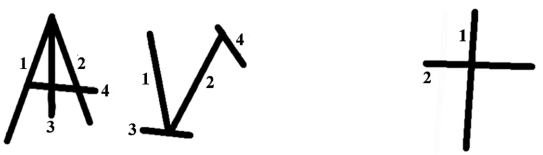

Fig. 9: Most probable ductus of the inscription (left) and the potmark (right). Drawing: B. Davis

58 Context: LXII 41/82 Xb (Hirschfeld 1999, 70, tab. 3.2; Olivier 1988, 259, fig. 3:25). This vessel was found in the southern corridor of Building VI, and regarding the stratigraphy of this area, the vessel can be dated to the beginning of LH IIIB2 or earlier (LH IIIB Developed or earlier, Hor. 17a0) (Damm-Meinhardt 2015, 217, tab. 6). Kilian (1979, 404) dates this Building to LH IIIB2.

59 Hirschfeld 1999, 71, tab. 3.2; Olivier 1988, 256, fig. 3:16. Building II is dated to LH IIIB Developed and LH IIIB Final and was destroyed during the conflagration at the end of LH IIIB Final (Damm-Meinhardt 2015, 36). Kilian regards Building II as contemporary with Buildings I, III, V, VI and VII (1981, 175).

60 Maran 2008, 56; Davis – Maran – Wirghová 2014, 92.

Script

As we noted in our publication of TIRY Avas 002, É. Masson's very early division of the Cypro-Minoan script into three separate sub-scripts (CM 1 and CM 2 on Cyprus, and CM 3 at Ugarit)[61] has been viewed with growing skepticism by scholars over recent decades,[62] as this subdivision of the script was not based on a palaeographic analysis of a complete corpus of Cypro-Minoan inscriptions; indeed, the first such corpus was not published until more than 30 years later.[63] Since the publication of that corpus, two further Cypro-Minoan corpora have appeared in print, each more complete than the last;[64] but unfortunately, the publication of these three corpora, each with its own distinctive palaeographic analysis of the script, has not resulted in any kind of consensus as to whether Masson's subdivisions of the script should be rejected or retained, with most scholars of Cypro-Minoan now falling into one camp or the other. Nevertheless, Masson's subdivisions do remain quite problematic – not just because they were created in the absence of a comprehensive published corpus, but also because several inscriptions have since come to light containing signs from *more than one* of her proposed subscripts.[65] Thus in the case of TIRY Avas 001, as with the other inscriptions from Tiryns, I identify the script simply as Cypro-Minoan, without venturing into the realm of hypothetical subdivisions of the script.

Brent Davis

4 General discussion

To get a better idea of the meaning of these signs, we could have a look at the Canaanite jars from Egypt, where a relatively small number of these jars were

61 Masson 1972; 1974. As part of this work, she proposed a comprehensive list of 114 Cypro-Minoan signs.

62 For example: Palaima 1989, 152–160; Panayotou-Triantaphyllopoulou 2006, 66; Davis 2011, 55–59; Ferrara 2012, 234–263.

63 Olivier 2007, containing 217 inscriptions; he retains Masson's subdivisions of the script, though he reduces her list of 114 signs to 96 by identifying some signs as graphic variants of others.

64 Ferrara 2012 and 2014, containing 243 inscriptions; and Valério 2016, containing 253 inscriptions, including all three Tiryns inscriptions. Valério's corpus is thus the most complete one available. Both Ferrara and Valério reject Masson's subdivisions of the script (see also Ferrara 2013), and by identifying some signs as graphic variants of others, they reduce her sign-list to 83 and 70 signs, respectively.

