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Introduction

Recently, networks of trade, communication and movements of people in the Eastern Mediterranean during the later part of the Late Bronze Age (13th–11th cent. B.C.E.) have been the subjects of much debate in Aegean archaeology[1]. Based on material remains excavated in both Greece and the Levant, intricate interconnections seem to emerge between these two geographically distant societies which also differed in terms of political and social organisation. The Mycenaean settlement of Tiryns in the Argolid (fig. 1) is one of the core sites in the discussion of these interaction patterns. Here, excavated artefacts not only attest to contact with contemporary societies in Cyprus and the North Levantine coast during the Mycenaean palatial period (ca. 1400–1200 B.C.E., LH IIIA–B) but also to a continuation of such relationships after the collapse of palatial societies on the Greek mainland (ca. 1200–1050 B.C.E., LH IIIC)[2]. This article aims to add further evidence to the material corpus of Mycenaean – East Mediterranean, especially Cypriot, interconnections and to discuss the nature of these relationships as far as Tiryns is concerned.

A tiny, seemingly inconspicuous find forms the basis for the ensuing discussion. This small clay ball with a Cypro-Minoan inscription excavated in settlement layers of the Lower Citadel in Tiryns is, however, the first of its kind found outside Cyprus. Since the clay ball (TN 241[3]) stems from an area with

This article is part of an ongoing research project on »Cross-Craft-Interaction in the cross-cultural context of the Late Bronze Age Eastern Mediterranean« by Ann Brysbaert (principal investigator) and myself within the larger »Tracing Networks: Craft Traditions in the Ancient Mediterranean and Beyond« project <www.tracingnetworks.org> (06.06.2012) funded by the Leverhulme Trust. First and foremost, I would like to thank Ann Brysbaert for all her unflagging support, the many fruitful discussions and the best collaborative atmosphere one could wish for. Many thanks are also due to Joseph Maran as director of the Tiryns excavations, who has been very supportive of our research project and has paved the way for studies of Cypriot and/or Near Eastern traits in the Late Bronze Age Tirynthian material remains. Reinhard Jung provided me with valuable comments and criticism for which I thank him very much. All views expressed and all remaining errors are, of course, my own. Alkestis Papadimitriou of the 4th Ephorate of Prehistoric and Classical Antiquities at Nauplia is to be wholeheartedly thanked for her support as well. I gratefully acknowledge the logistical support of the German Archaeological Institute at Athens and its director, Wolf-Dietrich Niemeier, who has generously permitted me the use of all facilities. I am also indebted to Hans Birk and Roxana Docsan for their help with digital images and to Ingrid Keller and Catherine Parnell for proof-reading the English text. Last, but not least, the guards of the Tiryns storerooms have facilitated all organisational and practical matters at Tiryns, for which I thank them very much.

1 The literature on this topic is vast; see e. g. Cline 1994; Hirschfeld 1996a; Jung 2009; Karageorghis 1999; Lolos 2003; Maran 2004; Maran 2009, 246 f.; Rutter 1999; Sherratt 2000; Sherratt 2003a; Yon 2003.

2 See especially Maran 2004; Stockhammer 2008, 323–325. 327.

3 TN refers to the »Tracing Networks« database number of the object. This database is part of the project »Cross Craft Interaction in the Cross-Cultural Context of the Late Bronze Age Eastern Mediterranean« within the Leverhulme-funded programme »Tracing Networks: Craft Traditions in the Ancient Mediterranean and Beyond«, for further information see <http://www.tracingnetworks.org/content/web/cross_craft_interaction.jsp> (06.06.2012).

Fig. 1 Tiryns. Plan of the different areas

strong indications of contact with the Eastern Mediterranean during the final palatial phase, its stratigraphic position is of utmost importance and hence its find context is assessed in some detail below. Based on the contextual analysis of this find and an overview of other objects found in Tiryns but ultimately originating in Cyprus or the Levantine coast, some preliminary hypotheses as to the form, frequency and intensity of contact during the Mycenaean palatial and post-palatial periods are presented at the end of this paper.

Cypro-Minoan Script/s and Inscribed Media on Cyprus

Before embarking on a discussion of stratigraphical details, the development and function of scripts on Cyprus in contrast to the Mycenaean mainland is reviewed here. This will provide a background for a contextualisation of the clay ball and other Cypriot marks on pottery in Tiryns. Cypro-Minoan (CM) is not yet deciphered[4], but according to communis opinio it is a modified version of the Aegean Linear A script and was adopted on Cyprus in the 16th cent. B.C.E.[5]. The CM signs apparently denote one or several syllabic

4 For a history of research see Hiller 1985; Palaima 1989, 141–147; on problems with the decipherment of Cypro-Minoan see Palaima 1989, 147–152.

5 Heubeck 1979, 54–64. 70 f. gives a slightly outdated general overview on the development and spread of Cypro-Minoan script/s on Cyprus and the Syrian littoral (mainly Ugarit); cf. Ferrara 2009, 259 on the difficulties of finding any archaeological evidence for contacts between Crete and Cyprus in the century before the earliest attestations of Cypro-Minoan (i. e. the problem of transmission of a writing system based on Linear A signs to Cyprus); the so-called Archaic Cypro-Minoan script denoted on Enkomi tablet 1885 represents an already modified stage of the donor's sign repertoire.

scripts prevalently written from left to right[6]. The questions as to whether CM comprises one or up to three different scripts and denotes one or more languages are highly contested amongst scholars. Emilia Masson originally devised a classification of four different variants of CM[7], whereby the oldest testimonies are characterized as Archaic CM or CM 0[8], while most CM inscriptions found on Cyprus fall into her class of CM I[9]. According to Masson, CM II comprises the signs encountered on three clay tablets from Enkomi and reflects a process of ›cuneiformization‹[10]. The CM signs found on eight objects in the Levant, mostly in Ugarit, are assigned to class CM III[11]. There are 114 different signs so far, if one adds up all identified signs in Masson's three CM systems[12]. Jean-Pierre Olivier has recently published a holistic edition of all CM inscriptions[13]; he cautiously follows Masson in the general distinction of the signs into CM I, II and III but has revised some of her signs[14]. Thomas Palaima and Silvia Ferrara[15] are the strongest advocates for a unification of the different CM classes: Palaima suggests that Linear A signs were initially adopted and adapted on Cyprus, because the entire Aegean syllabic system could easily have been applied to a new language, whereas this would have been difficult with Sumerian and Akkadian cuneiform[16]. Furthermore, he argues that the CM signs represent one script and that one language is denoted by this script. Differences in the ductus or even the occurrence of signs so far singular to CM I, II or III are, according to Palaima, only due to differences in chronology,

6 Dikaios 1967, 84; Heubeck 1979, 72; O. Masson 1952, 396 n. 4; for the same direction on the Enkomi tablet 1885 see now Duhoux 2010, 22–25, esp. 24.

7 E. Masson 1971a, 22 f.; E. Masson 1974, 11–17; E. Masson 1971c, 476: »Il est très probable que chacune de ces écritures notait une langue différente«.

8 For a chart of Archaic CM signs cf. E. Masson 1974, 12 fig. 1; Olivier 2007, 412. Only 30 different signs are attested in CM 0 (as Archaic CM is termed in Oliver 2007), collated from a vase inscription found in Katydhata and three objects found in Enkomi: a cylinder seal, a terracotta cone (possibly a weight) and a clay tablet (Enkomi inv. 1885, found in 1955; cf. Hiller 1985, 66 fig. 2; Palaima 1989, 136–140; Duhoux 2010). Palaima 1989, 153 f., however, notes a serious problem with Masson's identification of Archaic CM: the objects bearing signs of this system are not unequivocally dated to the 16th–15th cent. B.C.E. and the inscribed media are of very diverse character.

9 For a chart of CM I signs cf. E. Masson 1974, 13 fig. 2; for a revision of signs attributed to CM I cf. Olivier 2007, 414; on CM I see also Palaima 1989, esp. 152 f. CM I comprises 85 different signs compared to 89 different signs in Linear B. E. Masson 1971c, 476 believes this script to be indigenous to Enkomi.

10 For a chart of CM II signs cf. E. Masson 1974, 14 fig. 3; Olivier 2007, 415. Smith 2003, 278 differentiates between Aegean scripts where the stylus is drawn through the clay versus cuneiform scripts where the stylus is punched into the clay. A cuneiformization was originally only assumed for CM II, i. e. three (once four, meanwhile two fragments were joined) tablets from Enkomi: Enkomi 53.5, Enkomi 1687, Enkomi 20.0 joined with Enkomi 1193, but has been extended to CM 0, cf. Palaima 2005, 50 n. 67; for a convincing palaeographical argument contra the distinction of CM I and CM II see Palaima 1989, 155 f.; Palaima 2005, 35.

11 For a chart of CM III signs cf. E. Masson 1974, 15 fig. 4; Olivier 2007, 416. See, however, Palaima 1989, 158–160 for a critical assessment of CM III; this class seems to have been designed by Masson on a purely geographical distinction, although even she assigned two fragmentary CM tablets found in Ugarit to CM I, cf. Palaima 1989, 158. 160 f.

12 For a chart of all signs (except the earliest shapes) attested in Cypro-Minoan so far cf. Olivier 2007, 413.

13 Olivier 2007.

14 An electronic database of all then known Cypriot inscriptions was already established by Joanna Smith and Nicole Hirschfeld; cf. Smith – Hirschfeld 1999; the database is available at <http://paspserver.class.utexas.edu/CID-about.htm> (06.06.2012). A printed publication of all CM signs and their contexts can be found in Hirschfeld 1996b. There are, however, some discrepancies in the numbers of CM inscriptions found in the literature so far: Knox 2008, 4 counted 232 known objects with CM signs in 2004, 224 of which were found on Cyprus. According to her, the remaining two objects with CM inscriptions were excavated in Ugarit and on the Levantine coast. In contrast to this, Olivier 2007, 25 collated only 217 inscribed objects: one tablet written in Archaic CM or CM 0, 205 inscribed objects that he categorizes as CM I, three inscribed media, which he assigns to CM II, and eight objects found in the Levant, mainly Ugarit, and conventionally ascribed to CM III. At least four new inscriptions have to be added to this corpus, see recently Cadogan et al. 2009. For the most recent update cf. Ferrara 2012 (non vidi).

15 Ferrara 2005, 202 laments the focus on linguistics and the lack of contextual information/analyses; Ferrara 2005, 203 focuses instead on a frequency assessment of each single sign. According to her, this method provides evidence that one language is transmitted by Cypro-Minoan signs; see now Ferrara 2012 (non vidi).

16 Palaima 1989, 161 f.; the Ugaritic cuneiform alphabet is not attested to before the 14th cent. B.C.E. and was thus not available as a model for adoption at the time of the inception of CM. See, however, Duhoux 2010, 30–32 for Near Eastern influences in the formation of CM.

scribal hands, inscribed medium or genre. The fact that many CM signs are present in varying forms in all three CM systems is another indication that CM I, II, and III all denote one language, especially in view of the small number of CM inscriptions known so far[17]. In her latest research, Ferrara[18] now believes that the signs belong to multiple scripts all representing one language. She compares this to the situation at Ugarit which maintained close contacts with Cyprus: seven languages recorded in five scripts co-existed here in a single geographical and chronological context at the end of the Late Bronze Age.

Recently, the focus has shifted from linguistic problems to the archaeological context of CM inscriptions. Media bearing inscriptions are manifold on Cyprus[19]: clay balls, clay cylinders and tablets, clay and metal vessels, seal stones, gold rings, lead ›sling bullets‹ and miniature copper ingots as well as a zoomorphic terracotta figurine were found inscribed with CM signs[20]. The script occurs in ceremonial and domestic contexts, in tombs and in settlements, on the coast and inland Cyprus, but not at every Late Cypriot (LC) site. Enkomi, for instance, has produced 123 inscribed objects, while Kition, second after Enkomi with regard to the quantity of inscriptions, so far features only 27 examples. Although the script is syllabic and shows strong structural parallels with Linear A (which is slightly earlier than CM), clay balls and clay cylinders are not part of the repertoire of Linear A inscribed artefacts. The geographical spread of CM signs on terracotta objects shows some differences in the inscribed media: tablets were so far excavated in Enkomi and Ugarit only, thus indicating a specific kind of literacy in Enkomi as compared to other Cypriot sites[21]. Inscribed clay cylinders are present at Enkomi, Kition and Kalavasos-Ayios Dhimitrios, whereas inscribed vases were found on Cyprus, in the Levant, on Crete, on the Greek mainland (especially in Tiryns but even as far north as Thessaly)[22]. Also, frequencies within one type of inscribed medium vary from site to site: more than 50 % of the inscribed objects found at Enkomi were clay balls[23], whereas only two inscribed clay balls and one un-inscribed example are documented at Kition, which features, however, a wide range of inscribed ivory artefacts. The role of CM in administrative processes is not clear-cut. In contrast to the majority of Linear B tablets, numbers are only sparsely documented on CM inscribed objects: there is a curious example of an ostrakon – not otherwise attested to – from Enkomi featuring a notation of numbers[24]. Numbers are also documented on all clay cylinders found in Kalavasos-Ayios Dhimitrios[25], which represent the first set of economic records in a building context[26]. While Linear A and

17 Palaima 2005, 35 furthermore makes a strong case against any cuneiformization: »A brief re-examination […] makes me doubt whether even these [the CM II class of inscriptions] really show the influence of cuneiform press-and-bend writing. The *ductus* of individual characters looks not very dissimilar from that of the more straight- and recti-linear Mycenaean characters when they are written at such a small scale. On the largish Cypro-Minoan tablets, too, the scribes had to write with their styluses more perpendicular to the clay surface in order to avoid marring the text they were writing. I see little to no evidence of ›cuneiformization‹ of the linear signs on the archaic tablet. Here, too, I think now that Cypriot writing evolved fairly independently its own style and its own solutions to particular problems and needs«.

18 Ferrara in a lecture entitled »Writing in Cypro-Minoan. Beyond decipherment«, delivered November 21, 2009 in Oxford, cf. <http://www.currentepigraphy.org/2009/11/24/cypro-minoan/> (06.06.2012).

19 Knox 2008, 4.

20 For a list of inscribed media and further references see Palaima 1989, 125.

21 Smith 2003, 285 remarks that ca. 1200 B.C.E. Enkomi had »the strongest tendency toward a single tradition at a site for one time period on the island […]«. In this respect, it is also noteworthy that the clay tablets assigned by Emilia Masson to CM II and several clay balls with CM I inscriptions according to Masson were probably in use at the same time. Therefore, Ferrara, cf. n. 18 above, validly argues against Masson's classification that literacy on Cyprus would have been limited and it seems counterintuitive to assume two separate administrations in a single city (i. e. Enkomi) using two languages and scripts.

22 Palaima 1989, 152.

23 Knox 2008, 5.

24 Smith 2003, 282 fig. 3 d.

25 Smith 2003, 284.

26 Smith – Hirschfeld 1999.

Linear B inscribed sealings are present in copious amounts on Minoan Crete and on the Mycenaean mainland respectively, no such inscribed sealings have so far been attested to on Cyprus[27], but two sealings with inscribed CM signs found in the maison d'Ourtenou[28] are reported from recent excavations in Ugarit on the North Syrian littoral[29]. The most widely attested CM inscriptions on vessels apparently form part of a process of controlling and monitoring the movement of goods[30], i. e. some form of administration, but do not give evidence of accounting. Presently, at least 77 examples of clay storage vessels (mostly jugs, jars, pithoi) with CM inscriptions are known[31]; they generally bear two or three signs, which are predominantly positioned on the handle, less often on the rim or the upper body of the vessel. Almost all vessels with CM signs are inscribed (or rather incised) after firing and most of them were found in storage rooms or domestic contexts, e. g. Area 3 at Maa-Palaekastro[32]. Against an interpretation of the CM signs as labels of content, however, stands that generally there is no correlation between a vessel's likely content and the sign marked upon it[33].

Susan Sherratt drew attention to structural differences between CM and Linear B inscriptions. There is no evidence of inscribing metal objects on the Mycenaean late palatial (LH IIIB) Greek mainland as opposed to Late Bronze Age Cyprus, where tools, seals, rings, vessels and weapons were inscribed. The marking of personal ownership is a custom only known from Cyprus and the Near East[34]. Close ties between Cyprus and Ugarit are not just noticeable in the finds of CM inscribed objects in Ugarit but are also documented in cuneiform texts found in Ugarit[35]. Ferrara even suggests that Akkadian cuneiform tablets sent from Alashiya, generally identified with Cyprus[36], and found at Ugarit and Amarna may have been composed by scribes specifically trained in the Ugarit cuneiform tradition[37]. Written testimony supports her argument: according to a cuneiform tablet from Ugarit[38] an unnamed scribe was a native of Ugarit, but worked in Alashiya[39]. To summarize, Cyprus not only featured its own sign-system in the Late Bronze Age but also sent and received royal correspondence in Akkadian cuneiform, employed at least one foreign scribe and was clearly integrated into the orbit of the ›Great Powers‹ in the 13th cent. B.C.E. Near East. The CM script, however, apparently survived the turmoil and collapse of most palatial societies at the end of the 13th cent. B.C.E. in the Eastern Mediterranean. Moreover, the Cypriot syllabic script of

27 See Knox 2008, 6 f. with fig. 6 for a sealing without CM signs from a LC IIC/LC IIIA floor in Enkomi's Ashlar Building; cf. also Knapp 2008, 153.

28 Also, five Mycenaean pictorial kraters, as well as a Mycenaean Psi- and bovine figurine were excavated in the maison d'Ourtenou, Vetters 2011, 285.

29 Yon 1999, 117 fig. 4. On the other hand, approximately 90 pithoi with seal-impressions are known from Cyprus so far and point to some form of administration; according to Knapp 2008, 173, »they were used to allocate certain pithoi to managerial elites or to specialized personnel who served at ceremonial centres where production and storage was linked to elite ideology. The prominent use of Aegean designs on the impressed pithoi indicates that the new island elites emulated and identified themselves with their Aegean counterparts.«

30 Hirschfeld 2002.

31 Four new inscriptions from Maroni-Vournes have recently been published by Cadogan et al. 2009.

32 Knox 2008, 5; the new inscriptions from Maroni-Vournes (three of which were inscribed on the vessels before firing) were also found in contexts indicating a managerial or administrative use of the script, see Cadogan et al. 2009, 148 fig. 2; 160 f.

33 Nicole Hirschfeld, however, could demonstrate the probability of directed trade via the incised pot marks, cf. Hirschfeld – Smith 1999; Hirschfeld 1996a.

34 Sherratt 2003b, 226.

35 Yon 1999, 116–118 on written sources found in Ugarit and pertaining to Alashiya, i. e. Cyprus; see Yon 2003 for a general overview of Ugarit's external relations at the end of the Late Bronze Age.

36 Knapp 2008, 300–341 with further bibliography.

37 Ferrara 2009, 260.

38 RS 94.2177+, cf. Yon 2003, 47 fig. 2. Ferrara 2009, 260 also remarks that the presence of CM inscribed tablets in the archives of private merchants at Ugarit is a clear sign of the tight network that enveloped Cyprus and Syria at the end of the Bronze Age and surpassed royal correspondence.

39 Cf. Knapp 2008, 322. 324. 330; Yon 1999, 118 on written testimonia mentioning people from Alashiya resident at Ugarit.

the historical period obviously derived from it. The functions and contexts of CM, therefore, differed starkly from the palatial Linear B script on the Greek mainland, which, after ca. 1200 B.C.E., is not attested to anymore[40]. Such structural differences between CM and Linear B warrant a closer look at the types and contexts of inscribed media on Cyprus. The following overview aims at characterizing contexts associated with CM on Cyprus and, by extension, delineating practices idiosyncratic to Cyprus. The ultimate goal is to compare or contrast ›Cypriot‹ customs with practices associated with Cypriot objects at Mycenaean Tiryns.

One important difference in writing practices has already been pointed out above: locally inscribed votive offerings are unknown in the Mycenaean world, whereas on Cyprus this custom is evidenced in LC II and LC III contexts[41], and was therefore contemporary with the Mycenaean palatial as well as post-palatial period. A terracotta bovine figurine from the village of Psilatos[42], stylistically dated to LC II, is the only example so far of inscribed coroplastic art in terracotta. Also contemporary with the Mycenaean palatial period is a miniature bronze liver or kidney model[43] found in Kition. Contemporary to the post-palatial period on the Greek mainland are two of three miniature oxhide ingots from LC III layers in Enkomi[44]. A curious oval object of white chalk in the shape of a ›sling bullet‹ with a CM sign on each side[45] was excavated in Kition on Floor IIIA of the Temenos A and was associated with fragmentary faience bowls, fragments of a crucible, blue glass beads and imported LH/LM IIIB as well as Canaanite pottery[46]. Furthermore, the deposition context of a hoard containing several ivory artefacts[47], the majority of them bearing CM inscriptions[48], is securely stratified and dates to the

40 Sherratt 2003b, 228 has aptly expressed this: »Literacy of the Linear B variety shows every sign of having been genuinely restricted, almost a closely guarded secret – a preserve of the palace systems with which it came and with which it disappeared. Even while the palaces flourished it was put to very limited applications. The very fact that there is no continuity between it and the alphabetic writing – in other words, when writing reappears it is in the form of a completely different system adapted from the Phoenician alphabet – is a very strong (though not necessarily conclusive) argument for the complete loss of literacy in the interval, as is the argument that there is a total lack of congruence in the uses to which writing is put at either end of the gap.«

41 The dating of the end of LC IIC and the beginning of LC IIIA on Cyprus and the synchronisation of these periods with specific phases of the LH IIIB and LH IIIC periods on the Greek mainland is still a matter of dispute. French – Åström 1980, 267–269 were the first to correlate the end of LC IIC on Cyprus with the beginning of LH IIIC on the Greek mainland. Penelope Mountjoy (Mountjoy 2010) now dates the end of Level IIB at Enkomi and thus the end of LC IIC to approx. 1180/1175 B.C.E. and correlates it with LH IIIB Final and the earlier part of LH IIIC Early on the Greek mainland. Mountjoy dates the destruction of Level IIIA in Enkomi (i. e. LC IIIA1) to ca. 1150/1140 B.C.E.; thus, Level IIIA at Enkomi is synchronized with the later part of LH IIIC Early and the beginning of LH IIIC Developed in the Argolid; for a slightly different absolute chronology cf. n. 378 and 390 below.

42 Karageorghis 1971, 350. The figurine, inv. 1970/XI-30/3, Karageorghis 1971, 352 fig. 25, bears four incised CM signs on one flank, is 8.5 cm high and 12 cm long and its inscription has been assigned to CM I; for the transcription of the signs cf. Karageorghis 1971, 352 fig. 26.

43 E. Masson 1973, 96; E. Masson 1985, 282 no. 8 pl. B 8; Karageorghis – Demas 1985c, pl. 106, 2409 (from Area II Floor IV).

44 O. Masson 1971, 455.

45 Karageorghis – Demas 1985c, pl. 111, 3333+3336.

46 Karageorghis – Demas 1985d, 105.

47 Above the floor of Room 38C in Temple 4 the inscribed handle of a LH IIIB jar (no. 5120, cf. Karageorghis – Demas 1985a, 71) was found, as well as an ivory plaque in the shape of a lion (no. 4247+4248, cf. Karageorghis – Demas 1985c, pl. 122, 4247+4248), an ivory relief plaque in the shape of the god Bes (no. 4252, cf. Karageorghis – Demas 1985c, pl. 88, 1; E. Masson 2001, 187; Smith 2009, 91 fig. III.6), an engraved ivory rod (no. 4250, cf. Karageorghis – Demas 1985c, pl. 122, 4250; E. Masson 1985, 281 no. 3; Karageorghis 1985, 335 no. 8), an ivory pipe (no. 4274B, cf. Karageorghis 1985, 333 no. 4), an ivory disc (no. 4273), perhaps constituting part of a weight scale, a fragmentary bronze dagger (no. 4269), one weight of diabase (no. 4264, cf. Karageorghis – Demas 1985c, pl. 125, 4264), a lead disc (no. 4268), possibly a weight, and faience as well as beads of frit. These objects in all probability constitute votives or part of the temple's treasure.

