MARITIME COMMODITY TRADE FROM THE NEAR EAST TO THE MYCENAEAN HEARTLAND: CANAANITE JARS IN FINAL PALATIAL TIRYNS

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1 INTRODUCTION: EAST MEDITERRANEAN TRANSPORT CONTAINERS AT THE END OF THE BRONZE AGE

Maritime Transport Containers have formed a major focus of attention recently, with the suggestion that their emergence in the Bronze Age marks the first incarnation of a container culture and a movement of goods which laid the foundations of commodity exchange[1], the creation and satiation of demand that we so often associate with more familiar economic systems of the last 500 years based on capital[2]. To reconstruct these emerging networks, it is the very ceramic material of the containers that allows us to investigate such movement, through the use of analytical techniques, to establish the vessels' places of production.

Canaanite Jars or Canaanite Transport Amphoras (CTAs) found at Tiryns in mainland Greece, the products of centres on the Levantine coast transported to the Mycenaean world, form the subject of the present paper. We consider what sort of information these jars might provide in our detailed reconstructions of trade, exchange, supply and increasing demand for materials gained over long distances, as local and regional rivalries were negotiated. It is not the mere establishment of provenance, providing some points in a distribution map, of the mapping of networks: the potential of the research goes beyond description. In its combination with stylistic, metrical and especially epigraphical evidence, the study of the CTAs offers the potential to examine the mechanisms of movement, perhaps insights into the groups involved in this trade and, crucially, the diachronic change in such patterns. It is the dynamics of the changing relationships between regions, elites and local populations that provides insight into social change in the Late Bronze Age (LBA) Eastern Mediterranean.

A previous study of four types of jars – transport stirrup jars (TSJs), short-necked amphoras (SNAs), Egyptian jars (EJs) and CTAs – from the important southern Cretan port of Kommos[3] demonstrated how the combined forces of chemical and petrographic analysis could provide detailed information on their sources. Not only were Cretan vessels discriminated from those

1 Bevan 2010; Bevan 2014; Demesticha – Knapp 2016b; Knapp – Demesticha 2017, 46–66.
2 Sherratt – Sherratt 1991; Sherratt 2010.
3 Day et al. 2011.

derived from the Levant, but a number of source areas were established for the Near Eastern imports, showing a complexity in the movement of goods at this early time. When analytical information on the ceramic containers was combined with the identification of the contents of the jars[4], it became clear that such integrated approaches had much to offer.

Physico-chemical analyses of archaeological ceramics, with a history of over 50 years, are increasingly able to pinpoint specific sources of pottery, especially when this involves relatively coarse wares such as transport vessels. Essentially, this new-found ability is due to two main factors: firstly the increased uptake of thin section petrography as the primary method of analysis and secondly because the number of such analyses has begun to reach a critical mass, enabling increased confidence in provenance ascription. Central to understanding both the potential and the limitations of these analyses is an appreciation that provenance is rarely determined solely by reference to either the composition of ›clays‹ or specific raw materials, but instead to repeated patterns of either chemical composition or petrographic fabric of well-studied groups of archaeological pottery. It is these fabrics that represent repeated choices in the selection and manipulation of raw materials, sometimes over millennia, within regions and communities. In other words, treating pots as c u l t u r a l p r o d u c t s is crucial, even when dealing with chemical, mineralogical and petrological information.

The sources, movement and consumption of such containers and often, by extension, their contents is fundamental to understanding the rise of such inter-regional movements of goods. Therefore, this new-found confidence in establishing the provenance of containers provides evidence central to a nuanced understanding of the mobility not only of material culture and a range of commodities, but also of humans themselves. Teasing apart these mobilities lays the foundations for an understanding of the emergent Mediterranean networks of the LBA[5]. As the sea lanes brought together such far-flung areas as the Levantine coast, Cyprus, the Aegean, Sicily, Southern Italy and Sardinia, questions have been raised regarding not only the multi-layered mechanisms of exchange, but also the identities of the those inspiring, funding and executing the movement of goods.