65 TIRY Avas 002 is actually an example of such an inscription (Davis – Maran – Wirghová 2014, 100); for two further examples, see Ferrara 2012, 254.

marked. Usually, one can find the name of the commodity transported (oil, resin and honey);[66] sometimes there is the name of the person transporting the product, or the name of a ruler in Egypt.[67] Hirschfeld also came to a similar conclusion and considered the marks to be the name of a handler "or identified the lot of merchandise to which the vase belonged or batches". If one combines the possibilities that the sign indicates the name of a merchant or his respective lot, one would count seven handlers on the Uluburun shipwreck to be involved in the shipment of Canaanite jars.[68] Because of the variety of the incised marks, Hirschfeld does not connect the meaning of these marks with the content of the vessels or the name of the potter who made the vases.[69] At this point, we have to conclude together with Hirschfeld that the interpretation of the marks on Canaanite amphoras is difficult, and that these marks more likely had a deeper meaning in the pre-exchange phase of the whole trade.[70] The signs on these vessels not only could have simplified the exchange process, but as the metrological study of these vases showed, these vessels were also of standard volume, which made it easier for customers to know the quantity of commodities received. With time, the standardization and the volume of transport jars decreased (as one can see in the examples from the Late Iron Age). Interestingly, the "volume of jars functional for tax collection are often more uniform and better standardized than the commercial ones".[71] Regarding the interpretation of the signs on our vessel, we can probably conclude a meaning connected to the exchange process for these jars, whereby this vessel must have passed through the hands of somebody familiar with Cypro-Minoan script. Since the marks on our vessel were incised after firing, the incision had to be done sometime and somewhere on the way to the custom-

66 Other "commodities once contained, transported, or stored in these jars were wine, ale, beans, beer, curds, fat, fish, fowl, fruit, grain, honey, meat, milk, mutton, oil, eyepaint, gum, incense, myrrh, purple dye, and unguent" (Leonard 1996, 251). On the other hand, no relationship between the post-firing incised mark and the shape and thus content of the vessel was identified at Enkomi. Considering vessels with incised marks to be a part of the exchange process is also supported by the fact that such signs are placed on a highly visible part of the vessel – mostly handles (Hirschfeld 2002, 96; Hirschfeld 1999, 54).

67 Serpico 2017.

68 Hirschfeld 1999, 58, 252.

69 Hirschfeld 1999, 187.

70 Hirschfeld 1999, 257. In her study of potmarks at Enkomi, Hirschfeld concentrated more on the functional side of the potmarks as marks on pottery rather than viewing these marks as evidence of script (2002, 54).

71 Raban 1980, 14.

er;[72] and in fact, judging by the distinctively Cypriot form of sign 087, the vessel was most likely inscribed on Cyprus. This conclusion is also supported by the fact that in Anatolia throughout the Late Bronze Age, only six examples of vessels with post-firing marks have been attested: four from Boğazköy-Hattusa, one from the Upper City of Hattusa, and one from Gordion.[73]

Looking at the chemical analysis[74] of the organic residues in Canaanite jars, the following substances were detected: *Pistacia* resin (concrete *P. terebinthus*)[75] used to "render impermeable the interior of wine transport amphorae",[76] "to impart a particular flavor to the contents as was done in later classical times",[77] or for perfumery factories;[78] pine resin was identified in samples from a Kyrenia (Cyprus) shipwreck deposit;[79] mastic (*P. lentiscus*) and *P. atlantica* were used for a variety of "medical purposes in wine and in other forms and for cosmetic uses";[80] the other species of Pistacia is *P. khinjuk*; oil; wine; and olives.[81] The written evi-

72 According to Knox, these signs were "part of a process of controlling or monitoring the movement of goods". Aside from this administrative function (e.g. in stock-taking activities or in copper processing), Cypro-Minoan script is also found on number of objects of "precious material" such as bronze, gold or lapis lazuli, and can thus be connected with activities which might be seen as "high status", or which could be associated with symbolic or elite display (2008, 5–6, 8–9).

73 Glatz 2012, 9. For exact citations see Glatz 2012, 9, footnotes 15–17.

74 Methods used: gas chromatography/mass spectrometry (GC/MS) (Serpico – White 2000, 885).

75 Knapp 1991, 27–28. Seven samples from the Uluburun shipwreck and another one from Egypt were analysed (28). Serpico and White are more careful about identifying the species of *Pistacia* in the samples from the Uluburun shipwreck, and they conclude that the species is most likely *P. atlantica* from Syria/Palestine (2000, 885).

