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Revista d'Arqueologia de Ponent
nº35 2025
Pàgs. 159-170

DOI 10.21001/rap.2025.35.9
Universitat de Lleida
ISSN 1131-883-X
ISSN electrònic 2385-4723
www.rap.udl.cat

Filling the gaps: methodological issues in capacity research of Late Bronze Age Maritime Transport Containers

Omplir els buits: qüestions metodològiques sobre l'estudi de la capacitat dels contenidors de transport marítim de l'Edat del Bronze Recent

Capacity has often been neglected in ceramic studies despite a vessel's inner cavity being a central parameter for its interpretation. Capacity is closely tied to the function and the *raison d'être* of any pottery container as it directly reflects the potential amount of any particular product to be transported, stored, processed, or consumed. The capacity of Maritime Transport Containers (MTCs) such as amphoras of the Late Bronze Age in the eastern Mediterranean determined the economic value of the content. As references to units of capacity are scarce in 2nd-millennium BCE texts, direct examination of archaeological material offers a valuable approach to determining the actual ranges, and thus the possible quantities of commodities traded. This paper presents a methodological framework combining direct and indirect approaches with the aim of laying down a foundation for a solid database for ancient eastern Mediterranean containers. It then presents a case study of Levantine amphoras based on data from 50 sites spread throughout the eastern Mediterranean and outlines the aims of the ERC ComPAS project, which focuses on the various MTCs involved in trade with Cyprus during the Late Bronze Age and early phases of the Iron Age.

Keywords: Capacity study; metrology; eastern Mediterranean; Late Bronze Age; Maritime Transport Container; Levantine amphora.

La capacitat ha estat sovint desatesa en els estudis ceràmics, malgrat que la cavitat interior d'un recipient és un paràmetre fonamental per a la seva interpretació: la capacitat està estretament relacionada amb la funció i la raó de ser de qualsevol peça ceràmica, atès que reflexa directament la quantitat potencial d'un producte concret que pot transportar-se, emmagatzemar-se, processar-se o consumir-se. Al Mediterrani oriental de finals de l'edat del bronze, la capacitat dels contenidors de transport marítim (MTCs), com les àmfores, determinava el valor econòmic del seu contingut. Encara que les unitats de capacitat són escasses a les fonts textuals del segon mil·lenni aC, l'examen directe del material arqueològic ofereix un enfocament valuós per determinar els rangs reals de capacitat i, per tant, les possibles quantitats de mercaderies comercialitzades. Aquest article presenta un marc metodològic que combina enfocaments directes i indirectes, amb l'objectiu d'establir els fonaments per a una base de dades sòlida sobre els recipients antics de la Mediterrània oriental. A continuació, planteja un estudi de cas sobre les àmfores llevantines basat en dades de cinquanta jaciments repartits per tota la Mediterrània oriental i descriu els objectius del projecte ERC ComPAS, un projecte que es centra en els diversos MTCs que van participar en el comerç amb Xipre durant l'edat del bronze recent i les primeres fases de l'edat del ferro.

Paraules clau: estudi de la capacitat, metrologia, Mediterrani oriental, edat del bronze recent, contenidors de transport marítim, àmfora llevantina.

Introduction

In archaeology, many aspects of ancient pots are usually assessed: decorative and functional features, manufacturing technics, use-wear and forming traces, clay composition, contents, potmarks, and more. The object itself is carefully documented, and various dimensions are recorded, including morphometry details such as height, opening and base diameter, maximal diameter or circumference of the body, and in some cases even wall and handle thickness.

In contrast, the object's capacity often remains neglected in studies of Bronze Age eastern Mediterranean vessels, despite some scholars having argued for the importance of addressing this parameter more systematically (e.g. Raban 1980; Thalmann 2003; 2007). In distinction, Classical archaeology, where both material and textual data abound, is far more advanced on this topic, as numerous studies on amphora capacity and standardisation have long demonstrated (among others, see Grace 1949; 1979; Sealey 1985; Wallace 1986). Recent studies still integrate capacities as a common data for amphora analysis (e.g. Molina Vidal and Mateo Corredor 2018; Demesticha 2022; Lund 2023). Generally, it is as though the empty space of a vessel's inner cavity offers no meaningful contribution to the interpretation of the material. This may partly be because our approach to ceramology reduces these three-dimensional objects in two-dimensional drawings, obscuring their volumetric aspect.