Much of this understanding relates to the changing capabilities of rapidly developing naval technologies[6], to the strategies of politically dominant groups in the Bronze Age Mediterranean as they strove to extend the resources available for the production of value-added goods, to the consumption which greased the cogs of social competition. Clearly, the differences in social and economic characteristics of the varied regions through which these groups travelled prevent generalized explanations. In addition, we know that the goods themselves differed from metals to ivory, from oil to resin, from glass to textiles. While many of the goods themselves are only known to us through Near Eastern texts and, for example, the wealth of the Uluburun shipwreck, as often in archaeology it is the ceramics which step up to provide some indicators of exchange and interaction. Fineware pottery has moved on from providing a chronological framework and indicating the contemporaneity of key contexts in different regions of the Mediterranean, to reconstructing networks of exchange through the identification of imports[7], and more recently to providing insights into the processes of transmission and imitation of technology and style. However, it is the transport jars which have demanded our

4 Stern et al. 2008; Serpico et al. 2003.
5 Knapp – Demesticha 2017; Broodbank 2013, 445–505.
6 Broodbank 2010.
7 e. g. van Wijngaarden 2002; Jones et al. 2014.

attention, mainly through the consideration of three classes of vessels. The two major ones are TSJs[8] and CTAs[9] with frequent mention also of large ›Cypriot‹ pithoi found in harbours across the Mediterranean and in the major Bronze Age shipwrecks[10].

The precise sources of these vessels are becoming increasingly clear. Reconstructions which were once used to examine the interaction of regions, of the establishment of long-distance trade, are now challenged with examining more subtle questions of the rise and fall of centres of power, of key individual settlements as we move to an understanding of regional histories, especially during the tumultuous changes from the Monopalatial Period on Crete, and of the rise of the palaces on Mainland Greece and their eventual collapse. Insights provided by Sherratt[11] regarding the short-lived route-based domination of Myceanean palatial centres have focused our attention on the movement of goods and, although some have suggested that these may even outlast the lifetime of the palaces[12], the links between these monumental centres of state continue to play a key role in our understanding of social and political change across the Eastern and Central Mediterranean during the LBA.

This study will consider what the new information on CTAs from Tiryns reveals about links with specific settlements and regions, and address how these links change over time. Beyond the period covered by the previous study at Kommos, by the 13th century B.C. the main port for the entry of these Syro-Palestinian transport vessels had shifted from Southern Crete to Tiryns, a settlememt which controlled maritime access to the Argive Plain, the Mycenaean heartland. The archaeology of Cyprus, the Levant and the Central Mediterranean demonstrates the increasing reach of, for example, Aegean-style material culture, whether it be imported or locally produced in imitation of that from the Aegean. As interpretations become more sophisticated, the consideration of imports and hybrid material, as well as questions surrounding the identity of agents involved in such mobilities become a greater priority, though these are sometimes poorly conceived and over-simplify issues of human identity. Nevertheless, while an emphasis on ›ethnicity‹ or the identity of sailors and merchants may have waned, the focus is back on human movement through technological transmission[13] and indeed, the identity of anchorage and harbour communities in major centres[14].

There is a growing body of evidence of an important role in the maritime movement of goods played by those connected with Cyprus. Suggestions have been made about the key role of the island, perhaps as an *entrepot*, but equally as a possible source of many of the merchants and sailors driving the circulation of goods in the LBA Mediterranean. Tiryns, with its wealth of material culture linked with Cyprus[15] and its frequent CTAs[16], offers a rich opportunity to examine this phenomenon. That it represents a time period immediately after that of previous analyses of CTAs in the Aegean at Kommos, also offers us the chance to examine c h a n g e s in such inter-regional economic relationships at this time. Did these vessels represent only elite exchange? Did Ugarit and the Syrian coast continue to provide the lion's

8 For references see Haskell et al. 2011; Day et al. 2011.
9 Sugerman 2000; Day et al. 2011; Rutter 2014.
10 Knapp – Demesticha 2017, 88–93.
11 Sherratt 2001.
12 Maran 2005.
13 Gauß et al. 2015; Kiriatzi – Knappett 2016.
14 See Hirschfeld 1993 for Tiryns Cypriotes, though see also Russell – Knapp 2017 for Sardinia.
15 Maran 2004; Kostoula – Maran 2012; Davis et al. 2014; Vetters 2011.
16 Kilian 1988b.

share of the imported CTAs? What does the provenance of the Tiryns CTAs tell us about the movement of jars to the Mycenaean heartland at this time?

2 MORPHOLOGY, STYLE AND DESIGN … WHAT DOES A CANAANITE JAR LOOK LIKE?

›Canaanite Jar‹ is the term given to undecorated amphoras with a short narrow neck, two vertical handles on the shoulder and a more or less tapering lower body with a rounded, knobbed, pointed, flat or reinforced base[17]. Sometimes they may have four handles[18]. Their size, shape and capacity may vary considerably but broad categories have been recognized[19].

