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The arm-shaped vessels in Anatolia and the Eastern Mediterranean during the Late Bronze Age: a morphological and contextual analysis

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Abstract. The so-called libation arms found in Anatolia and the Eastern Mediterranean during the Late Bronze Age, belong to the ceramic class Red Lustrous Wheel-made Ware, characterized by a very fine fabric, a careful cooking and a red slipped and polished surface. Even if they were thoroughly analyzed, it was generally assumed that these objects were linked to religious or cultic activities and destined to libatory action. However, no systematic investigation was carried out in relation to their finding contexts. This paper presents the results of a morphological and contextual analysis of this specific artifact. It offers suggestions for production areas, function and distribution on the base of a catalog that collects all the pieces found so far and on the analysis of each finding context. The data seem to indicate an Anatolian type of production unrelated to that of the Red Lustrous Wheel-made Ware, which is solely linked to religious activity.

Keywords. Pottery, Late Bronze Age, Anatolia, Cyprus, Cilicia, Levant, Eastern Mediterranean, Red Lustrous Wheel-made Ware, Arm Shaped Vessels.

1. INTRODUCTION¹

The aim of this paper is to present typological and contextual observations on, as well as hypothesize about the distribution of, the so-called libation arms. Libation arms are vessels in the shape of an outstretched human arm ending in a hand holding a cup that were distributed not only in Anatolia, but also in Cilicia, the Levant and Cyprus – a large area that, during the Late Bronze Age, experienced a period of intense economic, political and social interactions. This research includes the study of the

¹ This article is based on the master thesis discussed by the author at the University of Florence in October 2018, Prof. Marina Pucci (Supervisor), Prof. Giulia Torri (Second Supervisor) “*I cosiddetti bracci libatori in Anatolia e nel Mediterraneo Orientale nel Tardo Bronzo: studio morfologico e funzionale*”.

published material, taking into consideration all the sites where the libation arms were found that have already been mentioned in the study by K. Eriksson (1993) and updated by D.P. Mielke (2006: Table 2), and adds the most recent finds in other sites not mentioned in the two previous studies. Furthermore, this research also focuses on the analysis of the contexts of these specific vessels². This study led to the creation of a database to collect all the published libation arms and updated distribution maps, as well as established a first typology and a possible correlation between the morphological type and the context. The single contexts have been analysed in detail and reduced to five main categories based on the information reported in the excavation reports. Since it is not possible to explain the individual contexts in detail here, the context category to which each artifact belongs is listed in the appendix. At the same time, a systematic catalogue was compiled to collect all published libation arms³. In addition, the research and the database were implemented through the study, still on-going, of the unpublished libation arms⁴ recovered from the Southern Ponds secondary filling of Boğazköy/Hattusa, partially analysed by T. Pilavci (2017) in her PhD thesis⁵ and not discussed in this article. Therefore, the goal of this research is first to analyse the libation arms by focusing on their morphological features, which are studied only marginally in the literature. This research helps demonstrate the presence of workshops in certain areas by shedding light on the function of the libation arms – different morphological types of libation arm may could belong to different production centres that may further be associated with a certain style. Secondly, this study focuses on the geographic and chronological distribution of libation arms to combine the typology and workshop analysis with interregional connections. The article also takes into consideration the finding contexts to better define function and chronological distribution.

2. CRAFT PRODUCTION

The so-called libation arms (Fig. 1) consist of three parts manufactured separately: a long cylindrical tube, in most cases wheel-made; a hand-modelled part that includes the hand and the bowl it supports; and a third element that is the junction between the two parts, represented by modelled rings that can differ in number (from two to four). The libation arms are closed vessels that are hollow inside and whose only opening is a perforation visible on the side of the bowl. Most of the finds belong to the Red Lustrous Wheel-made Ware (RLWmW⁶ hereafter) class, which is characterised by a compact fabric, consisting of a very fine red or orange clay with few inclusions and uniformly fired. The surface, in most cases, is covered with a red or orange self-slip and is carefully polished to give a shiny appearance. The vessel's dimensions are variable – some examples are longer than 60 cm, while others, according to the diameter of the bowl, appear to be much smaller. The hand that is represented is the right hand. The bowl, in almost all cases, is deep and in a few cases is wider and shallower. The bowl is supported from the bottom, with the fingers sometimes wrapping around it up to the edge of the rim, although in two examples the hand is holding the bowl from the side.

² See Tab. 3

³ This is the list of analysed sites with their acronyms: A: Alaca Höyük; AA: Alalakh-Tell Atchana; AH: Tell Abu Hawam; AI: Ayos Iakovos; AL: Alishar; AM: Arslantepe-Malatya; AP: Aya Paraskevi; B: Boğazköy; BE: Beycesultan; BH: Büyük Höyük; DM: Dede Mezari; E: Eskiyapar; EN: Enkomi; GV: Göksu Valley; HST: Hala Sultan Tekke; K: Korucutepe; KA: Kayalıpınar; KB: Kourion-Bamboula; KI: Kilise Tepe; KK: Kaman-Kalehöyük; KU: Kuşaklı-Sarissa; M: Mashat Höyük; MR: Maroni; ND: Not Defined; OS: Ortaköy-Şapinuwa; P: Porsuk; TA: Tarsus; TP: Tepecik; TR: Troy; UG: Ugarit; YU: Yumuktepe-Mersin. The acronyms of each site are used both within the catalogue and in the text.

⁴ Fantoni 2021, in press

⁵ I would like to take this opportunity to thank Prof. A. Schachner his support and for having allowed me to study the material from Boğazköy. Recognition is also due to Prof. J. Seeher and Prof. U.-D. Schoop for having allowed me to study the unpublished material and for the interesting discussions.

⁶ The other two most common forms belonging to this ceramic class are Spindle Bottles and Pilgrim Flasks (Eriksson 1993: 23-25). While it can be assumed with relative certainty that the purpose of the Spindle Bottles and Pilgrim Flasks was to transport liquids, including valuable liquids such as oils, because of the easily sealable shape of the rim, the function of the libation arms is speculated.

Residue analyses carried out on the inner surface of some fragments of RLWmW that belong to Arm-shaped vessels from Anatolia, Rough Cilicia⁷, and Cyprus showed residues of animal and vegetable fats that could not be distinguished from each other, but also remains of beeswax, commonly used to waterproof the interior of the vessels (Steel et al. 2007: 192-195). Interestingly, traces of beeswax were only found in the Arm-shaped vessels fragments from Boğazköy (17 sherds out of 30 that have been analysed by Knappett *et al.* (2005: 49)). Knappett *et al.* (2005: 49) assert that either these Arm-shaped vessels were coated with beeswax and thus waterproofed on arrival in Boğazköy following a Hittite practice, or that the liquids possibly transported in these Arm-shaped vessels and destined for the Hittite capital were somehow covered with beeswax as an additional layer of protection during the journey. In the first case, the container would have been imported, while the content would have been added once the container arrived in the Hittite capital; in the second case, a liquid would be imported and further protected by beeswax used as a sealant. Some vessels from Cyprus show trace of bitumen, which was also used to waterproof the interior of the vessels. However, Cyprus has no indigenous resources of bitumen and further analysis suggests that its source must have been in the area of Ras Shamra-Ugarit in Northern Syria. Therefore, it seems like that Arm-shaped vessels were used as containers to transport or to keep of liquids (Knappett et al. 2005: 49).

Petrographic and chemical analyses carried out so far on the wares from Central Anatolia, Cilicia and Cyprus have shown that the composition of the RLWmW (disregarding the shape of the vessel) must correspond to a single production centre, or to several centres located in the same geographic area. Initially, Cyprus was proposed as the main production site (Eriksson 1993: 151), a conclusion reached on the basis that the largest amount of RLWmW was found in Cyprus and that the ware continues throughout the Late Bronze Age period, with a change of distribution from Egyptian contexts to Hittite contexts (Eriksson 1993: 57-58, 133-134). However, in later years investigations in Anatolia have shown that a huge amount of pottery of this class was found mainly in Boğazköy and in other Anatolian sites (Mielke 2007: 163). In addition, a Cypriot origin was also supported by the fact that Cyprus had the largest number of shapes belonging to the RLWmW (seven forms: jugs, jars, bowls, tankards, spindle bottles, pilgrim flasks and arm-shaped vessels (Eriksson 1993: 18-30) as opposed to only four in Central Anatolia (represented by Boğazköy, which yielded Spindle Bottles, Lentoid Flasks, Libation arms and Bowls). Recent studies (Kozal 2015: 57-62; Kibaroglu et al. 2019) have shown that most of the shapes were found at the site of Kilise Tepe in Cilicia, where four other types of craters have been discovered alongside the seven known Cypriot shapes. The analysis of the shapes shows that these were clearly inspired by the oldest Anatolian shapes (Ancient Hittite period, up to the Assyrian colonial period and Early Bronze III) rather than by the Cypriot ones (libation arms are an exception, with no precedent in either Anatolia or Cyprus). In Anatolia the first examples of RLWmW appear during the Old Hittite period (Mielke 2007: 162-163 and in Cyprus during the Late Cypriot IA (Eriksson 1993: 149-153). Since there is no information or evidence of possible connections between the two territories in the above-mentioned periods, it is more plausible to assume that the origin of this pottery is to be found in Anatolian rather than in Cypriot territory since they would not have had examples on the island from which to draw inspiration (Kozal 2015: 61-62).

Petrographic and geochemical analyses have highlighted that the area of Anamur and Ovacık, in Rough Cilicia, is geologically compatible with what was analysed in the RLWmW samples (Knappett et al. 2005: 48-49). If this is the case, it should be assumed that one or more production centres are located in this area and that the land and sea routes of distribution of RLWmW started from a main route towards the north (through land), then towards Central Anatolia, and one towards the south, to the Mediterranean. It has been suggested that the ancient Hittite port of Ura⁸, known only from textual sources, was located at the mouth of the Göksu River in the Silifke area, and that the sea routes to Northern Cyprus, the Levant and the Aegean area started from there (Kozal 2018: 223-224 with further literature). Consequently, in terms of archaeological and archaeometrical analysis it has been proposed that the source of the RLWmW has to be located in Rough Cilicia (Kozal 2018: 225, Fig. 4).

⁷ The catalog includes nine pieces generally coming from Cilicia, however only two (one from Rough Cilicia and one from plain Cilicia) can be assigned to one and the same morphological group. Therefore, distinguishing Plain and Rough Cilicia in two distinct region was not useful for this analysis.

⁸ Regarding the discussion on Ura and its location see De Martino 1999 with references.

3. CONTEXTS AND THEIR DATINGS

Table 1 presents the distribution of the arm-shaped vessels according to the dating of the contexts provided by the archaeologists who published them, considering that the artefact could be dated to a period previous or contemporary to the context itself. Until a reconsideration of the dating of these contexts takes place, the dates are considered here as valid. According to the data collected during the Master thesis, it appears that the ‘oldest’ sherds, belonging to the 16th-15th centuries BC,⁹ are mostly found in public contexts (palace, administrative, temple) and the only private context is the funerary one. During the 14th century BC there is no evidence of arm shaped vessels from funerary contexts (mainly due both to the lack of Late Bronze Age burial sites in Anatolia and to the impossibility of dating some of the finds in Cypriot burials), and all the vessels are retrieved from domestic/templar contexts until the 13th century BC, when almost all the sherds are recovered from temple contexts.

The type of context (cf. Tab. 1) with the highest number of sherds is the temple context type (or its immediate surroundings). This could support the hypothesis of a cultic function of the object. The fact that the sherds recovered in this type of context come not only from Anatolia (which generally has the largest number of specimens) but also from Cilicia and Cyprus may suggest that their use is indeed cult-related. The date of these vessels seems to not extend beyond the 14th century BC, also considering the uncertainty of some Cypriot contexts. The sherds from Cilicia for which a dating was provided, like those from Kilise Tepe, cover a time span between 15th and the second half of the 14th century BC (Kibaroglu *et al.* 2019: 415). The finds from Anatolia cover a time span from the 16th to the end of the 13th century BC, while in the Northern Levant the libation arms seem to appear later, during the 14th-13th centuries BC, as the arms from Tell Atchana and Ugarit shows.

