Prof. Dr. Haluk Abbasoğlu’na
65. Yaş Armağanı

EUERGETES

Festschrift für
Prof. Dr. Haluk Abbasoğlu
zum 65. Geburtstag

Suna - İnan Kıraç Akdeniz Medeniyetleri Araştırma Enstitüsü
Suna & İnan Kıraç Research Institute on Mediterranean Civilizations
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Yayına Hazırlayanlar
İnci DELEMEN
Sedef ÇOKAY-KEPÇE
Aşkım ÖZDİZBAY
Özgür TURAK

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It is never too late…
The Late Roman Initiation of Amphora Production in the Territory of Sagalassos

Jeroen Poblome – Markku Corremans*
Philip Bes – Kerlijne Romanus – Patrick Degryse

Some urban monuments, including ancient ones, were not only built to last, but their destinies also allowed them to survive to this very day. Other buildings, no doubt the majority of any given historical cityscape, did not fare this well. These were gradually swallowed up by the evolving urban fabric, or in some specific cases were expunged then and there.

The latter, unfortunate scenario affected the so-called Neon-Library at Sagalassos. The building was looted, the central panel of its mosaic deliberately smashed and on top of that, the structure was set alight. Part of the carbonized roof structure was found on the floor, as well as possibly part of its interior furnishings. Next, the ruined structure was backfilled with material that included quantities of artisanal waste. The fact that some of the pottery included in the lower deposits of the backfill showed clear traces of secondary firing in non-oxygen rich circumstances indicates that this operation took place while the remains were still on fire, or at least smouldering. Apart from dealing with the danger of spreading fire, the backfill operation had the added effect of preventing any subsequent re-use of the former library. The Neon-Library was expunged.

The reasons why such events were taking place at Sagalassos are perhaps less relevant to this paper. We mainly want to deal with the implications of the appearance of a particular range of artefacts in the backfill deposits: the so-called Sagalassos amphorae. In general, apart from some differences in the detailed interpretation of the stratigraphical build-up of the fill, the attested common and table ware assemblages were consistent with being datable to the first half of the fourth century A.D., whilst perhaps tending mostly towards the middle of that century, providing a terminus post quem for the destruction event. As such, the material contained in the backfill deposits was not functionally related to the Neon-Library. The pottery assemblage included the usual suspects: a lot of table ware bowls, dishes, and cups, monopolized by the local Sagalassos

Drs. Markku Corremans
Dr. Philip Bes - Dra. Kerlijne Romanus - Prof. Patrick Degryse

red slip ware, lékaneis, storage vessels, and a range of jugs and jars in the same Fabric 1, next to quantities of cooking vessels and amphorae in Fabric 4, and a minor collection of other vessels in different fabrics. Most of this material formed part of the longer tradition of pottery production at Sagalassos, except for the amphorae in Fabric 4. These vessels made their first appearance in the backfill deposits of the Neon-Library.

This paper aims to establish the product details of these amphorae, the typological roots of their concept and the socio-economical reason why these came about at this particular moment in time.

**Fabric 4 Amphora Typology**

Pottery classification starts with fabric identification. The amphorae which feature in this paper were all produced in Fabric 4, which is one of the five common, if not dominating fabrics attested in the excavated and surveyed ceramic assemblages at Sagalassos. After Sagalassos red slip ware, which was made in Fabric 1, Fabric 4 was the most commonly occurring and was found throughout the Imperial and Late Antique periods, mainly with cooking wares and some jars and jugs. The preliminary archaeometrical analysis of the fabric indicated the use of residual clays derived from weathered ophiolite, possibly from the site of Sagalassos, with clays from the flysch deposits around Sagalassos and an added element of grog in the form of crushed Sagalassos red slip ware, suggesting the production of the Fabric 4 common wares possibly within the Potters’ Quarter of Sagalassos itself.

Strikingly, however, no indications of the production of this fabric have been found in this urban artisanal quarter so far. Moreover, continued macroscopic classification of the fabric from a wider variety of chronological deposits has indicated more compositional variety than previously presumed, leading us to consider Fabric 4 more as a group than a single fabric. Finally, the nature of the products in Fabric 4 has to be taken into account as well, including, as we now know from later Roman times, amphorae. Therefore, we now presume this fabric to be a product of the wider region of Sagalassos, with a potential multitude of workshops in the hinterland geared towards the production of amphorae used to pack the agricultural produce, and possibly also other common wares such as cooking vessels and jugs.