48 The rod no. 4250 is 13.5 cm long and measures 1.5–2.0 cm in diameter; it has been interpreted as a metric stick by the excavator and is cited in Cohen et al. 2011, 15 as the closest functional parallel to the ivory rod from Tiryns with incised cuneiform signs. The ivory pipe no. 4267 is 13.75 cm long; the engraved inscription comprises 11 CM signs, and the artefact has been interpreted by Karageorghis as a pipe for smoking opium, cf. Karageorghis 1976, 126 fig. 1, pl. 15 b.

LC IIIA period[49]. Of special interest is the ivory pipe[50] found in this hoard: it was associated by Vassos Karageorghis with a cylindrical clay tube without a base bearing two identical CM signs[51] excavated on Floor III in the courtyard of the adjacent Temple 5, i. e. roughly contemporary with the pipe in Temple 4. The excavator compares this vessel to ›snake tubes‹ on Minoan Crete[52], and suggests that such cylindrical vessels without base functioned as incense burners and, specifically, as utensils for smoking opium – here potentially used in conjunction with the pipe during ceremonies in the sanctuary. There might be a curious example of an inscribed object not originally intended as a votive but which perhaps was deemed suitable as such at a later stage: the find spot of a fragmentary tablet in Enkomi[53] has been interpreted by the excavator Porphyrios Dikaios as evidence for the ritual deposition[54] of inscribed CM objects long after their original use. The tablet was found on top of a sherd pavement forming the bedding of a hearth[55].

In contrast to such CM inscriptions on votive or ritual objects the function of the inscribed clay cylinders (a medium for inscription not attested in Linear B practices) seems to be more mundane: not much can be said about the clay cylinder from Enkomi[56]. It was excavated in 1967 in the centre of

49 Karageorghis 1976, 125 reports that in 1975 successive floors of the later part of the LBA (LC III) were excavated and a ›holy-of-the-holies‹ was discovered in the north-eastern corner of Temple 4; between Floors III and IIIA a hoard of ivory objects were unearthed. Floor III succeeds Floor IIIA after a short period, following a destruction; the ivory objects came to light in a 16–20 cm thick debris of burnt mudbrick and thick charcoal patches, i. e. these items were either placed on a table or were hanging from a wall; after the collapse of the walls and the roof of the ›holy-of-the-holies‹, the debris was sealed by Floor III. Floor IIIA corresponds to Enkomi Level IIIA and is dated by Karageorghis to ca. 1220/1210–1190 B.C.E. citing Dikaios 1971b, 438. Floor IIIA constitutes the earliest floor of Temple 4 for which ashlar masonry was used and is associated with pottery of LH IIIC date; the best architectural evidence stems from the eastern sector of Temple 5; metallurgical workshops accompanied Temple 5 in the west and northwest of Area II and this layout is retained until the end of Cypro-Geometric I, cf. Karageorghis – Demas 1985a, 38.

50 For a description of the ivory pipe see Karageorghis 1976, 125–127.

51 Karageorghis 1976, 127 no. 4219.

52 Karageorghis 1976, 128 refers to the ›snake tube‹ of Gazi which was found in the sanctuary with a figure of the ›Goddess with Upraised Arms‹ wearing a crown of poppies.

53 Enkomi inv. 1687, found in Area I (= Quarter 4 West), Room 46, Floor VI.

54 Contra such an interpretation: Palaima 1989, 155.

55 Dikaios 1969a, 186. Dikaios 1971a, 885 on sherds as bedding of hearths – a very common practice on the post-palatial Mycenaean mainland; this feature first appears in Enkomi Level IIIA. Dikaios 1971a, 886 interprets this as a ritual deposition dated to the beginning of Level IIIA, i. e. according to Mountjoy – Gowland 2005, 165 table 7 contemporaneous with the later phase of LH IIIC Early on the Greek mainland. Dikaios 1971a, 885 also cites another incidence in Enkomi, where a comparable deposition was observed: »[…] among the fragments used for the hearth of the megaron of the Ashlar Building, at least one almost complete bowl had been included (pl. 94/27) [Dikaios 1969b], presumably broken for the purpose […]«. It can be argued that the find context of the clay tablet is inconclusive (cf. the photograph of the find spot in Dikaios 1969b, pl. 33, 5), because it cannot be decided whether it was deliberately deposited on top of the hearth bedding or just ended up there as refuse – note, however, that the clay tablet apparently is the only find that sits just on top of the rather level sherd layer. According to Dikaios 1969a, 186 this sherd bedding and the tablet were sealed intentionally by a layer of clay or »concrete floor«, adding probability to the interpretation as deliberate deposition. Moreover, the practice of depositing objects on or in hearths does not seem to be a random phenomenon in the Eastern Mediterranean, cf. Vetters 2009, 430 n. 3002 on a comparable deposition of a clay bowl in the arguably earlier metallurgical workshops (for the dating cf. Penner 2006, figs. 50. 82) of the palace area in Kamid el-Loz, cf. Frisch et al. 1985, 181. If this rather tenuous link is accepted, it could give credit to the excavator's interpretation as a ritual deposition.

56 The clay cylinder, Enkomi inv. 19.10, measures 4.0 cm in diameter and only 5.5 cm in length; E. Masson 1971c, 457. 474 fig. 4. It contains 27 lines and 179 signs with an average of seven signs per line. The signs are 3–4 mm in height and were written from left to right. In general, words in Cypro-Minoan are composed of two to five signs, whereby sequences of three to four signs are the most common; E. Masson 1971c, 473. Two or more sequences are usually divided by simple marks; the clay cylinder features three different marks used as word dividers, see E. Masson 1971c, 459. On the cylinder, sequences do not always end in one line, but might continue into the next. Out of the 36 different signs attested on the clay cylinder, 35 are already known from other inscribed objects in Enkomi, and 33 occur on clay balls; E. Masson 1971c, 473. An isolated sign after a sequence of signs is occasionally attested on the cylinder, but also occurs on the clay balls and might be an abbreviation; E. Masson 1971c, 466. A relationship between the cylinder and the clay balls definitely exists, E. Masson 1971c, 475, since the cylinder bears a sequence of signs in line 2 (signs 3–5, followed by another sign which is not found on the clay ball and then terminated by a divider) which correspond to the same sequence on clay ball inv. 74 (1955) from Enkomi, cf. E. Masson 1971b, 482 no. 4, in the latter case followed by a divider and another sign.

the site and is dated to the 14th cent. B.C.E.[57]. The five clay cylinders found in Building X of Kalavasos-Ayios Dhimitrios, however, provide tentative evidence for administrative processes within this central building[58] which probably functioned, at least in parts, as an organisational centre between the copper-extraction sites in the mountainous zone and the emporia on the coast from where the copper was exported to the Near East and the Aegean. A connection between CM records and metallurgy[59] is already evidenced in the find context of the earliest known tablet with a CM inscription: Enkomi 1885[60]. The tablet was excavated in Room 103 of the Fortress between Floors IX and VIII and dated to ca. 1475 B.C.E. On Floor IX, a furnace was built against the north wall of Room 103; the tablet with the CM inscription and many fragments of tuyeres were documented in the fill above the floor in the southwest corner of the room[61]. Contextual associations of CM inscriptions and metallurgical activities can be traced for other inscribed media as well. Again from Enkomi, a fragmentary coarse ware basin with a pre-firing CM inscription on the lower part of the body[62] was unearthed in a fill above the original surface of a street bordering the northern façade of the Ashlar Building in Area I of Enkomi[63]. Its shape is comparable to basins with a perforation at the side slightly above the base or a spout in this position. Two such vessels, but without inscriptions, were found in Enkomi and were evidently used as crucibles: the first example is of LC IIB/C date, i. e. dates to the 13th cent. B.C.E., and features a thick copper incrustation; the second is a Plain White Ware vessel and has a tubular spout. The latter vessel was still filled with slag and charcoal when excavated; it is dated to LC IIC, i. e. the end of the 13th and the beginning of the 12th cent. B.C.E. However, the basin fragment with the CM inscription does not show any traces of use and was thus either an unused crucible or a container for liquids. Even if in this case an association with metallurgy is only tentative, another post-firing incised inscription on a pithos rim[64] found in Room 15, Floor II of Kition-Kathari[65] again testifies to some

57 Karageorghis 1969, 513 fig. 142; 514 fig. 143.

58 Cf. above n. 25. 26; on CM inscriptions on clay cylinders and vessels from Kalavasos-Ayios Dhimitrios see E. Masson 1989; for four of the five clay cylinders also cf. E. Masson 1983; on the date and type of the clay cylinders from Kalavasos-Ayios Dhimitrios see Palaima 1989, 154. Goren et al. 2003, 237 f. analysed petrographically four of these cylinders from Kalavasos-Ayios Dhimitrios and were able to ascertain close parallels, i. e. a similar paste in these and one of the cuneiform Alashiya-letters from Tell el-Amarna; see also Goren et al. 2003, 243–245. 249–252 on the place of manufacture of the clay tablets featuring the Alashiya-letters (which were found in Tell el-Amarna and Ugarit) in Kalavasos-Ayios Dhimitrios or Alassa Paliotaverna/Pano Manadilaris.

59 Dikaios 1971a, 883.

60 Dikaios 1971a, 882. The most recent discussion of the tablet is Duhoux 2010, who, however, is sceptical of the tablet's association with metallurgy, see Duhoux 2010, 8.

61 Dikaios 1969a, 22 f.; Duhoux 2010, 7 f. See also Crewe 2007, 27. 121. 131. 155 for a detailed analysis of the ceramic assemblage in Room 103 during Level IB. She points out (Crewe 2007, 155) that the significant increase of White Slip vessels in Room 103 during Level IB might indicate »that the ware was being transported to Enkomi along with primary smelting debris.«

62 Dikaios 1967, 81 pl. 6 a.

63 Dikaios 1967, 82. This context is approximately contemporary with LH IIIC Early on the Greek mainland.

64 Smith 2009, 45–48. 52 fig. II.11 no. 1125A.

65 According to Smith 2009, 45 f. There are a few other CM inscriptions on pithoi, most without exact find contexts: for instance, Olivier 2007, 179 no. 111 (ENKO Avas 004) lists a pithos-rim with a pre-firing inscription from Enkomi. Good contextual evidence is now available from Maroni-Vournes: the pithoid jar MV/P70 was found on the floor of Room 7 in the Ashlar Building during Vournes phase IIIb, cf. Cadogan et al. 2009, 148 fig. 2; 157. A pithos rim with CM signs is also known from Ugarit, cf. Palaima 1989, 158. Comparable evidence can be cited for Linear A (e. g. Linear A inscribed pithoi from Zakro, cf. Platon – Brice 1975, 40 fig. 15; 41 fig. 16; 82–87) and potentially even for Linear B, if the Linear B inscription on a rim sherd of a pithos from Aiani (situated at the Aliakmon river, northwest of modern Servia) is authentic. On the Linear B inscription on the pithos from Aiani see Panayotou 1986; the clay analysis seems to suggest a local production of the pithos. There might even be a post-palatial imitation of a CM inscription (or a nonsense-inscription) on the rim of a fragmentary shallow bowl (or pithos?) excavated in the LH IIIC Late sanctuary in Room XXXII of House G in Asine, Persson 1930, 6 fig. 3; 11 fig. 4.

kind of contextual association between CM inscriptions and metallurgical activities[66], since Room 15 functioned as a storage room for a metal workshop.

Post-firing incised CM marks on vessels provide yet another aspect on the use of script in Cyprus[67]. Whereas the above discussed inscribed clay cylinders, tablets and votive objects of various materials all derived from settlement contexts[68], incised marks, e. g. on imported Mycenaean decorated pottery, do occasionally occur in funerary contexts, where such marked vases had been interred as burial gifts. More important, however, is their wide geographical spread which reaches far beyond Cyprus[69]. Since individual syllabic CM signs were used to mark pottery, this practice attests to sign recognition, i. e. a form of literacy-awareness[70], in certain circles of the society. Daisy Knox argues convincingly that the use of CM signs to mark ownership is a custom confined to the elite and thus an indication for a connection between literacy and the elite[71]. Nicole Hirschfeld who has assiduously studied incised pot marks all over Cyprus, the Aegean and the Levant cautions against the assumption that every mark on a vessel is a sign derived from the CM script. However, complex marks incised after firing form the best basis for comparison with punched CM marks on clay objects. In those cases, where the signs are clearly visible when handling the pottery, this marking system is best explained as some form of administrative process deployed for the circulation of goods and vessels in long-distance transactions. Thus, Hirschfeld was able to identify CM signs incised on vessels found in Tiryns: »[…] one complex mark which appears on two separate vases is certainly CM no. 87 [author's note: Hirschfeld 1993 n. 12: Tiryns LXI 43/09 XV and Tiryns inv. 27430], and another seems likely to represent CM no. 104 [author's note: Hirschfeld 1993 n. 13: Tiryns LXII 44/13 II].«[72]. She furthermore pointed out that »the concentration of vessels with incised signs in the Argolid, especially at Tiryns, ties in with other evidence of close relations with Cyprus.«[73]. With regard to the function of the CM signs, Hirschfeld states that »[…] it is strange that no examples have been noticed in the Dodecanese, particularly Rhodes, presumably way-stations

66 See, however, Karageorghis 1999, 123 f. on Cypriot pithoi as a means of transporting and/or safe-packing other perishable goods or pottery; Cypriot pithoi have been found on board the Ulu Burun and Iria shipwrecks, for the latter see Åström 1999; Lolos 1999.

67 See especially the studies by Nicole Hirschfeld, Hirschfeld 1993; Hirschfeld 1996a; Hirschfeld 2001; Hirschfeld 2002.

68 With the exception of a few inscribed metal bowls (Palaima 1989, 153) and seal rings found in funerary contexts where the inscription on the precious object apparently further enhanced the prestige of its owner, cf. Knox 2008, 8 f. with references.

69 See recently Cross – Stager 2006 for one ostrakon with a painted inscription of modified CM signs and 16 inscribed jar handles from Ashkelon; three of the handles derive from 12th cent. B.C.E. settlement contexts, but the majority (twelve handles of storage jars and the ostrakon) were excavated in domestic contexts of the 12th–11th cent. B.C.E., Cross – Stager 2006, 129. The ostrakon, Cross – Stager 2006, 131 fig. 1, was found in a debris layer of phase 17, dating approximately to the end of the 11th cent. B.C.E. The inscription was painted in red on a storage jar and was, contrary to the Late Bronze Age Cypriot custom (but in accordance with latter syllabic inscriptions), inscribed from right to left. Petrographic analyses have demonstrated that seven amphorae with inscribed handles had been produced in coastal Lebanon (in the region between Akko and Tyre), one storage jar in the surroundings of Dor and one in or at Ashkelon, thus supporting an interpretation of a local practice of incising CM signs on Levantine soil. Furthermore, the occurrence of these in layers of phases 19–17 which feature several traits pointing to an amalgamation of Cypriot and Aegean practices in the material remains (Philistine monochrome and bichrome pottery, the consumption of pork, Aegean cooking pots and half-baked clay spools) supports an interpretation of a local, i. e. Philistine, modification of the CM script that the authors identify with the ›Old Philistine‹ script, Cross – Stager 2006, 134. 150.

70 Sherratt 2003b, 228.

71 Knox 2008.

72 Hirschfeld 1993, 312.

73 Hirschfeld 1993, 313. For numerous attestations of CM incised signs on vessels in Tiryns see Hirschfeld 1993, 314 fig. 1 (Cypro-Minoan signs on vases): left column second line conventional shape of CM no. 87 and two incised examples of this sign from Tiryns, one from Hala Sultan Tekke (HST C434), one from Alalakh and one from Enkomi (Enkomi 5791/1); left column third line CM no. 107 and Tiryns 639, Enkomi Br. T. 68, Enkomi Sw. T. 18/57, Erlangen I 335, Enkomi T. 3/272 and Tiryns LXII 40/36 II; left column fourth line: CM no. 104 and Tiryns LXII 44/13 II, twice from Hala Sultan Tekke (HST 1971-3-25, HST 51.330) and Dhenia 1937/IV-13/1; see also Sherratt 2003a, 42 on CM marks on vases in Tiryns.

between Cyprus and the Argolid and Crete. Perhaps this is an indication of specifically directed trade contacts, with certain wares discharged only to certain markets and not subject to peripheral trading *en route*.«[74]. Post-firing incised CM signs found in the Levant usually occur on Mycenaean or Cypriot pottery and mostly on closed shapes[75], i. e. transport containers, but rarely on Canaanite amphorae[76]. CM marks on imported Canaanite jars, however, are attested to on Cyprus in Kition and Maa-Palaekastro[77]. Asaf Yasur-Landau and Yuval Goren suggest that the marked Canaanite amphora found in Aphek that, according to its petrography, must have been produced between Acco and Tyre, was exported from a Levantine harbour to Cyprus, marked there and re-exported to Aphek, where the vessel was finally deposited[78]. It cannot be established beyond doubt, however, that the amphora must have been marked on Cyprus rather than by someone resident in the Levant but versed in the CM script[79]. In general, CM inscribed vases reached their pinnacle in the LC II – LC IIIA periods, i. e. during the later palatial and first half of the post-palatial period on the Greek mainland; Hirschfeld suggests that the few examples from LC IIIB layers might perhaps be older kick-ups[80]. Obviously, vases inscribed with CM marks seem to circulate in different contexts than other CM inscribed objects, since (at least judging by the evidence from the best-studied site so far, i. e. Enkomi) in only one instance was a handle with incised signs associated with an inscribed clay ball[81].

Last but not least, clay balls are the most numerous class of objects inscribed with a sequence of CM signs on Cyprus (table 1). Emilia Masson's studies of the clay balls in the early 1970's[82] still remain fundamental for any analysis of the clay balls. These small spherical clay objects[83] that are on average not more than 2 cm in diameter[84], bear two to eight signs, usually distributed into two sequences with a dividing mark between the sequences[85]. 86 such CM inscribed balls are known from Enkomi, Kition and Hala Sultan Tekke[86]. The CM signs are difficult to inscribe on the spherical body of the clay balls[87] before firing and were apparently pressed into the surface of the leather-hard clay with a wedge-shaped stylus or other instruments[88], thus attesting to different

74 Hirschfeld 1993, 315.
75 Yasur-Landau – Goren 2004, 23 n. 3.
76 Yasur-Landau – Goren 2004, 25. 29.
77 An imported Canaanite amphora with CM signs is also attested in Tiryns, see n. 218 below.
78 Yasur-Landau – Goren 2004, 29.
79 See also Cross – Stager 2006, 134 f. n. 6 and n. 69 above for further evidence supporting a local practice of writing in a modified version of CM on the southern Levantine coast, in what they term the ›Old Philistine‹ script.
80 Hirschfeld 2002, 99. Supporting the argument of a local modification of CM signs on the southern Levantine coast, i. e. the ›Old Philistine‹ script, is the fact that such inscriptions predominantly appear in later 12th and 11th cent. B.C.E. contexts.
81 Court 64, Area I, Level IIIA, cf. Hirschfeld 2002, 62 fig. 6.2; for the inscribed handle see Karageorghis – Demas 1985c, pls. 109 no. 5189; 190 no. 5189; Karageorghis – Demas 1985d, 462; E. Masson 1985, 282 no. 5 pl. B 5 (II/5189). The handle bears five signs incised before firing; the first four signs constitute a sequence (4+1), the last sign on the handle is only attested once on a clay ball, cf. E. Masson 1971b, 490 f. no. 29 fig. 25.
82 E. Masson 1971a; E. Masson 1971b.
83 I do not concur with the statement by Dikaios 1971a, 885 that the »best parallels for the clay balls [are found] in the Aegean«, since the use of clay balls as media for inscriptions is totally alien to Linear A and Linear B scribal practices.
84 The largest clay ball so far is 3.1 cm in diameter, the smallest ones cluster around ca. 1.55 cm, cf. table 1.
85 E. Masson 1971b, 479; E. Masson 2001, 186. Olivier Masson did the first thorough analysis of these clay balls, cf. O. Masson 1952, which at that time comprised only four examples from the excavations at the end of the 19th cent. or the turn of the 20th cent. in Enkomi and one from Hala Sultan Tekke; by 1971 55 clay balls were already known (the new examples had come to light during the excavations in Enkomi).
86 Olivier 2007, 26; Palaima 1989, 123 n. 4; Smith 2009, 29. 163 n. 14. The site of Enkomi also features three illegible or uninscribed, irregulary shaped clay balls, for the latter cf. Dikaios 1971b, no. 1140 pl. 316, 83; Dikaios 1971b, no. 1302 pl. 319, 88; Dikaios 1969b, no. 1548 (one blank) pl. 132, 60.
87 E. Masson 1971b, 479.
88 Smith 2009, 65 describes the mode of inscription for a clay ball with four signs found in Room 58 of Temple 5 in Kition-Kathari and dated to the 13th cent. B.C.E.; for the clay ball see Smith 2009, 65. 157 fig. IV.26 a; 273 n. 198; Karageorghis – Demas 1985c, pl. 110; Karageorghis – Demas 1985d, 104; E. Masson 1985, 281 f. no. 4 pl. B 4; Yon 2004, 361 cat. 6005; 363 fig. 47, 6005; for the find context of clay ball no. 4215 in Room 58 of Temple 5 see Smith 2009,

modes of inscribing the balls[89]. Emilia Masson who noted a great variation of signs assumed numerous, partly inexperienced scribes[90] and Ferrara observed that »[…] the clay balls from Enkomi show regulated initiative not only in the layout of their information, but also through the numerous individuals seen behind their creation«[91]. Less than a quarter of all clay balls found on Cyprus stem from stratified contexts (table 2); out of these, however, at least twice as many were excavated in layers contemporaneous with the post-palatial period on the Greek mainland[92]. A preponderance of clay balls in LC IIIA contexts has already been noticed by Olivier Masson[93]. Thus, at a time, when writing systems had been abandoned in the Aegean, the CM script continued on Cyprus, as is evidenced by the frequent clay balls in LC IIIA layers. Even if a few of these might constitute re-deposited, earlier LC IIC material, such an explanation does not seem to hold true for most contexts[94]. At present, there is no clear-cut evidence as to whether writing on tablets continued into the LC IIIA period[95]. Clay balls seem to disappear from the archaeological record in LC IIIB[96], as apparently do the inscribed CM signs on vases[97], thus obfuscating any direct line of evidence for the transmission and transformation of CM signs into the Cypriot syllabic script of the historical periods.

Function and Interpretation of the Clay Balls

Since CM signs have not yet been deciphered and inscribed clay balls occur neither in Linear A nor Linear B, their function can only be established on the basis of structural observations of the sign sequences and by contextual analysis of their archaeological find spots. None of the clay balls were found in a funerary context[98], in contrast to the only comparanda known so far: two clay balls

64 f.; Karageorghis – Demas 1985a, 74–76 and table 2.

89 With regard to the two inscribed clay balls found in Kition Joanna Smith, cf. Smith 2009, 156, remarks that »[…] one has four signs punched with a wedge-shaped tool and impressed by bending the straight side of the tool sideways, in the manner of cuneiform writing. The other has three signs impressed with a thin-point implement, now obscured by breakage and wear, much in the manner of several long texts in Cypro-Minoan […] they seem to have been individualized, at least in that they were not both inscribed by the same kind of tool and probably not by the same hand.« For close up photographs of the two clay balls from Kition see Smith 2009, 157 fig. IV.26.

90 E. Masson 1971b, 479.

91 Ferrara 2009, 259.

92 See table 3. The ratio of ca. 2 : 1 for dates contemporary with the post-palatial versus the palatial period on the Greek mainland may need to be adjusted with regard to the examples found on the latest floors of Level IIB in Enkomi, since there is evidence that the dating of those floors partially overlaps with the start of the post-palatial period on the Greek mainland, see Jung 2011, 60 n. 3; 61–64 with bibliography. (This has been accounted for by the numbers in parenthesis in table 3.) For absolute radiocarbon dates for the LC IIC period cf. Manning et al. 2001; on the synchronism of LC IIC with LH IIIB see Manning et al. 2001, 329; for the traditional dating of LC IIC on the basis of relative chronology cf. Manning et al. 2001, 329 table 1; absolute dates of LC IIC now range from ca. 1340/1315 B.C.E. to ca. 1200 B.C.E. ±20/10 years (but not later than ca. 1168 B.C.E. at the extreme) cf. Manning et al. 2001, 339; for a recent synthesis of absolute dates and relative chronology in the Aegean see Jung 2010, 172 table 13.1.