It is here argued that capacity ought to be considered a key parameter for all classes of ceramic. Capacity reflects no less than the amount of a particular product that a container can hold – whether in the context of the transport, storage, preparation or processing of goods, or their consumption. In the case of Maritime Transport Containers (MTC) (for this designation, see Marcus 2002: 409-411; Knapp and Demesticha 2017; more broadly on Mediterranean containerisation, see Bevan 2014) such as amphoras, capacity determines the value of the transported product, without which the container itself would hold little particular interest.

Accordingly, when considering MTCs, capacity was undoubtedly a factor taken into account by many during a container's use-life. Potters, and in some cases their commissioners, were the first to acknowledge this parameter when designing a ceramic vessel and assigning it a specific function. Merchants were also likely inclined to assess it, as capacity determines the amount of commodity they would have been able to exchange. This aspect was equally important for seafarers responsible for freight logistics, who had to arrange cargo efficiently. For consumers, knowing the quantity of goods within a container ensured fair transactions.

As such, capacity should be a key element of any study dealing with transport containers and trade, as it can reveal various stages of the exchange process. More generally, when studied diachronically, capacity may offer insights into the economy of a region and highlight potential shifts. It may also shed light on practices and habits that varied from one area to another. Studying a ceramic assemblage from a specific settlement or discovery – for example, the Uluburun shipwreck (Pulak and Matheny 2021) or the deposit at Minet el-Beida (Sauvage 2015), with respectively 150 and 80 Levantine amphoras – can provide insight into the degree of standardisation in ancient ceramic production that potters were able to achieve in different times and regions.

Capacity alone does not provide complete insight, and it should always be analysed together with other parameters – e.g. typological, functional, petrographic, contextual, nature of the contents – to support meaningful interpretations (Webb and Pomadère forthcoming). Although capacity materialises as a simple hollow space, its study can help us fill the gaps in our knowledge about the production and functions of pots, as well as about various aspects such as exchange logistics, metrological systems, storage strategies and cooking and consumption practices.

This paper outlines the issues involved in volumetric measurement and offers a methodological framework. It then presents a short case study based on data from fifty sites spread throughout the eastern Mediterranean and outlines the aims of the ComPAS project, which gives attention to the various MTCs involved in trade with Cyprus during the Late Bronze Age and early phases of the Iron Age.

Challenges and limitations

Volumetric measurement systems for the Late Bronze Age (LBA) eastern Mediterranean are unevenly documented. In Egypt, units of capacity are well-attested in texts. The *hin*-measure, more specifically used for liquids, corresponds to nearly half a litre, while the *heqat*, a unit used for grain measurement, equals about 5 L, or 10 times the *hin* (Pommerening *et al.* 2023: 144). According to a study led by Zapassky, the *heqat* would amount precisely to 4.77 L (Zapassky *et al*. 2012). Hieratic inscriptions, the so-called 'jar dockets', are commonly found on Egyptian vessels, as well as on Levantine amphoras imported into Egypt (Bavay *et al*. 2000; Tallet 2003; Bavay 2015). These dockets served an administrative purpose and provide

a rich source of information, sometimes mentioning the nature of products transported, the name of the transport ship captain, the regnal year, and even, in some cases, capacity. These capacities, which are expressed in *hin*, may be as precise as half a unit, representing about 25 cl (Tallet 2003: 261; Bavay 2015: 134, fig. 12). Jar dockets mentioning capacity come either from ceramics reduced to sherds or from perfectly intact vessels, sometimes still sealed; unfortunately, in neither case can direct measurements be made on the material to assess the recorded capacity expressed in *hin*.