Since Fabric 4 amphorae did not feature in Early and Middle Imperial assemblages, the regional model of production can, for now, only be defined from the fourth century A.D. onwards. More research is required to determine the production logic of Fabric 4 products before that time. We also need to admit that none of the presumed rural workshops have been discovered yet and that this may actually prove to be a difficult task in the field. Establishing the potential of regional variation in production of Fabric 4 can start from an enhanced archaeometrical survey of the various products found in the urban excavations coupled with detailed clay raw material surveys in the associated territory. These new research topics are now being initiated.

Since the publication of the typo-chronology of the table and common wares of Sagalassos, the continued excavations and surveys at Sagalassos generated new questions and fields of research, such as contextual analysis. In order to answer such questions, the need was felt to create

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4 Poblome 2006a.
5 Degryse et al. 2000.
6 Poblome 1999; Degeest 2000.
a more general typological framework encompassing the entire collection of pottery products from Sagalassos, which allowed the continued application of quantification techniques based on fabrics and the integration of old data, but which was at the same time better conceived to approach functional interpretations of the assemblages.\(^8\) At that stage, we also decided to create a separate functional class for the amphorae found during the excavations, instead of grouping them under the heading of jars, as in the previous typology.\(^9\)

The backfill deposits in the Neon-Library contained four types of Fabric 4 amphorae: 4P100, 4P120, 4P130 and 4P140.\(^10\) The types are related, in the sense that they share their main morphological concept: the body is ovaloid with its largest diameter in the upper half, when preserved the base is mostly flat or slightly concave, the neck is fairly short and constricted, while the handles are fairly short between the neck and the shoulder. The distinction between the types is related to the execution of the details, such as the handles and rims. 4P100 amphorae have twisted handles and open or closed rims, which can be plain, thickened on the outer side or with inner flange. 4P120 amphorae have multiple ridged handles and also in this case the rims appear in various shapes. 4P130 amphorae have single-ridged handles, while the finishing of the rim is variable. 4P140 amphorae have more constricted necks compared to the previous types and handles which are lunular in section. The morphological detail of these and the other Fabric 4 amphorae is published elsewhere.\(^11\) Throughout the backfill of the library, type 4P120 occurred most frequently (fig. 1).

In general, other types of Fabric 4 amphorae exist, but these do not yet appear in the backfill deposits of the Neon-Library. On the other hand, we consider the common morphological concept of the Fabric 4 amphorae found in the library, coupled with their variation in detail as another indication for the suggested devolved regional model of production.

The Typological Inspiration of the Sagalassos Amphorae

The interesting reflection which arises from the shared morphological concept of the Fabric 4 amphorae attested in the Neon-Library is that we can presume a similar source of typological inspiration in creating these amphorae. At some point in the first half / middle of the fourth century A.D., one or more landholders in the territory of Sagalassos decided to start packaging part of their agricultural produce in amphorae. A programme of residue analysis is being executed within the K.U. Leuven Centre for Archaeological Science\(^12\) on mainly early Byzantine versions of these amphorae found at Sagalassos, in order to determine the type(s) of agricultural produce.\(^13\) The decision-making process of the landholders will have taken into account the presumed typical (meaning region-specific) content, the technicalities and constraints of making a container in some quantity to store and transport this typical content and, to a certain degree, the recognition and association of the amphorae by third parties with the presumed typical type of content and/or region of provenance. In order for the amphorae to best meet these various conditions, the landholders will have been in close communication with the potters they

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\(^10\) For the logic of the numbering system, see Poblome 1999: 27-29.

\(^11\) Poblome et al. in press.

\(^12\) http://www.archscience.be

\(^13\) Romanus et al. 2007.
employed, within the framework of *locatio-conductio* type of contracts\textsuperscript{14} to choose their specific morphological concept.

By the fourth century A.D., the tradition to pack elementary Mediterranean foodstuffs, mainly olive oil, wine and fish sauces, in amphorae was many centuries old. In the eastern Mediterranean, many types of amphorae had seen the light and their functioning seems to have been primarily linked to transporting the packed foodstuffs over longer distances, mostly overseas. The landholders and potters of the area of Sagalassos could therefore fall back on a rich tradition of amphora making when they felt the need to introduce amphorae in a region which had not dealt in such products previously. From the fact that a shared morphological concept seems to be at play, allowing for possibly estate specific typological variation, the initiators of amphorae in the study region seem to have made a conscious choice as to exactly what amphorae to make and which traditional model to follow in doing so.

