HEROM

Journal on Hellenistic and Roman Material Culture

Volume 7, Issue 1&2, 2018

Leuven University Press

HEROM

The journal is open to international research submitted by individual scholars as well as by interdisciplinary teams, and especially wishes to promote work by junior researchers and new and innovative projects. Challenging research themes can be explored in dedicated issues. Theoretical approaches are welcomed as much as presentation of material culture assemblages.

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Volume 7 – Issue 1 & 2 – 2018

Edited by

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From 2015 onward HEROM appears biannually in May and November.
Online ISSN: 2294-4281
Print ISSN: 2294-4273

Subscription options:
* Institutional online only
* Institutional online & print
* Individual online only
* Individual online & print

Non-subscribers options:
* Pay-per-view online article
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D/2018/1869/60
NUR: 682

Lay-out: Jurgen Leemans
Cover: Friedemann

CONTENTS

A VOTE OF THANKS TO LEUVEN UNIVERSITY PRESS – AND TO IBAM-CNR-ITALY

EDITORIAL PREFACE

Jeroen Poblome, Daniele Malfitana and John Lund
UNIVERSITY OF LEUVEN, IBAM-CNR-ITALY, AND THE NATIONAL MUSEUM OF DENMARK

Anyone involved in the academic editing of scholarly output in any form or shape will readily admit to be subject to a mild dose of masochism to get the job done. Authors often consider deadlines as open for interpretation, and very much the same goes for editorial guidelines. Still – as far as the three of us are concerned – such grievances fade when we are confronted with the dedication of our authors to share the vision we had, when we created HEROM as a medium for material culture studies of the Hellenistic and Roman antiquity.

We are grateful to all of those who have contributed to the journal, but, truth be told, nothing of the past seven years of publishing HEROM would have been possible without the staunch support and commitment of the team of Leuven University Press (LUP). They made HEROM a professional enterprise in every conceivable way, and both the journal and its editors have become better at it, as a result. We are confident that each of our authors will also testify to LUP's grounded approach to the task, driven by an undefined love for the end-product.

So, here is to you, Leuven University Press, for having taken the initiative to launch HEROM and for having been with us these past years! We are most delighted to offer you our most sincere gratitude. Yet, as things sometimes go in life, initial shared interests can grow into different directions, and this is what has happened with HEROM. This need not be a negative experience,

HEROM. Journal on Hellenistic and Roman Material Culture, 7.1&2, 2018, 7-8

https://doi.org/10.11116/HEROM.7.1&2.0

and in the present case it led to a pledge by the "Istituto per i Beni Archeologici e Monumentali of the Italian Consiglio Nazionale delle Ricerche" (IBAM), to continue and develop further the trajectory of HEROM. An efficient transition between the two parties was discussed, and each step executed to the benefit of all involved, especially HEROM itself. As a result, the journal will be continued under the aegis of IBAM, beginning with volume 8 in 2019.

The three of us will, however, never forget that it all started with Leuven University Press, and the dedicated followers of the journal can rest assured that, as archaeologists, we are good at safeguarding values from the past. In this sense the transition to IBAM makes perfect sense, and we are – naturally – also most grateful to this institution for taking on the task.

The best way of showing our gratitude for what HEROM has been so far is to offer as the first article in this edition of the journal a piece of what we think we are good at: a paper on past material culture, on nothing less than ancient pottery for that matter, straight from the heart.

REFLECTIONS ON HOW TO MOST EFFICIENTLY PROCESS AND PUBLISH CERAMIC MATERIAL

John Lund, Jeroen Poblome and Daniele Malfitana
THE NATIONAL MUSEUM OF DENMARK, UNIVERSITY OF LEUVEN, AND IBAM-CNR-ITALY

The last decades have witnessed a surge in the number of scholarly publications dealing with archaeological theory, but there has not been a corresponding increase in literature on methodology. The two are of course closely linked,[1] but the topic of this paper is probably more related to methodology than to theory.