In the Levant, the system of volumetric measure for liquids during the LBA remains largely unknown. In the northern Levant, at Ugarit, the term *kd* is interpreted as a unit of capacity (Heltzer 1989: 197-201), although it may also have referred to a ceramic vessel – possibly a specific type of amphora with a standard size in use at the end of the LBA – whose capacity could have fluctuated over time (Zamora 2003; 2004). This term, frequently appearing in economic texts from Ugarit, may therefore designate a category of containers rather than simply a unit of liquid measurement. Interestingly, *kd* always appears in whole numbers in texts, never as a fraction, reinforcing the idea that it might refer to a container. Additional evidence supporting this interpretation comes from a truncated cone-shaped clay label, inscribed with *kd* in the singular along with the type of product contained and the name of the addressee (Zamora 2003: 239; 2004: 393). In this case, the inscription most likely refers to the vessel to which the clay label was once attached. In the southern Levant, by contrast, the limited use of writing does not offer comparable evidence for units of capacity. Even for the Iron Age (IA), our understanding of measurement practices in the Levant remains limited. The *bath*, traditionally believed to refer to a unit of capacity which corresponds to 22 L, continues to be in discussion (Lipschits *et al.* 2012).

No units of capacity are known from Cyprus. Even line marks incised on various MTCs found throughout the island do not seem necessarily to reflect any volumetric – or weight – measurement system (Donnelly and Georgiou forthcoming).

The discovery of intact ceramic vessels mentioning a unit of capacity would probably help researchers to better understand volumetric measurement systems. It would not, however, necessarily provide the decisive element needed to decipher the units in use around the eastern Mediterranean. It may even generate further confusion, as with the case of Minoan pithoi bearing Linear A inscriptions that record quantities of goods and whose complete profile enables the reconstruction of their capacity (Montecchi 2013: 18–20). Despite such evidence, these inscriptions remain insufficient for determining with certainty the value of the unit employed, since they may in fact designate a whole batch of pithoi rather than the capacity of the inscribed ceramic alone. Likewise, in the case of an intact amphora discovered in a New Kingdom Egyptian tomb (Franzmeier 2017: 1518-1519, pl. 1840: 1955/GKeA/002), the amount indicated in the inscription, expressed in *hin*-measure, does not match with its actual capacity (Cateloy 2022: 388–389): the mention of 80 *hin* ought to amount to some 38 L, yet the amphora barely exceeds 25 L. Thus, even when certain units appear well known from the texts, their correspondence with the actual capacity of the archaeological material is not necessarily guaranteed. Several inscribed vessels would therefore be needed to shed light on the measurement system (whether unitary or by batch), as well as on the effective value of the units employed.

Beyond correlating textual data with actual capacities, estimating the volume of interregional exchange according to texts also appears challenging – particularly when it comes to organic commodities, given that such perishable products have left few traces in archaeological records. Some sources, notably the victory accounts of Egyptian kings in Canaanite lands, convey an image of the intense circulation of goods. The interpretation of other texts, such as a letter from Ugarit in which a Hittite king demands 2000 units (of an indeterminate measure) of grain, has given rise to widely diverging estimates, ranging from 450 tonnes to, more reasonably, 7.7 tonnes (Monroe 2007). Such textual evidence has occasionally encouraged interpretations of the LBA as at times comparable to the vigorous trade of the Classical Mediterranean. To what extent can the actual flows of exchange in the eastern Mediterranean be reconstructed and quantified? Egyptian texts referring to Levantine tributes – which in many respects constituted a significant part of exchange between both regions – list various commodities with precise figures (Breasted 1906); yet the actual volume of goods exported to Egypt is difficult to reconstruct, as they are often expressed in '*mn*-jars' rather than units of capacity. The '*mn*-jar' most likely corresponds to Levantine amphoras (Serpico 2003: 223). The commodities commonly listed in these texts and stored in '*mn*-jars' are, indeed, identical to products exchanged in amphoras originating from the Levant. The annals of Thutmose III notably listed large quantities of oils, incense, honey and wine (Breasted 1906: §447, §462, §491), which are the same products mentioned in the jar dockets from Deir el-Medineh (Bavay 2015: 129-130) or chemically identified at sites such as Memphis and Tell el-Amarna (Serpico *et al.* 2003; Stern *et al.* 2003; Smith *et al.* 2004).

Another layer of uncertainty in measurement practices is that the filling levels of ancient vessels are unknown, with estimates largely resulting from assumptions based on vessel function. An amphora, for instance, might have been filled to the base of the neck, offering an 'optimal' practical capacity that maximised its transport and storage potential without hindering the sealing system. This, however, represents only the maximum usable limit, since beyond this level, the container would have been impractical to handle. Were amphoras systematically filled to the same level, or was there instead a standardised filling method – perhaps by using a measuring vessel or by checking the weight of the contents? If the latter, the effective level would have fluctuated from one amphora to another, since their shapes and dimensions may have varied.