In the case of the Late Roman East, as displayed in the socio-cultural matrix of Pisidian Sagalassos, many regions were involved in amphora production, packing and transporting a wide variety of foodstuffs. In other words, there was a pool of morphological inspiration available to choose from and put to best use. Important in this respect is the fact that specific amphora types were associated with typical contents and that this relationship was unique: wine amphorae were simply different from olive oil amphorae and the other way around. Indeed, once oil was contained in an amphora, it must have been unappetizing to consider storing other foodstuffs in such vessels. This notion, together with the specifics of the medium of fired clay, helped promote the association between a given amphora type, its content and its regional provenance. Life was good if third parties not only recognized this association, but also regarded the outcome as a quality guarantee. As a result, considering the ancient socio-economic matrix, regional continuity in making similar amphorae over the ages should be a logical outcome.

The Late Roman East, on the other hand, was a world in motion, where regional opportunities were newly created or captured, whilst other regional economies found it more difficult to make ends meet, as a result of geo-political shifts in society and the late empire at large. Amphora-wise this finds its expression in the creation, from the fourth century onwards, of a new typological landscape, consisting of the much discussed Late Roman amphora package, coined by John Riley.\textsuperscript{15} As indicated by various authors,\textsuperscript{16} this package contains specific and recognisable amphorae, which in all cases, however, represent another step in the typological evolution of region and product specific traditional amphorae. It is generally accepted that the foundation and growing demands of Constantinople was instrumental in establishing their, at times, very wide distribution patterns. Obviously, other amphora types also circulated in these days, the late African spatheia being a case in point.

Considering the main typological features of the Fabric 4 amphorae and overlooking the fourth century A.D. amphora landscape in the East, we should like to propose a morphologically dependent relationship on the early phase of the Late Roman 1 amphora. The proportions and various typological features reflect this typological inspiration. The fact that the multiple ridged handles of type 4P120 were attested most in the contexts of the Neon-Library, in contrast to the other handle types, could be inspired by the sliced handles of the LR1A amphora. As with any imitative process, there are also differences to be noted: the finishing of the rim, which seems to

\textsuperscript{14} Poblome – Brulet 2005; Poblome 2006b.
\textsuperscript{15} Riley 1979; 1981.
\textsuperscript{16} Reynolds 2005; Tomber 2004; Piéri 2005.
be more varied in the case of the Fabric 4 amphorae, the base of the LR1A is slightly pointed (although the library contexts did not contain many identifiable Fabric 4 amphora bases) and the body of the LR1A is lightly banded or panelled, a feature which the potters of Sagalassos could not or did not retain.\textsuperscript{17} If our suggestion of the typological inspiration of Fabric 4 amphorae is to be accepted, we need to consider whether this could have implications for the chronological attribution of the backfill deposits in the Neon-Library. “The evidence so far shows that the first LRA 1 shape, widely traded in the East at least, was fully formed by the mid-fourth century”.\textsuperscript{18} This means that the initiation of amphora production in the region of Sagalassos and the suggested imitative process most probably are not to be placed earlier. Admittedly, there are earlier fourth century LRI amphorae attested,\textsuperscript{19} but we mainly lack a more extensive series of archaeological deposits to follow this process more closely. Chances are slim, however, that Sagalassos landholders and their contracted potters would have picked up the LRI amphora signal before its distribution became established from the middle of the fourth century A.D. onwards. This could imply that the backfill deposits of the Neon-Library should move slightly backwards in time, towards the third quarter of the fourth century A.D., which brings the assemblage more in line with the numismatic evidence.\textsuperscript{20} Further research is required to estimate the effects on the seriation of the contemporary Sagalassos red slip ware.