Like most other professionals, archaeologists are constantly confronted with the dilemma of how to get the most out of the available, often scarce economic resources allocated to their research. This essay focuses on one aspect of this issue: namely how to most efficiently record, study and publish ceramic material from archaeological fieldwork in the 21st century.[2]

No meaningful study of the overarching questions of pottery production, circulation and consumption can be attempted unless we are able to categorize, quantify and publish ceramic material, and one of the basic problems in attempting to do this is how to address the so-called non-diagnostic pottery.

Definition of "diagnostic" and "non-diagnostic"

How to define the term "diagnostic"? The Oxford English Dictionary on line, which describes itself as "the definitive record of the English language" offers two definitions, of which the first is: "concerned with the diagnosis of illness or other problems …". The second definition is obviously more relevant to

1. Johnson 2010, 2. However, see Olsen 2003, 15. Ceci and Valenzano 2016.
2. Poblome *et al.* 2006 addresses some of the same issues as the present contribution, but from a more theoretical perspective. See also Poblome and Bes 2018.

HEROM. Journal on Hellenistic and Roman Material Culture, 7.1&2, 2018, 9-23

https://doi.org/10.11116/HEROM.7.1&2.1

us: "characteristic of a particular species, genus, or phenomenon".[3] For some pottery specialists, "diagnostic" is a synonym for "rims, handles and bases", but this is hardly satisfactory, since no one would presumably refer to a body sherd of an Attic Black figure amphora by Exekias as "non-diagnostic". To most pottery experts "diagnostic" probably implies that we can at a minimum determine: 1) which ceramic ware we are dealing with; 2) where and 3) when it was produced? Obviously, some archaeologists might wish to add further questions to this shortlist, but to keep matters simple we wish to stick with the three issues. By implication, pottery characterized as "non-diagnostic", a word that incidentally cannot be looked up in the Oxford English Dictionary on line, is ceramics for which these three questions cannot be answered.

It is necessary to stress the human factor in all of this. Much depends on the knowledge and experience of the specialist, who is processing the sherds in question, but even the very best are sometimes baffled, and identifications are not always 100% certain, as noted by John W. Hayes: "What in fact you normally receive is a degree of probability – though this is rarely specified. An analogy would be a faunal report claiming that a bone (or a skeleton) of that well-known animal the "sheep-goat" is 70 per cent sheep, 30 per cent goat – which end of the animal is which and did it have a beard". Hayes went on to say "Repeat the experiment, in the correct scientific manner, with a new ceramic expert, whose knowledge is of course based on finds from different places, and rather different results will be encountered – our sheep-goat suddenly becomes 50 per cent, and not 30 per cent goat, as it were, and the so-called "science" in the experiment becomes questionable".[4]

Someone starting out on a career as a pottery specialist – or working in an unfamiliar geographical area – will naturally be more prone to get things wrong than someone like John Hayes. Our newcomer is bound to classify far more sherds as non-diagnostic than him, which again illustrates how flexible the meaning of the words "diagnostic" and "non-diagnostic" are.

Is the term non-diagnostic meaningful?

One may question whether "non-diagnostic" is a meaningful term at all from a ceramic point of view, seeing that it is always possible to say something about any given sherd. We are, for instance, surely dealing with either

3. http://www.oxforddictionaries.com/definition/english/diagnostic, accessed on the 3rd of October 2018.
4. Hayes 2000, 105-106.

a fragment of a body, a base, a rim or a handle, and the sherd has a definite size, colour, thickness and fabric. True, such descriptions do not answer the overarching questions we are primarily interested in, but they are relevant to other issues of interest.

The size of a sherd can, for instance, tell us something about "afterlife" of pottery such as residuality or intrusiveness, as Theodore Peña suggested in 1998: "a systematic correlation between a particular pottery class or form and either a low degree of vessel completeness or a high degree of vessel brokenness may be taken as strong evidence that the given pottery class or form is residual".[5]

It should not be forgotten either that it is possible to subject any sherd to thin section or other kinds of scientific clay analyses such as XRD or NAA, which has the potential of revealing its geographical source, and thermoluminescence analysis, which might give an indication of when it was made – even if the latter method is unlikely to produce a precise date for the periods we are concerned with in HEROM.