The CTA is characterized as the »commercial jar *par excellence*« of the LBA[20] and is considered to be the actual forerunner of the Classical stamped amphora[21]. The jars' role as maritime containers was assumed not only due to their shape, well suited for transportation[22], but also on account of the large numbers of these containers in shipwrecks. The wreck of Uluburun had a cargo of no less than 150 CTAs[23]. The distribution of the shape in the Eastern and Central Mediterranean is remarkable, with the westernmost find of a jar at the site of Vivara in the Bay of Naples, dated as early as LH I–II, whereas an example has been found also in contexts of the early 12th century B.C. in Troy[24].

2.1 What's in a name?

The term ›Canaanite Jar‹ was first coined by Grace in 1956 and was originally used to describe transport containers dating to the LBA[25]. The jar type became highly standardized during the middle and later parts of LB II, but it was recognized to be derived from MB II Levantine amphoras and pithoi, in addition to continuing into the Iron Age[26]. It has often been stressed that the term ›Canaanite‹ is in reality rather misleading, as it does not define either the chronological or the geographical contexts of its production and distribution in the Eastern Mediterranean. As alternatives, the terms ›Levantine amphora‹ or ›Syro-Palestinian jar‹ have been put forward in order to describe the several variants of the shape[27]. However, even these terms may fail to include all possible regions of the jars' provenance, notably if Cyprus

17 Grace 1956; Amiran 1969; Killebrew 2010, 93 fig. 4, 7 (Deir el-Balah).

18 Aston 2004, 179 fig. 2 d; 180 f. The four-handled Canaanite Jar becomes more common in the 12th century but it had appeared already in the 13th century. See Killebrew 2010, fig. 4, 6, 1 ol. 32,7 (Deir el-Balah, Stratum VI, 13th century).

19 Amiran 1969; Parr 1973; Leonard 1996; Killebrew 2007; Knapp – Demesticha 2017.

20 Amiran 1969; see also Zemer 1977; Raban 1980.

21 Grace 1956.

22 Parr 1973; Martin 2016.

23 Pulak 2001, 33; Bachhuber 2006, 347.

24 Goren et al. 2001; Marazzi et al. 2008; Zurbach 2003. See Jung 2006b, 89–94 for the dating of the Mycenaean pottery in LH II.

25 Grace 1956.

26 Parr 1973; Killebrew 2010, 88; see Martin 2016.

27 Pedrazzi 2016, 58 f.; Cateloy 2016, 40. In many other cases and especially in the Levant it is referred to as ›storage jar‹. Killebrew 2010, 89 fig. 4, 5; Cateloy 2016, 40.

is accepted as a possible origin[28]. The term ›Canaanite Jar‹ has a long tradition in the history of research, and in the Bronze Age Aegean the presence of jars of this type has a very specific economic and social background.

The classification of CTAs is a difficult task. The similar shapes and the lack of decoration[29] have led to typological systems based mainly on very well or fully preserved examples[30], whereas the only real characteristic diagnostic feature is the grade of carination on the shoulder. Consequently, there is no standard system of classification applied across the whole Levantine coast and Cyprus, rather a range of systems often based on local sequences and types. Based on material from the Aegean, Cyprus and the southwestern coast of Turkey, Kilian identified six different types of Canaanite Jars, the seriation of which follows a well-known development from vessels that are more ovoid to jars with flat shoulders. However, Kilian did not elaborate on these classification criteria[31]. Recently Aston, followed by Cateloy[32], has suggested five main types of the Canaanite Jar (New Kingdom amphoras) that combine both typological as well as macroscopic criteria (fabric)[33]. Aston's intermediate form (A2), lying between ovoid jars and those with flat shoulders, is a type found very frequently in the Aegean (see below)[34]. Killebrew distinguishes between piriform storage jars (Type A) and ovoid domestic jars (Type B). Her Type A, which is the Canaanite Jar, is further subdivided into jars with a tapered body (Type A1), four-handled jars with tapered body (Type A2) and two-handled jars with a carinated shoulder (Type A3)[35]. In addition, a very detailed typology for the Levantine amphora has been proposed recently by Pedrazzi[36]. The latter system includes various subtypes and their detailed geographical as well as chronological distribution from the Middle Bronze Age (MBA) to the Early Iron Age (EIA). Although an attempt has been made here to follow Pedrazzi's system, this is not always possible as the Tiryns material is fragmented[37]. In other cases, there seems to be an overlap between some examples of the different types[38]. For this reason, most of the fragments presented and discussed below could belong to more than one subtype. What must be stressed here is that, although the CTAs with a slight carination on

28 Hadjicosti 1988, 350. 359 f. (Floors II and I); Jones – Vaughan 1988, 393. In reality, though, there is no reliable analytical evidence for production in Cyprus (see below). Dimini in Thessaly has also been argued to host a locally manufactured CTA (Cateloy 2016, 50), though this seems unlikely. According to Cateloy this would also explain the deviation in the capacity of the vessels from the standard sizes (3.65 and 4 litres).