4. PROPOSED TYPOLOGY

The typologically relevant parts of a libation arm are the hand, the wrist, and the base, the first two of which are connected to the third by a wheel-made tube (which can be cylindrical or slightly wider towards the base, mainly ranging between 50 and 70 cm in length but without other useful typological characteristics). The rest of the object is hand-made. Until now, no specific morphological analysis has ever been carried out on the rendering of the hand, the rings decorating the wrist, or the base in order to establish a typology for the libation arms. In previous studies, the only morphological distinction was related only to the size of the whole object: a specimen from Enkomi (Cyprus), complete with base, wrist, and hand, has for a long time led to the assumption of the existence of a long and a short type of libation arm (Bittel 1957: 33-42). Pilavcı (2017: 116-117) makes a distinction between long and short types, adding two new types: miniature and votive. She distinguishes the characteristic parts (fingers, wrist, and base) but makes morphological distinction only for very noticeable exceptions. In this study, I decided not to refer to this type of dimensional distinction introduced for the first time by Bittel (1957: 36-38) and based on the length of the object because only nine vessels out of 220 analysed and catalogued can be defined as complete: eight would belong to the ‘long’ type while only the Enkomi specimen would belong to the short one. Although the state of preservation of the remaining libation arms is fragmentary, following observations on the tube fragments can help in solve the question long/short arm, it seems to remain constant throughout the preserved length in most cases, while the diameter of the specimen of libation arm defined as belonging to the short type increases visibly towards the base. None of the fragments analysed that are part of the arm show an accentuated increase in base diameter that would make them part of the short type. Therefore, it can be assumed that the long type is the most common in the analysed areas. The morphology presented here is related to the single parts forming the vessel rather than to its general shape.

⁹ Two pieces have a more controversial date. The first (EN01) has been dated to a range of 17th-12th century BC and therefore does not have a secure date. The second piece DM01, found in the necropolis of Dede Mezari, is hypothetically dated to the Middle Bronze Age. It is, however, the only piece dated to the Middle Bronze Age and since its chronological assignment is hypothetical, it is not possible to affirm the existence of these artefacts in the Middle Bronze Age, also considering that the RLWM seems to appear during the 16th century BC.

Table 1: Context type and Chronological distribution with the number of sherds.

CONTEXT ¹ DATINGS	Temple	Domestic	Palace	Domest. /Templ.	Funerary	Administr.	Palace/ Adm.	ND	TOTAL
16 th -15 th century BC	7		11		5	9	5		37
14 th century BC	9	3		33	3				48
13 th -12 th century BC	52	6	3			1			62
ND			10		1			37+31	66
TOTAL	68	9	24	33	9	10	5	68	

¹ For specific reference to type of context see Appendix references.

4.1. Base

Six base types could be identified among the 50 bases recorded: ring base (BA, Fig. 13), narrow ring base (BAS, Fig. 14), disc base (BDI, Fig. 15), button base (BB, Fig. 5), flat base (BP, Fig. 16) and rounded base (BR, Fig. 17). The majority of the bases belongs to the narrow ring and button type (9 and 8 sherds each respectively) and suggests that the primary function of these objects was not to be used in an upright position, as the vessels do not show a suitable base for this purpose.

4.2. Wrist

The wrist is defined as the junction between the wheel-made part of the arm and the handmade part of the hand, a point that corresponds to the anatomical part of the human wrist. The joint is highlighted through a decoration commonly found on all the wrist fragments. It consists of a series of 'rings' of different sizes and executed in different ways. In most cases they are in relief and are placed close together, but it cannot be excluded the existence of examples with an incised decoration along the circumference of the wrist and other rings in relief with some space between one and the other. Among the 66 sherds with complete or partial wrist decoration, it was possible to distinguish three types of decorative execution of the rings: relief decoration (PRI, Fig. 18), spaced relief decoration (PRID, Fig. 7), incised decoration (PIN, Fig. 8). The analysis of the number of rings executed on the vessels allowed the definition of vessels with three rings, two rings and four or more rings.

These data show that the most common combination between the number of rings and the way they are represented is three rings in relief. There does not seem to be any correlation between the number of rings and the way they are executed: one can find three incised rings as well as two raised rings without any apparent precise pattern.

4.3. Hand

The hand, together with the bowl, represents the frontal part of the libation arm and the only way to fill the container.

The analysis of 80 sherds displaying the hand at various degree of preservation led to the definition of some distinctive criteria to group them. These are based on the rendering of the thumb, fingers, and nails¹⁰.

The subdivision according to the morphological differences led to the creation of ten groups:

M1 (Fig. 19): Thumb in high relief, fingers of the same length, even, stop before the rim, executed in low relief and with naturalistic nails; M1a (Fig. 20): Fragments of which only the thumb is in high relief and the naturalistic nail remain visible. To this category also belongs the only example of a representation of a left hand; M2 (Fig. 6):

¹⁰ 1) Thumb: high relief; parallel to fingers 2) Fingers: low relief; engraved; naturalistic; even; converging at one point; reach rim of cup; stop before rim; not distinct from one another 3) Nails: engraved without attention; naturalistic

Thumb in high relief, fingers of the same length, even, stop before the edge, naturalistic renderings and naturalistic nails; M2a (Fig. 9): Unique variant of category M2, the whole hand is realistically rendered, the fingers are well-spaced and the knuckles are recognisable. M3 (Fig. 21): High-relief thumb, fingers of the same length, even, stop before the brim, rendered in low relief and with carelessly incised nails; M3a (Fig. 10): Fragments of which only the high-relief thumb and the carelessly incised nail are visible; M4 (Fig. 22): High-relief thumb, fingers of same length, converging at one point, stop before the rim, rendered in low relief and with carelessly incised nails; M5 (Fig. 23): High-relief thumb, fingers of same length, converging at one point, stop before the brim, rendered in low relief and with carelessly incised nails; M6 (Fig. 24): Thumb parallel to the other fingers, fingers of the same length, even, stop before the rim and incised; M7 (Fig. 11; Fig. 12): Thumb in relief with the last phalanx very protruding, the knuckles are all aligned and the fingers are in low relief and separated by deep incisions; M8 (Fig. 25): Naturalistic fingers; the hand, however, is in a different position: instead of supporting the bowl from underneath, the hand supports it from the side; M9: ND, it is not possible to define any characteristics.

The largest group is M3, followed by M2, M4 and M1, excluding groups M1a and M9 which are mostly composed of fragments that are too poorly preserved.

4.4. Production areas¹¹

Based on the morphological analysis, it is evident that the most discriminating element defining the shape of the libation arms is the hand, identifiable on approximately 36% of the pieces compared to the total number of analysed sherds (220), while typology of the bases and wrists did not show relevant results. The following four main types of hand may refer to different workshops.

Group M3, which can be summarised as a poorly made hand, is mostly found in Boğazköy, both in the Lower Town (B39; B42) dating to the 14th century and in the Upper Town (B52; B55; B68) and near Temple 15 (B64) dating between the 13th and 12th centuries BC. (Fischer 1963: 149-150; Parzinger-Sanz 1992: 116). Two arms from Boğazköy (B02; B03) come from a layer without any information on context or dating (Bittel 1937: Table 16). The remaining libation arms come from Ortaköy-Şapinuwa (OS13; OS14), more specifically from the remains of Building D, dated between the 15th and 14th centuries BC (Kiyemet and Süel 1999: 474); from the Late Bronze Age Levels of Korucutepe (K07) (Ertem 1988: 18) and Kilise Tepe (KI04) (Symington 2001: 169-170); from Tomb 2 of Enkomi (EN04) dated to the 14th century BC (Courtois *et al.* 1986: 18, 27-28); and from Level 2 (Hittite architectural level) of Alaca Höyük (A02) (Koşay-Akok 1966: 169). The libation arm YU01, coming from the level of the early 15th century BC of Yumuktepe, differs macroscopically from the other vessels: the surface, instead of being red, is closer to brown and the body is dark brown and richer in inclusions than the typical RLWmW body. It has been suggested that this is a local production, based also on the evidence of a less careful manufacture if compared to the other specimens (Manuelli 2009: 259-260). The same brown-coloured clay can also be found, however, in fragment B40, recovered from Level 1 (14th century BC) of the Lower Town of Boğazköy.

The second largest group, M2, is characterised by a more naturalistic execution of the hand. Among the thirteen vessels in this group, four come from Cyprus: AP01, for which no date has been given (Ohnefalsch-Richter 1893:385); AI02 from the 14th century BC sanctuary (Gjerstad 1934: 358); EN02 from Tomb 69 dated between the 15th and 14th centuries BC (Åström 1967: 8; Courtois *et al.* 1986: 41); and MR01 from Tomb 7 dated between the 15th and 13th centuries BC (Åström 1972a: 205). The fragments from Boğazköy were mostly found in the Lower Town (B19; B37) and one of them (B50) is the only specimen recovered not far away from Temple 1. Only one vessel (B96) comes from the Upper Town, from Temple 6, while a single sherd (B07) comes from the citadel of Büyükkale (Fischer 1963: 150). Fragment UG01, on the other hand, belongs to the Ugarit Recent 2 period, corresponding to a time spanning from the second half of the 15th century BC to the first half of the 14th century BC (Schaeffer 1949: 210). Of the specimens from Alaca Höyük, one sherd (A03) could not be contextualised but

¹¹ Production areas and chronological distribution are shown in Tab. 2

belongs to the Hittite period level, while another sherd (A10) is classified as belonging to Level 2 (Koşay-Akok 1966: 169). Only one vessel belonging to this group comes from Korucutepe (K06), found in L-17 I.tb 400-410 but there is no date (Ertem 1988: 18). There are no substantial differences in the ware, which is fine and reddish, nor in the reddish-orange and polished surface.

The arms of group M4, characterised by a poor execution and the fingers converging towards the centre, were all found in Boğazköy and all within the Upper Town Area, dated between the 13th and 12th century BC: fragments B75 and B77 belong to Temple 15; fragment B72 came to light south of Temple 4; and fragments B57, B78 and B82 were found in the debris without any context. All sherds share the same type of fine, reddish body and reddish-orange polished surface (Parzinger-Sanz 1992: 116). One fragment recovered from Kaman-Kalehöyük also belongs to this group, but it is not possible to define the context of its discovery (Omura 1999: 219).

The fragments belonging to group M1 may, at first glance look the same as group M3, but they are distinguished by a more naturalistic rendering of the fingers and nails. Fragments B53 and B84 come from the Upper Town of Boğazköy, found near Temple 4 and fragment B76 from Temple 15 (Parzinger-Sanz 1992: 116), all dated between 13th and 12th century BC; the libation arm AA01 was found inside House 37 in Alalakh dating from the mid-15th century to the first half of the 14th century BC (Woolley 1955: 178); and fragment KA04 comes from Building B in Kayalıpınar, dated between the 15th century BC and the 14th century BC, which has been interpreted as an administrative building (Mühlenbruch 2014: 115-117). The sherds from Boğazköy have the same fine, reddish ware and reddish-orange polished surface. The surface of the fragment from Alalakh is also red and polished, while the fragment from Kayalıpınar cannot be described more precisely.

The M7 group, although it includes few sherds, is one of the most interesting. The hand differs visibly from that of the other groups as its rendering is rather naturalistic, even if the knuckles are represented with a clear detachment from what should be the back of the hand and the fingers are separated by deep incisions that make them appear in relief. The thumb is still made in relief, but the last phalanx is very prominent compared to the other vessels. The specimen from Enkomi, EN01 (Courtois et al. 1986: 44-45), was found inside Tomb 57, in use from LC I to LC II A-C (17th-12th c. BC (Steiner and Killebrew 2014: Tab. 4. 3). It has been suggested that the fragment from the Dede Mezari Necropolis (Üyümez *et al.*: 2010: 939-943, 949) belongs to the Middle Bronze Age phase, as this is the longest period of use of the necropolis. Even if the chronological indication for these two objects is not certain, their specific morphological features and the fact that both seem to belong to the most ancient contexts, it seems likely that they are more or less contemporary and represent the first appearances of these artefacts. Therefore, it can be assumed that arms of this type were widespread during this early time within funerary depositions while later their use shifted to temple, palatial, administrative, or domestic contexts. However, as there are no other examples of burial sites from this period in Cyprus or Anatolia, it is impossible to say anything with certainty.