Considering the current gaps in our understanding of measurement practices, the difficulties in identifying units of capacity, and the challenges in assessing the actual volume of trade, direct examination of archaeological material is necessary. This involves detecting possible traces of ancient filling levels, to determine the real quantities that could be transported per container, and, consequently, to recognise potential standard measures. Systematic and extensive capacity measurement of trade containers can further shed light on trade patterns and consumption habits. In this paper, the focus is made specifically on Levantine amphoras, with some broader considerations on MTCs circulating in the eastern Mediterranean during the Late Bronze Age.

Methodological framework

A capacity study dealing with ancient periods should not necessarily aim for the degree of accuracy that is achievable with modern measuring instruments, since ancient standardisation – as well as metrology – did not rest upon the same social or economic norms as those in use today. It should be kept in mind that standardisation is a relative concept rather than a fixed criterion based on absolute values; it fluctuates across time and space, with varying degrees depending on the period and the cultural area (for this topic, see Kotsonas 2014).

In many cases, capacity estimates obtained through indirect methods based on simple scale drawings are sufficient (fig. 1). This approach, which does not require direct access to the material, offers several advantages: it saves time, re-

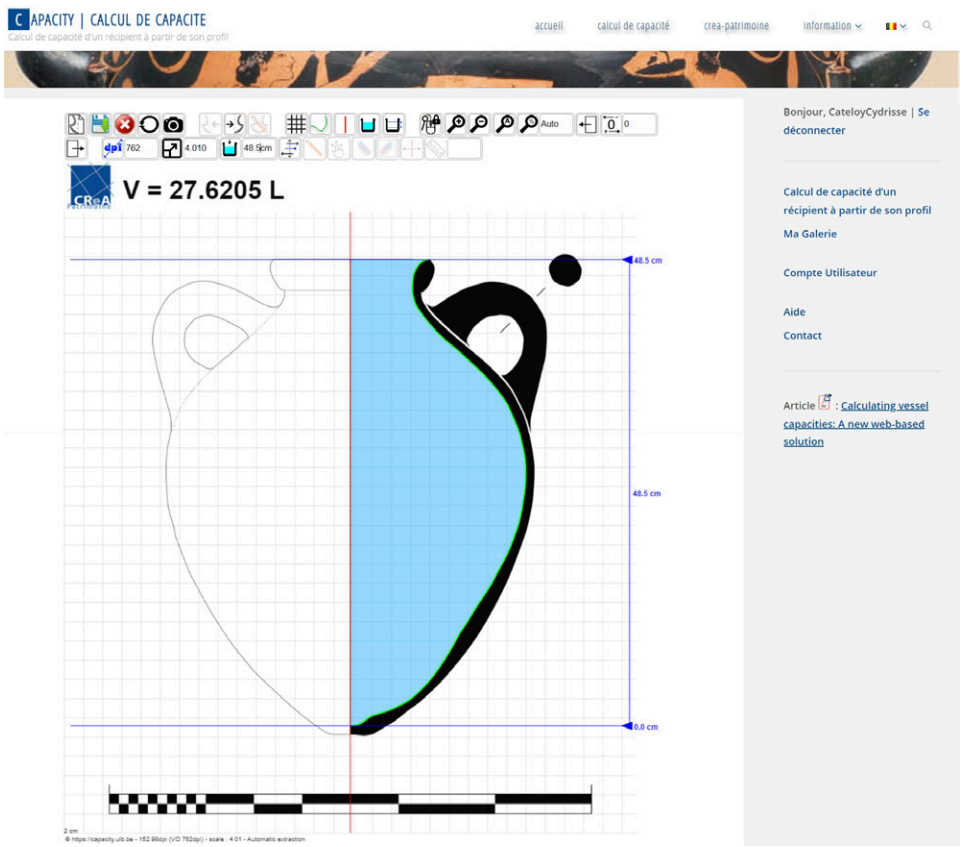

Figure 1. The interface of 'Capacity', the ULB web-based tool for automated volumetric measurements (Author).

duces costs, is straightforward to implement, and makes it possible to obtain large-scale measurements from published drawings.