29 A few CTAs were decorated during the LBA (see Hadjicosti 1988, 353 f. [Maa-Palaeokastro]). Decoration is more usually found on domestic jars. See Killebrew 2010, 91 fig. 4, 6; pl. 5, 7 (Deir el-Balah, Stratum IX, Amarna period, 14th century).

30 Amiran 1969; Leonard 1996; Killebrew 2007; Killebrew 2010.

31 Kilian 1988b. Based on the material from Maa-Palaeokastro, Hadjikosti 1988, 348 f. identifies three main types with further subtypes. The main criterion is the type of base.

32 Cateloy 2016.

33 Aston 2004, 175–184.

34 Cateloy 2016, 42 f. fig. 2. However, Aston's Type A2 contains vessels with both slightly carinated and rounded shoulders (tapered store jars, Aston 2004, 179 fig. 2).

35 Killebrew 2010. However, here type A1 could be suggested to contain also slightly different vessels, such as ovoid jars with no real carination on the shoulder and jars with a slight carination on the shoulder. The former type seems to be more frequent in Deir el-Balah (Killebrew 2010, 89 fig. 4, 5).

36 Pedrazzi 2007; Pedrazzi 2016.

37 Pedrazzi 2016, 59 stresses the importance of the well-preserved vessels for their classification.

38 Aston 2004, 180 stresses that in sherd material it is difficult to differentiate type A2 (slight carination) from A3 (flat shoulder).

the shoulders may begin earlier[39], not only do they continue to circulate uninterrupted alongside the CTAs with flat shoulders, but they are also very common in the EIA.

3 CANAANITE JARS IN THE AEGEAN

The earliest examples of the shape in the Aegean date back to the early LBA and come from major Cretan sites and Akrotiri in Santorini[40]. During LM II–LM IIIA2 Early in Crete and during LH IIIA1 in the Greek mainland, the number of CTAs found in the Aegean shows a remarkable increase, with most examples in Crete (Kommos, Mochlos, Chania), but also the Greek mainland (Athens, Argos and Asine) (fig. 1)[41]. In this period, the custom of placing these containers in tombs as funerary gifts has been observed, though this only occurs on the Greek mainland, where almost all known examples come from tombs[42]. On Crete most examples come from settlement deposits[43]. Similarly, the marking of the CTAs appears for the first time in LH IIIA1, with the two amphoras found in tombs on the northwestern and southern slopes of the Acropolis (Agora and Koukaki)[44]. The existence of these marked CTAs discovered in such close proximity to each other led Jeremy Rutter to suggest that the vessels were brought to Athens by Cypriot middlemen directly from Cyprus or Crete[45]. In subsequent periods (LM IIIA2 Developed and LH IIIA–LH IIIB), there is substantial evidence for the presence of the Levantine containers in the Aegean, but this mainly comes from the Greek mainland. LM II–LM IIIA2 Early and LH IIIB represent the periods of highest concentration of these vessels in the Aegean, with Kommos and Tiryns having significant assemblages in each period (cf. table 1 and see below)[46]. The total of 45 fragments from Tiryns, including a fully restorable vessel, may appear modest in comparison to more than 60 fragments and vessels from Kommos. However, one has to take in consideration here the number of fragments that may have been lost during the first excavation of the site and later during the Second World War.

It has been suggested that Kommos and Tiryns were ports of entry for the jars and their contents and that their different dates (mainly LM II–LM IIIA2 and LH IIIB2, respectively) reflect the shift in the movement of goods originating in the Levant and Cyprus, from Crete to the mainland in the 14th century B.C.[47]. However, the amount of imported eastern Mediterranean pottery at Kommos during LM IIIA was far greater than in the Greek mainland during

39 But see Aston 2004, 181.

40 Cline 1994; see Rutter 2014, 54 Tab. 5.1 for the list of the early examples of CTAs in Crete and the Cyclades. One possible MM III fragment from Knossos has not been included in the list. For a recent account and a list of most published CTAs in the Aegean see Rutter 2014.