Comparing the most numerous morphological groups (M3, M2, M4 and M1) with their geographical areas and the type of contexts in which they were found, it appears that only group M4 is found exclusively in the Anatolian area, and in six out of seven cases it belongs to a temple-type context. On the other hand, the other groups do not seem to be related either to a single type of context or to a single geographical area.

Mielke (2006: 164-165) considers libation arms with a ware different from the RLWmW to be imitations. Manuelli (2009: 262-263) considers it more appropriate to speak of “different local productions” rather than of imitations¹²: the production of libation arms with different wares or with special surface treatments and a more accurate execution can be seen as a sign of Anatolian involvement in the creation and development of this form thanks to the contacts that took place over a long period in the area of the southern coast of Cilicia.

Because it was not possible to analyze the ware of all specimens, it is only possible to suggest possible morphological differences: the only two vessels that differ significantly from the standard are KU08 (Fig. 25) and BH01, where the right hand holds the cup from the side and not from the bottom. Rather than a local imitation or production, it has been suggested that this rendering reflects a misinterpretation or reworking of the most common

¹² The piece is YU01 from Yumuktepe-Mersin excavation. It belongs to M3 group and its finding context is dated to 15th century BC.

type of libation arm. If these vessels were indeed local productions, they would still be an exclusively Central Anatolian product. However, as there is no more precise information on the type of ware or on the finding context¹³, this should be considered as a working hypothesis.

The analysis conducted so far, considering that the number of vessels showing any useful characteristics for this research is rather limited (80 individuals) and that it was based on morphological and macroscopic criteria, led to the conclusion that the existence of different production areas specialised in a specific morphological type can be considered another working hypothesis. Considering the Anatolian plateau, only three specimens belonging to specific morphological group were found outside North Central Anatolia, cf. appendix.

Recent studies show that a large group of RLWmW fragments are produced by the same fabric with a main workshop. From the analysis conducted on RLWmW samples, 9 arm shaped vessels from Kilise Tepe, Hattusa, and Tell Atchana were analysed. Those from Kilise Tepe and Hattusa have the same ware, and therefore the same workshop, as most of the pieces in RLWmW (Kibaroglu *et al.* 2019: 416, 422-430 with further references). The number of ASVs analysed is only partially representative. Therefore, an analysis based on morphology is proposed as a working hypothesis. From a purely morphological and geographical distribution point of view, the proposal that more than one workshop may exist can be considered, as the chronological and contextual element is not discriminating (except for group M7). The M3 group, characterised by a more schematic and less accurate rendering of the hand with the fingers represented all at the same length along an imaginary line, seems to be widespread mostly in North-Central Anatolia (11 pieces) and covers a period ranging from the 15th/14th century BC to the 13th/12th century, contemporary to those from Cilicia (two pieces) and Cyprus (one piece). It is therefore possible to assume the existence of a Hittite production centre from which the pieces found in Cyprus and Cilicia were distributed. It should also be noted that this group is the only one found in Rough Cilicia, while the other geographical areas yielded evidence of several morphological groups, but the limited number of identified sherds makes it impossible to assume anything else.

Group M2, with its more naturalistic style, visible in the precise realisation of the nails and fingers in which the knuckles are sometimes also recognisable, shows vessels that were mainly disseminated in Anatolia (eight pieces) from the 14th to the 13th century BC. The only vessel from the Levantine area is dated to the same period. The vessels from Cyprus (four specimens) come from a funerary context, which is not represented in the other two areas, and are too broadly dated to allow a more precise determination. It is not possible to establish a single production centre for this morphological type, but it can be hypothesised the existence of a Cypriot production centre (with the oldest examples) and an Anatolian one (with the largest number of pieces). However, more data needs to be acquired in order to prove this hypothesis.

The M4 group, characterized by a more schematic and less accurate rendering of the hand but with the fingers converging in one point, seems to bring together fragments not only from Anatolia but also from the Upper Town of Boğazköy (six pieces), if we exclude the out-of-context vessels from Kaman-Kalehöyük. Therefore, it can be assumed the existence of a specialized centre for the production of arm shaped vessels on the site or in the surroundings of the Hittite capital as an example of a local production intended exclusively for temple use.

Group M1, with a more accurate rendering of the nails than M3, is attested only in Anatolian (six pieces) and Levantine areas (two pieces) from the 14th to the 12th century BC¹⁴. The hypothesis of an Anatolian production centre that exported this group in the northern Levant can be postulated.

The data collected on the geographical distribution of hand morphological types suggests the exclusion of a single centre of production of libation arms since it is not possible to define a single morphological type attested in a single period. Because there are several contemporary productions, it can be postulated that several workshops existed. However, the too broad dating of the contexts prevents the precise identification of these production cen-

¹³ Only the fragment from Kayalıpınar seems to belong to an administrative context, but the function of the building is still unclear (Mühlenbruch 2014: 216-217)

¹⁴ The libation arm KA04 (Mühlenbruch 2014: 115-117), is indicated as belonging to a context of the 15th/14th century BC so that it could be also slightly earlier than the others.

tres or the relationships between them, apart from the exceptions represented by groups M4 and M2. In any case, I think that the hypothesis of a single production centre covering the whole time span should be excluded.

5. FUNCTIONS

In the first analyses of these objects (Bittel 1937: 25-26), libation arms were associated with Egyptian censers. During the Middle Kingdom (ca. 2055-1650 BC; Bard [2013: 48]), an arm-shaped censer appeared in both visual representations and in the archaeological repertoire: these bronze censers, ended with a flat surface representing a hand (with no distinctions between right or left hand) with an open palm or, later, a papyrus plant. The opposite end was instead decorated with a hawk's head, which during the Middle Kingdom was turned outwards while in the New Kingdom it was turned inward (to the deity). A small container for storing the incense grains was often located on the arm, where, in later times, a figurine representing the kneeling pharaoh was sometimes added. The removable combustion chamber located on the hand was initially hemispherical and later of conical shape (Laisney 2009: 231-232) (Fig. 2). Since the inside of the arm is hollow, Laisney (2009: 248) assumed that the bronze covered a wooden core, to reduce the weight of the censer.

Egyptian pictorial representations (Ertem 1988: Fig. 31) also showed combustion chambers surmounted by small lines interpreted as flames or smoke from incense (Fig. 3). Given the similarity between Egyptian censers and the arms found in Anatolia and the Eastern Mediterranean, it was initially assumed that they had the same function (Bittel 1937: 25-26). However, if the Anatolian arms were used as incense burners, they would have shown a trace of combustion inside, either through fire or smoke. As there is no evidence of burning, they likely did not fulfil this function (Mielke 2007: 164).

By looking for a prototype to which the libation arms could have been inspired, Amiran (1962) identified comparisons in elephant tusks or bovine horns hollowed out on the inside with the smallest opening ending in the form of a very wide cup or spoon found in the Egyptian area. The specimens most reminiscent of ceramic libation arms were found in funerary contexts, which suggested a use related to deposition rituals. (Fig. 4). However, the association of the Anatolian and Eastern Mediterranean libation arms with the bovine horns suggested by Amiran as a possible prototype remains only an unverified assumption.

The most widespread opinion, given its shape and the fact that it was a hollow vessel, is that the function of the libation arms was to pour liquids during rituals. The contexts point towards the use of libation arms during rituals, as most of these containers were found in or near temple-type contexts. Following Eriksson's hypothesis (1993: 27), if they contained precious and perfumed oils, it can be suggested that the libation arms also had something to do with the use of these oils: perhaps oils were poured from the spindle bottles into the arm and from the arm onto a person or statue. By doing so, the bowl in the libation arm would receive the oil, that would be then mixed with water inside the arm before being poured out. The arm would therefore be used for anointing rather than libation (Mielke 2007: 164; Güterbock 1983).

However, also considering the lack of reference of such tools in more private contexts, with the exception of one specimen, it might be suggested that it was a personal object to be given to the deity as an offering, which might justify its presence also in the domestic sphere. An interesting change in function, yet unexplored, might have occurred from the end of the Middle Bronze Age, when the vessels were mainly recovered from funerary contexts to the 13th century BC, when the arm shaped vessels come from templar contexts.

Steel (2018: 204-206) does not doubt that they are still objects intended for libation but, in line with Mielke's analysis, sees them as containers intended for pouring liquid. Since there are no textual or iconographical information on how these objects were used, it can be assumed, given their bulky size, that these vessels required a certain amount of skill and experience to handle during libation. It has also been assumed, given the small capacity of the cup, that it was a container made especially for pouring that used an exact amount of liquid during libations. According to Harmanşah (2020: 235 with further references) the libation arm is associated with the Hittite term "GIŠ.ŠU.NAG.NAG or *kattakurant*" from Hittite ritual texts, which refers to a vessel in the

shape of a cut or amputated arm widely used for libations of wine and other sacred liquids offered to the gods in sacred locations.

According to Pilavcı (2017: 245) the libatory function of these objects is undoubted but she redefines their function from containers that pour the liquid to containers that receive the liquid itself for the libation. In this case, the hand holding the cup represents the reception of the offering by the deity who, by presenting his outstretched arm, participates in the ritual. The interpretation of the vessels as the arm of the deity has been suggested for several reasons: the rendering of the hand in such an accurate and naturalistic way, compared to the schematic rendering of the part of the arm, might suggest that the tubular part was hidden under cloths that covered the statue, leaving only the part of the hand holding the cup visible. The vessel could be seen as an abbreviated form of the statue of the deity and thus placed on a surface or it could have been associated with a transformative value. Once poured, the liquid becomes immediately and directly accessible to the deity because it passes from the cup into the arm where it is contained. Furthermore, if the vessel is placed horizontally on a surface, it is possible that by filling it over the course of days the liquid was always present inside the cup, a fact that could be interpreted as the deity always being satisfied (Pilavcı 2017: 221-225). Steel (2018: 204-206) wanted to shift the focus of the discussion regarding the RLWmW from the exclusive analysis of what was contained inside the libation arms to how these were used, noticing a substantial difference between the Cypriot and Anatolian contexts in which these artefacts were found. While the Cypriot contexts are mostly funerary contexts where the preservation of the pieces is good, the Anatolian contexts are mostly ritual and the libation arms found there are fragmentary or very poorly preserved. It is therefore clear that such objects in Anatolia were always available, in circulation, frequently used and just as frequently replaced. The differences between these two types of contexts show that there were different types of interaction between the objects and their users, which also reflect the different values attributed to them.

From the analysis of the artifacts, I find Pilavcı's interpretation more likely. She sees these objects as something that receives the libation liquid during the ritual, rather than pours it. In fact, the size of a libation arm, combined with their weight that increases once the liquid is poured into them, makes the entire object difficult to handle and move. Moreover, the rim of the cup is often straight or not very everted, a condition that would make it very difficult to pour the liquid in a smooth and precise way. If these, as proposed by Pilavcı, were placed on an inclined surface, the entrance of the liquid through the narrow passage that leads from the hand to the arm would be facilitated because the cup would never be filled. In this way everyone would be able to make such a gesture, even in domestic or private environments. I also agree with Steel's observations regarding the different type of interaction that occurs with the same type of object in Anatolia (fragmentary but abundant preservation) and Cyprus (more complete vessel but in funerary contexts): the almost daily use of the objects in Anatolia differs with their symbolic value and funerary function in the Cypriot contexts. This seems to be supported by the evidence from the contexts.