93 O. Masson 1971, 455. See also Olivier 2007, 33 f. on the chronology of the clay balls found in Enkomi; Olivier, however, seems to cite the published dates of the excavators for the general periods, thus giving only wide margins for the time of deposition.

94 The best contextual evidence stems from Enkomi: Dikaios reports that the clay ball Enkomi inv. 702 was found in Level IIIC, in a layer above Floor I, i. e. out of its original context. According to the excavator, clay balls are not used anymore in Level IIIB, since none were found in this level, and interprets the one (Enkomi inv. 702) which actually occurred in Level IIIC as residual, Dikaios 1971a, 887. Only one clay ball (Enkomi inv. 950) was excavated in Area I Level IIIA. The Ashlar Building contained one clay ball (i. e. Enkomi inv. 950) in Court 64 Level IIIA, whereas another clay ball (Enkomi inv. 702) was found in the same building in Level IIIC (i. e. contemporary to the Sanctuary of the Horned God), Dikaios 1971a, 888.

95 See already Karageorghis 1970, 294: »Certain de ces boules […], d'après leur position stratigraphique, appartiennent au niveau I de l'Âge du Fer post-mycénien (XII^{e} s. et commencement du XI^{e} s.), dans lequel de grandes tablettes inscrites n'ont pas encore été rencontrées«.

96 See table 2 for the gap between the LC IIIA examples and an apparent kick-up (Enkomi 1949, inv. 702) in a LC IIIC/Cypriot Geometric I context. Contra Karageorghis 1964, 354 f., who originally dated four clay balls from Enkomi to LC IIIB (i. e. contemporary to LH IIIC Advanced on the Greek mainland), see Dikaios 1971a, 883.

97 Cf. n. 80 above.

98 Although one clay ball – British Museum inv. 98/12-1/204, cf. O. Masson 1952, 399 f. (boule c); O. Masson 1957, 32 fig. 25; E. Masson 1971a, 13 no. 5; E. Masson 1976, 130 no. 1; 134 fig. 1

from Ugarit. These, however, bear cuneiform inscriptions[99]. Olivier Masson reports on one of the earliest interpretations by Axel W. Persson who sees the inscribed clay balls as potential weights for precious materials[100]; this idea merits consideration, but the variations in diameter observed (see table 1) do not support an equal weight of the clay balls or a distributed weight system[101]. Since none of the signs is so far clearly identifiable as a number, the clay balls obviously did not function as counting devices[102]. Moreover, the material does not seem to be adequate for precise measurements, since clay chips and abrades more easily than stone or metal. Generally, the clay balls have been interpreted as votives, gaming pieces (marbles) or tokens, often without clear arguments in support of a specific interpretation of their function[103]. Dikaios has been the strongest advocate for an interpretation of the clay balls as gaming pieces[104]. He suggested that they were employed as marbles in ritualized games played by the elite. However far-fetched this may sound at first, he cited contextual associations (cf. table 2) at Enkomi to support his view: the first clay balls in Enkomi occur in Level IIB[105]. From the seven examples[106] found in the Level IIB building of Area III two[107] came to light in Rooms 13 and 7 respectively, whereas the other four[108] were excavated on Floor V of Room 8[109]. This room featured evidence of copper smelting on the preceding Floors VII and VI, but on the subsequent Floor V only copper slag was encountered in the northeast of the room, while a circular pit (here interpreted as a posthole) was situated in the centre of the room. This structural feature and the find context are, according to the excavator, recurrent in other rooms containing clay balls: Room 26 of Level IIIA also featured a large central pit and six clay balls are documented within the room. Yet another room, Room (or Hall) 77 of Level IIIA[110], located above Room 8 of Level IIB, produced a central and a secondary pit as well as four clay balls[111] which have been found in the northern half of this room. The excavator concludes that the arrangement of a large central pit and smaller pits placed diagonally to it is evidence for a game, in which the clay balls were presumably used as marbles[112]. Contra such an

pl. 18 c. d; Bailey 1976, 18; Yon 2004, 363 fig. 47, 6009; 364 cat. 6009 – was found 1897 in Hala Sultan Tekke during the early excavations by the British Museum which mainly unearthed tombs, the find spot of the clay ball is not associated with them, but reported to be »from the surface«, cf. Bailey 1976, 5.

99 Hirschfeld 2001, 192; E. Masson 1971a, 30. The two clay balls from Ugarit are comparable to Cypriot clay balls in dimensions and type and both bear a small inscription in alphabetic Ugaritic cuneiform: The first, inv. 24.132, was excavated 1961 in tomb 3455 and bears three signs probably signifying ›oil‹; the second was found 1967 under uncertain circumstances and is difficult to interpret.

100 O. Masson 1952, 397.

101 However, I was not able to find any published information on the weight of the inscribed clay balls found on Cyprus.

102 Smith 2009, 65: »Unlike other multisign inscriptions from Late Bronze Age Cyprus, none of the clay balls has a clearly identifiable number marking, further separating them from potential administrative tools«. I would argue, however, that if one interprets the clay balls as tokens, they would have functioned as administrative tools. Thus, in contrast to Smith, I would draw a distinction between administrative (e. g. tokens, tablets) and accounting tools (e. g. tally sticks, weights).

103 Badisches Landesmuseum 2008, 316.

104 Dikaios 1971b, 516; Smith 2009, 65. 156 f. 273 n. 199.

105 Dikaios 1971a, 883.

106 Enkomi inv. 1232. 1288. 1609. 1611. 1613–1615.

107 Enkomi inv. 1232 and 1288. Enkomi inv. 1288 was excavated in the destruction layer over Floor IV of Level IIB in Room 7; the context is dated to ca. 1250–1230 B.C.E. by the excavator; see now for a lower date Åström 2007, 506 table 1, which implies that the depositional context of the clay ball is contemporary to the earlier part of LH IIIC on the Greek mainland.

108 Enkomi inv. 1609. 1611. 1613–1615.

109 Dikaios 1971a, 884. Floor V is the last floor of Level IIB in Room 8 before the destruction at the end of LC IIC; since the end of LC IIC apparently overlaps chronologically with the beginning of the post-palatial period on the Greek mainland, see n. 92 above, the depositional context of the five clay balls is probably contemporary with the earlier part of LH IIIC Early on the Greek mainland.

110 Dikaios 1971a, 885 reports that Myc. IIIC:1 sherds were associated with the Level IIIA building in Area III, i. e. the context is approximately contemporary to LH IIIC Early/Middle on the Greek mainland.

111 Enkomi inv. 1281–1283. 1604.

112 In the same vein, big stone slabs with small circular indentations have been interpreted as gaming stones, e. g. Karageorghis – Demas 1985c, pl. 104, 7 (›gaming stone‹ no. XXVIII from rubble outside the city wall); Karageorghis –

interpretation I would argue that none of the clay balls were actually found in a pit and that the central pit on Floor V of Room 8 might actually have functioned as a posthole instead of a pit. The detailed contextualized observations by Dikaios allow, however, a different interpretation: significantly, clay balls often occur in contexts with evidence for metallurgy[113]. This is not only the case in Enkomi[114], but also in Hala Sultan Tekke[115] and perhaps in Kition[116] as well. At Hala Sultan Tekke the close proximity of a crucible to an ash concentration, querns and the clay ball potentially indicates a workshop context, where the querns might have been used for grinding materials. The faience or blue frit fragments might have constituted alternative products of metallurgical activities, and the single bronze cuirass scale as well as the bronze earring might have served as scrap metal, or, in the case of the cuirass scale, as a protective charm. Such deposition of single scales, i. e. a pars pro toto, is a custom widely documented in the Eastern Mediterranean[117]. The evidence from Kition is less clear-cut, but the excavators explicitly state that »an important feature of Floors IIIA and III in Area II at Kition is the flourishing metallurgical activity«[118]. Whatever their specific function on Cyprus, contextual evidence supports the hypothesis that clay balls and metallurgy were intricately linked.

Focussing on the structure of the CM signs on the clay balls and the overall composition of the signs, Emilia Masson classifies them as objects of practical use and identifies them as tokens or ballots[119]. Cautiously accepting

Demas 1985c, pl. 105, 5 (›gaming stones‹ nos. XXVI. XXVII reused on the altar of Temple 4); Karageorghis – Demas 1985c, pl. 105, 6 (›gaming stone‹ no. XXXVIII reused on the altar of Temple 4). Regarding the find spots of most of the stones, they were apparently used as spolia in the construction of the altar in Temple 4. In my opinion, these stones seem to have functioned rather as kernoi or receptacles for small offerings than actual gaming stones.

113 This has already been observed by Knox 2008, 7 f.

114 Dikaios 1971a, 884 f. remarks upon an intensification of the copper industry in the building in Area III Level IIB, where seven clay balls came to light. Dikaios 1971a, 888 explicitly states that » […] the examples from Level IIB were found in the west sector of the building (Rooms 7, 13, 8) in which the copper workshops were housed. The core of the central sector of the same building contained two contiguous megara, a fact which, combined with the presence of copper workshops, suggests the presence of influential or powerful inhabitants«.

115 Öbrink 1979, 46 reports that the clay ball N 6035, cf. Öbrink 1979, 88 fig. 264 a. b; 89 fig. 286, was found among stones near the western border of pit V of Room 2, Layer 2b (more specifically in F [Feature] 6064, GCH 437, 75 W, 50 N +14.36). Fragments of faience or blue frit (N 6036) and quern fragments (N 6037. N 6038, cf. Öbrink 1979, 87 fig. 245 stem from the same feature as the clay ball, as do sherds of Canaanite jars, cf. Öbrink 1979, 29 f. Öbrink 1979, 3 further describes the features encountered in Room 2, Layer 2b: »An ash-spot appeared in the corner between Walls F 6003 and F 6011 in GCh-i 442 at +14.45. It was roughly circular, with a thickness of c. 0.12 m and a diameter of c. 0.20 m. A clay crucible (N 6003 [cf. Öbrink 1979, 85 fig. 231]) and a pierced, cylindrical stone (N 6002 [cf. Öbrink 1979, 86 fig. 240]) were found nearby. Further to the west, a bronze plate (N 6000 [cf. Öbrink 1979, 84 fig. 203 a]) belonging to a cuirass and a bronze thread (N 6001 [cf. Öbrink 1979, 84 fig. 203 b]), probably an ear-ring, were found«. The exact find context of a spindle whorl of stone (N 6034, cf. Öbrink 1979, 87 fig. 244) is not mentioned.

116 In Kition, the clay ball II/4215 was found on Floor IIIA of Room 58 in Temple 5, cf. Karageorghis – Demas 1985a, 104. It was associated with a fragmentary krater of »Levantine« ware (no. 3806), a fragmentary cylindrical vessel-stand with two incised Cypro-Minoan signs (no. 4219, cf. Karageorghis 1976, 127 fig. 2 pl. 15 a; on the function of this vessel see n. 51. 52 above), parts of ostrich egg shells (no. 4224), two blue faience beads (no. 4231), one glass bead (no. 4232), one juglet of White Shaved Ware (no. 4234), one glass bead with white bands (no. 4235), a fragmentary bronze rod (no. 4237A), a fragmentary bronze object, perhaps a nail (no. 4237B), a hemispherical bronze object, perhaps a button (no. 4238), a fragmentary wall bracket (no. 4239), fragments of a bone stylus (no. 4967) and a steatite conulus with incised decoration (no. 5019); cf. Karageorghis – Demas 1985a, 74–76, esp. 76. The context of the objects might point to votive deposition; however, Temple 5 is located within the same sacred precinct that also housed the metal workshops, cf. Smith 2009, 38 f. fig. II.2 (Floor IIIA); 40 f. fig. II.3 (Floor III).

117 For further examples see Maran 2004, 20–23. In the case of Hala Sultan Tekke, the scale's function in a workshop context might have been to protect intricate pyrotechnological processes, although this must remain a hypothesis, since there is no evidence that the scale was intentionally deposited here.

118 Karageorghis – Demas 1985b, 277. Karageorghis – Demas 1985b, 266 date Area II Floor IIIA to the beginning of LC IIIA, i. e. roughly contemporary to the later part of LH IIIC Early and LH IIIC Developed.

119 E. Masson 2001, 186 likens the clay balls to marbles, but assumes that they would have been used as some kind of ballots. According to her, some nouns accompanied by some kind of abbreviated destination are written on them. Because of the structure of certain sequences followed by two signs on the CM tablet RS 20.25 from Ugarit Masson is convinced that she is able to

Fig. 2 Distribution map of clay balls with Cypro-Minoan inscription and clay balls with cuneiform inscription in the Late Bronze Age Eastern Mediterranean

an interpretation of the inscriptions as denoting names rather than simply nouns[120], they could indeed have served for personal identification[121]. If so, the occurrence of the same sign sequence on a clay ball from Enkomi and Hala Sultan Tekke[122] would indicate that perhaps the same person was active at two different sites. This, in turn, might point to administrative processes encompassing more than one site. Even if this might be stretching the available evidence, the fact that the same sequence occurs in Enkomi and Hala Sultan Tekke and clay balls are only present in Enkomi, Kition and Hala Sultan Tekke might be indicative of a central or supra-regional administration incorporating at least Enkomi, Kition and Hala Sultan Tekke. Thus, to sum up the evidence from Cyprus and provide a background for the discussion of the only clay ball with CM signs so far documented outside Cyprus (fig. 2): inscribed clay balls are attested in LC IIC but more frequently in LC IIIA; they are often contextually associated with metallurgical activities and occur in high-status areas. Within such contexts, they probably did not function as gaming pieces but rather as administrative tools, specifically as personal identification tags.

decipher a few personal names (in the form of »x, son of y«) and, by transferring ›keywords‹, to decipher a few personal names of Near Eastern origin (Semitic or Hurrian) mainly on the inscribed balls, cf. E. Masson 2001, 187. See also E. Masson 1974, 47: »Il est à espérer que d'autres boules livreront ainsi des noms déjà attestés au Proche-Orient ou en Egée, étant donné le caractère cosmopolite que devaient avoir le site et le port d'Enkomi, dans la seconde moitié du II[e] millénaire. Cependant, le fait que ces lectures demeurent plutôt isolées montrerait qu'une importante proportion des noms inscrits sur les boules appartiennent à l'élément indigène, qui nous échappe toujours«. Such a structural decipherment, however, is not universally accepted, see e. g. the cautionary comments by Knapp 2008, 322.

120 The only deciphered example of a (Ugaritic cuneiform) inscription on a clay ball, i. e. clay ball Ugarit inv. 24.132, cf. n. 99 above, refers, however, to a commodity: oil.

121 See E. Masson 1973, 92: »Ces objets de forme originale étaient, peut-être, des espèces de fiches d'identité, qui pouvaient servir pour des ouvriers engagés temporairement«.

122 Öbrink 1979, 47 on N 6035: »A ball with an identical inscription, except for the single sign after the dividing line, has been found at Enkomi«. This is no. 46 in E. Masson 1971b, 497 fig. 40.

Fig. 3 Tiryns. Photograph of the clay ball TN 241 with Cypro-Minoan inscription and drawing (roll-out) of the Cypro-Minoan signs (scale 2 : 1)

Description of the Inscribed Clay Ball TN 241 from Tiryns (fig. 3)

Find spot: Tiryns, Lower Citadel North 2002: LXII 35/39 VB a13.18, hor. 20 a3-21 a0; diameter: 1.7–1.75 cm; weight: 5.0–5.1 g; except for some abrasion completely preserved; clay colour (surface and paste): 5 YR 4/4 (reddish brown) – 5 YR 4/6 (yellowish red); inclusions visible in chipped area: subrounded grains of sand, few burnt organic particles.

The small clay ball was formed by hand, i. e. rolled between the palms, which resulted in its smoothed surface. On one side, the clay ball bears three visible signs around its widest perimeter, but the surface in this area is slightly cracked, chipped and abraded. Thus, parts of the signs are obscured[123] or damaged, whereas the surface above and below as well as on the back side is intact. Tiny black spots on the surface might stem from carbonized organic matter. The signs are each composed of several approximately lentoid indentations. They were punched into the leather-hard clay by a thin, pencil-like and pointed stylus (either of wood, bone or metal), the point of which left indentations of approximately 1.5 mm width or diameter (for an elongated or dot mark respectively). During the process of inscription the clay ball was probably held between the first two fingers of the left hand, while the signs were executed by the stylus held in the right hand. The pressure of two fingertips holding the ball could have resulted in the very slight flattening at the bottom left and central upper rear part of the clay ball. Three signs are extant and spaced on average half a centimetre apart, but the first sign to the left is partly erased due to surface damage; the pitting of the surface is especially acute in the lower left part of the sign. Between the first and the second sign from the left a vertical fissure in the clay disrupts the surface, which features a void of a partly burnt organic inclusion in its centre that probably caused the surface to crack initially. Another horizontal to diagonal crack in the surface is observed between the second and the third sign from the left. Above and slightly diagonally to the third sign two shallow parallel indentations might be fingernail impressions, since they are only half as deeply impressed into the surface as the punch marks

123 After excavation, the object was labelled with its find spot denomination. Thereby, parts of the lower indentations, especially of the second sign from the left, were lacquered over by a paraloid layer. Upon this, the coordinates were written in black ink and then sealed by another paraloid layer.

forming the signs. To the right of the third sign follows yet another crack in the surface, beyond which the whole surface is abraded and worn in an area of ca. 1 cm². A void in the lower left part of this worn area appears to be a burnt organic inclusion (chaff) rather than part of another indentation.

The first sign consists of seven indentations, of which four are clearly visible: these are the two vertical, elongated punch marks to the left and one small punched dot on the lower left end of the sign as well as a slightly bigger punched dot on the upper right corner of the sign. Partial marks of two small vertical indentations are still visible to the right of the lower vertical elongated mark, where the surface is chipped. Below these and in a horizontal line to the right of the small punched dot at the lower left end of the sign faint traces of two additional small punched dots are observed. The whole triangular sign is 8 mm high and approximately 8 mm wide at the bottom. The second and central sign in the sequence again features two elongated vertical indentations (one on top of the other) at its left side. To the right of the lower left indentation another two roughly parallel elongated vertical impressions are clearly visible, as is another elongated punch mark at the upper right end of the sign, which is positioned roughly at a 45° angle to the upper elongated vertical indentation. Below the three vertical elongated indentations in the lower part of the sign three small punched dots terminate this sign. The sign appears to be a clearer version of the first sign and is 8 mm high and approximately 6 mm wide. The last sign at the right end of the sequence consists of six indentations – two elongated vertical and two smaller horizontal indentations roughly form a rectangle followed by two small punched dots below the rectangle. This last sign is ca. 9 mm high and 5–6 mm wide and the indentations preserve the best evidence for the direction of the punching. The stylus was apparently held perpendicular to the surface while indenting the elongated vertical marks and the lower, quite shallow horizontal one, whereas the upper horizontal indentation and the two dots below were punched with the stylus held at an oblique angle.

Interpretation of the Signs

The objectives of the following discussion are twofold: first, to ascertain that the inscription on the Tiryns clay ball does indeed represent CM signs; second, to analyse the chronological and geographical spread of comparable signs in CM which might tentatively provide evidence for the date and/or origin of the Tiryns clay ball. Summarizing the features of the indentations, the individual signs on the Tiryns clay ball can be identified twice as sign 41[124] followed by sign 97. Sign 97[125] is the third sign from the left; this sign is present in all three variants of CM (CM I, II, III) and occurs frequently on the clay balls from Enkomi[126] as well as on a clay ball from Hala Sultan Tekke[127]. It always appears at the end of a sign sequence. Out of these 23 examples, only one clay

124 Judging by the drawing, a sign very similar to the first and second sign of the inscription on the Tiryns clay ball occurs on a Cypro-Minoan tablet from Ugarit RS 20.25 on the front side at the beginning of line 9, cf. E. Masson 1974, 31 fig. 16, i. e. sign 37 in table E. Masson 1974, 35 fig. 18 and sign no. 37 in CM III according to E. Masson 1974, 13 fig. 2. This sign occurs three times on the tablet RS 20.25 (twice in line 9, once in line 17); for the doubling of signs see, for instance, on the same tablet line 5, second and third sign (sign no. 4 according to E. Masson 1974, 35 fig. 18 and sign no. 4 in CM III according to E. Masson 1974, 13 fig. 2).

125 Cf. the first variant in the chart of CM I signs in Olivier 2007, 414.

126 On 22 clay balls, cf. Olivier 2007, nos. 016 (4th sign). 020 (3rd sign). 021 (3rd sign). 022 (4th sign). 024 (4th sign). 029 (3rd sign). 030 (7th sign). 031 (3rd sign). 036 (2nd sign). 037 (3rd sign). 045 (4th sign). 047 (3rd sign). 048 (4th sign). 051 (3rd sign). 057 (3rd sign). 058 (4th sign). 059 (2nd sign). 063 (3rd sign). 068 (2nd sign). 072 (4th sign). 080 (2nd sign). 082 (4th sign).

127 Cf. Olivier 2007, no. 088 (4th sign).

ball stems from a stratified context[128] of LC IIIA date. Sign 41[129] is so far only documented in texts attributed to CM I[130] and appears on three clay balls from Enkomi[131]; the first two were found together in Area III, Room 8 on Floor V and date to LC IIC, whereas the third one stems from a LC IIIA context[132]. Yet none of the clay balls feature a sign sequence identical to the Tiryns clay ball. However, the sequence can be observed on another terracotta medium: in lines 10 and 11[133] on the clay cylinder from Enkomi[134] the same signs are documented in the same sequence as in the Tiryns inscription, i. e. the fifth and sixth sign[135] in line 10 and the first sign[136] in line 11, where they are separated from the other signs in lines 10 and 11 by dividing marks. The fifth and sixth sign of line 10 are unique in the text of the cylinder[137]. A relationship between sequences inscribed on the clay cylinder and those on clay balls has already been observed by Emilia Masson[138]. Moreover, it seems plausible that the same sequence consisting of two instances of sign 41 followed by sign 97[139] is also incised into a pithos-rim. This rim fragment was apparently found in 1995 on the surface of the West Acropolis of Idalion-Ambileri, more specifically, on its south-western edge[140]. The authors date it to approximately 1100 B.C.E., but no reasons for such a dating are given. Thus, the sign sequence inscribed on the Tiryns clay ball is attested as early as the 14th cent. B.C.E. (i. e. the date of the Enkomi clay cylinder) and perhaps as late as the 11th cent. B.C.E. This wide temporal margin circumvents any attempt to precisely fix the date of the Tiryns clay ball on the basis of epigraphic evidence.