Indirect methods consist of estimating the capacity of a ceramic vessel using mathematics, specifically by dividing a scale drawing into simple geometric shapes whose volumes are easy to calculate. In archaeology, several digital solutions, easy to access and user friendly, are available (see Cateloy forthcoming a). They integrate the appropriate mathematical formula, or a similar algorithm, allowing them to automatically generate quick results. Among them, one of the most efficient tools to have been widely adopted is 'Capacity', a web-based application in open access developed at the Université Libre de Bruxelles (https://capacity.ulb.be/index.php/en/home/, Bavay *et al.* 2025).

Although particularly effective and often reasonably close to reality, these indirect measuring methods may nevertheless sometimes produce outcomes that significantly diverge from the actual capacity of a vessel. Mathematical calculations are grounded on the assumption that the shape under consideration is geometric and perfectly symmetrical, whereas in reality no ceramic vessel – being a handcrafted object – is absolutely regular, whether in its form or in the thickness of its wall. Depending on the ceramic section chosen by the illustrator to represent the vessel profile, certain irregularities may or may not be shown. Consequently, calculated results may fluctuate to varying degrees, even for the same ceramic, depending on which part of the vessel is represented. It is not unusual to obtain discrepancies of up to 10% when compared with measurements taken directly on the material, even for ceramic containers that appear regular (Cateloy forthcoming a). Occasionally, even greater deviations may occur when vessels display irregularities, such as variations in wall thickness, an elliptical rather than circular shape, or deformations of the body. In such cases, the discrepancy may reach as much as 15% to 20% from the actual capacity. Indirect measurements may also be affected by scaling inaccuracies introduced during the drawing process, its digitisation, or its reproduction in a publication. Since the dimensions of ceramic vessels are not provided systematically, indirect methods most of the time rely on the graphic scale accompanying the drawing or mentioned in the caption (e.g. 1:3, 1:5, 1:10), which may compromise the reliability of the results if inaccurate. While highly effective and often close to reality, these indirect methods remain approximations, rather than exact measurements, so they should be treated with caution.

However, even though indirect measurement methods generally provide reliable estimates, their actual degree of accuracy is impossible to ascertain, as it inevitably varies from one vessel to another depending on the quality and representativeness of the drawing. Since the regularity of a ceramic cannot be assessed from a drawing, no correction formula can overcome this issue. In cases where the analysis may require not only a higher degree of accuracy but also results that are more consistent from one measurement to another, direct access to ceramic assemblages may therefore be favoured. Although more demanding to implement, measuring capacities directly on the archaeological material provides particularly reliable results; this approach offers a broader understanding of the material under study. For amphoras, close examination not only refines typological classification and technological analysis, but also enables the reconstruction of ancient gestures, shedding light on their handling and bulk storage practices. Among direct methods, the use of expanded polystyrene (hereafter EPS) microbeads is particularly well-suited for measuring the capacity of ancient ceramic vessels. This foam-like material is highly homogeneous, with excellent fluidity. When manipulated, it behaves like a liquid, filling the smallest recesses inside the pottery. Additionally, it is particularly suitable for measuring fragile containers, as polystyrene exerts minimal pressure on the ceramic wall. Due to their low density, EPS microbeads display limited compaction when carefully handled. Consequently, the volume measured in a graduated container closely corresponds to the space the material occupies once poured into the ceramic vessel. The method has an average error margin of 0.3% compared to measurements made with water (Cateloy forthcoming a).

The method consists of filling ceramic vessels with pre-measured units of EPS microbeads using graduated beakers and measuring cylinders of various sizes (fig. 2). For large vessels, such as amphoras, it is recommended to start with the largest graduated container that can fit inside (e.g. a 5 L beaker) until the remaining volume to be measured becomes too small for this size. Progressively, smaller containers are then deployed (e.g. graduated cylinders of 1 L, 500 ml, 250 ml, 100 ml) until the fixed filling level is reached. Alternatively, one large container might be used until the vessel is adequately filled. The EPS microbeads left over in the container can then be determined with smaller graduated cylinders and subtracted from the total of pre-measured amounts to determine the vessel's exact capacity.