6. CONCLUSIONS

Based on these data, it is possible to postulate that the function of the libation arms is ritual. It is not yet clear, given the absence of mention of a similar object in written sources and figurative representations, whether it is a tool for rituals carried out by a priest, a private object to be used as an offering to a deity or used in private contexts as a representation of the deity himself to make an offering. In any case, any hypothesis that links them to incense burners or to any instrument that has to do with combustion is to be excluded, given the absence of traces of smoke or fire. It is more likely to be interpreted as an object into which the liquid is poured rather than one from which the liquid is poured.

The creation of a morphological typology demonstrates for the first time the existence of groups of libation arms with differences in the stylistic rendering of discriminating characteristics. By associating these groups with the contexts in which they were found and the regions to which they belonged, it is possible to detect that around the 16th century BC in Anatolia the piece belonging to group M7 suggest a funerary function. There are no more examples of libation arms in funerary contexts after the 14th century BC until we arrive at the almost exclusive

association with temple-type contexts in the 13th century BC both in Anatolia and in the Levant. The morphological typology also suggests the existence of two production centres during the Late Bronze Age: one in Anatolia (with groups M3, M4 and M1) and maybe another in Cyprus (most of the libation arms belonging to M2 were found in Anatolia but the vessels from the oldest contexts have been found in Cyprus. Also, the arm from Ugarit is more likely to come from a contact with Cyprus rather than with Anatolia).

Alongside the question of function is the question of the area of provenance. Cyprus can be reasonably excluded as the main place of production of these objects and this hypothesis can be confirmed by the fact that the Hittite world is well known to have included Hurrian and North Syrian religious practices in its culture (Mielke 2007: 164; Güterbock 1983). The written sources clearly state that the Hittites did not adapt any rituals from Alašiya (Cyprus) to their cult, and up to now there is no mention of such an object for libations in the numerous ritual texts found. Similarly, although the act of libation is often represented, there are no depictions of a similarly shaped vessel in Anatolia, even though most of the contexts in which they were found are templar-like. Furthermore, although the place of production of the entire ceramic class of RLWmW has been identified in Rough Cilicia, it should be noted that in the case of the libation arms this needs more evidence. Instead, these data seem to indicate Central Anatolia as the main place of production for this shape.

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Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
A01	Al. c 219	Koşay 1951, p. 124, Tab.60 n° 3a/b	Length: 16,3; Diameter: 5,6	BAS	Level 2	ND	Hittite Level	Anatolia
A02	Al. g 94	Koşay-Akok 1966, p. 169, Tab. 17 n° g 94	Length: 11; Diameter: 0,7	PRI, M3	Level 2	ND	Hittite Level	Anatolia
A03	Al. h 153	Koşay-Akok 1966, p. 169, Tab. 17 n° h 153	Length: 11,2; Depth: 4,6	PRI, M2	Level 2	ND	Hittite Level	Anatolia
A04	Al. J 154	Koşay-Akok 1966, p. 169, Tab. 17 n° j 154	Length: 12,2; Hand Diameter: 4,9; Opening Diameter: 3,7	PRI, M1a	Level 2	ND	Hittite Level	Anatolia
A06	Al. l 108	Koşay-Akok 1966, p. 169, Tab. 17 n° l 108	Length: 22; Diameter: 3,9	ND	Level 2	ND	Hittite Level	Anatolia
A07	Al. l 109	Koşay-Akok 1966, p. 169, Tab. 17 n° l 109	Length: 20,9; Diameter: 3,9	ND	Level 2	ND	Hittite Level	Anatolia
A08	Al. n 109	Koşay-Akok 1973, p. 80, Tab. 38 n° n 109	Opening Diameter: 3,5	BR, PRI, MND	Level 2	ND	Hittite Level	Anatolia
A09	Al. r 43	Koşay-Akok 1973, p. 80, Tab. 38 n° r 43	Length: 7,5; Width: 5	ND	Level 2	ND	Hittite Level	Anatolia
A10	Al. p 156	Koşay-Akok 1973, p. 80, Tab. 82 n° p 156	Length: 9; Width: 3,5	PRI, M2	Level 2	ND	Hittite Level	Anatolia
A11	Al. r 42	Koşay-Akok 1973, p. 80	Length: 5,5; Height: 5	ND	Level 2	ND	Hittite Level	Anatolia
AA01	ATP/37/225	Woolley 1955, p. 178, Tab. CXXXV ^(a)	Length: 59	BDI; PRI; M1	Casa 37, Room 9, Level IV	Domestic	14th-12th century	Levant
AA02	ND	Woolley 1955, p. 178, Tab. CXXXV	ND	ND	Casa 37, Room 11, Level IV	Domestic	14th-12th century	Levant
AA03	ATP/37/226	Woolley 1955, p. 178	ND	PRI, M1	Casa 37, Room 12, Level IV	Domestic	14th-12th century	Levant
AA04	ND	Woolley 1955, p. 178	ND	ND	Casa 37, Room 13, Level IV	Domestic	14th-12th century	Levant
AH01	47.174/1/6	Balensi and Herrera 1985, pp. 110-111, Fig. 14.6	ND	ND	Level V, Fortification Wall	ND	14th-12th century BC	Levant
AI01	54	Gjerstad 1934, p. 358, n° 54; Amiran 1962, Tab. XX, on the left; Åström 1972a, p.205	Length: 69,9	BP, PRI, MND	Sanctuary, Late Bronze Age	Temple	14th century BC	Cyprus
AI02	55	Gjerstad 1934, p. 358, n° 54; Amiran 1962, Tab. XX, on the right; Åström 1972a, p.205	Length: 54,3	PRI, M2	Sanctuary, Late Bronze Age	Temple	14th century BC	Cyprus
AI03	56	Gjerstad 1934, p. 358, n° 56; Åström 1972a, p.205	Length: 53,6	ND	Sanctuary, Late Bronze Age	Temple	14th century BC	Cyprus