41 Rutter 2014, 55 Tab. 5.2. One unpublished piece dated to LH IIB comes from Tsoungiza.

42 Immerwahr 1971; Ōnasoglou 1979. But see also Piteros 2015 for the base and lower part of a Canaanite Jar from a LH IIIA2 building in Nafplio.

43 Rare exceptions are an early example of a CTA probably from Poros and a late example from Chania (Rutter 2014, 63).

44 Ōnasoglou 1979.

45 Rutter 2014, 61.

46 Kilian 1988a; Rutter 2006a; Rutter 2014.

47 See also Cline 1994.

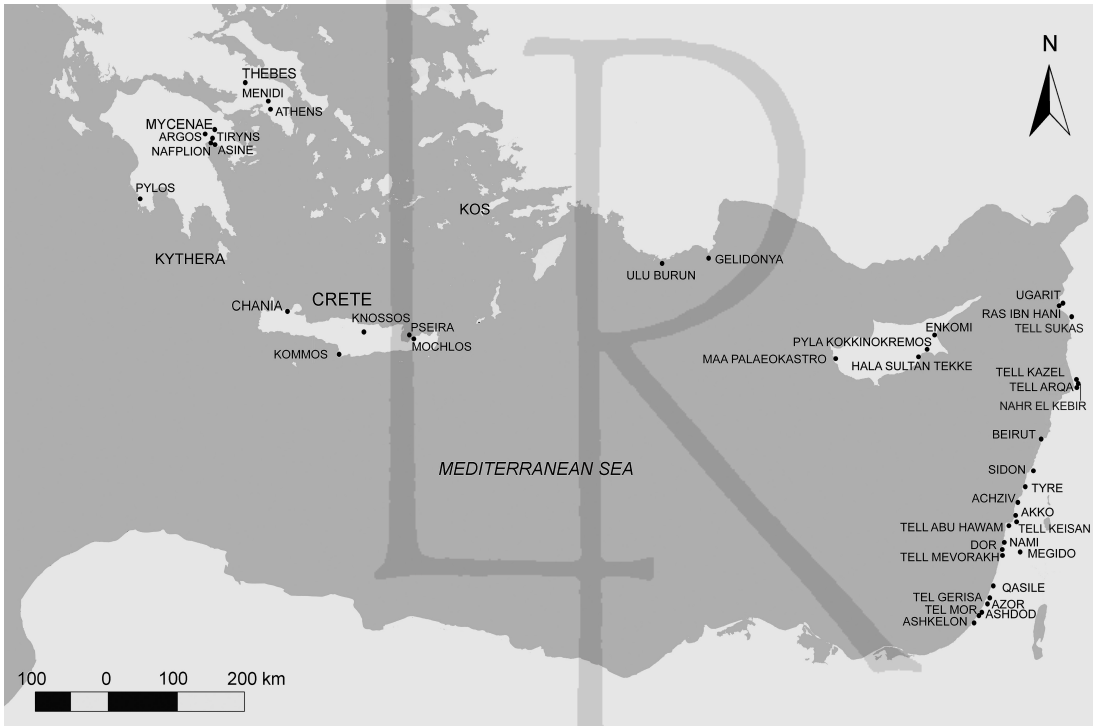

Fig. 1. Map of sites mentioned in the text

the 13th century[48], while the distribution of the jars in Crete and the mainland may have differed. Based on the distribution of CTAs, Rutter argued for the direct involvement of the central administration of Knossos in their distribution from LM II to LM IIIA2 Early, after LM I when he contents that this might have been achieved by individual merchants. He contents that the palace of Knossos distributed the jars from Kommos to other central places, possibly to allied chiefs (e. g. Mochlos), and perhaps to the Mycenaean mainland[49], but this seems to be based on an assumed centralized interest in the jars, in reality with little evidence. Moreover, the presumed control of Knossos over imports to Kommos and trade in LM IIIA2 is difficult to assess due to the almost complete absence of CTAs in the region of Knossos. Finally, the incised or painted marks on LH IIIA CTAs comprise a major difference from the material in Crete and perhaps suggest a more direct link between the mainland and the Levant/Cyprus during LH IIIA2, not via Crete[50]. LH IIIA2 Late and LH IIIB may see a shift from Crete and Kommos to the Greek mainland, with CTAs appearing now also in settlement contexts (Petsas House) and not only in tombs (Menidi, Pylos, Athens), but always in relation to the major pa-

48 Watrous 1992; Rutter 2006b; Rutter 2014, 58 tab. 5.3. In this table only the best preserved vessels and all marked handles are included (10 % of the total).