Although the sequence on the Enkomi cylinder represents the best match for the signs on the clay ball from Tiryns, the visual characteristics of the clay ball from Tiryns do not fit the description of the Enkomi clay paste[141] in comparison with the petrographic description of the Enkomi inscribed

128 Olivier 2007, no. 016.
129 On the Tiryns clay ball in the form of the second variant in the CM I chart by Olivier 2007, 414.
130 See, however, n. 124 above.
131 Olivier 2007, nos. 004 (1st sign). 006 (4th sign). 018 (1st sign).
132 Area III, Room 77, north part, on Floor V. According to Olivier 2007, 65 his no. 004 is by the same scribal hand and even made of the same clay as no. 018 but was found in Area III, Room 8, Floor V. Olivier 2007, no. 002 was found in a stratified LC IIC context in Area III, Room 13 almost on Floor IV. If one takes into account that Olivier 2007, 64 also considers no. 002 as having been inscribed by the same hand as nos. 004 and 018, the later deposition context of no. 018 might indicate that some clay balls were circulated for longer periods. There is no inherent reason to interpret no. 018 as an older re-deposited kick-up from an earlier layer, since within the same part of the room, but one floor below, three other inscribed clay balls had come to light within a layer dated already to LC IIIA.
133 Cf. Olivier 2007, 126 f. lines 10 f. with sign nos. 41, 41 and 97 in CM I.
134 For the Enkomi clay cylinder 19.10 see Olivier 2007, 121–132 ENKO Arou 001, 484 f.
135 Sign no. 18 in Masson's earlier CM I list, see E. Masson 1971a; CM I sign 41 according to E. Masson 1974. This sign has a strange shape and only occurs twice, together in line 10 on the cylinder; in its design, it is one of the most complex signs and is also found on the clay balls as well as on a small round weight (?) in Enkomi (1966), where it occurs as an isolated sign; E. Masson 1971b, 472.
136 Sign no. 46 in Masson's earlier CM I list see E. Masson 1971a; sign 97 in CM I list according to E. Masson 1974. This sign is well known in Cypro-Minoan and a rather important sign; on the clay balls it is the sign that is most often employed at the end; 23 sequences end with this sign; E. Masson 1971b, 471.
137 E. Masson 1971b, 464. 469. 474 fig. 4.
138 Cf. n. 56 above.
139 Olivier 2007, 190 no. 123; 421 IDAL Avas 001 (Cyprus Archaeological Museum inv. OR 583), however, interprets the third sign as sign 67, but mentions that sign 97 would also be acceptable.
140 Gaber – Bazemore 1999, 239 figs. 2. 4 (signs upside down); 240.
141 According to Goren et al. 2003, 248: »[…] the locally produced pottery and Cypro-Minoan tablets at Enkomi are characterized by a fine texture and light shades […]«. Moreover, Goren et al. 2003, 236 state: »In terms of petrography, the Enkomi documents are extremely homogeneous«. See Goren et al. 2003, 248 on the local geology around Enkomi; the examined Enkomi tablets cover a period of 300 years (in part contemporaneous with the Amarna and Ugarit letters) and since the clay composition of all analysed documents is extremely homogeneous, the clay source/s used must have remained stable over 300 years, Goren et al. 2003, 249.

objects[142]. Also, colour photographs of clay balls from Enkomi[143] indicate that the clay used for their manufacture is lighter than the clay of the Tiryns example. Therefore, an origin of the Tiryns clay ball in Enkomi can probably be excluded. However, this does not preclude the possibility that the clay ball found in Tiryns might have been inscribed in Kition or Hala Sultan Tekke (or another site on Cyprus for which inscribed clay balls are not yet attested).

Discussion

On visual inspection, the clay paste of the ball with CM signs compares well with a potential Linear B tablet fragment from Tiryns[144], found east of the well in the fortification chamber 14 West, i. e. above the palatial Room 226 and below the post-palatial Room 224[145]. Also of comparable fabric are certain functional ceramics, e. g. a so-called torch holder[146] unearthed in an open area which features indications of lead working during LH IIIB Developed and half-baked clay reels[147] found in a LH IIIC Late pit[148]. Thus, even if the clay ball TN 241 was produced locally (which only future scientific analyses will be able to prove/disprove), the objects made of such a fabric span the entire period between LH IIIB and the end of LH IIIC and do not give preference to either a palatial or a post-palatial date for the manufacture of the clay ball. Moreover, none of the four uninscribed clay balls so far documented in the small find-corpus of Tiryns are made of this fabric. These clay balls (fig. 4) are all slightly larger than the inscribed clay ball and none actually derived from a clear Mycenaean stratum. The first one[149] was found in an Early Helladic layer and is probably made of a local fabric, since the same clay paste is also present in later Mycenaean cooking vessels, e. g. in a post-palatial cooking amphora from the Lower Town Northeast[150]. The second clay ball is unstratified and the third and fourth were excavated in a Geometric potters' quarter[151] located in the Lower Town Northeast and probably constitute test-pieces to assess kiln temperatures and atmospheres.

142 Cf. Goren et al. 2003, 236 f.; sampled were clay tablet Enkomi 1687 deposited in Level IIIA, cf. Dikaios 1971a, 885 f.; Dikaios 1971b, pls. 317. 318; Palaima 1989, 183 fig. 17; Enkomi clay tablet 1885 from Level IB, cf. Dikaios 1971a, 882 f.; Dikaios 1971b, pl. 314; Hiller 1985, 66 fig. 1; Palaima 1989, 175 fig. 5; the clay cylinder Enkomi 19.10 (wrongly cited as E-1610 in Goren et al. 2003, 236), cf. E. Masson 1971c; Hiller 1985, 67 fig. 4; Palaima 1989, 182 fig. 15; the tablet Enkomi 1193, cf. Hiller 1985, 68 fig. 5, joined with the fragmentary tablet Enkomi 20.01 (from the French excavations), cf. Hiller 1985, 70 fig. 7; 71 fig. 8; 72 fig. 8 a; tablet Enkomi 1193 was found in Level IIIB, cf. Dikaios 1971a, 887; Dikaios 1971b, pls. 319. 320; and another clay tablet, now in the Louvre, AM 2336.

143 Cf. Badisches Landesmuseum 2008, 316 fig. 189 a–c. Could the new Akkadian clay tablet RS 94.2173 found in the maison d'Ourtenou perhaps come from Enkomi? Malbran-Labat 1999, 121 describes its paste as »d'une argile particulièrement fine et blanche« which would fit the description given by Goren et al. 2003.

144 Olivier 1988, 253 f. 257 fig. 1, 1; 260. 264 fig. 4, 1.

145 Find spot: LXI 35/89 XII, hor. 19 a0.

146 Rahmstorf 2008, pl. 44, 12 cat. 2362; find spot: LXII 36/01 Ofl. VII a12.52, hor. 17 a1.

147 For example Rahmstorf 2008, pls. 30, 10. 11; 90, 8 (cat. 1678. 1679).

148 Find spot: LXI 42/59 IV G9, hor. 22.

149 Find spot: LXII 38/53 XIV grau a14.28.

150 Ti 00 LXVIII 30/49 IX Nr. 120/00, cf. Stockhammer 2008, pl. 54 cat. 1210.

151 On this partially excavated potters' quarter of the Geometric period in squares LXIX 28 and 29 of the Lower Town Northeast see Maran – Papadimitriou 2006, 121; kilns (Maran – Papadimitriou 2006, 123 figs. 35–37. 39) and contemporary occupation layers attest to a production area. A loamy walking horizon was excavated around one of the kilns at an elevation of approx. 5.92–6.11 m ASL, under parts of which a pebble pavement was encountered at 5.82–5.96 m ASL. An alley approximately 40 cm wide paved with sherds of storage vessels ran from the northeast of the excavated area towards the kiln (at an elevation of circa 5.97–6.06 m ASL), see also Maran – Papadimitriou 2006, 125 on several wasters of large decorated open and closed vessels found in the area of the kilns.

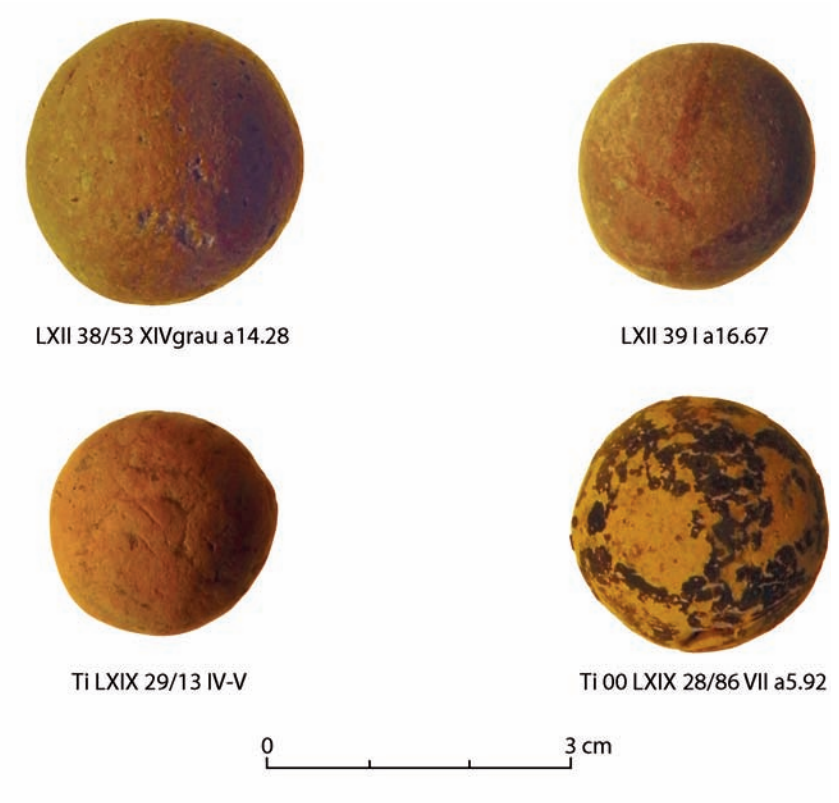

Fig. 4 Tiryns. Plain clay balls from the Lower Citadel (upper row left: Early Helladic layer; upper row right: surface find) and from the Lower Town Northeast (lower row: both from area of Geometric potters' workshop)

No. 1: Find spot: Lower Citadel, LXII 38/53 XIV grau a14.28; diameter of ball: 2.5–2.55 cm, weight: 15.6 g; smoothed surface; colour of surface: 10 YR 6/2 (light brownish grey) – 7.5 YR 6/4 (light brown); inclusions visible on the surface: sand, quartz, lime, no mica; medium-fine ware fabric.

No. 2: Find spot: Lower Citadel, LXII 39 I a16.67; diameter: 2.1–2.2 cm, weight: 11.2 g; smoothed surface with traces of paint applied randomly and with a hasty brush; colour of paint: 5 YR 4/6 (yellowish red); colour of surface: 10 YR 6/4 (light yellowish brown); inclusions visible on the surface: sand (?), no mica; fine ware fabric; publication: Rahmstorf 2008, 78 cat. 1506 pls. 34, 1506; 97, 2 (bottom row left).

No. 3: Find spot: Lower Town Northeast, Ti 00 LXIX 28/86 VII a5.92; diameter: 2.3 cm, weight: 10.1 g; monochrome, crazed and flaking paint on surface; colour of paint: 10 YR 2/1 (black); colour of clay paste: 10 YR 7/4 (very pale brown) – 7.5 YR 7/4 (pink); inclusions visible in the clay paste: few quartz particles; fine ware fabric.

No. 4: Find spot: Lower Town Northeast, Ti 00 LXIX 29/13 IV–V; diameter: 1.9–2.1 cm, weight: 6.8 g; surface only hastily smoothed, object is not entirely spherical; colour of surface: 10 YR 7/4 (very pale brown); colour of clay paste in core: 5 YR 7/6 (reddish yellow); same fabric as above no. 3.

Turning to the actual inscription, the ductus of the impressed signs on TN 241 is closely comparable to CM signs on Cypriot clay balls[152]. Yet again, there is no conclusive evidence pro or contra a local or Cypriot origin of the clay ball TN 241. Therefore, an assessment of the wider context of Cypriot – local interactions (as reflected in material remains of the palatial and post-palatial periods in Tiryns) might help to clarify whether the clay ball constituted an ›out-of-context‹ exoticum or was integrated into practices of a »Lebenswelt« some contemporary Tirynthians might have experienced or that was at least familiar to them.

152 Cf. Smith 2009, 156 on »signs [on clay balls from Kition] punched with a wedge-shaped tool and impressed by bending the straight side of the tool sideways, in the manner of cuneiform writing« and on »signs impressed with a thin-point implement, […], much in the manner of several long texts in Cypro-Minoan«. Regarding the implement with which the clay balls were inscribed, Smith 2003, 282 observes that »the tool used to make punches, however, is thin, rounded, and pointed«. On styli cf. Papasavvas 2003, esp. 80. A bronze stylus from Enkomi, inv. 98, cf. Papasavvas 2003, 81 figs. 1–4, is 15.1 cm long, has a diameter of 5–6.5 mm and the length of the sharp point measures ca. 4 mm, whereas the chisel-like part is ca. 9 mm wide; it was found during the French excavations at »point 71, á 1 m. de profondeur«; another bronze stylus from Kalavasos-Ayios Dhimitrios is 17.7 cm long and has a diameter ca. 0.8 cm. Thus, marks made with the Enkomi stylus would fall approximately into the size range of the impression on the clay ball TN 241 from Tiryns, where the elongated indentations vary from 3–4 mm in length. One find from the LH IIIC Developed workshop area is a fragmentary bone tool, and might perhaps have been used as a stylus; TN 85: length: 4.4 cm, width: 0.65–0.5 cm, thickness: 0.4 cm, weight: 1.3 g; broken at both ends (on bone

The Archaeological Context of the Tiryns Clay Ball

The northern tip of the Lower Citadel was first excavated in 1982 and 1983 by Klaus Kilian[153]. Since this part of the Lower Citadel was included in an ›anastylosis‹-project aimed at presenting different settlement layers and making them accessible to visitors, the area of the 10 × 10 m squares LXII.LXIII 34.35 was re-investigated in 2000–2003 by Joseph Maran[154]. The latter excavations brought to light a multitude of architectural features, ceramics[155] and small finds. As a result, parts of the building history of the Cyclopean fortification wall were substantially revised[156]. However, a workshop context in the LH IIIB Final (ca. 1230/1225–1210/1200 B.C.E.) Building XI adjacent to the fortification wall and on the terrace immediately west of the passageway leading to the North Gate has drawn most of the scholarly attention so far[157]. This workshop, where intricate luxury objects for elite consumption were given their final embellishment[158] and which was in all probability supervised by the palace[159], provided evidence for object associations and thus practices pointing to Eastern Mediterranean and especially Cypriot and/or Levantine influences[160]. The occupational history of Building XI was short compared to other late palatial architectural complexes in the Lower Citadel: its construction can be dated to the latest phase of the LH IIIB2 period[161] and it was destroyed at the end of this phase in the conflagration[162] that put an end to Mycenaean palatial society in Tiryns.

A hiatus in the building history of the northern tip of the Lower Citadel is evidenced throughout the subsequent LH IIIC Early phase. During these years the area probably retained its connotations as a funerary sector, since at least six individuals had been interred here at the very end of the palatial or the very beginning of the post-palatial period, apparently without any accompanying offerings[163]. Afterwards, a small building complex consisting of a central courtyard and adjacent rooms to the north and east[164] was erected in LH IIIC Developed (ca. 1170/1160–1150/1140 B.C.E.; fig. 5)[165]. The architectural design reflects the characteristic layout of the post-palatial period (room suites grouped around open spaces)[166]. Walls of the former Building XI of the final palatial phase were reused as a foundation of the LH IIIC Developed architectural complex comprising several rooms[167]. The post-palatial building consisted of two rooms or rather a suite of two rooms, grouped around a courtyard, Room 78c to the south and Rooms 78a and 2/02 to the

styli found in Tiryns see Godart 1988, 248–251). Pin-pointing the actual find spot of TN 85 is problematic: The bone tool was excavated either (as written on the object) in LXIII 34/81 VC a13.05, distance in square from North: 33 cm/ from West: 50 cm or in LXIII 34/74 VC (as stated in the diary). Whatever the exact find spot, the potential stylus was discovered at least 5 m northeast of the clay ball TN 241, either in Room 78a or Room 2/02.

153 Kilian 1988, 108–111.

154 Maran 2008.

155 The pottery is currently under study by Sonicka Wirghova and forms the subject of her PhD thesis at the University of Heidelberg.

156 Maran 2008, 41–49. 86–90; Maran 2009, 248–254.

157 Kilian 1984, 56. 69 fig. 1; Maran 2004, 13 f. 16. 17 fig. 5; Maran 2008, 50–53. 90 f.; Brysbaert – Vetters 2010; Cohen et al. 2011; Kostoula – Maran 2012.

158 Maran 2008, 90.

159 Brysbaert – Vetters 2010, 33 f.

160 Cohen et al. 2011; Kostoula – Maran 2012; Maran 2009, 247 with n. 33.

161 This is the stratigraphic horizon 17 a5 in Tiryns terminology.

162 The debris of the conflagration constitutes the stratigraphic horizon 18 in Tiryns terminology. Building XI, however, does not show evidence of extensive destruction by fire as observed on the Upper Citadel, as Ursula Meinhardt informed me (email 26.01.2011).

163 On pit no. 123/02 and the skeletal remains see Maran 2008, 60–65. 91–94.

164 For a detailed plan of the area cf. Maran 2008, fig. 55 after p. 66.

165 Maran 2008, 94. The dating of the layers is provisional, until all finds and pottery are studied. So far, this phase is termed phase 2 within the sequence of the post-palatial strata encountered in the northern tip and is assigned to the stratigraphic horizon 20 a3 in Tiryns terminology.

166 Brysbaert – Vetters 2010, 31 f.; Kilian 1988, fig. 9 (before p. 111); p. 111.

167 Maran 2008, 65; part of this complex had already been excavated by Kilian; cf. Kilian 1988, 111 f.

Fig. 5 Tiryns. Lower Citadel North. Map of LH IIIC Developed remains and find spot of inscribed clay ball

north. Apparently, an entrance allowed access to the yard from the passageway to the east and another was documented in the south-wall of Room 78c. The threshold of the yard's southern entrance was built of small stones and rounded pebbles[168], was approximately 1.30 m wide and opened onto a street, which lay east of Room 78c and increased in elevation from 12.72 m to 12.96 m ASL towards the north[169]. Kilian excavated two concentrations of burnt mud bricks in Room 78a which might have formed some sort of installations and a pit which probably contained a clay bin in the southwest corner of the courtyard between Rooms 78a and 78c. In the eastern part of the courtyard bordered on the west by a terrace wall (a reused palatial wall), parts of two phases of an occupation layer which were immediately superimposed upon each other were documented during the re-investigation of the area: a pebble pavement above a layer of sherds was excavated in squares LXIII 34/92 and LXIII 35/02–03 at 12.96–13.01 m ASL[170]. A partially preserved rectangular clay installation, probably an oven (no. 78/02), was erected on top of this pavement[171]. Further south, in squares LXIII 35/11.21, a small carefully built, horseshoe-shaped oven (no. 79/02) had a floor level of 12.93 m ASL[172]. The rear wall of the oven was vertical and the oven featured an opening towards the west. The oven's floor and the entire area in front of its opening showed traces of ash and intensive fire. Remnants of another but less well preserved clay oven with traces of fire were unearthed in squares LXIII 34/81.82–91.92[173]. This almost rectangular construction (no. 73/02) was built with its east wall against a stone wall segment on the east side of Room 78a. The southern end of the installation is missing; it seems reasonable, however, to assume that the oven had an opening at this side. The functions of the three ovens are not yet determined[174],

168 The only find already mentioned in the preliminary report is a well preserved krater which was excavated at the threshold to the yard; cf. Maran 2008, 66 fig. 54.
169 Maran 2008, 66.
170 Maran 2008, 67.
171 The floor of oven no. 78/02 was excavated at 13.02 m ASL; cf. Maran 2008, 67 fig. 56.
172 Maran 2008, 68 fig. 57.
173 Maran 2008, 67 fig. 56.
174 Samples of the oven walls and the ash have been taken and will be analysed in the future. Another partially preserved clay structure had been excavated by Kilian in LXII 35/10.20, but due to a lack of further information its function cannot be assessed anymore.

although the occurrence of two lead spills and a slag fragment indicate small-scale metallurgical activities[175]. Elevations further south in the entrance area of the yard and immediately beyond it are of crucial importance to assess the stratigraphic position of the clay ball with Cypro-Minoan signs. It was excavated outside the yard[176], but in the entrance area south of the corner formed by the east wall of Room 78c and the south wall of the yard. The floor level in this square (LXII 35/39), i. e. southwest of the courtyard with the oven installations, is documented as 12.87 m ASL during LH IIIC Developed, ascending to 13.01 m ASL towards the threshold[177]. Thus, the clay ball came to light at least 17 cm above the floor level of the LH IIIC Developed occupation. However, it was clearly sandwiched between the LH IIIC Developed floor and a superimposed pavement of the following phase. In the southern part of square LXII 35/39 a layer of small stones and pebbles was encountered at 13.34 m ASL[178]; the pavement testifies to two occupation layers and was preliminarily dated to LH IIIC Advanced[179]. Further small finds in the immediate vicinity of clay ball TN 241 attest to an artefact concentration on the LH IIIC Developed floor and in the debris above it (table 4), probably partially constituting refuse swept out of the yard. Summing up the stratigraphic evidence, the clay ball was stratified above the LH IIIC Developed floor, which sealed the underlying final palatial layers of Building XI in this area, and below a LH IIIC Advanced surface.

Material and Textual Evidence for Mycenaean – Cypriot Interaction

Copper, which was the main export product of Cyprus[180], was definitely exported to the Greek mainland during LC IIC[181] and LC IIIA, i. e. in the Mycenaean late palatial and post-palatial periods[182]. The adjectives *ku-pi-ri-jo* and *a-la-si-jo* mentioned in the Linear B tablets of Pylos and Knossos point to substantial economic relations between the Mycenaean palatial world and LBA Cyprus[183]. According to the tablets ›Cypriots‹ are involved in bronze-

175 Brysbaert – Vetters 2010, 32. 43 table 5 (TN 106, TN 215, TN 231).
176 TN 241: clay ball with three Cypro-Minoan signs; LXII 35/39 VB a13.18; coordinates within the square as measured from its northeast corner: 85 cm from North/47 cm from West; hor. 20 a3–21 a0.
177 According to Maran 2008, fig. 55 (after p. 66); see also p. 66 fig. 53.
178 Maran 2008, 70 fig. 61.
179 Maran 2008, 72 describes the stratification of the layers in detail: »Der jüngere diente als Stückung einer nur in den Qu. LXII 35/39.49-50 in Fragmenten erhaltenen Lehmoberfläche (Oberkante bei 13,33 m bis 13,36 m ü. NN). Bei der darunterliegenden Pflasterung des älteren Nutzungsabschnittes (Oberkante 13,24 m bis 13,29 m ü. NN) gab es keine Spuren einer ähnlichen Oberfläche aus Lehm.«
180 See Sherratt 2000, 89 n. 1 on perhaps 30 tons of copper from Alashiya documented in the Amarna tablets; cf. Knapp 2008, 309–312 with tables 5. 6, on mentions of Cypriot copper exports in Near Eastern written sources from the Middle Bronze Age to the LBA; see also Malbran-Labat 1999, 122 with n. 9 on quantities of copper documented in the Ugarit tablets and Yon 2003, 48 on a ton of copper mentioned in correspondence RS 94.2177+ and RS 94.2447 between the king of Ugarit and the king of Alashiya, dated to approx. 1200 B.C.E.
181 For a general overview of major LC IIC sites and for contextual evidence of extractive metallurgy or the processing of copper on Cyprus cf. Karageorghis 1990, 2–26.
182 Just to mention two examples relevant to the context of this paper: the so-called Tiryns treasure contained oxhide ingots and also a rectangular, smaller bronze ingot, cf. Karo 1930, 135 fig. 5; Kilian 1988, 140 fig. 37, 3. According to scientific analysis, the latter is of bronze containing Cypriot copper, cf. Kilian 1988, 130 n. 54; see Lolos 2003, 112 fig. 22 for a fragment of an oxhide ingot recently excavated in Kanakia on Salamis; another fragment of such an oxhide ingot is known from post-palatial layers in Emborio on Chios, see Jung 2007, 231 n. 91. On the import of Cypriot copper on the Mycenaean mainland during the post-palatial period see Jung et al., 90 n. 31.
183 Palaima 2005, 28 states this explicitly: »In fact, the range of references in the Linear B tablets to the foreign ethnic *ku-pi-ri-jo* is absolutely unique, and speaks of some form of special contacts between the Mycenaean sphere and the Cypriot sphere in the Late Bronze Age. This is also true for the imbedding of individuals named *ku-pi-ri-jo* and *a-la-si-jo* on Crete and in Messenia in various sectors of the Mycenaean economy. […] The place name **ku-po-ro* and the goods or individuals associated with it cover a wide range of Mycenaean industries. Among trade goods are cloth and wool, dye mordant, plant materials with numerous applications, spices, oil, and perhaps pottery«.

working, shepherding, the religious offering of honey and in one of the few records of compensatory *o-no* exchange and are, in some instances at least, from the higher echelons of society[184]. The presence of CM signs on LM/LH III vessels found in the Aegean suggests that certain individuals, perhaps even officials in the palatial administration, on Crete or the Greek mainland were familiar with the CM script and possibly involved in exporting specific products, e. g. perfumed oil, to Cyprus[185]. Yet there is further evidence of contact between the Mycenaean and Cypriot worlds amounting to more than just trading relationships. The pottery of Enkomi, for instance, reflects that with the integration of Mycenaean imported vessels and local imitations changes in feasting and cooking practices start in LC IIC[186]. These changes become even more pronounced in LC IIIA, when Mycenaean-type wheel-made cooking pots first appear in Enkomi[187]. Also, a parallel development between White Painted Wheel-made III pottery on Cyprus (which can be interpreted as a derivate of Mycenaean pottery traditions) and LH IIIC pottery styles on the Greek mainland has been observed[188]. Both aspects, the parallel stylistic development, but especially the local production of Mycenaean-type pottery, attest to continued relationships and probably multi-directional social interactions of individuals on Cyprus and on the post-palatial southern Greek mainland after the collapse of the palatial administrative and social structures.