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
AI04	57	Gjerstad 1934, p. 358, n°57; Åström 1972a, p.205	Length: 41,9	ND	Sanctuary, Late Bronze Age	Temple	14th century BC	Cyprus
AI05	58	Gjerstad 1934, p. 358, n°58; Åström 1972a, p.205	Length: 27,7	ND	Sanctuary, Late Bronze Age	Temple	14th century BC	Cyprus
AI06	59	Gjerstad 1934, p. 358, n°59; Åström 1972a, p.205	Length: 50	ND	Sanctuary, Late Bronze Age	Temple	14th century BC	Cyprus
AI07	ND	Åström 1972a, p.205	ND	ND	Sanctuary, Late Bronze Age	Temple	14th century BC	Cyprus
AI01	c 1276	Von Der Osten 1937 p. 190, p. 166 fig. 207, Tab. VI n° c 1276	Height: 11,4; Diameter: 7,9	BAS	Found approximately 3,20 m depth in I 30	ND	ND	Anatolia
AI02	c 1277	Von Der Osten 1937 p. 190, p. 166 fig. 207	Height: 12,2; Diameter: 7,2	ND	Found approximately 3,20 m depth in I 30	ND	ND	Anatolia
AM01	ND	Manuelli 2013, p. 192-193; Fig. III.65 n° 8	ND	MND	Level Vb or IV	ND	Late Bronze Age	Anatolia
AP01	ND	Ohnefalsch-Richter 1893, p. 385, Tab. XL n° 8	Length: 51,6	BAS; PRI; M2	ND	ND	ND	Cyprus
B01	9921	Bittel 1937, Tavola 16, Fig. 1a-b-c	ND	PRI	ND	ND	ND	Anatolia
B02	9923	Bittel 1937, Tavola 16 Fig. 2a-b-c	ND	PRI;M3	ND	ND	ND	Anatolia
B03	9922	Bittel 1937, Tavola 16 Fig. 2a-b-c	ND	PND;M3	ND	ND	ND	Anatolia
B04	11 103	Bittel 1937, Tavola 16 Fig. 4	ND	ND	ND	ND	ND	Anatolia
B05	11 104	Bittel 1937, Tavola 16 Fig. 5	ND	ND	ND	ND	ND	Anatolia
B06	554/f	Fischer 1963, p. 149, Tab. 124 n° 1089, Bittel 1957	Arm Diameter: 4,4; Bowl Height: 6,2	M3a	Buyukkale p/16, disturbed context in front of the walls	Palace	ND	Anatolia
B07	124/i	Fischer 1963, p. 149, Tab. 124 n° 1090, Bittel 1957	Preserved Height: 3,2	M2	Buyukkale m-n/14, Building D Level III	Palace	13th century BC	Anatolia
B08	159/n	Fischer 1963, p. 149, Tab. 124 n° 1090, Bittel 1957	Preserved Length: 4,2	M1	Buyukkale ee/15, immediately below the after Hitrite slope pavement	Palace	ND	Anatolia
B09	94/i	Fischer 1963, p. 149 n° 1092, Bittel 1957	Preserved Height: 7,5	ND	Buyukkale m-n/13-14, post hitrite level (Bittel 1957: building D)	Palace	ND	Anatolia
B10	ND	Fischer 1963, p. 149 n° 1093, Bittel 1957	Preserved Height: 5,2	ND	Buyukkale t/12, debris	Palace	ND	Anatolia
B100	ND	Müller-Karpe 1988, p. 145, Tab. 48 n°12	ND	ND	Upper Town, Level 3	Temple	13th-12th century BC	Anatolia
B101	ND	Müller-Karpe 1988, p. 145, Tab. 48 n°6	ND	BDI	Upper Town, Level 4	Temple	13th-12th century BC	Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
B102	ND	Müller-Karpe 1988, p. 146, Tab. 48 n°7	ND	BR	ND	ND	ND	Anatolia
B103	80/83	Müller-Karpe 1988, p. 146, Tab. 48 n°8	ND	M6	ND	ND	ND	Anatolia
B104	ND	Müller-Karpe 1988, p. 146, Tab. 48 n°11	ND	BR	ND	ND	ND	Anatolia
B105	80/54	Müller-Karpe 1988, p. 146, Tab. 48 n°13	ND	PRI, MND	ND	ND	ND	Anatolia
B106	83/508,769	Neve 1984, pp. 364, 372	ND	ND	Upper Town, Casa 12	Temple/Domestic	13th-12th century BC	Anatolia
B107	83/502	Neve 1984, pp. 362, 372	ND	ND	Upper Town, Casa 15	Temple/Domestic	13th-12th century BC	Anatolia
B11	372/e	Fischer 1963, p. 149 n° 1094, Bittel 1957	Preserved dimensions: 4x3,5	ND	Buyukkale t/12, debris	Palace	ND	Anatolia
B12	128/o	Fischer 1963, p. 149, tav 124 n° 1095	Preserved Length: 4,2; Diameter Max.: 4	PRI	Buyukkale z-aa/11	Palace	ND	Anatolia
B13	ND	Fischer 1963, p. 149 n° 1096	Preserved Length: 4,1	ND	Buyukkale, not specified	Palace	ND	Anatolia
B14	ND	Fischer 1963, p. 149, Tab. 122 n° 1097	Preserved Length: 7,2; Reconstructed Diameter: 10; Reconstructed Base Diameter: 6,7	BA	Buyukkale, Building K, Room B below level IVa	Palace	13th century BC	Anatolia
B15	403/n	Fischer 1963, p. 149, Tab. 124 n° 1098, Bittel 1957	Preserved Length: 6,1 Bottom; Reconstructed Arm Diameter: 5,16; Base Area Diameter: 3,4	BDI	Buyukkale u/17, south-west corner of building H, inside a foundation column	Palace	ND	Anatolia
B16	ND	Fischer 1963, p. 149, Tab. 124 n° 1099	Preserved Length: 3,7; Diameter Max.: 5,3	BB	Buyukkale z-aa/11, deposit under hittite walls	Palace	ND	Anatolia
B17	214/a	Fischer 1963, p. 149 n° 1100, Bittel 1957	Preserved Length: 3,8; Diameter: 4,4	ND	Buyukkale w/9, Building A, level III	Palace	13th century BC	Anatolia
B18	ND	Fischer 1963, p. 149 n° 1101	ND	BDI	Buyukkale, dirt discharge	Palace	ND	Anatolia
B19	113/1	Fischer 1963, p. 149, Tav 122 n° 1102, Bittel 1957	Length: 16; Body Wall Diameter: 4,7; Arm Diameter: 5; Arm Sherd Length: 13	PRI; M2	Lower Town K/20, disturbed context of Level 4 wall, dating from level 2 (no level 3 buildings remain here)	Domestic/Temple	14th-12th century BC	Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
B20	246/o	Fischer 1963, p. 149, Tav 124 n° 1103	Preserved Length: 7,3; Height: 4; Bowl Diameter: 4,4; Arm Diameter: 3,5	M6	Lower Town J/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B21	477/o	Fischer 1963, p. 149, Tav 124 n° 1104	Preserved Length: 6,4; Breaking point Arm Diameter: 2,9	M6	Lower Town K/21, just below the upper limit of level 2	Domestic/Temple	14th-12th century BC	Anatolia
B22	432/o	Fischer 1963, p. 150 n° 1105	Preserved Length: 8	ND	Lower Town J/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B23	278/h-i	Fischer 1963, p. 150, Tav 124 n° 1106, Bittel 1957	Preserved Length: 6,7; Breaking point Arm Diameter: 3	PRI	Lower Town K/20, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B24	218/p	Fischer 1963, p. 150 n° 1107	Preserved Length: 6,3	ND	Lower Town J/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B25	435/o	Fischer 1963, p. 150, Tav 124 n° 1108	Preserved Length: 7; Breaking point Arm Diameter: 3,3	PIN	Lower Town J/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B26	278/h-2	Fischer 1963, p. 150, Tav 124 n° 1109; Bittel 1957	Preserved Length: 9; Diameter: 2,6	PRID	Lower Town K/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B27	278/h-3	Fischer 1963, p. 150 n° 1110; Bittel 1957	Preserved Length: 5,4	ND	Lower Town, K/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B28	434/o	Fischer 1963, p. 150 n° 1111	Preserved Length: 5; Arm Diameter: 4,5	ND	Lower Town J/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B29	248/h	Fischer 1963, p. 150 n° 1112; Bittel 1957	ND	BAS	Lower Town K/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B30	247/h-2	Fischer 1963, p. 150, Tab. 124 n° 1113; Bittel 1957	Preserved Length: 5; Diameter: 7,5	BA	Lower Town K/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B31	247/h-i	Fischer 1963, p. 150 n° 1114; Bittel 1957	Preserved Length: 5,5; Diameter: 6,5; Base Diameter: 3	BAS	Lower Town K/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B32	281/h1-2-3	Fischer 1963, p. 150 n° 1115-1117; Bittel 1957	Preserved Length: 4,5; 4,2; 4,0	BB	Lower Town K/20, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B33	135/o, 433/o, 467/o	Fischer 1963, p. 150 n° 1118-1120	Preserved Length: 3,2; 1,7; 2,5	BB	Lower Town J/20-21, Level 2	Domestic/Temple	14th-12th century BC	Anatolia
B34	476/o	Fischer 1963, p. 150 n° 1121	Length: 7,5; Breaking point Arm Diameter: 4,3	ND	Lower Town J/21, Level 1b	Domestic/Temple	14th-12th century BC	Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
B35	485/o, 489/o	Fischer 1963, p. 150, Tab. 124 n° 1122-1123	Preserved Length 1122: 12,5 - Diameter 1122: 4,8; Preserved Length 1123: 8,4; Diameter 1123: 4,1	BR	Lower Town J/21 h/10b-d, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B36	97/1	Fischer 1963, p. 150, Tab. 122 e 124 n° 1124; Bittel 1957	Length: 59,3; Bottom Arm Diameter: 8; Base Diameter: 4,7	BAS, PRL, MND	Lower Town K/20 a/1, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B37	106/o	Fischer 1963, p. 150, Tab. 124 n° 1125; MDOG 89 (1957)	Preserved Length: 14,3; Bowl Diameter: 4,6x5,1; Arm Diameter: 5,7	M2	Lower Town J/20 i/1 a-b, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B38	127/o	Fischer 1963, p. 150, Tab. 124 n° 1126	Preserved Length: 3,5; Bowl Diameter: circa 2,5	M6	Lower Town J/20 g/1 a, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B39	142/o	Fischer 1963, p. 150, Tab. 124 n° 1127	Preserved Length: 5; Bowl Diameter: circa 2; Arm Diameter: circa 2	M3	Lower Town J-K/19, just below the surface (Level 1)	Domestic/Temple	14th-12th century BC	Anatolia
B40	430/o	Fischer 1963, p. 150, Tab. 124 n° 1128	Preserved Length: 9,1; Arm Diameter: 3,1	PIN, M6	Lower Town J/20, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B41	431/o	Fischer 1963, p. 150 n° 1129	Preserved Length: 4,4	ND	Lower Town J/20, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B42	114/1	Fischer 1963, p. 150 n° 1129; Bittel 1957	Preserved Height: 2,8	M3a	Lower Town K/20 a/1, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B43	115/1	Fischer 1963, p. 150 n° 1131; Bittel 1957	Preserved Height: 3	ND	Lower Town K/20, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B44	ND	Fischer 1963, p. 151 n° 1132-1133-1134	Preserved Length: 1132-5,9; 1133-4,3; 1134-4,5	ND	Lower Town K/20, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B45	146/o	Fischer 1963, p. 151 n° 1135	Preserved Length: 4,5; Max. Arm Diameter: 5,1	ND	Lower Town J-K/19, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B46	202/o	Fischer 1963, p. 151, Tab. 124 n° 1136	Preserved Length: 3; Reconstructed Diameter: 5,3	BP	Lower Town J-K/19, surface finding	Domestic/Temple	14th-12th century BC	Anatolia
B47	115/o	Fischer 1963, p. 151 n° 1137	Preserved Length: 5,9; Diameter Max.: 5,4	BB	Lower Town I-J/20, building just inside the walls; Level 1	Domestic/Temple	14th-12th century BC	Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
B48	ND	Fischer 1963, p. 151 n° 1138	Preserved Length: 2,9; Diameter Max: 5,7	ND (BP?)	Lower Town K/20 b/1, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B49	98/o	Fischer 1963, p. 151 n° 1139	Preserved Length: 6; Diameter Max: 4,15	ND (BR?)	Lower Town J/20 f/1b, Level 1	Domestic/Temple	14th-12th century BC	Anatolia
B50	2195/g	Fischer 1963, p. 151, Tab. 124 n° 1140	Preserved Length: 11,9; Arm Diameter: 5,1	PRID, M2	Temple 1: near the south-western corner of the templar building, in the debris above the road	Temple	13th-12th century BC	Anatolia
B51	Bo 86/506	Parzinger-Sanz 1992, p. 115, Tab. 76 n°1	Length: 26; Height: 5	M5	Upper Town L/6-c/6, outside the remains of a building south of Temple 4	Temple	13th-12th century BC	Anatolia
B52	Bo 86/245	Parzinger-Sanz 1992, p. 116, Tab. 76 n°2	Length: 7,1; Height: 4,8	M3	Upper Town M/7-e/10, debris southern area of Temple 26	Temple	13th-12th century BC	Anatolia
B53	Bo 86/223	Parzinger-Sanz 1992, p. 116, Tab. 76 n°3	Length: 19,2; Height: 4,6	PRI, M1	Upper Town L/6-c/6, layer debris south of Temple 4	Temple	13th-12th century BC	Anatolia
B54	Bo 83/776	Parzinger-Sanz 1992, p. 116, Tab. 76 n°4	Length: 8,6; Height: 4,1	PRI	Upper Town L/9-i/9, Temple 12	Temple	13th-12th century BC	Anatolia
B55	Bo 86/115	Parzinger-Sanz 1992, p. 116, Tab. 76 n°5	Length: 17,5; Height: 5,5	PRI, M3	Upper Town, debris layer in M/7-a/10	Temple	13th-12th century BC	Anatolia
B56	Bo 86/189	Parzinger-Sanz 1992, p. 116, Tab. 76 n°6	Length: 10,9; Height: 5,4	PRID, MND	Upper Town M/7-e/10, debris of a building southern of Temple 26	Temple	13th-12th century BC	Anatolia
B57	Bo 85/402	Parzinger-Sanz 1992, p. 116, Tab. 77 n°1	Length: 6; Height: 6,3	M4	Upper Town, debris in L/9-d/4	Temple	13th-12th century BC	Anatolia
B58	Bo 83/574	Parzinger-Sanz 1992, p. 116, Tab. 77 n°2	Length: 5,5; Height: 6,3	M1a	Upper Town, surface debris in L/9-h/8	Temple	13th-12th century BC	Anatolia
B59	Bo 86/119	Parzinger-Sanz 1992, p. 116, Tab. 77 n°3	Length: 8,8; Height: 5	M1a	Upper Town, surface debris in M/7-a/10	Temple	13th-12th century BC	Anatolia
B60	Bo 85/127	Parzinger-Sanz 1992, p. 116, Tab. 77 n°4	Length: 7,8; Height: 3,1	PRI, M5	Upper Town, Temple 20	Temple	13th-12th century BC	Anatolia
B61	Bo 83/1004	Parzinger-Sanz 1992, p. 116, Tab. 77 n°5	Length: 7,5; Height: 3,5	PRI	Upper Town M/9-e/9, rock debris of House 18	Temple	13th-12th century BC	Anatolia
B62	Bo 83/469	Parzinger-Sanz 1992, p. 116, Tab. 77 n°6	Height: 3,2; Diameter: 2,9	M1	Upper Town L/9-e/5, from Temple 15	Temple	13th-12th century BC	Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
B63	Bo 84/12	Parzinger-Sanz 1992, p. 116, Tab. 77 n°7	Length: 13,5; Height: 6	PRI, M5	Upper Town M/8-b/3, southern cella of Temple 19	Temple	13th-12th century BC	Anatolia
B64	Bo 83/462	Parzinger-Sanz 1992, p. 116, Tab. 77 n°8	Length: 5,3; Diameter: 3,7	M3	Upper Town L/9-e/5, from Temple 15	Temple	13th-12th century BC	Anatolia
B65	Bo 86/350	Parzinger-Sanz 1992, p. 116, Tab. 77 n°9	Length: 6,7; Height: 4,7	MND	Upper Town, surface debris of L/9-d/5	Temple	13th-12th century BC	Anatolia
B66	Bo 86/350	Parzinger-Sanz 1992, p. 116, Tab. 77 n°10	Length: 5,5; Height: 3,1	PRI	Upper Town, water basin in L/6-h/6	Temple	13th-12th century BC	Anatolia
B67	83/456	Parzinger-Sanz 1992, p. 116, Tab. 77 n°11	Length: 5,4; Height: 3,1	ND	Upper Town L/9-e/5, from Temple 15	Temple	13th-12th century BC	Anatolia
B68	Bo 86/210	Parzinger-Sanz 1992, p. 116, Tab. 77 n°12	Length: 9,7; Height: 3	PRI, M3	Upper Town, water basin in L/6-i/6	Temple	13th-12th century BC	Anatolia
B69	Bo 80/54	Parzinger-Sanz 1992, p. 116, Tab. 77 n°13	Length: 8; Diameter: 3,2	PRI	Upper Town, from "ancient cella" in L/7-h/6	Temple	13th-12th century BC	Anatolia
B70	Bo 83/759	Parzinger-Sanz 1992, p. 116, Tab. 77 n°14	Length: 8,2; Diameter: 5,4	PRI	Upper Town M/8-b/3, from Temple 19	Temple	13th-12th century BC	Anatolia
B71	Bo 83/983	Parzinger-Sanz 1992, p. 116, Tab. 77 n°15	Length: 5,2; Height: 5	ND	Upper Town M/9-b/8, from debris of Temple 18	Temple	13th-12th century BC	Anatolia
B72	Bo 86/328	Parzinger-Sanz 1992, p. 116, Tab. 77 n°16	Length: 3,6; Height: 2,7	M4	Upper Town L/6-c/6, backfill south of Temple 4	Temple	13th-12th century BC	Anatolia
B73	Bo 86/244	Parzinger-Sanz 1992, p. 116, Tab. 77 n°17	Length: 5,3; Height: 2,9	M6	Upper Town M/7-e/10, backfill south of Temple 26	Temple	13th-12th century BC	Anatolia
B74	Bo 83/770	Parzinger-Sanz 1992, p. 116, Tab. 78 n°1	Length: 9,1; Height: 6,1	ND	Upper Town, from Temple 12	Temple	13th-12th century BC	Anatolia
B75	Bo 83/472	Parzinger-Sanz 1992, p. 116, Tab. 78 n°2	Length: 6,9; Height: 4,1	M4	Upper Town, from Temple 15	Temple	13th-12th century BC	Anatolia
B76	Bo 83/468	Parzinger-Sanz 1992, p. 116, Tab. 78 n°3	Length: 5,8; Height: 4,6	M1	Upper Town, from Temple 15	Temple	13th-12th century BC	Anatolia
B77	Bo 83/907	Parzinger-Sanz 1992, p. 116, Tab. 78 n°4	Height: 6,3; Diameter: 4,8	M4	Upper Town, from Temple 15	Temple	13th-12th century BC	Anatolia