The choice between direct and indirect methods depends above all on the specific goals of the study, but also on practical considerations such as the accessibility of the assemblages and the state of preservation of the ceramics. Direct measure-

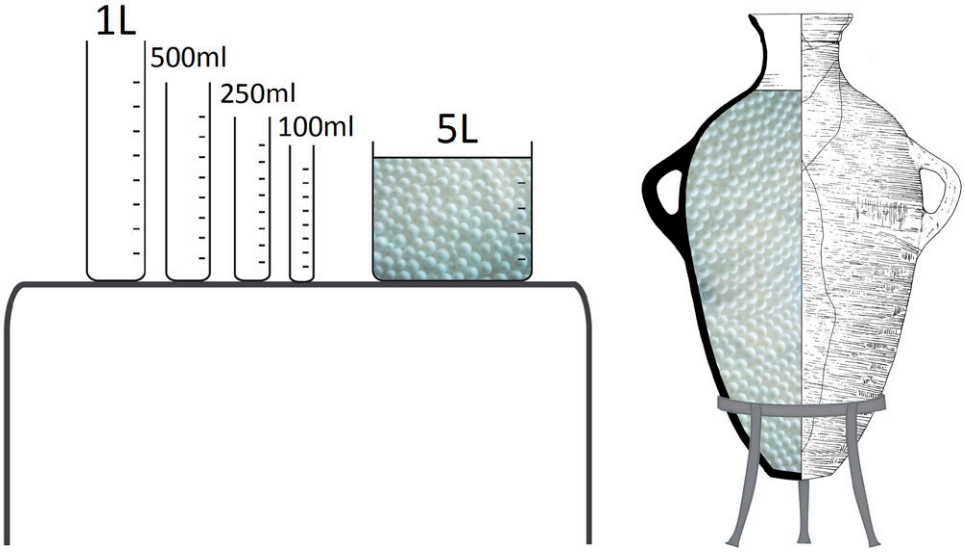

Figure 2. Setup for capacity measurements using EPS microbeads (Author).

ments can be conducted only on complete, or almost complete vessels, whereas fair estimations may be obtained through scale drawings found in the large array of publications readily available. Regardless of the method adopted, the key principle in any capacity study is to ensure consistency in data collection, so that the results remain coherent, comparable and meaningful.

Levantine amphoras case study

Levantine amphoras can provide insight into ancient economies, Mediterranean connectivity, exchange networks and trade logistics. They are among the earliest – if not the very first – amphoras to have circulated across the eastern Mediterranean, and they represent an MTC produced at a large scale that was broadly exchanged during the MBA and LBA (Cateloy 2019; 2025a; 2025b) (figs. 3-4). As such, they were deeply embedded in trade between various cultural areas (the Levant, Egypt, Cyprus and the Aegean), carrying a wide range of liquid commodities, such as oils, wine, terebinth resin and honey. Consequently, Levantine amphoras appear to be an ideal candidate for investigating capacity. Analysis sheds light on the dynamics of exchange and the fluctuations of maritime trade, as well as pinpointing regional patterns and specific preferences in different import areas. If any system of measure was in use throughout the Levant, one might expect this class of ceramic container to have been part of it.

Our volumetric case study aimed first to establish the capacity ranges of the different types of Levantine amphoras that commonly circulated in eastern Mediterranean maritime exchange (Cateloy 2022). A further goal was to assess the volumetric variation within each typological group, to evaluate whether a particular capacity was a criterion deliberately sought by potters. To meet these objectives, the preferred approach was therefore the direct study of the material, so as to obtain the most reliable measurements. This made it possible to identify potential standardisation and to better appreciate the degree of variability that Bronze Age Levantine potters could achieve. It also provided a solid dataset on which to rely when additional results will be later obtained through indirect methods. Although the reliability of scale-drawing estimates cannot always be guaranteed, their coherence can be checked against ranges obtained through direct methods; results that fall far outside known values can thus be questioned or, in some cases, discarded.

Given the aims of the study, a large and varied corpus of ideally preserved amphoras originating from the Levant was assembled. This material was uncovered in nearly fifty different sites spread throughout the eastern Mediterranean, including several chief ports of entry such as Ugarit, Byblos, Sidon, and Ashkelon in the Levant, Tell el-Dabʿa in Egypt, Kommos in Crete, Tiryns in mainland Greece, and Enkomi in Cyprus. In total, about 200 amphoras dating to the MBA and LBA were directly measured with EPS microbeads, and their capacities were processed statistically.