Another point which we should like to make is that the Sagalassos landholders and their potters, having been inspired by the LR1A amphora, looked towards Cilicia\textsuperscript{21} and not, for instance, to the western Asia Minor / Meander valley LR 3 amphora. We should like to know more, however, about other Pisidian towns to explain this fact, and also understand in greater detail how commercial and/or redistributive patterns worked between Pisidia and the Pamphylian harbours. In this particular case, this may mainly concern Perge. At least the numismatic evidence seems to indicate a relatively higher presence of imperial coins from Perge at Sagalassos.\textsuperscript{22} From the pottery publications available on Late Roman Perge, a newly identified line of tableware, typologically inspired by Cypriot red slip ware, is most typical.\textsuperscript{23} Although the location of this production is as yet unknown\textsuperscript{24} Perge seems to have been more inclined towards the Levant too, in further contrast to the Aegean. Another point which needs scholarly attention is the fate of the Pamphylian amphorae\textsuperscript{25} in Late Roman times.

If our suggestion of the typological dependency of Fabric 4 amphorae on LR1A examples is to be accepted, we need to wonder whether or not this could provide a pointer towards the intended content of the Sagalassos amphorae. Although there are \textit{tituli picti} or \textit{dipinti} known on LRI amphorae, these do not indicate typical content in direct ways. Exports to Gaul, preserved in humid conditions, on the other hand, are mostly lined on the inside with pitch. This practice is traditionally considered to exclude olive oil. D. Piéri uses this evidence to resolve the debate on

\textsuperscript{17} Piéri 2005: 70-74; Reynolds 2005: 565-567.
\textsuperscript{18} Reynolds 2005: 567.
\textsuperscript{19} e.g. Reynolds 2005: 566.
\textsuperscript{20} Poblome 1999: 277-278.
\textsuperscript{21} Williams 2004.
\textsuperscript{22} Poblome, in press.
\textsuperscript{23} Frat 2000.
\textsuperscript{24} Poblome et al. 2001.
\textsuperscript{25} Grace 1973.
the content of LR1 amphorae and concludes in favour of wine as its main intended content. Recently, M. Bonifay has also used the pitch lining of, in his case, African amphorae, to suggest an intended content of wine for particular types of these widely distributed products. Considering the wide distribution pattern of the LR1 amphora and the tendency to promote the association of the type of amphora with typical content and provenance, we are inclined to follow this line of argumentation. Moreover, D. Piéri links the typological origin of the LR1A amphora to the Athenian Agora G197 and K112 amphora types, which are generally considered to be imperial wine amphorae from Crete. Obviously, more sampling in function of residue analysis could progressively resolve this issue, along with a much more detailed knowledge of the production landscape, which should contain many organizational pockets. Until then, we are inclined to accept that a typical content needs to be associated with the concept of the LR1 amphora, and that, with the evidence so far, this was most likely wine, allowing for particular exceptions. Considering the proposed imitative process involving the Fabric 4 amphorae, this could imply that the landholders in the area of Sagalassos needed to pack and transport their (recently established?) wine supplies.

The Socio-Economic Context

Based on the available evidence, no amphorae were produced at or near Sagalassos before (the middle of) the fourth century A.D. Generally, amphorae are to be linked to regions which dispose of a marketable agricultural surplus, which is destined for wide distribution. In the case of Sagalassos, amphora production was not historically endemic to the region. Indeed, considering the general mountainous nature of the region and its relative distance to the sea or navigable rivers (the natural habitats of amphorae), the production of such vessels in the study region is not straightforward. In our opinion, this implies that the landholders behind the local amphora-initiative took a sequence of conscious decisions and laid out sufficient investment in order to initiate and maintain the production of these agricultural containers. We would like to suggest that they would only have done so in case they had specific aims in mind, possibly in reaction to changed circumstances in either the generation of their agricultural produce (=supply), or to a changed level of interest in their produce (=demand), or even both. In this respect, we attach importance to the fact that amphorae were chosen as containers for their surplus production, in the sense that such vessels are traditionally conceived for distribution and the landholders were aware of this. Well considered, this could represent tentative evidence for the rationalisation of a given part of the agriculture in the area of Sagalassos, possibly coupled with an intensification of production.