76 Lucas – Harris 1962, 19.

77 Leonard 1996, 250. See also for further references.

78 Haldane 1993, 348.

79 Analysed were "three amphorae and a plank from the ship's hull" (Knapp 1991, 28).

80 Negbi – Negbi 1993, 322–323.

81 *P. khinjuk*: All species of Pistacia "may have been available in the past for the production of resin". The analysis of Amarna samples dated to the 18th Dynasty in Egypt showed no mixing of resin with oils or fats (Stern et al. 2003, 458, 467). *P. khinjuk* is also native to Egypt, but is very scarce and is found "exclusively in the eastern desert around Luxor" (Serpico – White 2000, 884–885).

Oil: Fabrics of Canaanite transport jars from Amarna (14th cent. BC) believed to carry vegetable oils were analysed and returned positive results for the presence of lipids (Stern et al. 2000).

Wine: Wine could have been a product shipped in the transport jars, but to prove the existence of an Aegeo-Levantine wine trade in the Late Bronze Age archaeologically is almost impossible. The wine was also transported in wineskins (Leonard 1996, 252). If we consider the use of resin in the production of wine, the Canaanite jars from the Uluburun shipwreck containing residues of resin could have transported wine (see Tzedakis – Martlew 1999, 157; McGovern 1996, 30–31). Resin could have been used to kill bacteria that turned wine into vinegar. The presence of

dence for organic materials traded in the Levant and Cyprus in the second millennium BC provides the following list of products:[82] grain, vine and olives, wine, oils (e.g. cypress- and myrtle-oil, sesame oil, olive oil), resins, "groats", salt,[83] honey,[84] and spices such as cumin/caraway, sesame and cyperus (also attested in the Linear B Tablets).[85] Doumas speaks of beer being traded in these jars.[86]

The first positive evidence for Mycenaean pottery in the Levant comes from the LH IIB-LH IIIA1 period from the region of Sarepta (Zone L2), reaching its peak in LH IIIB.[87] Mycenaean pottery is believed to be one of the exports from the Aegean to the Levant.[88] Another important commodity exported abroad from the Mycenaean world was perfumed oil[89] used for rituals, as grave gifts and eventually for funerary uses, as well as for hygiene and to make textiles "shiny and supple".[90] Also on the list of commodities exported to the Levant are "linen and

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tartaric acid, found in large amounts only in grapes, cannot give us a precise idea of which liquid was transported, as "it might have come from grape juice, grape syrup or another fruit juice adulterated with grape juice, as well as from wine" (McGovern 1996, 30–31). Wine was also used in the perfume industry as either "fresh pressed grape juice or vinegar" (Palmer 1994, 190–191). Olives: Pulak 2001, 37. Olive pits were attested in one of the Canaanite jars found on the Uluburun shipwreck.

82 Included are only those which are suitable to be transported in a transport jar. These would also include glass beads and arsenic pigment (orpiment) attested in the samples from the Uluburun shipwreck (Negbi – Negbi 1993, 322, tab. 1, with further references; Bass 1986, 278; Cline 2003, 365; Pulak 2001, 30), as well as henna and alum, a "substance used by dyers and leather workers" (Shelmerdine 1985, 136). Another important commodity especially in the trade with Egypt was "timber from Syria and Anatolia". Other commodities in the Levantine trade were "textiles, other aromatic woods and resins (cedar, pine, sweet reed) and ivory" (Knapp 1991, 36; see also for further references).

83 Knapp 1991, 36–37. See Knapp for further references and for the use of oils (1991, 36–37).

84 Written evidence in the form of inscriptions on jars, as well as textual evidence in the Annals of Thutmosis III, confirms that honey was a commodity transported in these jars (Serpico et al. 2003, 373; Serpico 1996, 268–270; Sethe 1907, 688[8], 722[95], 670[106]).

85 Cline 1994, 50. In addition to these three "loanwords", another three (the words for gold, lion and ivory) are of Semitic origin and can be found in Linear B texts (Cline 1994, 50).

86 Doumas 1983, 119.

87 Bell 2005, 367, pl. LXXXc; Bell 2006, 57, fig. 24, tab. 9. "It seems probable that Cyprus and Phoenicia/Zone L2 received Mycenaean wares in greater quantities earlier than other parts of the Levant" (Bell 2006, 57).