Close examination of these capacity data, correlated with various parameters (e.g. general proportions, typology, chronology, discovery locations), offers a broad range of insights (see Cateloy forthcoming b). To sum up broadly, the study demonstrates that the main types of Levantine amphoras exchanged across the eastern

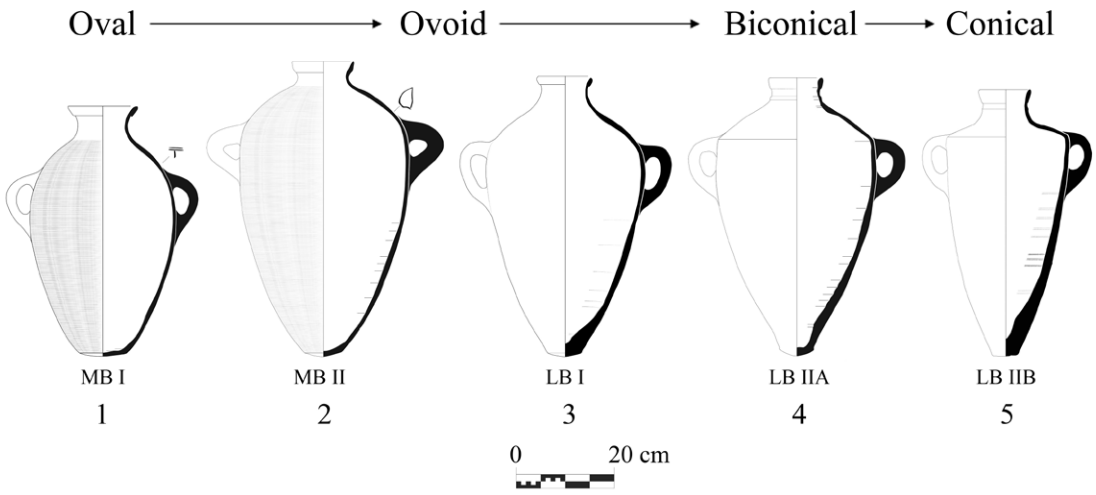

Figure 3. Evolution of Levantine amphora shapes from the Middle to Late Bronze Age (Author).

Figure 4. Two different types of Levantine amphoras dating from LB II (Author).

Mediterranean generally fall within distinct but narrow capacity ranges. The low coefficients of variation (<10%) of each type also suggest a reasonably fair degree of standardisation for such large containers. Potters may have achieved standard capacities by adjusting two external dimensions: about three-quarters of the amphoras – regardless of their capacity range – show a close correlation between height and maximum diameter, pointing to a deliberate proportional design adopted across most production centres. Another noteworthy pattern is the recurrence of amphoras measuring around 22 L, which account for more than one-fifth of the dataset. This capacity inevitably recalls the *bath* unit known from later textual sources, although it may just reflect an ideal capacity that balances both cost-effectiveness and portability. Amphoras within this range would have been large enough to carry a significant amount of goods while remaining proportionate and manageable by a single person. Previous studies have already shown the frequent use of capacities fluctuating around 22 L (Heltzer 1993: 51-52, n. 15; Docter 1988–90: 161, table 4; Pedrazzi 2007: 236-47; Demesticha 2021: 47; Pulak and Matheny 2021: 23, fig. 3). Finally, the findings also highlight diachronic and regional variations that may offer insights into trade fluctuation through time, as well as into distinct exchange networks and divergent economic strategies depending

on the import regions. For instance, the corpus reveals a striking contrast between Cyprus and the Aegean, which stand at opposite ends of the capacity spectrum. The Aegean displays a preference for the smallest amphoras in the dataset, whereas Cyprus is dominated by the largest, suggesting that distinct exchange patterns coexisted.

This case study, which considers capacity alongside other analytical parameters, thus yielded multi-layered results. As regards data, it allows us to establish precise capacity ranges for each amphora type and acknowledge the degree of standardisation of which Levantine potters were capable, while in terms of interpretation it offers a framework for advancing our understanding of Bronze Age trade organisation and exchange practices across the eastern Mediterranean. It also provides a preliminary context for further research, such as the ComPAS project.