Naturally, this tentative conclusion raises a lot of questions. What was the agricultural produce involved? Are we missing out on possibly other intensified crops, which leave next to no archaeological traces? Did such a mechanism involve the wider region of Sagalassos or was this restricted in scale, to a couple of opportunistic landholders? Did their dream come true, and were these landholders riding the wave? What was this wave, and what mechanisms may have triggered it? Why did all of this happen in the fourth century A.D.? As the discipline of Archaeology is always

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26 e.g. Decker 2001: 78-80.
29 Piéri 2005: 70.
limited in its answering capacity, considering the very nature of its evidence, most of these questions will never be answered and the others only partially. It is important not to give up, however, as the creation of logical frameworks of research can create new insights, or at least frame the research in better ways.

Whilst the typological concept of the Fabric 4 amphorae seems to indicate wine for the intended content, the preliminary results of the K.U. Leuven Centre for Archaeological Science residue analysis programme on an early Byzantine collection of Fabric 4 amphorae do not indicate Dionysos’ favourite drink as sole, nor perhaps primary, content. Even more astonishing was the strong evidence for greasy commodities together with pitch. Unfortunately, no fresh fourth century A.D. samples were available for this analysis, so it is unclear whether we could be facing a devolved stage of the Fabric 4 amphora production, which after the original investment in wine proved not unequivocally successful, thus generated the need for content diversification, whilst maintaining the concept of amphora.

Direct scientific evidence for grape cultivation at Sagalassos is available from the palynological analysis of a core drilling in the central depression of the local Potters’ Quarter. In the lower parts of the core, which are linked to Late Hellenistic and Early Imperial times, pollen of Vitis vinifera was picked up. As the grapevine produces and disperses only a small amount of pollen, the signal was considered meaningful and could indicate the cultivation of grapes not far from the Potters’ Quarter. It is unclear whether this pollen indicates grape cultivation geared towards the production of wine, and in any case, the chronology is not Late Roman. So far, no further palynological signal of grapevines has been picked up at Sagalassos or its surrounding countryside. Even if the ongoing macrobotanical research of the urban excavated deposits identifies the occasional grape seed, this holds no structural value for the questions asked in this context.

What can be of more relevance here is the fact that the pollen cores collected in the hinterland of Sagalassos contain an important echo of olive cultivation. Olea europaea pollen already appeared in a pollen diagram for the Ağlasun valley attributable to the Neolithic period, whilst the Olea pollen values in the part of the same corings, which could be attributed to the period between the Early Iron Age into the Middle Byzantine, were much lower. Further palynological analysis of cores in the marshes of nearby Gravgaz, however, indicated that the olive tree was the main cultivated tree species, possibly from the fourth century onwards into late antiquity, suggesting induced changes in agriculture from Hellenistic times onwards and the collapse of this agricultural regime in unstable Early Byzantine conditions. The residue analysis programme has picked up traces of olive oil in the sampled early Byzantine Fabric 4 amphora collection. Interestingly, residue analysis has also identified traces of walnut oil in the studied amphorae. The walnut tree has a consistent showing in the contemporary pollen diagrams, as well as its fruit in the ongoing macrobotanical research of excavated urban deposits. In general, in the event that wine is not the typical content, olive oil forms an obvious alternative agricultural product transhipped in amphorae. Walnut oil is a much less straightforward alternative, but may represent a typical regional reflex by making the most of its agricultural potential. We wish to

30 Poblome – Malfitana – Lund 2006, for a conceptual framework on how to deal with this condition in the world of Roman material culture studies.
31 Romanus et al. 2007.
32 Vermoere et al. 2003.
33 Some preliminary macrobotanical results included in Putzeys et al. 2004.
34 Vermoere et al. 2007.
35 Romanus et al. 2007.
repeat, however, that no samples of the phase of introduction of amphorae at Sagalassos could be analysed, that the typological logic of the model for the local amphorae does not necessarily suggest olive oil as intended content – let alone walnut oil – and that, although pollen analysis in the region does indicate the presence and cultivation of olive trees, no signal of fourth century A.D. intensification of olive oil production – let alone walnut oil production – was picked up so far. If olive oil was the intended content all along, we should also expect the initiation of a Fabric 4 line of amphorae much earlier then the fourth century A.D. After all, the olive is typically a cash crop answering to commercial, mostly urban demand, making its cultivation worthwhile at higher levels than local or subsistence needs. These factors, in combination with the sea or navigable rivers, make amphorae the ideal oil storage and transport solution. In inland areas, such as Sagalassos, oil amphorae are much less than ideal. The rich epigraphical evidence from Asia Minor confirms, on the one hand, the general importance of olive oil for urban communities in gymnasia and bath buildings, and on the other, the mainly ‘local cultivation for local market needs’, which is not compatible with the concept of amphorae.