49 Rutter 2014, 64.

50 There is new evidence for the connection between the Saronic Gulf, Cyprus and the Levant for this period. A Base Ring juglet was deposited in a LH IIIA1/LH IIIA2 Early tomb in Myloi at Kolonna, Aigina (personal communication E. Kardamaki).

latial centres and especially Tiryns[51].Tiryns also hosts the largest concentration of Cypro-Minoan symbols to be found in the Aegean (e. g. fig. 7, 5, sample T114)[52], mainly incised on the handles of vases after firing. This has led some to suggest the presence of traders familiar with the Cypriot marking system, who marked particular products in the course of directed trade[53].

4 TIRYNS AS MARITIME GATEWAY TO THE ARGIVE PLAIN

Lying close to the current coastline of the Argive Plain in the Peloponnese, Tiryns seems to have been even nearer to the Saronic Gulf in the Bronze Age (fig. 1). Hosting a palace, atop a fortified acropolis, the site has naturally attracted attention, with extensive excavation under the auspices of the DAI and the Archaeological Service leading to an important series of publications[54].

Tiryns has been central to understanding the nature of external contacts that the Mycenaean palaces maintained with Crete, Cyprus and the Eastern Mediterranean[55]. Due to the number of imported objects discovered here, its importance as an ›entrance‹ for goods to the Greek mainland has been discussed extensively. A number of terms have been used to describe the role played by Tiryns as a major coastal centre serving an extensive fertile plain that hosted a number of well-known LBA fortified sites, such as Midea and Mycenae. Amongst these labels, the most popular have been ›port of entry‹ and ›gateway community‹[56]. Regardless of the detail of such classifications, it seems clear that as a fortified citadel close to the coast of a plain that contained a range of major centres of political control, we can hardly conceive of Tiryns as anything but exercising the most immediate control and facilitation of imported commodities. Indeed, recent evidence suggests the continuation in the external contacts of the site with the Eastern Mediterranean even in the Postpalatial Period[57].

Over the last few years a wealth of data, both old and new, has been used to illuminate the specifics of the political, economic and cultural/religious context of such transactions beyond their characterization as merely ›trade‹ and exchange[58]. With this as background, the current integrated project aimed to provide a multi-faceted analysis of the imported pottery, combining data from scientific analyses with macroscopic and typological classification of the material. In an attempt to offer a new basis for discussion, especially with regard to the relatively rarity of Cypriot pottery in the LH IIIB Greek mainland when compared especially to LM IIIA Kommos[59], we extended our study beyond the pottery identified by earlier excava-

51 Rutter 2014, 64 f.
52 Davis et al. 2014.
53 Hirschfeld 1993.
54 See Maran 2010 for an overview.
55 Kilian 1988a; Kilian 1988b; Hirschfeld 1992; Maran 2004; Maran 2005; Maran 2012; Kostoula – Maran 2012.
56 Cline 1994, 87–89 fig. 19. Cline has argued for a multidimensional model in explaining the LBA ›trade‹ of *orientalia*, while Knapp – Cherry 1994 and Tartaron 2013 have convincingly presented the likely broad range of mechanisms of maritime exchange. Of course, the role of each of the major nodal points in such long-range connections (Hala Sultan Teke, Kommos, Cannatello, the Bay of Cagliari, to name but a few) depends on their local political and economic conditions, which in many cases seem to have changed radically over time.
57 Maran 2004; Vetters 2011; Maran 2012; Davis et al. 2014.
58 Maran 2004; Vetters 2011; Kostoula – Maran 2012; Maran 2012; Davis et al. 2014; Kardamaki et al. 2016.
59 Tomlinson – Rutter 2010.

tors[60] and decided to re-examine available material from old excavations in the Upper Citadel (›Epichosis of Verdelis‹, see below)[61]. Together with the recently excavated material from the Western Staircase, we now have a clearer picture of the quantity and quality of transport containers and other imported wares present in the area of the palace and the Upper Citadel[62]. However, our macroscopic study confirmed the previous results: that the proportion of Cypriot tableware (such as white slip milk bowls and white shaved pottery) is almost negligible (see below)[63] in comparison to the corpus of other imported classes. Thus, the vast majority of the imported pottery attested in LH IIIB Tiryns belongs to large- and medium-sized closed shapes, rarely pithoi, that most probably were manufactured for transport and largely belong to the group known as maritime transport containers[64]. The highest amount of imports was observed in layers of the final palatial period (LH IIIB2), but it needs to be stressed that earlier remains (LH IIIA2 and LH IIIB1) are rarer due to large-scale construction in LH IIIB2[65]. The vast majority of the imports belong to transport containers that comprise common features of most shipwrecks of this period, namely TSJs, CTAs and other large amphoras[66]. On the other hand, Cypriot pithoi are rare[67]. The largest group at Tiryns are the TSJs (FS 164) followed by the CTAs. The latter shape represents the focus of the present study.