B78	Bo 80/17	Parzinger-Sanz 1992, p. 116, Tab. 78 n°5	Length: 4,3; Height: 4,1	M4	Upper Town, debris layer in L/7-i/7	Temple	13th-12th century BC	Anatolia
B79	Bo 83/239	Parzinger-Sanz 1992, p. 116, Tab. 78 n°6	Length: 5,3; Diameter: 3,1	ND	Upper Town, surface debris in L/8-c/5	Temple	13th-12th century BC	Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
B80	Bo 83/903	Parzinger-Sanz 1992, p. 116, Tab. 78 n°7	Length: 8,1; Width: 6,3	BB	Upper Town, from Temple 12	Temple	13th-12th century BC	Anatolia
B81	Bo 86/159	Parzinger-Sanz 1992, p. 116, Tab. 78 n°8	Length: 10,9; Diameter: 5,7	PRI	Upper Town M/6-a/1, backfill south of Temple 26	Temple	13th-12th century BC	Anatolia
B82	Bo 86/261	Parzinger-Sanz 1992, p. 116, Tab. 78 n°9	Length: 5,1; Height: 4,1	M4	Upper Town, backfill of M/7-f/8	Temple	13th-12th century BC	Anatolia
B83	Bo 83/772	Parzinger-Sanz 1992, p. 116, Tab. 78 n°10	Height: 5,5; Diameter: 6,2	M1a	Upper Town, from Temple 12	Temple	13th-12th century BC	Anatolia
B84	Bo 86/325	Parzinger-Sanz 1992, p. 116, Tab. 78 n°11	Length: 2,7; Width: 2,2	M1	Upper Town L/6-c/7, backfill south of Temple 4	Temple	13th-12th century BC	Anatolia
B85	Bo 83/775	Parzinger-Sanz 1992, p. 116, Tab. 78 n°12	Length: 4,1; Diameter: 4,1	PRI	Upper Town, from Temple 12	Temple	13th-12th century BC	Anatolia
B86	Bo 86/397	Parzinger-Sanz 1992, p. 116, Tab. 78 n°13	Length: 16,7; Diameter: 4,1	BDI	Upper Town L/6-b/7, backfill south of Temple 4	Temple	13th-12th century BC	Anatolia
B87	Bo 83/908	Parzinger-Sanz 1992, p. 116, Tab. 78 n°14	Length: 4,5; Diameter: 5	PRI	Upper Town, from Temple 15	Temple	13th-12th century BC	Anatolia
B88	Bo 86/218	Parzinger-Sanz 1992, p. 116, Tab. 78 n°15	Length: 5,7; Diameter: 2,6	PRI	Upper Town M/7-e/10, remains of the buildings in Houses 24-30 area, south of Temple 26	Temple	13th-12th century BC	Anatolia
B89	Bo 86/308	Parzinger-Sanz 1992, p. 116, Tab. 78 n°16	Length: 5,7; Width: 3,4	ND	Upper Town M/7-e/10, remains of the buildings in Houses 24-30 area, south of Temple 26	Temple	13th-12th century BC	Anatolia
B90	Bo 83/467	Parzinger-Sanz 1992, p. 116, Tab. 78 n°17	Height: 5,5; Diameter: 5,5	BAS	Upper Town, from Temple 15	Temple	13th-12th century BC	Anatolia
B91	Bo 80/83	Parzinger-Sanz 1992, p. 116, Tab. 78 n°18	Length: 5; Height: 4,8	ND	Upper Town L/8-e/1, debris layer	Temple	13th-12th century BC	Anatolia
B92	ND	Seeher 2002, pp. 60-70	ND	ND	Upper Town, Southern Pond 1	Temple/ND	13th century BC	Anatolia
B93	82/e	Neve 1984, pp. 368, 370	ND	ND	Upper Town, Temple 7	Temple	13th-12th century BC	Anatolia
B94	ND	Müller-Karpe 1988, p. 145, Tab. 48 n°1	ND	BAS	Upper Town, Temple 6	Temple	13th-12th century BC	Anatolia
B95	ND	Müller-Karpe 1988, p. 145, Tab. 48 n°2	ND	ND	Upper Town, Temple 6	Temple	13th-12th century BC	Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
B96	81/18	Müller-Karpe 1988, p. 145, Tab. 48 n°3	ND	PRI, M2	Upper Town, Temple 6, Room 34	Temple	13th-12th century BC	Anatolia
B97	79/211	Müller-Karpe 1988, p. 145, Tab. 48 n°4	ND	BAS	Upper Town, Level 3-4	Temple	13th-12th century BC	Anatolia
B98	ND	Müller-Karpe 1988, p. 145, Tab. 48 n°9	ND	BND	Upper Town, Temple 6, Room 8	Temple	13th-12th century BC	Anatolia
B99	ND	Müller-Karpe 1988, p. 145, Tab. 48 n°10	ND	BR	Upper Town, Temple 7	Temple	13th-12th century BC	Anatolia
BE01	ND	Mellaart 1995, p. 63; Tab. 41 n° 1	ND	PRI, BDI	Level 1b	ND	Late Bronze Age	West Anatolia
BE02	ND	Mellaart 1995, p. 63; Tab. 41 n° 2	ND	BA	Level 1b	ND	Late Bronze Age	West Anatolia
BE03	ND	Mellaart 1995, p. 63; Tab. 41 n° 3	ND	BA	Level 1b	ND	Late Bronze Age	West Anatolia
BH01	ND	Omura 2004, p.39, Fig. 64.6 p. 58; Mielke 2007, p. 160	ND	M8	Survey	ND	Late Bronze Age	Anatolia
DM01	H5-1	Üyümez, Koçak e İlaslı 2010, pp. 943-944, Fig. 2-3 p. 949	ND	M7	Middle Bronze Age Necropolis (?), Square H5	Funerary	Middle Bronze Age (17th century BC?)	West Anatolia
E01	ND	Mellink 1970, p. 161	ND	ND	Hittite Level	ND	Late Bronze Age (?)	Anatolia
EN01	97 4-1 1301, A33	Courtois et al. 1986, pp. 44-45, Tab. XXX n°8	Preserved Length: 28,6; Diameter Max.: 8; Wrist Diameter: 2,8; Base Diameter: 5,9; Wrist Opening Diameter: 1,5	BA; PRI; M7	Grave 57	Funerary	LCI-LCIIA (17th-12th century BC)	Cyprus
EN02	97 4-1 1108, A32	Åström 1967, p. 8, n° 5; Courtois et al. 1986, p. 41	Length: 61; Bowl Diameter: 3,7; Base Diameter: 6,7	BA; PRI; M2	Grave 69	Funerary	15th-14th century BC	Cyprus
EN03	A 1423	Åström 1972a, p.205	Length: 62	ND	Grave 69	Funerary	15th-14th century BC	Cyprus
EN04	AM 2355	Courtois et al. 1986, p. 27-28, Tab. XXX n° 9	Length: 67,5; Diameter Max.: 5,1; Bowl Diameter: 3,7	BP; PRID; M3	Grave 2	Funerary	14th century BC	Cyprus
EN05	ND	Courtois et al. 1986, p. 50	ND	ND	Grave 7	Funerary	LCII (14th century BC)	Cyprus
EN06	97 4-1 1320, A34	Åström 1972a, p.205	Bowl Diameter: 3,9; Wrist Diameter: 3,1; Wrist Opening Diameter: 1,1	ND	ND	ND	ND	Cyprus
EN07	ND	Åström 1972a, p.205	ND	ND	ND	ND	ND	Cyprus
GV01	ND	French 1965, pp. 184, 197, Fig. 4.1	ND	ND	Survey	ND	ND	Rough Cilicia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
GV02	ND	French 1965, pp. 184-185, 198, Fig. 5.17	ND	ND	Survey	ND	ND	Rough Cilicia
GV03	ND	French 1965, pp. 184, 201, Fig. 11.28	ND	ND	Survey	ND	ND	Rough Cilicia
HST01	ND	Eriksson 1993, p. 260 nr. 1034-1038	Length: 5	ND	Area 22, F 6031	ND	ND	Cyprus
HST02	ND	Eriksson 1993, p. 260 nr. 1034-1038	ND	ND	Ti. 1, F 1	ND	ND	Cyprus
HST03	ND	Eriksson 1993, p. 260 nr. 1034-1038	ND	ND	Area 8, F 1317	ND	ND	Cyprus
HST04	ND	Eriksson 1993, p. 260 nr. 1034-1038	ND	ND	Area 8, F 1530	ND	ND	Cyprus
HST05	ND	Eriksson 1993, p. 260 nr. 1034-1038	ND	ND	Area 21, F 5060	ND	ND	Cyprus
K01	ND	Griffin 1980, p. 89, Tab. 10 H	Length: 5,3; Base Diameter: 3,2; Preserved Diameter: 6,1	BAS	Fase J, Layer CXXX, N11 [1-4](3)	ND	14th-12th century BC	East Anatolia
K02	ND	Griffin 1980, p. 88, Tab. 10 I	Base Diameter: 6	BA	Fase H, Layer CX, U 13 [3-4] (6)	ND	16th-15th century BC	East Anatolia
K03	ND	Griffin 1980, p. 88, Tab. 10 E	Length: 7,6; Base Diameter: 6	BA	Fase E-I, O17 2	ND	ND	East Anatolia
K04	ND	Griffin 1980, p. 88, Tab. 18 B	Length: 5,5; Base Diameter: 7	BA	Fase J, Layer CXXX (?), O 21 NE (3)	ND	14th-12th century BC	East Anatolia
K05	Kret 73/97	Ertem 1988, pp. 18, Cat. N° 31	Length: 7,2; Diameter Max.: 6,2; Bowl Diameter: 3,7	PRID, M2a	L-10, inside room n° 7	ND	Hittite Period	East Anatolia
K06	Kret 74/28	Ertem 1988, pp. 18, Cat. N° 32	Preserved Length: 7,6; Diameter Max.: 3,4; Bowl Diameter: 3,9	PND, M2	L-17 Irb 400-410	ND	ND	East Anatolia
K07	Kret 74/15	Ertem 1988, pp. 18, Cat. N° 33	Preserved Length: 4,6	M3	M-20 IVrb.(III)-610	ND	Hittite Period	East Anatolia
K08	Kret 76/64	Ertem 1988, pp. 18, Cat. N° 34	Preserved Length: 9,3; Diameter Max.: 3,7	BB	N-19 Irb. -330	ND	ND	East Anatolia
KA01	ND	Mühlenbruch 2014, p. 115-117, Tab. 30 n°3	ND	ND	Building B, Level 4	Administrative (?)	15th-14th century BC	Anatolia
KA02	ND	Mühlenbruch 2014, p. 115-117, Tab. 30 n°4	ND	ND	Building B, Level 4	Administrative (?)	15th-14th century BC	Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
KA03	ND	Mühlenbruch 2014, p. 115-117, Tab. 30 n°5	ND	PND	Building B, Level 4	Administrative (?)	15th-14th century BC	Anatolia
KA04	Kf 210	Mühlenbruch 2014, p. 115-117, Tab. 30 n°6	ND	PND, M1	Building B, Level 4	Administrative (?)	15th-14th century BC	Anatolia
KA05	ND	Mühlenbruch 2014, p. 115-117, Tab. 30 n°7	ND	PRI	Building B, Level 4	Administrative (?)	15th-14th century BC	Anatolia
KA06	Kf 55.124	Mühlenbruch 2014, p. 115-117, Tab. 31 n°1	ND	PR1, M1a	Building B, Level 4	Administrative (?)	15th-14th century BC	Anatolia
KA07	Kf 101	Mühlenbruch 2014, p. 115-117, Tab. 31 n°2	ND	MND	Building B, Level 4	Administrative (?)	15th-14th century BC	Anatolia
KA08	Kf 146	Mühlenbruch 2014, p. 115-117, Tab. 31 n°3	ND	M1a	Building B, Level 4	Administrative (?)	15th-14th century BC	Anatolia
KB01	96 2-1 64, A8	www.britishmuseum.org	Preserved Length: 7,2; Bowl Diameter: 4; Wrist Diameter: 4,2	ND	Grave 102	Funerary	End of 14th century BC	Cyprus
KB02	54-41-16	www.penn.museum	Preserved Length: 9,6; Diameter Max: 4,1	ND	Grave 16	Funerary	ND	Cyprus
KB03	1926 3-24 1, A9	www.britishmuseum.org	Preserved Length: 11,3; Wrist Diameter: 3,15; Opening Diameter: 1,2	ND	ND	ND	ND	Cyprus
KI01	ND	Baker et al. 1995, pp. 180-182, Fig. 17 n° 1; Kibaroglu et al. 2019, p. 415	ND	PRI	I20, Level III, Destruction phase	ND	15th-second half 14th century BC	Cilicia
KI02	ND	Baker et al. 1995, pp. 180-182, Fig. 17 n° 2; Kibaroglu et al. 2019, p. 415	ND	BR	I20, Level III, Destruction phase	ND	15th-second half 14th century BC	Cilicia
KI03	ND	Baker et al. 1995, pp. 180-182, Fig. 17 n° 3; Kibaroglu et al. 2019, p. 415	ND	MND	I20, Level III, Destruction phase	ND	15th-second half 14th century BC	Cilicia
KI04	ND	Symington 2001, pp. 169-170; p. 179 Fig. 6; Kibaroglu et al. 2019, p. 415	ND	M3	Level III, Destruction phase	ND	15th-second half 14th century BC	Cilicia
KI05	ND	Symington 2001, pp. 169-170; p. 179 Fig. 6; Kibaroglu et al. 2019, p. 415	ND	MND	Level III, Destruction phase	ND	15th-second half 14th century BC	Cilicia
KI06	ND	Symington 2001, pp. 169-170; p. 179 Fig. 6; Kibaroglu et al. 2019, p. 415	ND	BAS	Level III, Destruction phase	ND	15th-second half 14th century BC	Cilicia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
KK01	ND	Omura 1999, p. 219; Fig. 9 n° 1	ND	M4	Layer IIIa	ND	15th-second half 14th century BC	Anatolia
KU01	KU 97/18	Mielke 2007, pp. 42; Tab. 80 n°1	Bowl Diameter: 4,4	MND	Great Building, debris of Level III	Palace/ Administrative (?)	End 14th-half 13th century BC	Anatolia
KU02	93/758	Mielke 2007, pp. 42; Tab. 80 n°2	Bowl Diameter: 4,5	MND	Filling of House 2, Level III	Domestic	End 14th-half 13th century BC	Anatolia
KU03	KU 95/263	Mielke 2007, pp. 42; Tab. 80 n°3	ND	M5	Great Building, debris of Level III	Palace/ Administrative (?)	End 16th-half 14th century BC	Anatolia
KU04	KU 95/257	Mielke 2007, pp. 42; Tab. 80 n°4	ND	M5	Great Building, debris of Level III	Palace/ Administrative (?)	End 16th-half 14th century BC	Anatolia
KU05	95/579	Mielke 2007, pp. 42; Tab. 80 n°5	ND	MND	Outside Great Building, Level III	Palace/ Administrative (?)	End 16th-half 14th century BC	Anatolia
KU06-KU07	KU 95/257- KU 95/257	Mielke 2007, pp. 42; Tab. 80 n°6-7	ND	PRI	Great Building, debris of Level III	Palace/ Administrative (?)	End 16th-half 14th century BC	Anatolia
KU08	95/231	Mielke 2007, pp. 42; Tab. 80 n°8	ND	M8	Debris of Level III	ND	End 16th-half 14th century BC	Anatolia
M01	Mst 76/56	Özgülç 1982, p. 102, Tab. 47 n° 4a-b	Length: 42; Diameter: 5	PRI, M1a	Hitte I Level, Three Rooms House	Domestic	13th century BC	Anatolia
M02		Özgülç 1982, p. 102, Fig. 35	Length: 22; Diameter: 5	BP	Hitte I Level, Three Rooms House	Domestic	13th century BC	Anatolia
MR01	98 12-1 122, A51	Åström 1967, p. 8 fig.3; Åström 1972a, p.205	Length 64,5; Bowl Diameter: 3,8; Wrist Diameter: 3,4; Base Diameter: 5,4	BDI; PRI; M2	Grave 7	Funerary	Half 15th-beginning 12th century BC	Cyprus
ND01	A 1424	Eriksson 1993, p. 261 nr. 1042	Preserved Length: 6,2; Dm coppa: 3,3	ND	ND	ND	ND	Cyprus
OS01	Building A, N°1	Kiymet and Suel 1999, p. 468	Preserved Length: 4; Diameter: 3,5	ND	Building A	Palace	15th-14th century BC	Anatolia
OS02	Building A, N°2	Kiymet and Suel 1999, p. 468	Preserved Length: 12; Diameter: 6,7	ND	Building A	Palace	15th-14th century BC	Anatolia
OS03	Building A, N°3	Kiymet and Suel 1999, p. 469	Preserved Length: 7,5	ND	Building A	Palace	15th-14th century BC	Anatolia
OS04	Building A, N°4	Kiymet and Suel 1999, p. 469	Preserved Length: 8	ND	Building A	Palace	15th-14th century BC	Anatolia
OS05	Building A, N°5	Kiymet and Suel 1999, p. 470	Preserved Length: 5	ND	Building A	Palace	15th-14th century BC	Anatolia
OS06	Building B, N°1	Kiymet and Suel 1999, p. 470	ND	ND	Building B	Administrative	15th-14th century BC	Anatolia
OS07	Building C, N°1	Kiymet and Suel 1999, p. 471	Preserved Length: 9; Diameter: 4,2	ND	Building C	Temple	15th-14th century BC	Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
OS08	Building C, N°2	Kiymet and Suel 1999, p. 471	Preserved Length: 12; Diameter: 6,3	ND	Building C	Temple	15th-14th century BC	Anatolia
OS09	Building C, N°3	Kiymet and Suel 1999, p. 472	Preserved Length: 10,5; Diameter: 5,5	ND	Building C	Temple	15th-14th century BC	Anatolia
OS10	Building C, N°4	Kiymet and Suel 1999, p. 472	Preserved Length: 5; Diameter: 6,2	BDI	Building C	Temple	15th-14th century BC	Anatolia
OS11	Building C, N°5	Kiymet and Suel 1999, p. 473	Preserved Length: 4; Diameter: 4,1	BR	Building C	Temple	15th-14th century BC	Anatolia
OS12	Building C, N°6	Kiymet and Suel 1999, p. 473	Preserved Length: 3; Diameter: 2,5	BB	Building C	Temple	15th-14th century BC	Anatolia
OS13	Building D, N°1	Kiymet and Suel 1999, p. 474	Preserved Length: 35,5; Diameter Max.: 4	PRI, M3	Building D	Palace (?)	15th-14th century BC	Anatolia
OS14	Building D, N°2	Kiymet and Suel 1999, p. 475	Preserved Length: 12,5; Diameter Max.: 2,4	PRI, M3	Building D	Palace (?)	15th-14th century BC	Anatolia
OS15	Building D, N°3	Kiymet and Suel 1999, p. 476	Preserved Length: 21,5; Diameter: 6/7	BAS	Building D	Palace (?)	15th-14th century BC	Anatolia
OS16	Building D, N°4	Kiymet and Suel 1999, p. 476	Preserved Length: 16,5; Diameter: 6/7	BR	Building D	Palace (?)	15th-14th century BC	Anatolia
OS17	Building D, N°5	Kiymet and Suel 1999, p. 477	Preserved Length: 13; Diameter: 3,6	ND	Building D	Palace (?)	15th-14th century BC	Anatolia
OS18	Building D, N°6	Kiymet and Suel 1999, p. 477	Lenghtecca Preserved: 5; Diameter: 3,6	PRI	Building D	Palace (?)	15th-14th century BC	Anatolia
OS19	Ağlönü, N°1	Kiymet and Suel 1999, p. 478	Preserved Length: 24; Diameter: 8,5	ND	Ağlönü	Temple	15th-14th century BC	Anatolia
P01	ND	Dupré 1983, pp. 26, 53, Tab. 41 n°250	Length/Preserved: 19; Base Diameter: 2,8	BAS	Area IV, H2; Level V	Administrative (?)	14th-12th century BC sec. a.C	Anatolia
TA01	ND	Goldman 1956, p. 218, Fig. 328 n°1229	Preserved Length: 7,3; Preserved Diameter: 7,3	BB	Hittite Temple, Late Bronze Age IIa	Temple	Half 14th-second half 13th century BC	Plain Cilicia
TA02	ND	Goldman 1956, p. 218, Fig. 328 n°1230	Preserved Length: 16,2; Preserved Diameter: 3,8	ND	Hittite Temple, Late Bronze Age IIa	Temple	Half 14th-second half 13th century BC	Plain Cilicia
TP01	ND	Dupré 1983, p. 26, 12	ND	ND	ND	ND	ND	East Anatolia
TR01	ND	Blegen et al. 1953, p. 282; Tab. 402 n° 12	Preserved Diameter: 5,8	ND	Square J 7-8, Level VIg	ND/Domestic (?)	End 14th century BC	Coastal Anatolia
TR02	ND	Blegen et al. 1953, p. 282; Tab. 402 n° 13	Preserved Diameter: 8	ND	Square J 7-8, Level VIg	ND/Domestic (?)	End 14th century BC	Coastal Anatolia