Clearly, an incentive at multi-strategy archaeology is required to resolve this matter, or at least to attempt the continued circumscription of the problem. The next stage should include a detailed screening of the hinterland of Sagalassos for the provenancing of the clay raw materials of Fabric 4 and perhaps the locations of the producing estates, a continued reflection on the nature of the press weights found in the territory of Sagalassos, along with continued bio-archaeological efforts. In the mean time, perhaps, the consideration of the wider historical context could suggest some further elements for explaining why the Fabric 4 amphorae came about.

Considering the role of the olive in the economy of Late Roman Asia Minor, S. Mitchell recently argued that “the later empire placed greater demands on the productive capacity of the eastern provinces to sustain its new capital city, the eastern armies and its expanding urban populations”. He places passages of the *Expositio Totius Mundi*, dating to shortly after the middle of the fourth century A.D., in this context, indicating that neighbouring Pamphylia produced abundant oil and supplied other regions, whilst Cilicia, where the LR1A amphora was produced brought ‘happiness also to other provinces’ with its wine. Exactly the same passage was also cited by D. Piéri, in identifying wine as the principal intended content of the LR1 amphora. At this point we seem to be parting ways somewhat with S. Mitchell, who sees “a strong link between olive oil production, [LR1] amphora manufacture, ship building and the provision of merchant shipping, which together make up the core economic activity of the Cilician coastal cities”. We fully agree in introducing the strategic availability of a merchant fleet into the amphora-equation, and see no reason to doubt the importance of oil production in the hinterlands of Korykos and Elaioussa Sebaste in Rough Cilicia, but we would refrain from extending this to the entire region of Cilicia, and would argue that wine should be added to the list of Cilician economic core activities. After all, if in the eastern urban landscape Constantinople and its eastern armies provided an incentive to boost the Late Roman oil production, we see no reason why wine production, or the agricultural economy at large, could not have experienced the same positive effects of sustained, if not growing, demand.

The focus of this paper is obviously not Cilicia, and apart from providing inspiration to a group of landholders in the region of Sagalassos to try their luck in wine, both areas of study...
provide no direct links of explanatory value. The positive effects of empire in the fourth century A.D. may have been general, however, and both regions, along with many others in Asia Minor, may have tried to ride this wave. Pisidia had only recently, in the third century A.D., proven to be sensitive to the impact of empire, to the extent that this period was described as a second wave of Romanisation by S. Mitchell.\textsuperscript{41} The third century A.D. trigger was the role the region played in the logistic support of the contemporaneous military operations in the East and the way it survived the many troubles of the third century mostly unscathed. Social promotion and urban development, even of small-scale centres, was the beneficial outcome for the region, and in the case of Sagalassos, we have linked the continued production of its Sagalassos red slip ware to this context.\textsuperscript{42} As to the fourth century, we should like to suggest that the addition of the pole of attraction of Constantinople to the many options of regional connectivity, and the increased potential for answering to direct or indirect incentives emanating from the metropolis and its associated civic and military apparatus, may have provided sufficient temptation to at least some landholders in the area of Sagalassos to specialise and, hopefully for them, intensify part of their agricultural production. Unfortunately for them, their efforts have only come to us in particular amounts of very broken amphorae. This does not make our model of a possible degree of growth undeniably strong, as sherds should always remind archaeologists to be modest. Indeed, not only do we still lack strong proof for wine as intended content, but, more importantly, we have next to no indication of the distribution pattern of the Fabric 4 amphorae beyond the immediate study region. In this way, we are not in the position to measure the success of the Sagalassos landholders. With the evidence available, however, we see no reason why they would have moved beyond the mainly regional focus of our model of symbiosis of urban hub and productive countryside as a regulatory factor in the economic development of ancient Sagalassos.\textsuperscript{43} In this respect, the Fabric 4 amphorae of Sagalassos drew upon LR1A Cilician amphorae, and not the other way around.

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\textsuperscript{41} Mitchell 1999.
\textsuperscript{42} Poblome 2006b.
\textsuperscript{43} Poblome 2006a.
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Fig. 1 The Fabric 4 amphorae as found in the deposits of the Neon-Library or immediate environment