5 CANAANITE JARS IN TIRYNS

The CTAs, in total 45 fragments, represent the second most frequent group of ceramic imports identified in this project, outnumbered only by Cretan TSJs[68]. The CTAs are generally much more fragmented than the Cretan TSJs, with perhaps only one vessel having a fully preserved profile[69]. The group of CTAs recorded here derives from published material, excavated mainly in the 1980s in the Lower Citadel of Tiryns[70], and from newly identified material from the re-examination of the dump known as the ›Epichosis of Verdelis‹, located outside the west wall of the palace in the Upper Citadel. The new finds from the ›Epichosis‹ have raised significantly the number of the CTAs known in Tiryns from twelve diagnostic sherds to 45

60 Kilian 1988a.

61 Kardamaki 2013; for the ›Epichosis of Verdelis‹ see Voigtländer 2003 and Kardamaki 2013.

62 For the Western Staircase see Kardamaki 2013.

63 See also Maran 2008, 59 fig. 41 for a Cypriot jug from the Lower Citadel; Stockhammer 2015, 181.

64 Bevan 2010; Bevan 2014; Knapp – Demesticha 2017; Demesticha – Knapp 2016b.

65 See Kilian 1988b; Maran 2008, 38–41.

66 Day 1999. – Ulu Burun: Bass 1986, 273 ill. 3; 277 ill. 7; Pulak 2005. – Gelidonya: Hennessy – Taylour 1967, 123 fig. 132, 2–6; 124 fig. 133, 24. See also Cline 1994, 100 f. – CTAs are absent in Iria (Lolos 1999).

67 See Day 1999; Knapp – Demesticha 2017, 88–93.

68 See Kardamaki et al. 2016. For recent finds in LH IIIC Developed contexts of the Lower NW-Town see Maran – Papadimitriou 2016, 56 fig. 83 (Cretan TSJs with wavy bands and other motifs).

69 The base and upper part of a Canaanite Jar discovered in the course of excavation by Kilian and Maran in the area of the passageway seem to belong to the same vessel (Kilian 1988a; Maran 2008; see also Stockhammer 2015, 180 for comment), though Sona Wirghova, who examined this material in the course of her PhD thesis, suggests this is unlikely (Wirghova, personal communication). Moreover, the base of the vessel published by Kilian 1988a, is now stratigraphically assigned to a LH IIIC Middle horizon.

70 Kilian 1988a; Kilian 1988b; Olivier 1988. Stockhammer 2015, 179 mentions 18 fragments or vessels from the Lower Citadel, which are six more than those identified for this paper. Regarding the Lower Citadel, the present authors are based only on the evidence from the published material and one unpublished wall sherd from the passageway (sample T112).

diagnostic and non-diagnostic sherds (table 1)[71]. In addition, the re-examination has added two examples to the corpus of Cypro-Minoan signs (figs. 4, 18; 6). However, here one should keep in mind that fragments deriving from containers of this type may have escaped attention during earlier periods of excavation at the site[72]. The same may be true for Mycenae, where a considerable amount of plain wares were discarded in the 1960s or lost during the Second World War.

From the 33 new pieces in the ›Epichosis of Verdelis‹ and the Western Staircase (one piece), 18 belong to feature sherds (bases, handles, rims and wall sherds from shoulders)[73]. Numbers of CTAs and other imports such as TSJs are sufficient to produce an idea of proportions only in the ›Epichosis‹, the only deposit to contain a relatively large amount of both pottery classes. While the ›Epichosis‹ does not represent a closed deposit, and therefore statistical comment requires caution, CTAs are clearly less frequent than imports from the Aegean, particularly those from Crete and Kythera. The latter two sources constitute 62 % of imports, while CTAs represent 12 % – in other words, a small but substantial component. In other contexts, such as the Western Staircase dumps (excavated in 1998 and 1999), CTAs are almost totally missing and the identified imports come from Crete, with one from Kos[74]. After the macroscopic and typological classification, 17 samples (five of which belong to non-feature sherds) and two additional samples from the Lower Citadel were selected and have been analyzed by thin section petrography and neutron activation analysis (NAA) (table 1).