Catalog nr.	Original Inventory nr.	Bibliography	Dimensions (in cm unless indicated otherwise)	Morphological Type	Finding Context	Context Type	Datings	Geographical Area
UG01	AO 122230	Schaeffer 1949, p. 210, Fig. 87 n° 6	Length Preserved: 12; Diameter Max.: 5	PRI, M2	Trench IV, near topographical point 55	ND	Half 14th-first half 13th century BC	Levant
UG02	P. 705	Astrom 1972b, p. 743	ND	ND	ND	ND	ND	Levant
UG03	ND	Courtois et al. 1986, p. 163 n° 371	ND	ND	South of the Acropolis, 118 E area	ND	ND	Levant
YU01	ND	Manuelli 2009, p. 259-260, Fig. 2	ND	PRI, M3	Level IX	ND	Beginning 15th century BC	Plain Cilicia



Fig. 1: Arm-shaped vessel from Maroni (modified from © The Trustees of the British Museum)

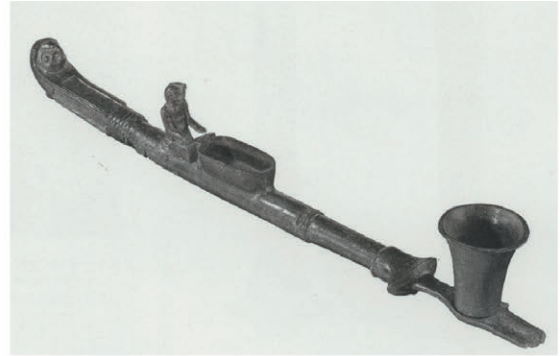


Fig. 2: Egyptian incense-burner (modified from Laisney 2009: Tab. 34, Fig. 3)