88 See Bell 2006, Chapter 3; Kantor 1947, 80.

89 Perfumed oil was transported in stirrup jars, one of the most popular shapes exported (Shelmerdine 1985, 134, 141). The residues of resin in stirrup jars found on the Uluburun shipwreck offer another hint that perfumed oil could have been transported in these vessels (Haldane 1993, 354).

90 Shelmerdine 1985, 123–129.

woollen textiles, drinking sets and containers filled with ointments",[91] "olive oil, wines, spices, honey and other organic products",[92] grain, fermented beverages, and weapons from Crete.[93] On the other hand, objects of Egyptian and Near Eastern derivation are found on the Greek Mainland throughout the Mycenaean period,[94] including vessels, wall brackets, figurines, statuettes, scarabs, seals, tripods, armor, weapons, jewelry,[95] and some of the organic products mentioned above.

"The Canaanite jars have long been regarded as the most diagnostic containers imported to the Aegean from the Levant during the 14th–13th centuries B.C."[96] Such vessels were found on the Greek Mainland at 11 locations.[97] In the Argolid, such jars are known from domestic/building contexts as well as from tombs. "On Crete and the Islands, all such jars are found in domestic/building contexts".[98] Following Cline, the explanation for this difference might be in the different value that was assigned to these vessels on Crete and on the Mainland – on Crete the vessels were of value because of their contents and not because of their prestige (exotic) character as on the Mainland, and thus were not deposited in tombs.[99]

91 Sherratt – Sherratt 1991, 371.

92 Knapp 1991, 41.

93 Knapp 1991, 37–38 (see also for further references). Lead isotope analysis showed that the source of copper for the LH IIIB copper oxhide ingots and other copper objects from several sites on the Greek Mainland and Crete must have been Lavrion in Attica (although the number of analyzed objects was quite small, such that further analysis might lead to a different result) (Gale 1991b, 231–232; Stos-Gale – Macdonald 1991, 266–267; fig. 7c). However, some of the analyzed objects have a Cypriot origin, such as an ingot fragment from the Poros Wall Hoard (Gale 1991b, 227), or two tripod stands from the Athenian Acropolis (Stos-Gale – Macdonald 1991, 267). In addition: from written evidence we know that a "Cretan merchant with other recipients from the southern Levant picked up in Ugarit shipments of tin from Mari" (Knapp 1991, 38; see also for further references).

94 Cline 1993, 225.

95 Cline 1994, 17, tab. 7.

96 Negbi – Negbi 1993, 322.

97 Rutter 2014, 55, 58-60, tabs. 5.2-3. Hirschfeld 1999, 65. Amongst vessels listed by Hirschfeld were 16 with potmarks; the largest number found at one site come from Tiryns (seven vessels with inscribed marks) (65, 76, 77, tab. 3.2). In 1993 Cline wrote that only about 28 Canaanite jars had been found on the Greek Mainland (1993, 225), adjusting the number to 31 in 1994 (Cline 1994, nos. 294–324, whereas 16 Canaanite jars are encountered with incised post firing marks and two with painted ones). For these vessels, see also Grace 1956, pls. IX, X and Leonard 1996, 247, map 15.2.

98 Cline 1994, 96.

99 Cline 1994, 96. Fifty-eight such vessels were found just at Kommos alone (Cline 1994, 96). With the 6 vessels from Kommos stated to be 10 % of overall Canaanite jars found in Kommos, we also come to a similar result of around 60 in the newer study (Rutter 2014, 55, 58–60, tabs. 5.2-3).

Looking at our marked Canaanite jar and other marked containers from Tiryns, one would expect a "substantial Cypriot presence at the site".[100] Studying the material from the Levant, the scarcity of marked transport jars is evident; for example, from at least 149 Canaanite jars[101] found on the Uluburun shipwreck, only 11 amphoras were marked on the handle.[102] This might indicate the middle-man-role that Cyprus played in the exchange of commodities between the Levant, Egypt and the Greek Mainland.[103] When considering type 4-2, Pedrazzi argues for a "limited but highly dynamic network: goods were bought and sold along a sort of 'trading channel' connecting nearby regions, such as coastal Syria, southern Anatolia and Cyprus".[104]