Cypriot Imports and Cypriot Derivates in Tiryns

Turning to the evidence from Tiryns, the earliest example of a Cypriot or Levantine object does not come from the settlement but the chamber tomb necropolis at the Prophitis Elias hill east of Tiryns: one faience cylinder seal of Mitanni style was excavated in chamber tomb XIX[189] in a context not later than LH IIIA1[190] and thus coinciding with the inception of Mycenaean palatial society on the Greek mainland. A Minoan stirrup jar with a painted inscription[191], which Jacques Raison suggested to be Cypro-Minoan rather than Linear B, was found within the same necropolis but in a funerary context probably dating to the very late palatial or even early post-palatial period: the stirrup jar[192] was excavated in chamber tomb XV. Since it was found in the chamber but immediately beyond the stomion[193], this find position suggests that the stirrup jar constituted one of the latest offerings in this chamber. The latest burials and figurines probably date to LH IIIC Early and, consequently, the deposition date of the stirrup jar would then be either LH IIIB Final or LH IIIC Early[194]. However, the chamber tombs of the Prophitis Elias

184 Palaima 2005, 29; see also discussion in Knapp 2008, 303–307; it is strange, however, that the attestations of ›Cypriots‹ in the Pylian records so far do not tally with the archaeological evidence for Cypriot imports, i. e. objects, in late palatial Messenia.

185 Knapp 2008, 306.

186 Jung 2009, 79; see also Sherratt 2003a, 40 on the local production of Aegean pottery in the second part of the 13th cent. B.C.E. and Sherratt 2003a, 45 on the inception of White Painted Wheel-made III in LC IIC and its increase in quantity in LC IIIA, i. e. at the beginning of the 12th cent. B.C.E. Note, however, that two opposing interpretations of those changes visible in the ceramic repertoire are offered by Reinhard Jung and Susan Sherratt: whereas Jung 2011 argues for a selection of imported Mycenaean vessels according to local taste and local imitations of those shapes by Cypriots in LC IIC, he observes a wholehearted adaptation of Mycenaean consumption patterns in LC IIIA which he links to the influx of new population segments ultimately originating on the Greek mainland. Sherratt 2003a, on the other hand, explains the shift in the pottery repertoire as an economic phenomenon where former imports from the Mycenaean mainland were substituted by local imitations without any change in the group-composition of the (Cypriot) consumers.

187 Jung 2009, 81 notes that: »[…] regarding pottery typology, the Mycenaean component became clearly dominant in Enkomi right from the start of settlement Level IIIA«.

188 Sherratt 2003a, 46 f.

189 Rudolph 1973, 85. 123 pl. 52, 4. 5.

190 Vetters 2009, 200 n. 1291.

191 Ti Z9, cf. Raison 1968, 160. 167 f. 202 n. 65 pl. 106.

192 Find XV.3, cf. Rudolph 1973, 65 no. 3 pl. 36, 2.

193 Rudolph 1973, 63.

194 Vetters 2009, 199 f.

necropolis do not offer any evidence for a concentration of East Mediterranean objects in a specific funerary context. If one turns to the settlement of Tiryns the picture changes. The unusual concentration[195] of CM marks on Mycenaean and imported pottery[196] found in Tiryns has long been remarked upon and has often been quoted to support claims for a small number of Cypriots residing in Tiryns[197]. Recent discussions have focused on another class of objects: hand-made, unpainted wall brackets of rather coarse fabrics are artefacts typically encountered in Cypriot metallurgical and ritual contexts[198]. On the Greek mainland they are extremely rare outside the Argolid and within the Argolid they are almost entirely confined to Tiryns[199]. Previous scholars assumed that these apparently utilitarian objects had been imported from Cyprus, arguing, however, that due to the inferior quality of these products they must have had a specific symbolic value for Cypriots and accordingly were taken along when a person moved abroad[200]. Lorenz Rahmstorf merits praise for his careful study of stylistic differences between wall brackets found on Cyprus and those excavated in Tiryns[201]. The majority of the latter is now presumed to have been produced locally and interpreted by Maran as constituting evidence for the continuation of idiosyncratic Cypriot practices in a foreign context. The first stratified examples of wall brackets in Tiryns occur in LH IIIB Middle contexts in the Lower Citadel[202] and the latest examples in LH IIIC Early contexts in the Lower Town Northwest[203] and Northeast[204]. Thus, wall brackets in Tiryns are not confined to a specific settlement area (cf. fig. 1)[205]. Apparently however, there is a concentration of ›Cypriot‹ and East Mediterranean objects in certain habitation areas: frequent CM incised marks on Minoan stirrup jars from the Epichosis[206] and the aforementioned wall bracket from the Western Staircase were excavated in debris layers ultimately deriving from the destruction of the palace at the end of LH IIIB on the Upper Citadel. Due to limited information provided by the early excavation records, it is impossible to conduct a detailed contextual analysis of this material. However, a bronze figurine of the ›smiting god‹ type excavated by Heinrich Schliemann on the Upper Citadel[207] with best parallels in Ugarit and Enkomi[208] further strengthens the suggestion that objects from the Eastern Mediterranean were once used in the palace proper. Find spots of Eastern Mediterranean objects, especially wall brackets, are better documented in the Lower Citadel[209]:

195 Hirschfeld 1996a, 294 mentions 24 marked vessels (i. e. incised after firing) from Tiryns.

196 Döhl 1979; Olivier 1988; Hirschfeld 1993.

197 Cline 1994, 54 f.; Hirschfeld 1996a, 297 states that »Tiryns was an important centre of Cypriot-Argolic trade« and »marked vases may be evidence that Cypriot merchants took substantial initiative in administration and handling of trade«.

198 See the detailed analysis of the geographical spread and find contexts by Rahmstorf 2008, 95–111, esp. 103 f.

199 Maran 2004, 13.

200 See especially Cline 1999.

201 Rahmstorf 2008, 91–95. 110.

202 Rahmstorf 2008, 94 cat. 1821 pl. 39, 1821 (probably to be joined with cat. 1827, hor. 19 a0, 27 m north of cat. 1821); cat. 1828 pl. 41, 1828.

203 Kilian 1978, 452 fig. 7; Rahmstorf 2008, 93 f. cat. 1826 pl. 39, 1826.

204 Maran 2004, 13. 14 fig. 1; 15 fig. 2.

205 Within the acropolis, wall brackets might have been used even on the Upper Citadel: Eleutheria Kardamaki identified one wall bracket which was recovered in the 1910 excavations of the Western Staircase, cf. Rahmstorf 2008, 91 n. 431; Voigtländer 2003, 16 pl. 3, 17. The material from the Western Staircase constitutes debris from the final conflagration on the Upper Citadel.

206 Döhl 1979, 50–52 nos. 81–86; 52 f. no. 89; 53 f. no. 92; parallels cited are mostly from Enkomi.

207 On the approximate find context of the Tiryns ›smiting god‹ figurine cf. Vetters 2009, 276 f. n. 1910. 1911. See the tentative stylistic dating of the ›smiting god‹ figurine from the Upper Citadel in Tiryns to the palatial period: Vetters 2009, 276 n. 1908.

208 If a palatial date of the Tiryns figurine is accepted, it would be contemporary with the majority of ›smiting god‹ figurines in Ugarit and with a figurine of the same type from Enkomi, cf. Vetters 2009, 276 n. 1909.

209 The following list contains fragments of wall brackets if not otherwise noted. Listed are find spot, area, stratigraphic horizon and date.

1. LXII 34/89 IVb[210]: floor context in Room 78a of Building XI; hor. 17 a5, i. e. LH IIIB Final.
2. (LXII 36/100 IVb) corrected: LXII 34/100 IVb[211]: floor context in Room 78a of Building XI; hor. 17a5, i. e. LH IIIB Final[212].
3. LXII 43/67 XV grau[213]: destruction debris immediately south of Room 210 of LH IIIB Middle terrace building; hor. 16 a7–17 a0, i. e. end of LH IIIB Middle, start of LH IIIB Developed.
4. (LXII 43/63 Ofl. XV) corrected: LXII 43/69 Ofl. XV[214]: destruction debris in Room 216 of LH IIIB Middle terrace building; hor. 16 a7–17 a0, i. e. end of LH IIIB Middle, start of LH IIIB Developed.
5. LXI 40/01 XIIb[215]: residual, since probably joining with no. 3 above[216].
6. LXI 42/59 XI c14.15 + LXI 42/69 XII[217]: in debris layers above LH IIIB Middle strata but in the area immediately west of LH IIIB Middle terrace building and south of the LH IIIB Developed Building VI; hor. 18, i. e. end of LH IIIB Final, final palatial destruction layer.
7. (Canaanite amphora) LXIII 34/36.46 III[218]: passage way, in the entrance area of North Gate; residual in hor. 21, i. e. LH IIIC Advanced.
8. LXII 43/92.93 Ofl. XV Nr. 20[219]: in debris layers above the LH IIIB Middle strata but immediately south of the LH IIIB Middle terrace building; hor. 16 a7–19 a0, i. e. end of LH IIIB Middle – start of LH IIIC Early.
9. LXII 43/46 X[220]: in debris layers above the LH IIIB Middle strata but in the area of the former LH IIIB Developed Room 191 within Building VI, which, in turn, lies immediately on top of remains of Room 210, i. e. the southern part of the LH IIIB Middle terrace building; hor. 19 c–21 a0, i. e. end of LH IIIC Early – start of LH IIIC Advanced.
10. LXII 43/46 Xb[221]: (as above).
11. (Cypriot milk bowl) LXII 43/81 XIVa grau[222]: destruction debris and levelling layer in the area south of the LH IIIB Middle terrace building; hor. 17 a0, i. e. start of LH IIIB Developed.
12. (Canaanite amphora) LXII 43/34 XIV[223]: destruction debris and levelling layer in corridor Room 211 of the LH IIIB Middle terrace building; hor. 17 a0, i. e. start of LH IIIB Developed.
13. (Canaanite amphora) 1968[224]: unstratified.

210 TN 52: Kilian 1988, 128 fig. 24, 1; Rahmstorf 2008, 92. 241 cat. 1819 pls. 39, 1819; 91, 2.

211 Kilian 1988, 128 fig. 24, 2; Rahmstorf 2008, 92 cat. 1820 pls. 39, 1820; 91, 2; Maran 2008, 51. 52 fig. 27; Brysbaert – Vetters 2010, 29 f. The find spot originally cited by Kilian was corrected by Rahmstorf and find spots of additional sherds are noted in Brysbaert – Vetters 2010, 41 table 1 cf. TN 22.

212 Additional fragments of wall brackets derive from the new excavation in this area: Ti 02 LXIII 34/91 VI + LXII 34/100 IVb + LXII 35/10 IVa + LXII 35/10 IVb + LXII 35/19 IVb (TN 29); LXII 34/79 IVa (TN 30) from Rooms 78a. 78b and one very well-preserved example from LH IIIB Final destruction debris in the passage way: Ti 02 LXIII 35/19 Va; Ti 02 LXIII 35/34 Ofl. VA Nr. 44/02, cf. Maran 2004, 18 fig. 9.

213 TN 643: Kilian 1988, 128 fig. 24, 3; Rahmstorf 2008, 92 cat. 1821 pl. 39, 1821.

214 TN 644: Kilian 1988, 128 fig. 24, 4; Rahmstorf 2008, 94 cat. 1828 pl. 41, 1828.

215 Kilian 1988, 128 fig. 24, 5; Rahmstorf 2008, 92 cat. 1827 pl. 39, 1827.

216 Id est Rahmstorf 2008, cat. 1821.

217 TN 708: Kilian 1988, 128 fig. 24, 6; Rahmstorf 2008, 93 cat. 1829 pl. 40, 1829. Interestingly, wall bracket no. 1829 features a clay paste which is foreign to local fabrics and might indicate that this piece was actually imported from Cyprus.

218 Kilian 1988, 128 fig. 24, 7; Kilian 1988, 108; Olivier 1988, 255 no. 13 fig. 2, 13; Yasur-Landau – Goren 2004, 25. The new excavations in this area have brought to light further fragments of this vessel, cf. Maran 2004, 13 n. 5. The recently joined sherds are from the following find spots: Ti 02 LXIII 35/15 VI; Ti 02 LXIII 35/23 IVG; Ti 02 LXIII 35/25 Ofl. IVH Nr. 24/02; Ti 02 LXIII 35/34 IVH; Ti 02 LXIII 35/35 IVH; Ti 02 LXIII 35/43 Ofl. IVF Nr. 3/02.

219 Kilian 1988, 128 fig. 24, 8; Rahmstorf 2008, 92 cat. 1822 pl. 40, 1822.

220 Kilian 1988, 128 fig. 24, 9; Rahmstorf 2008, 92 cat. 1823 pl. 39, 1823.

221 Kilian 1988, 128 fig. 24, 10; Rahmstorf 2008, 93 cat. 1824 pl. 39, 1824.

222 Kilian 1988, 129 fig. 25, 11.

223 TN 775: Kilian 1988, 129 fig. 25, 12. Find spot written on vessel: LXII 43/43 XIV: according to these coordinates in the destruction debris and levelling layer in Room 215 of the LH IIIB Middle terrace building, hor. 17 a0, i. e. start of LH IIIB Developed.

224 Kilian 1988, 129 fig. 25, 13.

14. (Cypriot milk bowl) LXI 41/53 XIVa[225]: in the so-called open-air Zwinger area west of Building VI; hor. 17 a4, i. e. end of LH IIIB Developed, start of LH IIIB Final.

Evidently, there are two areas where wall brackets and sherds of Canaanite amphorae have been discovered more frequently than elsewhere and were also associated with each other: the first one is located in the southwest of the Lower Citadel, where, during LH IIIB Middle, a multi-room terrace building[226] occupied the two westernmost terraces adjacent to an earlier, not yet Cyclopean fortification wall[227]. Room 210 in the southeast of this LH IIIB Middle architectural complex featured a furnace with a huge ash accumulation and a crucible in situ. It also held an enormous Aeginetan cooking pot[228] with a volume of approx. 17 l (perhaps used in connection with the metallurgical workshop activities, e. g. to quench metals during the forging process), and bronze scrap as well as tools scattered about the room and the open area to the south of it, providing ample evidence for a small-scale metallurgical workshop in this area. Room 215 in the southwest corner of the building was separated by a corridor (Room 211) from Room 210. No direct material evidence for pyrotechnological or other craft activities can be derived from this room, although a bronze ingot[229] was found concealed in the south wall of Room 215[230].

The second concentration of wall brackets and a Canaanite amphora, this time even with incised CM signs on the handles, occurs during LH IIIB Final in the aforementioned area at the northern tip of the Lower Citadel. Here, Building XI bordered the passage way to the North Gate on the west side, whereas Building XV lay east of the passage way. Two well-preserved wall brackets[231] were excavated in Room 78a of Building XI[232], as well as a medium-sized decorated Minoan coarse-ware stirrup jar[233] and, most importantly, an ivory rod with a cuneiform inscription[234] representing Ugaritic. On the Mycenaean mainland, this object is so far the only known artefact bearing cuneiform signs with a probable utilitarian function[235]. Apart from the Canaanite amphora and an almost completely preserved wall bracket[236], a so-called Levanto-Mycenaean chalice[237] and parts of a faience rhyton in the shape of an animal-head[238] were excavated on the LH IIIB Final surface

225 Kilian 1981, 184 fig. 40, 5.
226 Kilian 1988, 124 f. fig. 20 a. b; 126–137; Rahmstorf 2008, 270–273; Vetters 2009, chapter V.3.3.
227 Kilian 1988, 133. 134 fig. 28; 139.
228 Kilian 1988, 126; Stockhammer 2008, 322.
229 Kilian 1988, 140 fig. 37, 4; according to p. 130 n. 53 of bronze containing Laurion copper.
230 The act of hiding the ingot in a wall in Tiryns might be a practice structurally comparable to the deposition of bronze ›smiting god‹ figures in a wall of the maison de l'artisan/maison du forgeron du bronze in the Quartier Sud of Ugarit, cf. Vetters 2009, 247 f. with n. 1669.
231 Cf. n. 210–212 above.
232 On workshop activities in Building XI, especially in Room 78a, see Brysbaert – Vetters 2010; Kostoula – Maran 2012, 194. 214 f.; Maran 2008, 50–60; Maran 2004, 14.
233 Ti 02 LXIII 34/81 VI; Ti 03 LXIII 34/81 VIb Profilabbau unter M 3/02, cf. Maran 2008, 51. 52 fig. 28. These sherds found in Room 78a join with fragments (LXII 34/99 IVb) excavated by Kilian to the west of the Room 78a.
234 Cohen et al. 2011; see now also Dietrich – Loretz 2010; Tropper – Vita 2010; Weippert 2011.
235 Or a cultic function, if one follows the new interpretation of Dietrich – Loretz 2010, who suggest an oracular device on the basis of their reading.
236 Cf. n. 212 above.
237 Ti 02 LXIII 35/34 Ofl. VIa Nr. 43/02, cf. Maran 2008, 57 fig. 38. Another sherd of such a vessel was found in LXII 43/39 XVIIb, i. e. in the area of, but below the LH III B Middle terrace building, cf. Vetters 2009, 218 f. n. 1434. The term »Levanto-Mycenaean« or »Levanto-Helladic« is somehow a misnomer: see Vetters 2009, 245 n. 1660 on NAA-evidence for local (i. e. Argive) production of a Levanto-Helladic chalice from Thebes, which runs contrary to the long-held assumption that this vessel type might have been produced on Cyprus. An Argive production place is further confirmed by the NAA results of such a chalice with pictorial decoration found in Tell Kazel, see Jung 2006, 159–161. 165 fig. 7, 19; Badre et al. 2005, 40 no. TK 72.
238 Kostoula – Maran 2012, 195; Maran 2004, 13. Kostoula – Maran 2012, 208 f. propose to identify the fragmentary shape either with a monkey's head or with a mask of the Near Eastern demon Humbaba and compare it to the terracotta »Humbaba mask« from Kition-Kathari Floor II in Room 12, no. 553, cf. Smith 2009, 147. 148 fig. IV.21. This mask was found in a metal workshop, cf. Smith 2009, 42–51, providing an interesting parallel to the find context in Tiryns, where the example from the

of the passage way. A large Cypriot transport jug[239] came to light east of the passageway in Building XV.

Maran has recently pointed out that, contrary to generally held assumptions of a decline in Mycenaean-East Mediterranean contacts in the second half of the 13th cent. B.C.E., the contextual association of foreign objects within the workshop in Building XI attests to intimate knowledge of Cypriot and Levantine objects and practices at the very end of the palatial period[240]. In sum, the quantity of CM marks on imported and Mycenaean vessels, which probably attest to direct trade and – more importantly – shared practices, i. e. the use of wall brackets in metallurgical and workshop contexts, imply that Tiryns maintained close contacts with Cyprus in LH IIIB2 surpassing long-distance trade.

Cypriot and/or Levantine Objects in Post-palatial Contexts

Whereas most sites on the Mycenaean mainland witnessed a reduction in size and complexity after LH IIIB, the data from Tiryns suggest an increase in settlement size and a re-establishment of some form of central authority on the Upper Citadel, probably now in the form of elite families rather than a single ruling person[241]. Parallel to this, Cypriot coastal centres in the 12th cent. B.C.E. see a »climax of urban development« rather than the decrease in settlement tiers and quantity observed on the Greek mainland[242]. Cypriot and/or Levantine objects continue to occur in settlement contexts of the Lower Citadel and the Lower Town North[243] during the post-palatial period. Focussing again on wall brackets, complete or well preserved examples are lacking in the LH IIIC Developed workshop area discussed above. Only a small fragment[244] representing the upper part of a wall bracket's backrest is documented in the entrance area to the courtyard ca. 1 m to the south of and at approximately the same elevation as the inscribed clay ball TN 241. Due to its fragmentary state the object seems to be residual rather than actually in use during this phase. If one considers the wall bracket as residual, this might impinge on the contextual interpretation of the clay ball. In view of the close spatial association of the two objects one could postulate that the clay ball also constituted an older kick-up from the underlying palatial layers. Such an interpretation cannot be disproved on the basis of current evidence. However, all taken together – the stratigraphic evidence from Tiryns, the analogous contextual associations of clay balls and metallurgical activities on Cyprus and the predominance of stratified Cypriot clay balls in contexts contemporary to the post-palatial period on the Greek mainland – these all constitute a strong argument in favour of a post-palatial date for the Tiryns clay ball. Yet there

passageway came to light just east of the workshop in Room 78a. Furthermore, fragments of another such vessel were actually excavated within Room 78a, see Kostoula – Maran 2012, 199 f.; Brysbaert – Vetters 2010, 30. 41 table 1 (TN 207–211).

239 Ti 01 LXIII 35/18 Ofl. IVE Nr. 100/01, cf. Maran 2008, 59 fig. 41; Maran 2009, 246 fig. 2. A Mycenaean jar with Cypro-Minoan incised marks on the handle mentioned by Stockhammer 2008, 324 (Ti 03 LXIII 34/44 VId Nr. 18/03) derives, however, from the levelling layer below Room 1/02 of Building XI in the very northern tip of the Lower Citadel and thus must be dated to hor. 17 a0–17 a4, i. e. prior to the LH IIIB Final occupation in this area.

240 Maran 2009, 246 f.; Stockhammer 2008, 324; Brysbaert – Vetters 2010, 35. Maran 2009, 246 n. 29 suggests that the marked decrease in the export of Mycenaean pottery after LH IIIB1 was probably due to shifts in the cultural significance of these vessels in the East rather than an actual decrease in mutual contacts.

241 Maran 2010, 729–731.

242 Sherratt 2003a, 38.

243 In 1976 the excavations of the Lower Town Northwest have brought to light two fragmentary wall brackets, the first one in LH IIIC Early layers in an open area (LIV 30/61 VIIa + LIV 30/42 VIa, cf. n. 206 above), the second one within the LH IIIC Developed Room 303 (LIV 30/66 II, cf. Rahmstorf 2008, 92. 94 cat. 1817 pl. 39, 1817). These two examples provide evidence for the continued use of wall brackets in LH IIIC. However, the following discussion will focus on evidence from the Lower Town Northeast, because the data from Tiryns Northeast allow for a more detailed contextual analysis.