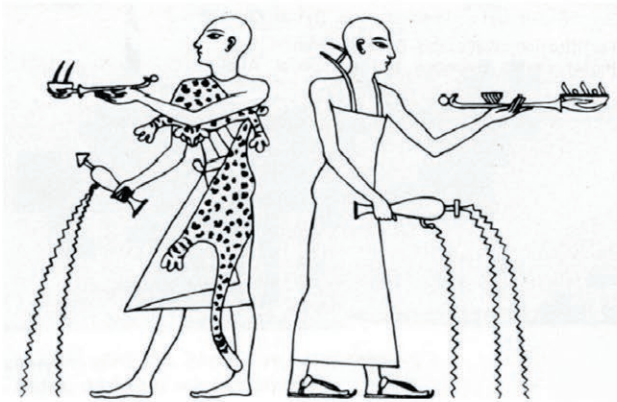


Fig. 3: Painting of egyptian incense-burners (modified from Ertem 1988: Fig. 1)

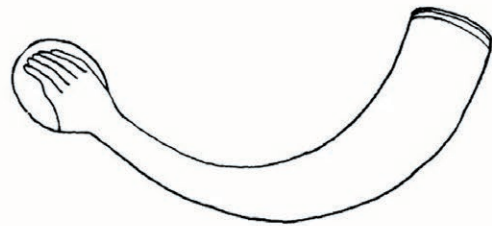


Fig. 4: Bovine-horn vessel in the shape of an arm and a hand holding a bowl (modified from Amiran 1962: Fig. 3, 2)

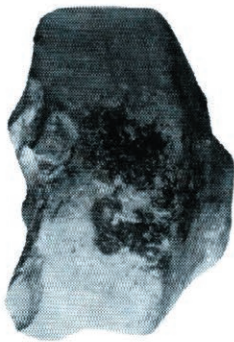


Fig. 5: Button-base type. Cat. B16 (modified from Fischer 1963: Tav. 124 n. 1099)

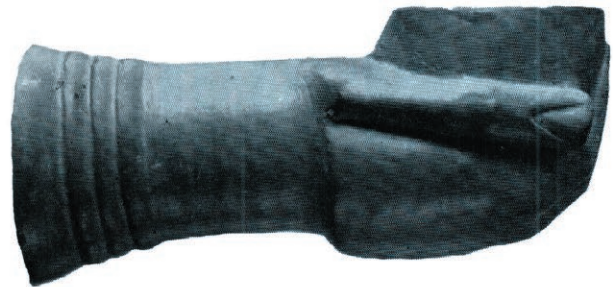


Fig. 6: Raised-ring decoration type of the wrist. Cat. B37 (modified from Fischer 1963: Tav. 124 n. 1125)



Fig. 7: Spaced-rings wrist decoration. Cat. B26 (modified from Fischer 1963: Tav 124 n. 1109)

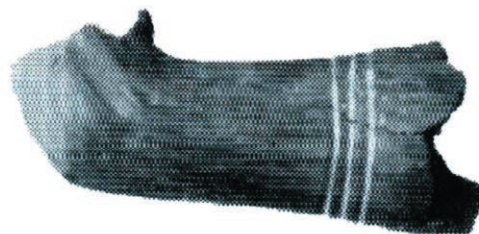


Fig. 8: Incised-rings wrist decoration. Cat. B40 (modified from Fischer 1963: Tav. 124 n. 1128)



Fig. 9: M2a hand type. Cat. K05 (modified from Ertem 1988: Fig. 31)



Fig. 10: M3a hand type. Cat B80 (modified from Parzinger-Sanz 1992: Tav. 78 n. 7)



Fig. 11: M7 hand type. Cat. DM01 (modified from Üyümez *et al.* 2010: 949, Fig. 2.3)



Fig. 12: M7 hand type. Cat EN01 (modified from © The Trustees of the British Museum)

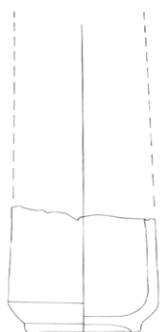


Fig. 13: Ring base type. Cat. BE03 (modified from Mellaart 1995: Tav. 41 n. 3)



Fig. 14: Narrow ring base type. Cat. P01 (modified from Dupré 1983: Tav. 41 n. 250)



Fig. 15: Disc base type. Cat. BE02 (modified from Mellaart 1995: Tav. 41 n. 2)



Fig. 16: Flat base type. Cat. M02 (modified from Özgüç 1982: 102, Fig. 35)



Fig. 17: Rounded base type. Cat. KI02 (modified from Baker *et al.* 1995: 180, Fig. 17 n. 2)

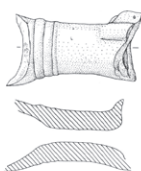


Fig. 18: Raised-Ring decoration type. Cat. B69 (modified from Parzinger-Sanz 1992: Tav. 77 n. 13)

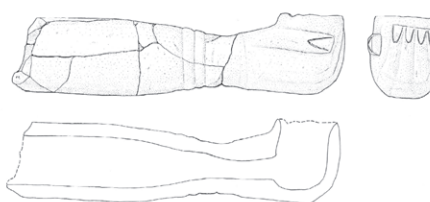


Fig. 19: M1 hand type. Cat. B53 (modified from Parzinger-Sanz 1992: Tav. 76 n. 3)



Fig. 20: M1a hand type. Cat. B58 (modified from Parzinger-Sanz 1992: Tav. 77 n. 2)

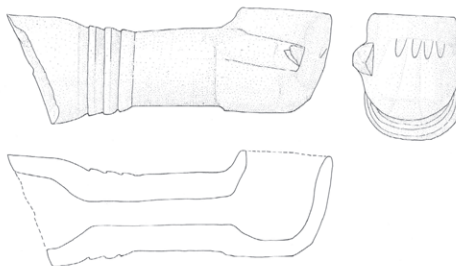


Fig. 21: M3 hand type. Cat. B55 (modified from Parzinger-Sanz 1992: Tav. 76 n. 5)



Fig. 22: M4 hand type. Cat. B77 (modified from Parzinger-Sanz 1992: Tav. 78 n. 4)



Fig. 23: M5 hand type. Cat. B63 (modified from Parzinger-Sanz 1992: Tav. 77 n. 7)

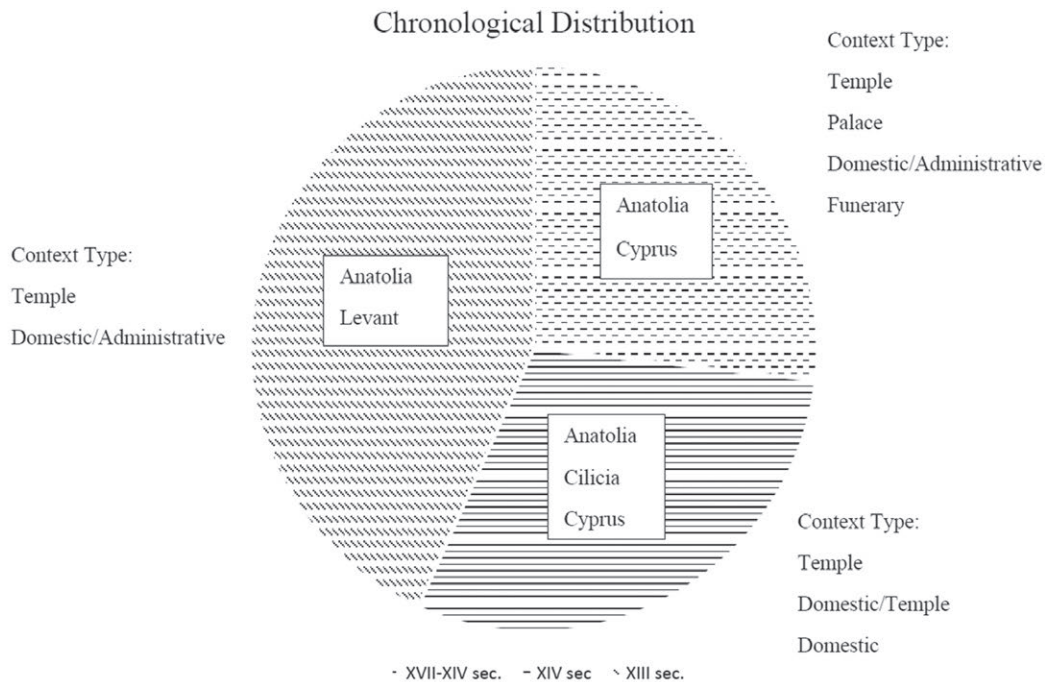


Fig. 24: M6 hand type. Cat. B73 (modified from Parzinger-Sanz 1992: Tav. 77 n. 17)



Fig. 25: M8 hand type. Cat. KU08 (modified from Mielke 2007: Tab. 80 n. 8)





Tab.2: Chronological distribution and production areas chart

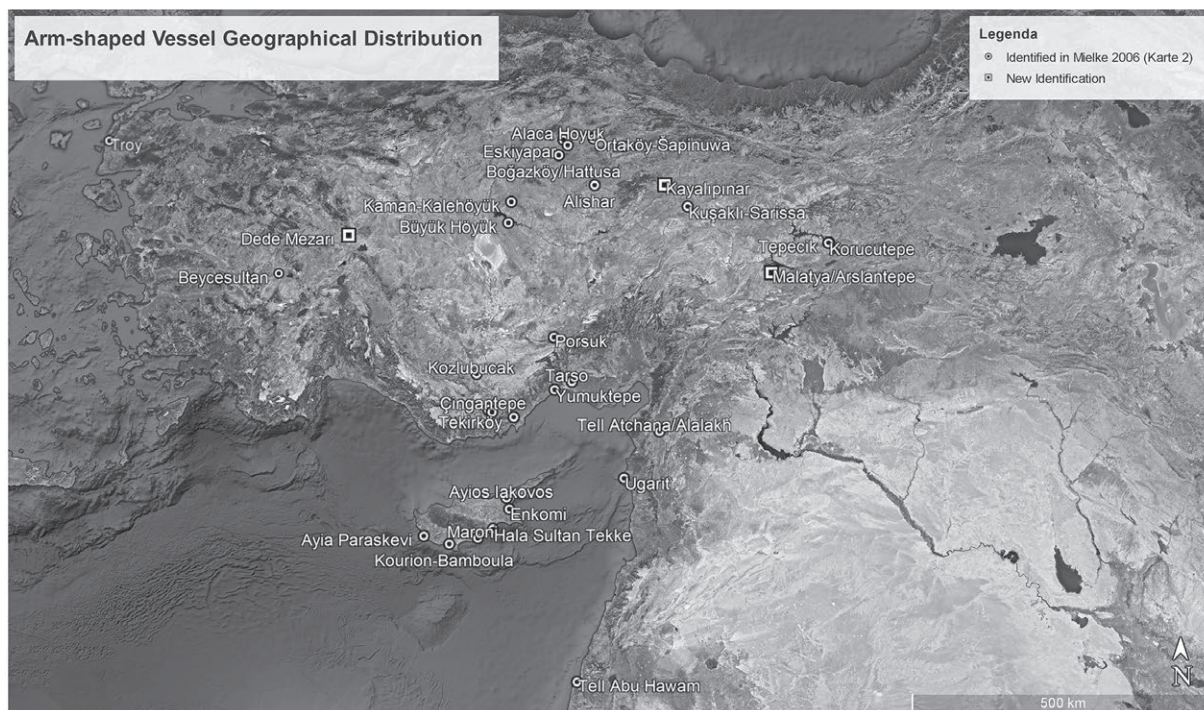


Table 3: Arm-Shaped Vessel geographical distribution map