In the latest study of Canaanite jars from Tiryns, the authors mention 32 fragments incised with potmarks (seven of them Cypro-Minoan) coming from only a few (but thoroughly studied) contexts in the Upper and Lower Citadel, whereas the total number of sherds of Canaanite origin from the Upper and Lower Citadel is 45, with two additional such fragments identified from the Northeastern Lower Town.[105] This relatively high number stands in sharp contrast to the numbers being quoted in 1994, when it seemed that only 31 Canaanite jars had been found on the entire Greek Mainland, although the numbers were higher in the study by Rutter, who counted 40 examples from the Greek Mainland, 19 of which were marked with incised signs.[106] We would thus like to reject the notion that Canaanite jars were a rather rare phenomenon at Mycenaean palatial harbor sites such as Tiryns, and agree with Rutter that the total number of signed and un-signed Canaanite jars found on the Mainland must be significantly higher than was previously thought[107] – at least in part because during earlier excavations, sherds of such vessels are likely to have been discarded as they were not recognized by

100 Hirschfeld 1999, 58; Davis – Maran – Wirghová 2014, 104.

101 Arnott 1999, 150. Pulak reports approximately 150 Canaanite jars from the shipwreck (2001, 33).

102 Hirschfeld 1999, 243. The first published example is to be found in Bass 1986, 278, fig. 8.

103 Hirschfeld 1999, 67, 224; Cline 1994, 61; Rutter 2014, 63.

104 Pedrazzi 2016, 73–74.

105 Day et al. 2020, 23–26, tab. 1; Stockhammer 2008, 156, 195, no. 740. The potmarks in the study are divided into three groups: "Linear B-related painted pre-firing inscriptions, post-firing incised signs and post firing incised inscriptions" (Day et al. 2020, 22).

106 Cline 1994, nos. 294–324. Twenty-seven pieces come from the Argolid. A total of 93 Canaanite jars were found in the Aegean region (Cline 1994, 95–96, tab. 60). Not all jars listed by Cline are encountered with Cypro-Minoan signs. Rutter lists 40 examples from Greek Mainland, with 29 coming from Argolis. From the Aegean region we find 52 examples listed by Rutter in addition to around 60 jars found in Kommos (Rutter 2014, tabs. 5.2-3).

107 Rutter 2014, 56, 64.

pottery specialists trained in Aegean pottery.[108] The large number of such vessels found on the Uluburun shipwreck and in Egypt[109] suggest widespread foreign exchange involving these vessels in the 14th century B.C. The situation changed in the 13th century B.C. inasmuch as Tiryns replaced Kommos as the most important Aegean entry point for Canaanite jars.[110] We doubt that we can still speak of "private trade" involving Mycenaean polities at that time,[111] but it was nevertheless a well-organized system "intimately connected with the palaces themselves and thus might be considered royal in its organization"[112] and with "a recording system of the palace and a different storage of material intended for export or related to taxes and tribute".[113]

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108 Stockhammer 2015, 178 with footnote 5. In the excavations in the Lower Citadel until 1983, due to the extremely high number of sherds encountered, undecorated body fragments of pottery were discarded after they had been counted.

109 "The sites of Memphis and Amarna yielded quantities of these jars." Residues from 150 samples could have been taken for the study published in 2003 (Serpico et al. 2003, 365–366).

110 Rutter 2014, 62–65; Day et al. 2020, 58–60. The authors suggest that a change of maritime transport routes is the reason we encounter such numbers of Canaanite jars at Tiryns in this period. On other possibilities as to how imports could have reached the Greek Mainland, see Cline 2003, 362–364; Cline 1999, 121, 123 on diplomatic embassies, royal exchanges and gifts; and Sherratt – Sherratt 1991, 371 on interdynastic marriages and the exchange of "specialist personnel" together with taxes and tributes.

111 There is no mention of long-distance trade in Linear B (Vianello 2011, 417).

112 Rutter 2014, 63.

113 Day et al. 2020, 62. This conclusion is based on an analysis of the locations of Transport Stirrup Jars, containers marked with Cypro-Minoan signs, and Canaanite jars from Tiryns.

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