5.1 The contexts

The majority of the CTA fragments come from the Upper Citadel of Tiryns and more specifically from the huge dump deposited outside the west wall of Tiryns, the ›Epichosis‹ (table 1). Only one body sherd (fig. 3, 14) was found further to the north, in a dump by the Western Staircase, discovered during the 1998 excavations conducted for the conservation of the Western Staircase and the western citadel wall. Both dumps contain mainly the destruction debris of the palace itself, which was deposited outside the west wall during the course of clearing and rebuilding activities in the Upper Citadel following the LH IIIB2 destruction[75]. The ›Epichosis‹ extended between the South Tower and the Western Staircase, resulting in a deposit that was approximately 40 m long and 20 m wide, in four distinct layers in total 2.50 m thick[76]. The vast majority of the pottery comprises vessels characteristic of LH IIIB2[77], something confirmed by our study, but it should be noted that, unsurprisingly for such a huge deposit, early and later vessels or sherds are present[78]. In addition, part of the material should

71 Two body sherds are mentioned among the material studied by Stockhammer in the NE-Lower Town (Rutter 2014, 60). See also Stockhammer 2015.

72 Rutter 2014; Stockhammer 2015.

73 Non-feature body sherds from CTAs have also been counted and listed in separate tables. Some body sherds have been drawn. The percentages provided derive from the count of all feature sherds (rims, bases, handles, wall sherds with diagnostic features) identified in the contexts of the Upper Citadel (Western Staircase, ›Epichosis of Verdelis‹), in total 264 sherds.

74 Kardamaki 2013; Kardamaki et al. 2016, 151 fig. 2.

75 Maran 2012; Kardamaki 2013; Kardamaki 2015.

76 Voigtländer 2003.

77 Berdelēs et al. 1965; Voigtländer 2003.

78 Kardamaki 2013.

	Rims	Other feature sherds	Wall sherds	**Total (feature and wall sherds)**	**Total samples**	Sample	Cat.
Upper Citadel							
›Epichosis of Verdelis‹	5	13	14	**32**	14	T109–T111. T113. T116–T119. T122–T127	2. 6–13. 18. 23
Western Staircase 1998			1	**1**	1	T115	14
Western Staircase 1999						–	
Total Upper Citadel	5	13	15	**33**	15	**T109–T111. T113. T115–T119. T122–T127**	**2. 6–14. 18. 23**
Lower Citadel LH IIIB1/LH IIIB2							
LXII 43/39 Ofl. XI[1]		1		**1**			
Lower Citadel LH IIIB2							
Passageway[2]	1		1	**2**	1	T112	
NW of Building VI[3]		1		**1**	1	T114	
LXII 43/33 XVc 8/246[4]		1		**1**			
South Syrinx, North of Building I[5]		1		**1**			
LXII 43/34 XIV[6]		1		**1**			
LXII 43/93, Ofl. XII no. 18[7]	1?			**1**			
Tiryns 1968, I1, PF, H2[8]		1		**1**			
Lower Citadel LH IIIC							
LXII 42/45 V[9]		1		**1**			
Above Building III[10]		1		**1**			
Lower Citadel/unstratified[11]		1		**1**			
Total Lower Citadel	2	9	1	**12**	2	**T112. T114**	

Table 1. Contexts of Canaanite Jars in Tiryns

[1] Olivier 1988, 258 fig. 2, 31; 260. – [2] Rim: Maran 2008, fig. 35; base: Kilian 1988a, fig. 24, 7 (rim and base counted as one vessel, but see n. 69); wall sherd: T112 found in LXIII 35/33, Ofl. VB no. 69/02. – [3] Olivier 1988, 258 f. fig. 2, 29. – [4] Olivier 1988, 254. 257 fig. 1, 14. – [5] Olivier 1988, 259. 261 fig. 3, 27 (LH IIIB2–LH IIIC). – [6] Kilian 1988a, 129 fig. 25, 12. – [7] Kilian 1988b, fig. 4. – [8] Kilian 1988a, fig. 25, 13. – [9] Olivier 1988, 254. 257 fig. 1, 7. – [10] Olivier 1988, 259. 261 fig. 3, 28. – [11] Olivier 1988, 258 fig. 2, 30; 260