244 TN 240: LXII 35/59 VB a13.15.

are further indications of close ties between Cyprus and Tiryns in the post-palatial period. In 1999 and 2000 excavations in the Lower Town Northeast have brought to light five successive phases of post-palatial settlement layers spanning from LH IIIC Early to LH IIIC Late. Eastern Mediterranean imports or imitations are mainly documented in phase 2 and phase 4 of Tiryns Northeast[245]. Room 8/00 represents the main, although partially excavated structure of phase 2[246] located to the west of an open area which is bordered on the south by another building, Rooms 1–2/00. The best preserved south wall of Room 8/00 was built of rather large blocks perhaps emulating traits of palatial architecture on a much smaller scale[247]. Room 8/00 was internally subdivided by two parallel rows of posts and featured a hearth in its southern central part. Maran reports that a well-preserved wall bracket was excavated next to the hearth with an adjacent clay platform and thus was closely associated with a stone pavement that probably functioned as a pillar base[248]. He suggests that the wall bracket was formerly attached to the pillar. Philipp Stockhammer in his analysis of the pottery added further details[249]: two fragments of the backrest of the wall bracket[250] were found in phase 1, i. e. south of Room 8/00 and probably below its floor level, the biggest fragment, however, was found in situ in phase 2, i. e. on the floor of Room R8/00[251]. He suggests that the already damaged wall bracket had been re-used when fastened to the wooden column. From the same phase comes a small fragment of a probably Cypriot or Levantine type terracotta lamp[252]. A better preserved fragment with a pinched spout[253], constituting a third of the original, was found in a debris layer which probably dates to phase 4[254]. However, both fragments are not well stratified and thus do not constitute a sound basis for further contextualisation[255]. In his detailed ceramic analysis Stockhammer was able to identify three stirrup jars of the Cypriot simple style class[256]. Apart from actual imports he also identified

245 The discussion will focus on Room 8/00 of phase 2 (dated to the later part of LH IIIC Early, i. e. LH IIIC Early 2 according to Stockhammer 2008) and on the open yard area with hearth no. 16/00 of phase 4 (dated to LH IIIC Advanced, i. e. LH IIIC Middle 2 according to Stockhammer 2008).

246 Maran – Papadimitriou 2006, 105–111, esp. 106 fig. 5.

247 Maran – Papadimitriou 2006, 105. 110.

248 Maran 2004, 13; Maran – Papadimitriou 2006, 108 fig. 10; 109 fig. 11.

249 Stockhammer 2008, 153 f.

250 LXVIII 30/86.87 X.

251 According to Stockhammer's analysis this constitutes the only instance where he could establish joins of the same vessel between sherds found in the room and fragments from the area outside and below Room 8/00. Since the room also contained several almost complete cooking amphorae, he dismisses a post-depositional transport of the wall bracket as the cause for its deposition on the floor of Room 8/00, cf. Stockhammer 161 n. 656.

252 TN 539: LXVIII 31/24 IX, cf. Stockhammer 2008, 156 f. cat. 1182 (NB Two rim sherds from this find spot – probably of the same lamp – are recorded under TN 539). According to Stockhammer 2008, 324 f. n. 1152 the fragmentary lamp derives from a context of phase 1 or 2; he cautiously assigns it to phase 2 (the lamp was found within Room 2/00 which does not feature a clear floor level in phase 2). Apart from the rim fragment cat. 1182 Stockhammer also identified a wall fragment of a Canaanite amphora in the sherd material of phase 1 or 2, cf. Stockhammer 2008, 156.

253 TN 538: Ti 00 LXVIII 30/40 VIII; Maran 2004, 25 fig. 15; Maran – Papadimitriou 2006, 120 fig. 30; Rahmstorf 2008, 122 n. 640; Stockhammer 2008, 157 n. 649.

254 I wish to thank Joseph Maran for further details regarding its find context (email 28.09.2009): »Das Stück fand sich beim Freilegen der W-Mauer von Raum 7/00 der Phase 3. Das Sediment muss nach Abriss dieser Mauer abgelagert worden und damit jünger als Phase 3 sein«. Stockhammer 2008, 157 n. 649 dates it to »[…] Phase 4 oder jünger […] Eine Datierung älter als Phase 4 ist jedoch unwahrscheinlich«.

255 Stockhammer 2008, 157 regards the lamp as a post-palatial import, since terracotta lamps are not evidenced in Tiryns in palatial contexts. See, however, the lead lamp in a LH IIIB2 lead workshop context of the Lower Citadel which has been compared to Cypriot examples, e. g. from Enkomi, cf. Kilian 1983, 298, 299 fig. 22, 3. On the other hand, he suggests that the Canaanite sherd might represent a residual kick-up of the palatial period. Further evidence is needed to establish whether the fragmentary lamps are locally produced or imports. Regarding the state of preservation a production date in the post-palatial period seems more probable (at least for the example from phase 4).

256 Stockhammer 2008, 90 f. cat. 962 pl. 39, 962 (sherd material of phase 1); cat. 1219 pl. 57, 1219 (in situ find phase 2); cat. 1387 pl. 64, 1387 (sherd material of phase 2). Cat. 1219 was lying next to the hearth no. 154/00 close to the north wall of Rooms 1-2/00, i. e. outside, cf. Stockhammer 2008, 163. He characterizes all three vessels as imports from Cyprus during the post-palatial period, cf. Stockhammer 2008, 91, and suggests that perhaps first cat. 1387 was broken and then substituted by cat. 1219 that later was buried during the conflagration

at least one hybrid shape which attests to close stylistic and typological interaction between Cypriot and Mycenaean pottery production[257]. Furthermore, he noted that specific vessel shapes (in this case a mug found in the Lower Town Northeast[258]) are evidence of shared drinking habits[259] of 12th cent. B.C.E. elites in the Eastern Mediterranean[260]. An even more compelling parallel in shared practices between Greece and Cyprus might be the use of a vessel set (a small clay cylinder[261] and a miniature amphoriskos[262]) identified as instruments for smoking opium[263].

Stockhammer summarizes the traits which point to intimate ties between individuals residing in Tiryns Northeast and Cypriots. The assemblage of phase 2 in and around Room 8/00 provides material evidence for practices not attested to elsewhere in Mycenaean contexts: firstly, the wall bracket next to the hearth[264], secondly, the potential use of the clay cylinder and the miniature amphoriskos in ceremonies involving the smoking of opium, and thirdly, the more mundane use of a Cypriot or Levantine type lamp, of an elaborately decorated mug, of Cypriot simple style stirrup jars and of a hybrid amphora[265].

Turning to metal artefacts there is more compelling evidence for close contacts between Tiryns and Cyprus in the post-palatial period: phase 4[266] of Tiryns Northeast featured a courtyard cut off from an open area to the west by transverse walls and bordered by a partially excavated structure (Room 4/00) to the north and Rooms 1–2/00 to the south. A hearth (no. 16/00) consisting

of Room 8/00 and the surrounding area, see Stockhammer 2008, 190. Most of this class was probably produced on Cyprus, but some evidence from clay analyses points to Levantine, although less prolific production of such vessels as well (I thank Reinhard Jung for drawing my attention to this.).

257 According to Stockhammer 2008, 166 the amphora cat. 1186 pl. 47, 1186 (in situ find phase 2) which is decorated with wavy lines is a hybrid between Cypriot amphorae and Argive cooking wares. The amphora has a volume of more than 7 l and thus constitutes an elaborate and representative vessel (Stockhammers »Repräsentationsgefäß«).

258 Stockhammer 2008, 168 (cat. 1193). The shape of the mug, cat. 1193, can best be paralleled with LH IIIA2/B1 examples but its decoration is typically LH IIIC Early. The mug came to light in the yard at the transverse wall between Room 8/00 and Rooms 1–2/00.

259 He compares the example from Tiryns with pictorially painted mugs from approximately contemporaneous contexts in Miletus and Maa-Palaekastro, Stockhammer 2008, 169. 307.

260 Stockhammer 2008, 324. The mug has a volume of ca. 3 l, i. e. its content can cater to the needs of more than one person, Stockhammer 2008, 306. According to Stockhammer 2008, 307 the shape of the mug increases in importance during the post-palatial period and the mug is the vessel that offers the highest possible volume in the whole drinking set. He also refers to the Tiryns treasure, where the only represented drinking vessels are two big bronze mugs or a mug and a cup, see Stockhammer 2008, 307 n. 1089. For the bronze mug from the Tiryns treasure see Karo 1930, 130, 131 fig. 3, insert 34, 1; Matthäus 1985, 252. 256 pls. 42, 360; 43, 364 and n. 278 below.

261 Stockhammer 2008, cat. 1203 pl. 52, 1203.

262 Stockhammer 2008, cat. 1201B pl. 59, 1200B (sic!).

263 The clay cylinder is characterized as an in situ find of phase 2 and was kept in a small rectangular building south of Room R8/00, see Stockhammer 2008, 164. Stockhammer 2008, 172 compares the clay cylinder to larger clay cylinders known from Gazi on Crete, from Temple 5 in Kition, cf. notes 51. 52 above, and from Ugarit. The miniature amphoriskos is interpreted as the vessel which was used as an inset in the clay cylinder while smoking opium, since the amphoriskos bears heavy traces of secondary burning below its maximum diameter and because it fits well into the opening of the clay cylinder, Stockhammer 2008, 173.

264 Stockhammer 2008, 324 notes that the find spot of the wall bracket next to the hearth has wider implications with regard to the function of wall brackets: since the hearth represented the principal source of light and heat in Room 8/00, the wall bracket was probably not used as a lamp.

265 According to Stockhammer 2008, 325 the material remains point to the presence of Cypriot women rather than men, because in his view there are obvious material markers which link into Mycenaean traditions of the palatial past and that he associates with local men rooted in this cultural tradition, whereas other pottery connected to domestic chores is perceived as gender-specific and, in the case of Tiryns Northeast, would point to foreign women. Following his interpretation that the women would have come to Tiryns by marriage, one must note, however, that the numerous cooking amphorae of phase 2 are Mycenaean in type. Complicating matters, Jung has recently argued (Jung 2011) that Mycenaean-type cooking wares were dominant in the domestic pottery of Cypriot LC IIIA contexts thus obliterating any chance to distinguish between Mycenaean and Cypriot women even on Cyprus via such a material marker as a specific type of cooking dishes.

266 Maran – Papadimitriou 2006, 115–118; for a plan of the area see Maran 2004, 19 fig. 10; Maran – Papadimitriou 2006, 115 fig. 20. Phase 4 is dated to LH IIIC Middle 2 according to Stockhammer 2008, figs. 3. 4, i. e. LH IIIC Advanced in Tiryns terminology.

of a sherd pavement and covered by a slightly convex clay layer[267] lay in the northwest part of the courtyard immediately south of a storage clay bin which was sunk into the floor of the courtyard. A bronze cuirass scale of Near Eastern type[268] was excavated immediately beneath the sherd pavement[269]. The ritual deposition of single scales has already been remarked upon in the case of Hala Sultan Tekke[270] but further instances of such single scales are known from Cyprus[271]. One such scale was part of the »Founder's Hoard« in Pyla-Kokkinokremos which dates to the end of LC IIC[272]. Another two scales are reported from Quartier 4W in Enkomi and were concealed between two stones of the northern wall of Room 5. None of the scales on Cyprus were found beneath a hearth but a ritual deposition of artefacts beneath hearths seems to be a custom evidenced on Cyprus[273]. The context in Hala Sultan Tekke points to metallurgical activities and the Founder's Hoard has been interpreted as a cache of scrap metal and other artefacts for recycling. Although indirect, the deposition of scales thus seems to be connected to craft activities, especially metallurgy. In this respect the presence of two pieces of slag from the courtyard of phase 4 is of special interest[274]. A small bronze figurine[275] in the form of a bird finial (rather than a pendant) was also found in the courtyard but not clearly sealed by a super-imposed floor. Stylistic parallels for this tiny object point to Cyprus: an object in the shape of a sceptre[276] within the tresor des bronzes from Enkomi features similar birds. Bird pendants are also present on a tripod of Cypriot type[277] and a small bird is attached to the bronze mug[278] in the Tiryns treasure. Apart from the oxhide ingots, the Tiryns treasure contained a rectangular ingot of bronze containing Cypriot copper[279] and an iron knife or sickle[280] probably also of Cypriot origin. Maran has already demonstrated that the Tiryns treasure is composed of a significant number of objects which point to relations with Cyprus in the post-palatial period[281]. To sum up, the terracotta small finds, ceramics and metal work and the contextual analysis of find spots provide ample evidence for continued contacts between Cyprus and Tiryns in the 12th cent. B.C.E.

Conclusion

The artefacts discussed above are well attested in Cypriot and/or Levantine contexts, yet are rare or even singular on the Late Bronze Age mainland. The contextual association of these objects in Tiryns suggests that they reflect

267 Cf. Maran 2004, 20 fig. 12 (super-imposed clay layer). 13 (sherd pavement of the hearth).
268 LXIX 30/43 VII a5.95 57/42 unter Nr. 16A/00; Maran 2004, 21 fig. 14; Maran – Papadimitriou 2006, 118 fig. 26.
269 Maran 2004, 18.
270 See n. 115. 117 above.
271 Maran 2004, 20 f.
272 The Pyla-Kokkinokremos hoard also contained fragmentary oxhide ingots as scrap metal which might be comparable to the oxhide ingots in the so-called Tiryns treasure; see also Vetters 2009, 247 n. 1668 on certain typological parallels of the ithyphallic figurine in this hoard with the male ithyphallic wheel-made terracotta figure from the Epichosis in Tiryns.
273 See the interpretation of a fragmentary CM tablet found on top of a hearth in Enkomi, n. 53–55 above.
274 LXIX 30/73 VIII a5.76: metalliferrous slag in clay matrix (TN 939); LXIX 30/64 VI: slag (TN 941). The pieces have not yet been analysed and at least the first one was found in a disturbed area.
275 LXIX 30/38 VII a5.90.
276 Schaeffer 1952, 40 fig. 1, 6; 39 no. 6 (inv. 3774). The ›tresor des bronzes‹ was excavated 1947 within a building in the north of the city; the deposit was dated to LC IIIB. The object was interpreted as a ritual paraphernalium and the tresor des bronzes perhaps constituted a foundation deposit; for the bird finial or pendants cf. Matthäus 1985, 47 pl. 127 B 5.
277 National Archaeological Mus. Athens inv. 6225; Karo 1930, insert 33; Matthäus 1985, 305 f. pl. 135, 1; Maran 2006, 130 n. 12. On the Cypriot origin of the tripod see Matthäus 1985, 328; Maran 2006, 134; Papasavvas 2001, 230 f.
278 National Archaeological Mus. Athens inv. 6224, cf. Karo 1930, insert 34, 1.
279 See n. 182 above.
280 Karo 1930, 135 f. fig. 6. For an elemental analysis of the iron see Varoufakis 1982, 316 table 1 no. 11; 317 pl. 31, 3.
281 Cf. Maran 2006, especially 137 n. 19 on ivory which might still have been traded via Cyprus in the 12th cent. B.C.E.

more than just instances of trade between Cyprus or the Levantine coast and Mycenaean Greece. Moreover, contextual analysis allows for a reconstruction of practices in which these objects were engaged. Several coincidences (the association of the ivory rod bearing cuneiform signs with head-shaped faience vessels best known from Near Eastern elite contexts, the occurrence of the inscribed clay ball probably in a metal workshop, the ritual deposition of a single bronze cuirass scale underneath a hearth) point to parallel practices on Cyprus and in Tiryns. These practices are so specific that they cannot be explained by some generalized pattern of behaviour or conduct. Therefore, two scenarios seem likely: either a small number of individuals native to Cyprus were resident in Tiryns, or persons, who had been exposed to living the ›Cypriot way‹ for a prolonged period of time and maintained such a habitus, i. e. Cypriot practices, in certain realms of their daily life, left the material traces observed in the contexts discussed above. A network of interpersonal ties between Tiryns and Cyprus certainly existed in the late palatial and in parts of the post-palatial period, but the question remains as to whether one can pinpoint specific places of contact even further. It may be stretching the available evidence, if one surmises direct contacts between Tiryns and Enkomi in the post-palatial period on the basis of available evidence. However, the closest stylistic or typological parallels for the Cypriot objects found in Tiryns point to Enkomi and there are certain similarities in practices observed on both sites. These similarities are: the deposition of two bronze cuirass scales in a wall of a building and the potentially deliberate deposition of a fragmentary clay tablet on top of a LC IIIA hearth in Enkomi versus the deposition of an ingot in a LH IIIB Middle wall and of a cuirass scale in a LH IIIC Advanced hearth in Tiryns and the occurrence of wall brackets and inscribed clay balls in contexts with metallurgical activities on both sites. Moreover, the exact sign sequence of the Tiryns ball is present on the clay cylinder from Enkomi and most CM incised signs on vases in Tiryns find a parallel in Enkomi[282]. Even if these parallels are accepted as evidence for direct contact, the question remains as to whether the clay ball found in Tiryns, although clearly stratified in a post-palatial layer, was originally employed in a post-palatial context or constitutes an older kick-up of the palatial period in the same area. Here, it has to be emphasized once again that on Cyprus the majority of stratified clay balls occurs in LC IIIA contexts rather than in LC IIC indirectly supporting an association of the clay ball with post-palatial activities. Yet any assessment of relations between Cyprus and Tiryns has to take into account the late palatial evidence from the Lower Citadel, before turning to the Cypriot side of the equation. The ivory rod with cuneiform signs found in Room 78a apparently points to Ugarit rather than Cyprus. 13th cent. B.C.E. Ugarit was probably the most important port of call in the Eastern Mediterranean[283]. Meanwhile, palaeographic and other textual evidence puts interaction between Enkomi and Ugarit on very intimate terms[284]. Figuring out a pre-eminent site on Cyprus is complicated. During LC I Enkomi was apparently not the capital

282 The latter might be partially a relic of the state of research in the late 1970s when sites such as Kition, Maa-Palaekastro, Pyla-Kokkinokremos and foremost Kalavasos-Ayios Dhimitrios had not yet been published, see, for instance, the attestation of CM sign 41 (i. e. the sign twice occurring on the clay ball TN 241 from Tiryns) as an incised mark on a vessel from Pyla-Kokkinokremos, cf. Hirschfeld 1993, 314 fig. 1 (second row from above in right column).

283 Yon 1999; Yon 2003. One has to keep in mind, however, that Ugarit is the most extensively excavated site on the Syrian littoral. The current state of research regarding harbour sites in the northern Levant is still sketchy thus perhaps leading to an overestimation of the importance of Ugarit.

284 For textual references of Cypriots resident in Ugarit or people from Ugarit living on Cyprus see Knapp 2008, 319 f. 323.

but probably the main emporion[285]. Since Enkomi acted as the main port for the foreign trade of copper and was the only centre of glyptic production during the whole LC period, it seemed to have had a special status in the site-hierarchy on Late Bronze Age Cyprus. However, recent archaeometric data on the Alashiya tablets found in Tell el-Amarna and Ugarit complicate the matter. According to petrographic and neutron activation analyses the clays of these tablets originate in the area of Kalavasos-Ayios Dhimitrios and Alassa Paliotaverna and are incompatible with clay sources around Enkomi[286]. Since the Near Eastern cuneiform documents imply that Cyprus was under the reign of one person in LC IIC, this further fuels the discussion about Cyprus' capital in LC IIC. Bernhard Knapp recently considered all evidence pertaining to the political geography of LC IIC Cyprus and concluded that Enkomi was a preeminent site nevertheless[287]. He suggests that the attested monarchy on Cyprus was perhaps temporally residing in different sites, i. e. he conceptualizes it as a travelling monarchy, thus trying to bridge the inconsistencies in data and interpretation. If Enkomi is accepted as the Cypriot capital in LC IIC and an important (perhaps the most important) site in LC IIIA, this could shed further light on Tirynthian-Cypriot interaction in the post-palatial period. Judging by the material evidence from final palatial Tiryns[288] and written documents from Ugarit it might be hyperbolic to suggest a ménage à trois between Ugarit, Enkomi and Tiryns. However, changing networks of relations between Tiryns and the East Mediterranean seem to emerge from the material remains. After the collapse of the Mycenaean palatial society and the fall of Ugarit, Enkomi apparently seems to have taken over the role of Ugarit as the node of contact for Levantine-Aegean interaction in the East Mediterranean acting as a mediator of new technologies and practices and maintaining especially close ties with Tiryns during the 12th cent. B.C.E. How does this tie into a general picture of Mycenaean-Cypriot contacts in the post-palatial period? Recent research on CM script/s tends to favour a scenario where script, Cypriot elites and metallurgy are closely intertwined, where the script was an active means to promote elite status, and where copper extraction, metallurgy (especially new technological developments such as iron) and copper export are increasingly brought under ritual and elite control. On the Mycenaean mainland, on the other hand, in a period where hierarchical institutions and social order had just collapsed and societies had to re-organize themselves, i. e. at a time where social hierarchies had to be re-negotiated and re-defined for almost every member of the society, establishing close interpersonal contacts with foreign elites would have been an effective means to increase personal and familial status[289]. By adopting certain foreign ritual practices, gaining access to new high-tech products and linking oneself to metallurgical activities, either by actively pursuing this craft or by supplying materials, such individuals would gain even further prestige in their own society. Establishing such personal, yet global contacts is successful networking in the very modern sense of the word.

285 Knapp 2008, 151.
286 Goren et al. 2003, see also Knapp 2008, 301–303.
287 Knapp 2008, 337–341.
288 For instance, the bronze figure of a ›smiting god‹ from Tiryns is similar to Ugaritic examples and a contemporary ›smiting god‹ figure in Enkomi, see n. 207. 208 above; cf. Vetters 2009, 277 f. for this and other evidence that tentatively suggests the introduction of Cypriot and/or Levantine typological forms for religious paraphernalia in elite contexts of the late palatial period.
289 See also Stockhammer 2008, 325.

Table 1 Dimensions and number of signs on 86 clay balls with Cypro-Minoan inscriptions from Cyprus and one clay ball from Tiryns

Primary publication	Clay ball no. in primary publication[290]	Site/Excavation	Diameter	Number of signs and signs in sequence[291]	Height of signs
E. Masson 1971a, 11 f. fig. 1 pl. 1, 1	boule 1[292]	Enkomi 1896, BM inv. 97.4-1.765	2.8–3.0 cm	8 signs (3+5+)	12–20 mm
E. Masson 1971a, 12 fig. 2 pl. 1, 2	boule 2[293]	Enkomi 1896, BM inv. 97.4-1.766	2.0–2.5 cm	4 signs (1+3)	10–15 mm
E. Masson 1971a, 12 fig. 3 pl. 1, 3	boule 3[294]	Enkomi 1896, BM inv. 97.4-1.767	1.0–1.5 cm	2 signs (1+1)	8–9 mm
E. Masson 1971a, 12 f. fig. 4 pl. 1, 4	boule 4[295]	Enkomi 1896, BM inv. 97.4-1.768	1.5–2.0 cm	7 signs (prob. 4+3, but no divider)	4–6 mm
E. Masson 1971a, 13 fig. 5 pl. 1, 5	boule 5[296]	Hala Sultan Tekke 1897, BM inv. 98.12-1.204	1.8 cm	6 signs (prob. 4+2, but no divider)	5–8 mm
E. Masson 1971a, 13 fig. 6	boule 6[297]	Enkomi 1949, inv. 4.034	ca. 1.8–2.0 cm	3 signs	3–8 mm
E. Masson 1971a, 13 f. fig. 7 pl. 1, 6	boule 7[298]	Enkomi 1949, inv. 4.115	ca. 2.1 cm	8 signs (3+5)	4–7 mm
E. Masson 1971a, 14 fig. 8	boule 8[299]	Enkomi 1949, inv. 4.072	2.0 cm	5 signs	8–10 mm
E. Masson 1971a, 14 fig. 9	boule 9[300]	Enkomi 1949, inv. 4.091	2.0–2.2 cm	4 signs (3+1)	6–9 mm
E. Masson 1971a, 14 f. fig. 10 pl. 1, 7	boule 10[301]	Enkomi 1950, inv. 5.523	1.8–1.9 cm	4 signs (3+1)	5–7 mm
E. Masson 1971a, 15 fig. 11 pl. 1, 8	boule 11[302]	Enkomi 1949, inv. 702	2.0 cm	5 signs (3+2)	5–8 mm
E. Masson 1971a, 15 fig. 12 pl. 1, 9	boule 12[303]	Enkomi 1951, inv. 950	2.0 cm	3 signs	5–7 mm
E. Masson 1971a, 15 f. fig. 13	boule 13[304]	Enkomi 1951, inv. 1139	2.1 cm	at least 5 signs (1…+4)	6–9 mm
E. Masson 1971a, 16 fig. 14 pl. 2, 1	boule 14[305]	Enkomi 1951, inv. 1232	2.0 cm	4 signs (3+1)	7–9 mm

290 Additional publications are cited in the footnotes, if they contain either an additional photograph or transcription of the respective clay ball.
291 + = word divider/dividing mark; … = damaged area.
292 Cf. O. Masson 1952, 398 (boule a); Olivier 2007, 40. 74 no. 21 (ENKO Abou 018).
293 Cf. O. Masson 1952, 400 (boule d); Olivier 2007, 40. 74 no. 22 (ENKO Abou 019).
294 Cf. O. Masson 1952, 398 f. (boule b); Olivier 2007, 40. 75 no. 23 (ENKO Abou 020).
295 Cf. O. Masson 1952, 400 f. (boule e); Olivier 2007, 40. 75 no. 24 (ENKO Abou 021).
296 Cf. O. Masson 1952, 399 f. (boule c); O. Masson 1957, 32 fig. 25; E. Masson 1976, 130 no. 1; 134 fig. 1 pl. 18 c. d; Yon 2004, 364 cat. 6009; Olivier 2007, 44. 108 no. 88 (HALA Abou 001).
297 Cf. O. Masson 1952, 401 f. fig. 124 (boule f); Olivier 2007, 41. 77 no. 28 (ENKO Abou 025).
298 Cf. O. Masson 1952, 402 f. figs. 126. 129 (boule g); Olivier 2007, 40. 76 no. 25 (ENKO Abou 022).
299 Cf. O. Masson 1952, 403 f. figs. 130. 131 (boule h); Olivier 2007, 40. 76 no. 26 (ENKO Abou 023).
300 Cf. O. Masson 1952, 404 f. fig. 133 (boule i); Olivier 2007, 41. 78 no. 29 (ENKO Abou 026).
301 Cf. O. Masson 1952, 404 fig. 135; 405 f. fig. 133 (boule k); Olivier 2007, 40. 77 no. 27 (ENKO Abou 024).
302 Cf. Dikaios 1969b, pl. 147, 10; Dikaios 1971a, 891; Dikaios 1971b, 763 pl. 319, 116; Olivier 2007, 40. 73 no. 20 (ENKO Abou 017).
303 Cf. Dikaios 1969b, pl. 132, 55; Dikaios 1971a, 890; Dikaios 1971b, 676 pl. 316, 81; Olivier 2007, 40. 69 no. 11 (ENKO Abou 010).
304 Cf. Dikaios 1969b, pl. 132, 58. 58 a; Dikaios 1971a, 890; Dikaios 1971b, 678 pl. 316, 82; Olivier 2007, 40. 69 no. 12 (ENKO Abou 011).
305 Cf. Dikaios 1969b, pl. 191; Dikaios 1971a, 890; Dikaios 1971b, 640 pl. 316, 47; Olivier 2007, 39. 62 no. 2 (ENKO Abou 001).