Current research and future perspectives

Within the framework of the ERC ComPAS project, directed by Dr Artemis Georgiou and hosted at the Archaeological Research Unit of the University of Cyprus, special attention is currently being given to the various MTCs involved in trade with Cyprus during the LBA and early phases of the IA.[1] Among these MTCs, Levantine amphorae represent a significant portion of the imports, but other ceramic containers were also involved, such as Egyptian amphoras or Aegean Transport Stirrup Jars. This ERC-funded research programme aims to investigate commercial strategies and maritime connectivity within the eastern Mediterranean, through a holistic approach to study the material. By examining their morphology, origin, contents, capacity, and other key features, the project seeks – among other goals – to reconstruct the networks that once linked Cyprus with the Levant, Egypt, and the Aegean. This project provides a unique opportunity to explore Cyprus's singular place within interregional trade networks.

Through this project, more Levantine amphorae will be measured to expand the existing dataset. These new data may confirm, or perhaps nuance, the preliminary results indicating that Cyprus favoured large-capacity amphorae, while also refining our understanding of the specific needs of this region and the strategies developed to address them. Such strategies can then be evaluated to determine whether they reflect economic, logistical, or cultural choices, or whether they simply derived from the nature of the products they once contained. Additionally, new variables that could not previously be examined will now be explored, notably through petrographic and organic residue absorbed analyses conducted as part of the project

Certain key sites, such as Enkomi, will also be further investigated. As one of the major Cypriot centres of the LBA, Enkomi provides a crucial context for the imports of Levantine amphorae on the island. The assemblage recovered there, though largely fragmentary, offers significant parallels with complete vessels previously studied. These comparisons reveal the presence of several major types of Levantine amphoras at the site, thereby integrating Enkomi within various interregional exchange circuits already well-established.

Another aim of this new volumetric study is also to extend the chronological range of our preliminary work to see how exchange networks are organised in the early phases of the IA. After 1200 BCE, the period following the collapse of several major cities and political entities around the Mediterranean, interregional trade underwent profound change and significant restructuring. Yet, Cyprus seems to have maintained some of its long-distance relationships and to have played a central role in the Mediterranean trade of this transitional period. This aspect of the study will offer a great opportunity to investigate the continuity of certain exchange networks and trade mechanisms, as well as to identify the economic shifts that occurred at the turn of the 1st Millennium BCE.

Lastly, the ComPAS project will investigate several other kinds of ceramic containers imported into Cyprus, for example the Aegean Transport Stirrup Jars, the Egyptian amphoras, and the Tell el-Yahudiyeh Ware juglets. The capacity ranges of these vessels, also used in maritime transportation, will be compared with each other, as well as with the Levantine dataset described in the previous section. These diverse ceramic classes, originating in various regions and serving different purposes, will provide invaluable insights into other Mediterranean trade networks that coexisted during the LBA. The Tell el-Yahudiyeh juglets, for instance, represent a form of micro-packaging of finer quality used to store more precious commodities; examining their capacities will allow us to assess the degree of standardisation applied to more valuable containers and to search for smaller units of measurement. Likewise, preliminary re-

1. The project ComPAS has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (Grant agreement N. 947749). https://www.ucy.ac.cy/compas/the-project/.

sults already point to converging capacity ranges among different MTCs, notably the 10-14 L range common to a specific type of Levantine conical amphorae and to most Transport Stirrup Jars exchanged contemporaneously (Cateloy forthcoming b). Upcoming analyses, focusing on complete or almost complete Transport Stirrup Jars imported into Cyprus, will test whether these vessels align with the expected volumetric pattern or instead exhibit distinct capacities indicative of regional particularities.

Concluding remarks

The results outlined in this article highlight how the study of capacity can enrich our understanding of certain ceramic classes. Beyond refining typologies and quantifying the amount of products transported, stored, transformed, or consumed, capacity analysis provides an essential bridge between the material dimension and the human behaviours it reflects. Continued efforts to integrate capacity data with the usual parameters already assessed, as undertaken in the ComPAS project, promise to generate a more holistic understanding of ceramic assemblages by situating them within the wider economic, cultural, and social frameworks in which they operated. Future research should therefore aim to record capacity more systematically, particularly when direct access to the material is possible, so that this long-overlooked dimension in ceramic studies can be recognised as an integral component of the broader set of variables through which we commonly interpret ancient potteries and the societies behind them.

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Data de recepció: 4/10/2025
Data d'acceptació: 14/10/2025

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