Primary publication	Clay ball no. in primary publication	Site/Excavation	Diameter	Number of signs and signs in sequence	Height of signs
E. Masson 1971a, 16 fig. 15 pl. 2, 2	boule 15[306]	Enkomi 1951, inv. 1281	2.2 cm	5 signs (3+2+)	8–10 mm
E. Masson 1971a, 16 fig. 16 pl. 2, 3	boule 16[307]	Enkomi 1951, inv. 1282	1.9 cm	3 signs (2+1)	7 mm
E. Masson 1971a, 16 fig. 17	boule 17[308]	Enkomi 1952, inv. 1283	2.2 cm	at least 5 signs (damaged)	?
E. Masson 1971a, 16 fig. 18 pl. 2, 4	boule 18[309]	Enkomi 1952, inv. 1288	2.2 cm	3 signs (3+)	6–8 mm
E. Masson 1971a, 17 fig. 19	boule 19[310]	Enkomi 1952, inv. 1301	2.1 cm	7 (?) signs	5 mm
E. Masson 1971a, 17 fig. 20 pl. 2, 5	boule 20[311]	Enkomi 1953, inv. 1604	2.0 cm	4 signs (3+1)	5–9 mm
E. Masson 1971a, 17 fig. 21 pl. 2, 6	boule 21[312]	Enkomi 1953, inv. 1611	1.9 cm	4 signs (3+1)	7 mm
E. Masson 1971a, 17 fig. 22 pl. 2, 7	boule 22[313]	Enkomi 1953, inv. 1613	2.0 cm	3 signs	9 mm
E. Masson 1971a, 17 fig. 23 pl. 2, 8	boule 23[314]	Enkomi 1953, inv. 1614	2.1–2.3 cm	5 signs (4+1)	8–11 mm
E. Masson 1971a, 17 fig. 24 pl. 2, 9	boule 24[315]	Enkomi 1953, inv. 1615	2.0 cm	4 signs	6–8 mm
E. Masson 1971a, 17 f. fig. 25	boule 25[316]	Enkomi 1953, inv. 1609	2.2 cm	3 signs	5–13 mm
E. Masson 1971a, 18 fig. 26	boule 26[317]	Enkomi 1968, inv. 1968/ XII-12/1	1.9 cm	5 signs (4+1)	?
E. Masson 1971b, 481 fig. 1	no. 1[318]	Enkomi 1953, inv. 53.6	ca. 2.0 cm	7 signs (3+4)	6–8 mm
E. Masson 1971b, 481 fig. 2	no. 2[319]	Enkomi 1955, inv. 54	2.3 cm	4 signs (3+1)	10–11 mm
E. Masson 1971b, 482 fig. 3	no. 3[320]	Enkomi 1955, inv. 63	1.9 cm	3 signs	6–8 mm
E. Masson 1971b, 482 fig. 4	no. 4[321]	Enkomi 1955, inv. 74	2.2 cm	4 signs (3+1)	10 mm

306 Cf. Dikaios 1969b, pls. 132, 59; 164, 42; Dikaios 1971a, 890; Dikaios 1971b, 682 pl. 316, 84; Olivier 2007, 40. 70 no. 13 (ENKO Abou 012).
307 Cf. Dikaios 1969b, pls. 164, 42; 191; Dikaios 1971a, 890; Dikaios 1971b, 682 pl. 319, 85; Olivier 2007, 40. 70 no. 14 (ENKO Abou 013).
308 Cf. Dikaios 1969b, pl. 132, 57; Dikaios 1971a, 890; Dikaios 1971b, 682 pl. 319, 86; Olivier 2007, 40. 71 no. 15 (ENKO Abou 014).
309 Cf. Dikaios 1969b, pl. 128, 60; Dikaios 1971a, 890; Dikaios 1971b, 640 pl. 316, 48; Olivier 2007, 39. 65 no. 3 (ENKO Abou 002).
310 Cf. Dikaios 1971a, 890; Dikaios 1971b, 682 pl. 319, 87; Olivier 2007, 40. 71 no. 16 (ENKO Abou 015).
311 Cf. Dikaios 1969b, pls. 132, 63; 191; Dikaios 1971a, 890; Dikaios 1971b, 688 pl. 319, 89; Olivier 2007, 40, 72 no. 18 (ENKO Abou 016).
312 Cf. Dikaios 1969b, pls. 128, 61; 191; Dikaios 1971a, 890; Dikaios 1971b, 643 pl. 316, 50; Olivier 2007, 39. 65 no. 4 (ENKO Abou 003).
313 Cf. Dikaios 1969b, pl. 191; Dikaios 1971a, 890; Dikaios 1971b, 643 pl. 316, 51; Olivier 2007, 39. 66 no. 5 (ENKO Abou 004).
314 Cf. Dikaios 1969b, pls. 128, 58; 191; Dikaios 1971a, 890; Dikaios 1971b, 644 pl. 316, 52; Olivier 2007, 39. 66 no. 6 (ENKO Abou 005).
315 Cf. Dikaios 1969b, pls. 129, 59; 191; Dikaios 1971a, 890; Dikaios 1971b, 644 pl. 316, 53; Olivier 2007, 39. 67 no. 7 (ENKO Abou 006).
316 Cf. Dikaios 1969b, pl. 191; Dikaios 1971a, 890; Dikaios 1971b, 643 pl. 316, 49; Olivier 2007, 39. 67 no. 8 (ENKO Abou 007).
317 Olivier 2007, 44. 104 no. 81 (ENKO Abou 077).
318 Olivier 2007, 41. 78 no. 30 (ENKO Abou 027).
319 Olivier 2007, 41. 79 no. 32 (ENKO Abou 029).
320 Olivier 2007, 41 (wrong museum inventory number; correct one would be Louvre AM 2234), 80 no. 33 (ENKO Abou 030).
321 Olivier 2007, 41. 80 no. 34 (ENKO Abou 031).

Primary publication	Clay ball no. in primary publication	Site/Excavation	Diameter	Number of signs and signs in sequence	Height of signs
E. Masson 1971b, 482 fig. 5	no. 5[322]	Enkomi 1955, inv. 96	2.1 cm	at least 3 signs (3+...)	ca. 5 mm
E. Masson 1971b, 483	no. 6[323]	Enkomi 1957, inv. 31	ca. 2.0 cm	6 (?) signs (2+4?)	?
E. Masson 1971b, 483	no. 7[324]	Enkomi 1957, inv. 73	2.0 cm	2+ signs	?
E. Masson 1971b, 483	no. 8[325]	Enkomi 1959, inv. 5	1.6 cm	5 signs (3+2)	
E. Masson 1971b, 483	no. 9[326]	Enkomi 1959, inv. 6	2.0 cm	3 signs (2+1)	?
E. Masson 1971b, 483 f. fig. 6	no. 10[327]	Enkomi 1960, inv. 19	2.5 cm	4 signs	8–10 mm
E. Masson 1971b, 484 fig. 7	no. 11[328]	Enkomi 1960, inv. 20	2.5 cm	3 signs	5–8 mm
E. Masson 1971b, 484 fig. 8	no. 12[329]	Enkomi 1960, inv. 267	2.7 cm	5 signs (4+1)	6–10 mm
E. Masson 1971b, 484 f. fig. 9	no. 13[330]	Enkomi 1961, inv. 24	2.0 cm	4 signs	8–9 mm
E. Masson 1971b, 485 fig. 10	no. 14[331]	Enkomi 1961, inv. 25	2.0 cm	5 signs (4+1)	7–9 mm
E. Masson 1971b, 485 f. fig. 11	no. 15[332]	Enkomi 1961, inv. 26	1.9 cm	4 signs (3+1)	6–10 mm
E. Masson 1971b, 486 fig. 12	no. 16[333]	Enkomi 1961, inv. 27	2.0 cm	5 signs (4+1)	8–10 mm
E. Masson 1971b, 486 fig. 13	no. 17[334]	Enkomi 1961, inv. 28	2.0 cm	6 signs (5+1)	ca. 7 mm
E. Masson 1971b, 487 fig. 14	no. 18[335]	Enkomi 1961, inv. 29	2.0 cm	5 signs	7–9 mm
E. Masson 1971b, 487 fig. 15	no. 19[336]	Enkomi 1961, inv. 30	2.0 cm	5 signs (4+1)	9–11 mm
E. Masson 1971b, 487 fig. 16	no. 20[337]	Enkomi 1961, inv. 31	2.0 cm	4 signs (3+1)	7 mm
E. Masson 1971b, 488 fig. 17	no. 21[338]	Enkomi 1961, inv. 32	2.0 cm	4 signs (3+1)	6–12 mm
E. Masson 1971b, 488 fig. 18	no. 22[339]	Enkomi 1961, inv. 33	2.0 cm	5 signs (4+1)	8–11 mm
E. Masson 1971b, 488 f. fig. 19	no. 23[340]	Enkomi 1961, inv. 34	2.0 cm	5 signs (4+1)	8–10 mm

322 Olivier 2007, 41. 79 no. 31 (ENKO Abou 028).
323 Olivier 2007, 41. 81 no. 35 (ENKO Abou 032).
324 Olivier 2007, 41. 81 no. 36 (ENKO Abou 033).
325 Olivier 2007, 41. 82 no. 37 (ENKO Abou 034).
326 Olivier 2007, 41. 82 no. 38 (ENKO Abou 035).
327 Olivier 2007, 41. 83 no. 39 (ENKO Abou 036).
328 Olivier 2007, 41. 83 no. 40 (ENKO Abou 037).
329 Olivier 2007, 41. 84 no. 41 (ENKO Abou 038).
330 Olivier 2007, 41. 84 no. 42 (ENKO Abou 039).
331 Olivier 2007, 41. 86 no. 43 (ENKO Abou 040).
332 Olivier 2007, 41. 86 no. 44 (ENKO Abou 041).
333 Badisches Landesmuseum 2008, 316 no. 189 a fig. 189 a; Olivier 2007, 42. 85 no. 45 (ENKO Abou 042).
334 Badisches Landesmuseum 2008, 316 no. 189 b fig. 189 b; Olivier 2007, 42. 85 no. 46 (ENKO Abou 043).
335 Olivier 2007, 42. 90 no. 54 (ENKO Abou 051).
336 Olivier 2007, 42. 91 no. 55 (ENKO Abou 052).
337 Olivier 2007, 42. 91 no. 56 (ENKO Abou 053).
338 Olivier 2007, 42. 87 no. 47 (ENKO Abou 044).
339 Olivier 2007, 42. 87 no. 48 (ENKO Abou 045).
340 Olivier 2007, 42. 88 no. 49 (ENKO Abou 046).

Primary publication	Clay ball no. in primary publication	Site/Excavation	Diameter	Number of signs and signs in sequence	Height of signs
E. Masson 1971b, 489 fig. 20	no. 24[341]	Enkomi 1961, inv. 35	2.0 cm	4 signs	7–12 mm
E. Masson 1971b, 489 fig. 21	no. 25[342]	Enkomi 1961, inv. 36	2.0 cm	4 signs (3+1)	7–10 mm
E. Masson 1971b, 489 f. fig. 22	no. 26[343]	Enkomi 1961, inv. 37	2.0 cm (truncated ball)	5 signs (4+1)	7–9 mm
E. Masson 1971b, 490 fig. 23	no. 27[344]	Enkomi 1961, inv. 38	1.8 cm	3 signs	9 mm
E. Masson 1971b, 490 fig. 24	no. 28[345]	Enkomi 1962, inv. 4	2.0 cm	4 signs (3+1)	8–9 mm
E. Masson 1971b, 490 f. fig. 25	no. 29[346]	Enkomi 1962, inv. 18	2.0 cm	5 signs (4+1)	5–6 mm
E. Masson 1971b, 491 fig. 26	no. 30[347]	Enkomi 1962, inv. 19	2.0 cm	3 signs (2+1)	6 mm
E. Masson 1971b, 491 fig. 27	no. 31[348]	Enkomi 1962, inv. 20	2.0 cm	5 signs	4–6 mm
E. Masson 1971b, 491 f. fig. 28	no. 32[349]	Enkomi 1962, inv. 21	2.2 cm	2 signs (1+1)	9 mm
E. Masson 1971b, 492	no. 33[350]	Enkomi 1963, inv. 16.24	1.4–1.6 cm (ovoid)	? (very damaged)	?
E. Masson 1971b, 492 fig. 29	no. 34[351]	Enkomi 1963, inv. 16.25	1.8 cm	4 signs	8 mm
E. Masson 1971b, 492 f. fig. 30	no. 35[352]	Enkomi 1963, inv. 16.26	2.0 cm	6 signs (3+3)	6 mm
E. Masson 1971b, 493 fig. 31	no. 36[353]	Enkomi 1963, inv. 16.27	2.0 cm	3 signs	8–10 mm
E. Masson 1971b, 493 fig. 32	no. 37[354]	Enkomi 1963, inv. 16.28	2.0 cm	6 signs (2+4)	6–8 mm
E. Masson 1971b, 493 f. fig. 33	no. 38[355]	Enkomi 1963, inv. 16.29	1.8 cm	5 signs (4+1)	7–10 mm
E. Masson 1971b, 494 fig. 34	no. 39[356]	Enkomi 1963, inv. 16.30	2.0 cm	3 signs (1...+1–2)	8–10 mm
E. Masson 1971b, 494 f. fig. 35	no. 40[357]	Enkomi 1963, inv. 16.31	2.1 cm	4 signs (3+1)	10 mm

341 Olivier 2007, 42. 87 no. 50 (ENKO Abou 047).
342 Olivier 2007, 42. 89 no. 51 (ENKO Abou 048).
343 Olivier 2007, 42. 89 no. 52 (ENKO Abou 049).
344 Olivier 2007, 42. 90 no. 53 (ENKO Abou 050).
345 Olivier 2007, 42. 92 no. 57 (ENKO Abou 054).
346 Badisches Landesmuseum 2008, 316 no. 189 c fig. 189 c; Olivier 2007, 42. 92 no. 58 (ENKO Abou 055).
347 Olivier 2007, 42. 93 no. 59 (ENKO Abou 056).
348 Olivier 2007, 42. 93 no. 60 (ENKO Abou 057).
349 Olivier 2007, 42. 94 no. 61 (ENKO Abou 058).
350 Olivier 2007, 43. 94 no. 62 (ENKO Abou 059).
351 Olivier 2007, 43. 95 no. 63 (ENKO Abou 060).
352 Olivier 2007, 43. 95 no. 64 (ENKO Abou 061).
353 Olivier 2007, 43. 96 no. 65 (ENKO Abou 062).
354 Olivier 2007, 43. 96 no. 66 (ENKO Abou 063).
355 Olivier 2007, 43. 97 no. 67 (ENKO Abou 064).
356 Olivier 2007, 43. 97 no. 68 (ENKO Abou 065).
357 Olivier 2007, 43. 98 no. 69 (ENKO Abou 066).

Primary publication	Clay ball no. in primary publication	Site/Excavation	Diameter	Number of signs and signs in sequence	Height of signs
E. Masson 1971b, 495 fig. 36	no. 41[358]	Enkomi 1963, inv. 16.32	ca. 3.1 cm	8 signs (3+5)	6–10 mm
E. Masson 1971b, 495 f. fig. 37	no. 42[359]	Enkomi 1963, inv. 16.33	2.2 cm	4 signs (3+1)	8–10 mm
E. Masson 1971b, 496 fig. 38	no. 43[360]	Enkomi 1963, inv. 16.34	2.0 cm (truncated ball)	5 signs (4+1)	8–10 mm
E. Masson 1971b, 496	no. 44[361]	Enkomi 1963, inv. 16.55	max. 1.7 cm (irregular)	? (very damaged and cracked)	?
E. Masson 1971b, 496 f. fig. 39	no. 45[362]	Enkomi 1965, inv. 17.13	2.5 cm	5 signs	8–10 mm
E. Masson 1971b, 497 fig. 40	no. 46[363]	Enkomi 1965, inv. 17.14	2.0 cm	4 signs (3+1)	6–7 mm
E. Masson 1971b, 497 f. fig. 41	no. 47[364]	Enkomi 1965, inv. 17.15	2.2 cm	4 signs (3+1)	8–10 mm
E. Masson 1971b, 498 fig. 42	no. 48[365]	Enkomi 1967, inv. 19.04	ca. 1.5 cm	2 signs	7 mm
E. Masson 1971b, 498 fig. 43	no. 49[366]	Enkomi 1967, inv. 19.14	1.8 cm	at least 5 signs	?
E. Masson 1971b, 498 f. fig. 44	no. 50[367]	Enkomi 1967, inv. 19.05	3.0 cm	at least 4 signs (2+2...)	8–12 mm
E. Masson 1971b, 499 fig. 45	no. 51[368]	Enkomi 1969, inv. 20.02	1.5–2.0 cm (ovoid)	5 signs (4+1)	5–7 mm
E. Masson 1971b, 499 f. fig. 46	no. 52[369]	Enkomi 1969, inv. 20.03	2.3 cm	at least 2 signs	8 mm
E. Masson 1971b, 500 fig. 47	no. 53[370]	Enkomi 1969, inv. 20.04	2.0 cm	4 signs	6–8 mm
E. Masson 1971b, 500 fig. 48	no. 54[371]	Enkomi 1969, inv. 20.05	2.2 cm	5 signs (4+1)	5–8 mm
E. Masson 1971b, 500 f. fig. 49	no. 55[372]	Enkomi 1969, inv. 20.253	2.0 cm	5 signs	5–7 mm
Dikaios 1969b, pl. 132, 62; Dikaios 1971a, 890; Dikaios 1971b, 678 pl. 316, 83	no. 83[373]	Enkomi 1951, inv. 1140	1.8 cm	at least 3 signs	?

358 Olivier 2007, 43. 98 no. 70 (ENKO Abou 067).
359 Olivier 2007, 43. 99 no. 71 (ENKO Abou 068).
360 Olivier 2007, 43. 99 no. 72 (ENKO Abou 069). Olivier 2007, 43. 100 documents under no. 73 (ENKO Abou 069ter) a probably plain, but apparently partly pierced clay ball which was found together or at least is now stored with the inscribed clay ball.
361 Olivier 2007, 43. 100 no. 74 (ENKO Abou 070).
362 Olivier 2007, 43. 101 no. 75 (ENKO Abou 071).
363 Olivier 2007, 43. 101 no. 76 (ENKO Abou 072).
364 Olivier 2007, 43. 102 no. 77 (ENKO Abou 073).
365 Olivier 2007, 43. 102 no. 78 (ENKO Abou 074).
366 Olivier 2007, 44. 103 no. 79 (ENKO Abou 075).
367 Olivier 2007, 44. 103 no. 80 (ENKO Abou 076).
368 Olivier 2007, 44. 104 no. 82 (ENKO Abou 078).
369 Olivier 2007, 44. 105 no. 83 (ENKO Abou 079).
370 Olivier 2007, 44. 105 no. 84 (ENKO Abou 080).
371 Olivier 2007, 44. 106 no. 85 (ENKO Abou 081).
372 Olivier 2007, 44. 106 no. 86 (ENKO Abou 082).
373 Olivier 2007, 39. 68 no. 10 (ENKO Abou 009).

Primary publication	Clay ball no. in primary publication	Site/Excavation	Diameter	Number of signs and signs in sequence	Height of signs
Dikaios 1969b, pl. 132, 56; Dikaios 1971a, 890; Dikaios 1971b, 682 pl. 319, 88	no. 88[374]	Enkomi 1952, inv. 1302	2.0 cm	? (very damaged)	?
Olivier 2007, 44. 107 no. 87	ENKO Abou 83	Enkomi 1953–1955? inv. 3493/3	2.6–2.9 cm	at least 4 signs	ca. 18 mm
E. Masson 1985, 281 f. no. 4 pl. B4	II/4215[375]	Kition	2.0 cm	4 signs	?
E. Masson 1985, 282 no. 6 pl. B6	II/4995[376]	Kition	1.7–2.2 cm (bulle ovale)	at least 2 signs	?
Öbrink 1979, 46. 88 fig. 264 A–B; 89 fig. 286	N 6035[377]	Hala Sultan Tekke	ca. 2.0 cm	4 signs (3+1)	4.5–9 mm
Unpublished [TN 241]	LXII 35/39 VC a13.18	Tiryns UB Nord	1.7–1.75 cm	3 (?) signs	8–9 mm

374 Olivier 2007, 39. 68 no. 9 (ENKO Abou 008).
375 Cf. Yon 2004, 361 cat. 6005; 363 fig. 47, 6005; Olivier 2007, 44. 110 no. 90 (KITI Abou 001); Smith 2009, 157 fig. IV.26 a.
376 Olivier 2007, 44. 111 no. 91 (KITI Abou 002); Smith 2009, 157 fig. IV.26 b.
377 Olivier 2007, 44. 109 no. 89 (HALA Abou 002).

Table 2 Clay balls with stratified and published provenience

Clay ball no.	Bibliography	Context Description	Date of Context	Associated Finds
Enkomi 1951, inv. 1232	Dikaios 1971a, 890; Dikaios 1971b, 640; Hirschfeld 2002, 66 fig. 6.8	Area III, Room 13, almost on Floor IV	Level IIB, i. e. LC IIC; LH IIIB2[378]	fragmentary LH IIIB (?) bowl[379], fragmentary LH IIIA2 animal rhyton[380], stone spindle whorl[381]
Enkomi 1952, inv. 1288	Dikaios 1971a, 890; Dikaios 1971b, 640; Hirschfeld 2002, 66 fig. 6.8	Area III, Room 7, E-Z 14-16 east, in layer overlying Floor IV	end of Level IIB, i. e. end of LC IIC; LH IIIB2 – first part of LH IIIC Early	neck of Base Ring II jug[382], Rude-style krater fragment[383], two perforated ivory discs[384]
Enkomi 1953, inv. 1609	Dikaios 1971a, 890; Dikaios 1971b, 643; Hirschfeld 2002, 66 fig. 6.8	Area III, Room 8, Floor V	late Level IIB, i. e. end of LC IIC; LH IIIB2 – first part of LH IIIC Early	four additional inscribed clay balls[385]
Enkomi 1953, inv. 1611	Dikaios 1971a, 890; Dikaios 1971b, 643; Hirschfeld 2002, 66 fig. 6.8	Area III, Room 8, Floor V	late Level IIB, i. e. end of LC IIC; LH IIIB2 – first part of LH IIIC Early	four additional inscribed clay balls[386]
Enkomi 1953, inv. 1613	Dikaios 1971a, 890; Dikaios 1971b, 643; Hirschfeld 2002, 66 fig. 6.8	Area III, Room 8, Floor V	late Level IIB, i. e. end of LC IIC; LH IIIB2 – first part of LH IIIC Early	four additional inscribed clay balls[387]
Enkomi 1953, inv. 1614	Dikaios 1971a, 890; Dikaios 1971b, 644; Hirschfeld 2002, 66 fig. 6.8	Area III, Room 8, Floor V	late Level IIB, i. e. end of LC IIC; LH IIIB2 – first part of LH IIIC Early	four additional inscribed clay balls[388]
Enkomi 1953, inv. 1615	Dikaios 1971a, 890; Dikaios 1971b, 644; Hirschfeld 2002, 66 fig. 6.8	Area III, Room 8, Floor V	late Level IIB, i. e. end of LC IIC; LH IIIB2 – first part of LH IIIC Early	four additional inscribed clay balls[389]

378 The dates for LC IIC (ca. 1300–1230 B.C.E. or 1300–1250 B.C.E. for the first phase of Level IIB and 1250–1230 B.C.E. for the second phase of Level IIB) given by Dikaios 1969a, 438 table, are now lowered to ca. 1220–1190 B.C.E. by Åström 2007, 506 table 1. This later date (1220/10–1190 B.C.E.) was originally assigned by Dikaios 1969a, 438 table to the beginning of Level IIIA, i. e. LC IIIA1. An earlier dating to LC IB, as mentioned in Olivier 2007, 33 (ENKO Abou 001) seems to be a mistake.

379 Dikaios 1969b, pl. 67, 27 no. 1157.

380 Dikaios 1969b, pl. 67, 7 no. 3503/2, found above Floor IV.

381 Dikaios 1969b, pls. 128, 3; 155, 218 no. 1237a.

382 Dikaios 1969b, pl. 62, 24 no. 2794/18.

383 Dikaios 1969b, pl. 67, 26 no. 2889/2, found above Floor IV.

384 Dikaios 1969b, pls. 128, 55. 56; 156, 36. 37 no. 1285, in layer overlying Floor IV.

385 In Floor V: LH IIIA2 sherd no. 2575/3, Dikaios 1969b, pl. 66, 40; under Floor V: LH IIIA2 sherd no. 3227/1, Dikaios 1969b, pl. 66, 42; between Floors VI–V: ivory bead no. 1618, Dikaios 1969b, pls. 128, 67; 156, 38; fragmentary wall bracket no. 2584/1; although 40 cm below the clay balls on Floor V, two objects intimately connected with Cypriot metallurgy are noted by the excavator on Floor VII: a terracotta crucible with copper incrustation no. 1640, Dikaios 1969b, pl. 159, 20, and a fragmentary wall bracket no. 2608/2.

386 Cf. n. 385.

387 Cf. n. 385.

388 Cf. n. 385.

389 Cf. n. 385.

Clay ball no.	Bibliography	Context Description	Date of Context	Associated Finds
Enkomi 1951, inv. 950	Dikaios 1971a, 890; Dikaios 1971b, 676; Hirschfeld 2002, 62 fig. 6.2	Area I, Court 64 southwest corner, Floor V	Level IIIA, i. e. LC IIIA[390], end of LH IIIC Early[391]/ LH IIIC Developed	fragment of a plain wheel-made jug with incised CM signs[392], LH IIIC rim and handle of a bowl[393]
Enkomi 1951, inv. 1281	Dikaios 1971a, 890; Dikaios 1971b, 682; Hirschfeld 2002, 67 fig. 6.9	Area III, Room 77, north part, on Floor VI	Level IIIA, i. e. LC IIIA, end of LH IIIC Early/ LH IIIC Developed	two additional inscribed clay balls, another on the superimposed floor, a terracotta loom weight[394] and a whetstone[395]
Enkomi 1951, inv. 1282	Dikaios 1971a, 890; Dikaios 1971b, 682; Hirschfeld 2002, 67 fig. 6.9	Area III, Room 77, north part, on Floor VI	Level IIIA, i. e. LC IIIA, end of LH IIIC Early/ LH IIIC Developed	two additional inscribed clay balls, another on the superimposed floor, a terracotta loom weight[396] and a whetstone[397]
Enkomi 1952, inv. 1283	Dikaios 1971a, 890; Dikaios 1971b, 682; Hirschfeld 2002, 67 fig. 6.9	Area III, Room 77, north part, on Floor VI	Level IIIA, i. e. LC IIIA, end of LH IIIC Early/ LH IIIC Developed	two additional inscribed clay balls, another on the superimposed floor, a terracotta loom weight[398] and a whetstone[399]
Enkomi 1953, inv. 1604	Dikaios 1971a, 890; Dikaios 1971b, 688; Hirschfeld 2002, 67 fig. 6.9	Area III, Room 77, north part, on Floor V	Level IIIA, i. e. LC IIIA, end of LH IIIC Early/ LH IIIC Developed	for the finds between Floors VI–III see above; three additional inscribed clay balls were found on the floor below

390 For different absolute dates cf. Dikaios 1971b, 487 table; Mountjoy – Gowland 2005, 165 table 7; see also Åström 2007, 506 table 1 who now proposes a date range for LC IIIA1 from ca. 1190 to 1150 B.C.E.; see Mountjoy 2007 for a short gap in the occupation of Area I after the end of Level IIB and before the start of Level IIIA which according to her is contemporaneous with the earlier part of LH IIIC Early in the Argolid.

391 Cf. Mountjoy 2007, 583, on the dating of the material found in the make-up of Floor V in Court 64 contemporaneous to »LH IIIB/C Transitional« see Mountjoy 2007, 584, on the dating of the destruction debris on Floor V in Court 64 contemporaneous with the end of the later part of LH IIIC Early and the beginning of LH IIIC Developed cf. Mountjoy 2007, 584–587.

392 Dikaios 1969b, pls. 132, 37; 164, 25 (found in the northeast part of Court 64).

393 Dikaios 1969b, pl. 71, 9 no. 5810/2; the following artefacts were excavated above Floor V: a fragmentary LH IIIB dish, no. 5836/4, Dikaios 1969b, pl. 70, 29; a LH IIIB sherd, no. 5836/5, Dikaios 1969b, pl. 70, 31; the rim and handle of a LH IIIC bowl, no. 5836/7, Dikaios 1969b, pl. 71, 13; another two fragmentary LH IIIC bowls, no. 5836/8–9, Dikaios 1969b, pl. 71, 18. 19; a terracotta spindle whorl, no. 5865/23 and a bead of white paste, no. 925, Dikaios 1969b, pl. 161, 55, were found between Floors V and IV or IVa respectively, the first one in the northwest part of Court 64; two additional objects came to light in pits in Floor V: a terracotta loom weight, no. 5835/2, in the south-east corner and a gold rod, no. 1953, Dikaios 1969b, pls. 131, 30 a; 161, 73, in the north-east part; in the make-up of Floor V the following clay objects were excavated: a fragmentary terracotta spindle whorl, no. 2023/1, Dikaios 1969b, pls. 128, 1; 155, 22; a Mycenaean sherd prob. of LH IIIB date, no. 1924/3, Dikaios 1969b, pl. 69, 48; the rim sherd of a LH IIIC bowl, no. 1932/2, Dikaios 1969b, pl. 69, 40; a fragmentary White Slip II bowl, no. 1993/2, Dikaios 1969b, pl. 68, 22; a fragmentary Base Ring I bowl, no. 2005/3, Dikaios 1969b, pl. 68, 5.

394 The loom weight was excavated in the north part of Room 77 almost on Floor VI, Dikaios 1969b, pl. 134, 40 no. 2579/12.

395 The whetstone (no. 2579/13) was also found almost on Floor VI. A bi-conical stone bead (no. 1284) was documented in the layer overlying Floor VI in the north part of Room 77; the following objects were excavated in the northern part of Room 77 between the Floors VI and III: a fragmentary wall bracket (Dikaios 1969b, pl. 134, 50 no. 2874/26); another fragmentary wall bracket (no. 2874/27); the neck of a LH IIIC hydria (Dikaios 1969b, pl. 75, 42 no. 2874/15); a fragmentary LH IIIC bell krater (Dikaios 1969b, pl. 75, 24 no. 2874/16); a LH IIIC Middle sherd (Dikaios 1969b, pl. 75, 4 no. 2874/13). A LH IIIA2 sherd was found in the southern part of the room between the Floors VI and V (cf. Dikaios 1969b, pl. 72, 28 no. 4503/2). However, in the floor make-up of Floor VI a fragmentary bowl of prob. LH IIIB date (Dikaios 1969b, pl. 72, 33 no. 2585/3), a terracotta bull-rhyton (Dikaios 1969b, pls. 131, 42 a; 164, 2 no. 1620), and two parts of an ivory spindle whorl (Dikaios 1969b, pls. 132, 8. 9; 162, 4 nos. 1605. 1607) came to light during the excavation.

396 Cf. n. 394.

397 Cf. n. 395.

398 Cf. n. 394.

399 Cf. n. 395.

Clay ball no.	Bibliography	Context Description	Date of Context	Associated Finds
Enkomi 1951, inv. 1139	Dikaios 1971a, 890; Dikaios 1971b, 678; Hirschfeld 2002, 67 fig. 6.9	Area III, Room 26 E–Z 18–20 east, on Floor III	Level IIIA, i. e. LC IIIA, end of LH IIIC Early/ LH IIIC Developed	three additional inscribed clay balls and another plain clay ball, a sherd of a LH IIIC bowl[400], fragmentary monochrome, Apliki Ware jug[401], conical limonite gaming piece[402]
Enkomi 1951, inv. 1140	Dikaios 1971a, 890; Dikaios 1971b, 678; Hirschfeld 2002, 67 fig. 6.9	Area III, Room 26, Floor III	Level IIIA, i. e. LC IIIA, end of LH IIIC Early/ LH IIIC Developed	three additional inscribed clay balls and another plain clay ball, a sherd of a LH IIIC bowl[403], fragmentary monochrome, Apliki Ware jug[404], conical limonite gaming piece[405]
Enkomi 1952, inv. 1300[406]	Dikaios 1971b, 682; Hirschfeld 2002, 67 fig. 6.9	Area III, Room 26, on Floor III	Level IIIA, i. e. LC IIIA, end of LH IIIC Early/ LH IIIC Developed	three additional inscribed clay balls, a sherd of a LH IIIC bowl[407], fragmentary monochrome, Apliki Ware jug[408], conical limonite gaming piece[409]
Enkomi 1952, inv. 1301	Dikaios 1971a, 890; Dikaios 1971b, 682; Hirschfeld 2002, 67 fig. 6.9	Area III, Room 26, on Floor III	Level IIIA, i. e. LC IIIA, end of LH IIIC Early/ LH IIIC Developed	three additional inscribed clay balls and one plain clay ball, a sherd of a LH IIIC bowl[410], fragmentary monochrome, Apliki Ware jug[411], conical limonite gaming piece[412]
Enkomi 1952, inv. 1302	Dikaios 1971a, 890; Dikaios 1971b, 682; Hirschfeld 2002, 67 fig. 6.9	Area III, Room 26, on Floor III	Level IIIA, i. e. LC IIIA, end of LH IIIC Early/ LH IIIC Developed	three additional inscribed clay balls and one plain clay ball, a sherd of a LH IIIC bowl[413], fragmentary monochrome, Apliki Ware jug[414], conical limonite gaming piece[415]
Enkomi 1953, inv. 1548[416]	Dikaios 1971b, 686	Area III; Room 50, Z-H 40-42 east, in material of Floor III	early Level IIIA, i. e. LC IIIA1, LH IIIC Early	two fragmentary wall brackets[417] came to light 15–56 cm above the clay ball in the floor make-up in a layer dated to the end of Level IIIA
Enkomi 1949, inv. 702	Dikaios 1971a, 891; Dikaios 1971b, 763; Hirschfeld 2002, 64 fig. 6.4	Area I, Room 12, B-Γ 20-22 south, in layer overlying Floor I	end of Level IIIC, prob. CG I, after 1070 B.C.E.	

400 Dikaios 1969b, pl. 71, 23 no. 153.
401 Dikaios 1969b, pl. 68, 2 no. 3627/5.
402 Dikaios 1969b, pl. 165, 24 no. 3624. The following artefacts were found in the debris overlying Floor III: a hoard of 40 unbaked clay sling bullets (Dikaios 1969b, pl. 166, 7. 11–14 no. 3636); a neck of a faience (?) jug (no. 3929/43); a fragmentary LH IIIC krater (Dikaios 1969b, pl. 71, 32 no. 161); the neck of a Base Ring II juglet (Dikaios 1969b, pl. 68, 16 no. 2626/3); the rim of a LH IIIC bowl (Dikaios 1969b, pl. 74, 23 no. 3628/20); the rim of a LH IIIC bell krater (Dikaios 1969b, pl. 75, 27 no. 3628/21); two LH IIIC sherds (Dikaios 1969b, pl. 74, 36–37 nos. 3628/23, 26); the neck of a stirrup jar (Dikaios 1969b, pl. 72, 35 no. 3628/30); a LH IIIC Middle sherd (Dikaios 1969b, pl. 74, 28 no. 3629/18); the rim of a LH IIIC bowl (Dikaios 1969b, pl. 74, 29 no. 3632/1); a fragmentary LM IIIB stirrup jar (Dikaios 1969b, pl. 73, 22 no. 4368/1).
403 Cf. n. 400.
404 Cf. n. 401.
405 Cf. n. 402.
406 Plain, un-inscribed clay ball; diameter: 2.0 cm; Dikaios 1969b, pl. 132, 61; Olivier 2007, 40, 72 no. 17 (ENKO Abou 015bis).
407 Cf. n. 400.
408 Cf. n. 401.
409 Cf. n. 402.
410 Cf. n. 400.
411 Cf. n. 401.
412 Cf. n. 402.
413 Cf. n. 400.
414 Cf. n. 401.
415 Cf. n. 402.
416 Plain, un-inscribed clay ball; diameter: 1.5 cm; Dikaios 1969b, pl. 132, 60; Olivier 2007, 40. 73 no. 19 (ENKO Abou 016bis).
417 Dikaios 1971b, 707 (nos. 4178/9. 4205/8).

Clay ball no.	Bibliography	Context Description	Date of Context	Associated Finds
Hala Sultan Tekke N 6035	Öbrink 1979, 46, 88 fig. 264 A. B; 89 fig. 286	from Room 2, Layer 2b, F 6064, GCH 437, 75 W, 50 N +14.36; found among stones near western border of pit V	LC IIIA1, ca. LH IIIC Early[418]	Finds from Room 2 Layer 2[419] comprise inter alia a single cuirass scale of bronze (N 6000)[420], a bronze thread (N 6001)[421], a pierced stone cylinder with a channel (N 6002)[422], a clay crucible (N 6003)[423], a spindle whorl of stone (N 6034)[424], faience pieces (blue frit) (N 6036), quern fragments (N 6037–38)[425]; the faience and querns do come from the same feature as the clay ball, sherds of Canaanite jars are also reported from F 6064[426].
Kition II/4215	Karageorghis – Demas 1985a, 76; Karageorghis – Demas 1985d, 104	Room 58 (main hall), Temple 5, Floor IIIA	beginning of LC IIIA1, ca. LH IIIC Early[427]	krater of ›Levantine‹ ware[428], wall bracket[429], glass and faience beads[430], ostrich egg fragments[431], steatite conulus[432], fragmentary bronze objects[433], large cylindrical vessel with CM signs[434], bone stylus[435], juglet of White Shaved ware[436]
Kition II/4995	Karageorghis – Demas 1985a, 114; Karageorghis – Demas 1985d, 460	Area II, Courtyard B, Floor IIIA[437] – Floor III[438]	LC IIIA, i. e. LH IIIC Early/ Middle, until 1125 B.C.E.[439]	associated with terracotta loom weights[440]; sherds in the courtyard comprised LH IIIB, late LH IIIB, Bucchero Wheelmade, Base-Ring Wheelmade, Plain White-Wheelmade ware and ›Canaanite‹ pottery; copper slag was also found[441]

418 Öbrink 1979, 43; Ulla Öbrink mentions that monochrome deep bowls were found in layer 2. Olivier 2007, 34 mistakenly mentions his catalogue no. HALA Abou 001 in his list of dated examples, which, however, is the unstratified clay ball from the earlier excavations at Hala Sultan Tekke.
419 Öbrink 1979, 47.
420 Öbrink 1979, 84 fig. 203 a (N 6000).
421 Öbrink 1979, 84 fig. 203 b (N 6001).
422 Öbrink 1979, 86 fig. 240 (N 6002).
423 Öbrink 1979, 85 fig. 231 (N 6003).
424 Öbrink 1979, 87 fig. 244 (N 6034). Öbrink 1979, 3: »An ash-spot appeared in the corner between Walls F 6003 and F 6011 in GCh-i 442 at +14.45 m. It was roughly circular, with a thickness of c. 0.12 m and a diameter of c. 0.20 m. A clay crucible (N 6002) and a pierced, cylindrical stone (N 6003) were found nearby. Further to the west, a bronze plate (N 6000) belonging to a cuirass and a bronze thread (N 6001), probably an ear-ring, were found«.
425 Öbrink 1979, 87 fig. 245.
426 Öbrink 1979, 29 f.
427 Karageorghis – Demas 1985b, 266.
428 Fragmentary preservation, cf. Karageorghis – Demas 1985d, 104 no. 3806.
429 Fragment of wall bracket, cf. Karageorghis – Demas 1985c, pl. 110, no. 4239.
430 Two blue faience beads, Karageorghis – Demas 1985d, 104; Karageorghis – Demas 1985c, pl. 112, no. 4231; one glass bead, Karageorghis – Demas 1985d, 104; Karageorghis – Demas 1985c, pl. 112, no. 4232; one glass bead with white bands, Karageorghis – Demas 1985c, pl. 112, no. 4235.
431 Karageorghis – Demas 1985d, 104, no. 4224.
432 Karageorghis – Demas 1985c, pl. 111, no. 5019.
433 A fragmentary bronze rod (Karageorghis – Demas 1985c, pl. 112, no. 4237A), perhaps a fragmentary bronze nail (Karageorghis – Demas 1985c, pl. 112, no. 4237B), and possibly a bronze button (Karageorghis – Demas 1985c, pl. 112, no. 4238).
434 Found in the central aisle, east of pit A; still used on the subsequent Floor III, cf. Karageorghis – Demas 1985a, 76 no. 4219; Karageorghis – Demas 1985c, pls. 94, 1 (cylindrical vessel on Floor IIIA of Temple 5 in situ); 111 no. 4219; 192 no. 4219.
435 Fragments of a bone stylus, Karageorghis – Demas 1985c, pl. 112 no. 4967.
436 Fragmentary vessel, Karageorghis – Demas 1985c, pl. 111 no. 4234.
437 Karageorghis – Demas 1985a, 55.
438 Karageorghis – Demas 1985d, 106.
439 Karageorghis – Demas 1985b, 272 fig. 1.
440 Karageorghis – Demas 1985d, 470: nos. 4990. 4996. 4998. 4999; Karageorghis – Demas 1985c, pls. 107, 4998; 118, 4990. 4996. 4999.
441 Karageorghis – Demas 1985d, 115.

Table 3 Summary table for the deposition dates of Cypriot inscribed clay balls found in LC IIC or LC IIIA layers and synchronized with the chronological phases of the Greek mainland (The numbers in parenthesis account for the fact that six clay balls have been found on or above the last floors of Level IIB in Enkomi and that the dating of those floors partly overlaps with the first phase of LH IIIC Early. Thus, with regard to their context, the majority of Cypriot clay balls may actually have been deposited during the Mycenaean post-palatial period)

Site	Date of find context approx. contemporary to LH IIIB	Date of find context approx. contemporary to LH IIIC
Enkomi	7 (1)	11 (17)
Kition		1
Hala Sultan Tekke		1
Total (20 altogether)	7 (1)	13 (19)

Table 4 Small finds around the clay ball TN 241 in the area of the southern entrance to the post-palatial courtyard of phase 2, i. e. LH IIIC Developed

No. in database	Find spot	Description of object
TN 79	Ti 02 LXII 35/39 VC a13.05, on floor of hor. 20 a3	Bronze, arrow head or stud
TN 352	Ti 02 LXII 35/39 Ofl. VC Nr. 92/02, on floor of hor. 20 a3	Conglomerate, grinding stone
TN 316	Ti 02 LXII 35/39 VB c13.11, above floor of hor. 20 a3	Obsidian, secondary decortication flake
TN 333	Ti 02 LXII 35/39 VB b13.14, above floor of hor. 20 a3	Chert, tertiary flake
TN 158	Ti 02 LXII 35/40 VI f12.99, in floor make-up of hor. 20 a3	Basalt, pestle
TN 136	Ti 02 LXII 35/40 VC c13.05, on floor of hor. 20 a3	Obsidian, micro-blade
TN 145	Ti 02 LXII 35/40 VC d13.05, on floor of hor. 20 a3	Obsidian, chip
TN 165	Ti 02 LXII 35/40 VC a13.07, on floor of hor. 20 a3	Obsidian, retouched blade
TN 169	Ti 02 LXII 35/40 VC b13.05, on floor of hor. 20 a3	Obsidian, blade blank
TN 351	Ti 02 LXII 35/49 VI a 13.02, on floor of hor. 20 a3	Andesite, grinding stone
TN 240	Ti 02 LXII 35/59 VB a13.15, above floor of hor. 20 a3	Terracotta, fragmentary wall bracket

Abstract

Melissa Vetters, A Clay Ball with a Cypro-Minoan Inscription from Tiryns

A clay ball with a Cypro-Minoan inscription excavated in a LH IIIC Developed workshop context at the northern tip of Tiryns' Lower Citadel forms the basis for this discussion on interaction patterns and contacts between Mycenaean Tiryns and Late Bronze Age Cyprus. To provide a background to the contextual assessment of the Tiryns clay ball documents, contexts and practices associated with the Cypro-Minoan script/s on Cyprus are discussed. The analysis of the Tiryns clay ball focuses on epigraphy, find context and the dating of the object. While it is impossible to establish the provenance of the clay ball on the basis of current evidence, stratigraphic details and its find spot within a workshop area point to a post-palatial date. An overview of East Mediterranean (especially Cypriot) objects found in Tiryns identifies a few areas where such artefacts occur more frequently and discusses implications of ›Cypriot‹ practices on the basis of contextual data. Intimate contacts between Tiryns and Cyprus are attested to during the late palatial period, but continue into the post-palatial period and point to interpersonal contacts rather than merely long-distance trade.

Keywords
Tiryns • Cypro-Minoan • inscribed clay balls

Sources of illustrations
Fig. 1: Tiryns archive, with kind permission of J. Maran • Fig. 2: H. Birk and Anavasi editions, modified by M. Vetters • Fig. 3: Photo and drawing: M. Vetters, arrangement and inking: R. Docsan • Fig. 4: M. Vetters • Fig. 5: Tiryns-archive, drawing: M. Kostoula, modified by M. Vetters, with kind permission of J. Maran

Abbreviations

ASL • Above Sea-Level
CM • Cypro-Minoan
LBA • Late Bronze Age
LC • Late Cypriot
LH • Late Helladic
LM • Late Minoan
NAA • Neutron Activation Analysis

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