The fact that such scientific clay analyses might inform us about the approximate date and possibly also the geographical source of nearly all sherds (in addition to the information that may be derived from their size, weathering *etc.*), demonstrates once more the elusiveness of the two terms. If we disposed of enough time and money to carry out scientific analysis of everything, well-nigh every "non-diagnostic" sherd could be made "diagnostic", but in the real world this is, of course, not a realistic option.

Un-diagnosing diagnostic ceramic material

"Diagnostic" pottery is not without problems of its own, at least if it is defined as pottery for which we know the answer to all three questions posed at the outset of this essay. Because it is not really helpful to know which ceramic ware (and shape) we are dealing with, unless we also have knowledge of approximately where and when it was produced.

5. Peña 1998, 12. See also Poblome *in press*: "In general, the most distinctive feature of sherds reused in a terracing or construction fill may be their small size. This may have been caused by removing and thus reworking deposits from elsewhere".

To take a concrete example, it is fairly straightforward to identify a rim or base as Eastern Sigillata A Ware (ESA) of Hayes form 4 A.[6] But we have no certain knowledge of the geographical source of this ware because the kilns producing it have not yet been discovered. True, scientific clay analyses and traditional archaeological methods combine to suggest that they were situated somewhere in North Western Syria or Smooth Cilicia, but this still leaves the door open to several possible locations, such as the areas of Antioch, Seleucia ad Pieria, Rhosos or Tarsus – or perhaps a combination of two or more of these?[7] As a matter of fact, we only have certain knowledge of the precise geographical location of few of the kilns that produced the sigillata wares of the Eastern Mediterranean: those at Pergamon, Çandarlı and Sagalassos.[8] It is no less difficult to pinpoint the geographical source of many other wares, for instance the most popular transport amphorae of Late Antiquity, of the type Late Roman 1, which was produced in a wide geographical region that comprised much of the southern coast of Turkey as well as Southern Cyprus. A certain distinction between Late Roman 1 amphorae produced in Cyprus and those of Asia Minor can only be made through clay analyses.

Dating the so-called "diagnostic" ceramics is just as tricky. Based on the best available evidence, John Hayes dated ESA form 4 A between about the late second century BC and 10-20 AD. But it is not entirely clear precisely what is implied by this range of years? The period of manufacture? Marketing? Use (in the widest sense of this word) or discard? This is a million-dollar question which could easily be the topic of several conferences by itself, but we subscribe to the view that as long as the chronology of a given artefact type is based on its occurrences in independently dated contexts of use and/or discard (as is nearly always the case), then we cannot date anything but the use and/or discard of the artefact in question – not its production as such.[9]

Even if we leave this issue aside, the date range suggested by Hayes for ESA form 4 A still leaves us with a time span of more than 100 years within which the plate in question could have been produced, acquired and used. But things are complicated further by the "life cycle" of Roman pottery, a model launched in 2007 by Theodore Peña, who identified the following phases in the "life" of a pot: its Manufacture, Distribution, Prime Use, Reuse,

6. Hayes 1985, 15-16.
7. Lund *et al.* 2006, 2008 [2009].
8. Loeschcke 1912; Poblome *et al.* 2001.
9. Lund 2010.

Maintenance, Recycling, Discard and Reclamation.[10] It is necessary to distinguish between these phases when attempting to date ceramic vessels found in any context. But this is often very difficult to do, except in the certain special cases, for instance those which involved a physical modification of the vessels.

This leads us to agree with Martin Millett's observation that "pottery chronologies are neither absolute nor precise but are the result of a process of generalization and interpretation which make them inherently fuzzy", and we think that the same applies to our identification of wares and their geographical sources.[11] Considering the role pottery often plays in reconstructing the general chronology of excavated sites and surveyed regions, it is important to stress that the dates pottery specialists propose are more often than not of a relative chronological value only, as in having no reference to an external chronological framework and not displaying equal units of measurement of time.

Rounding up the unusual suspects

A possible way out of some of these dilemmas was recently proposed by Kristina Winther Jacobsen in her analysis of the pottery from the Hellenistic, Roman and Late Antique periods found by the "Troodos Archaeological and Environmental Survey project in Cyprus". She noted that "Instead of the traditional separation of Cypriote pottery into fine, plain and coarse wares … pottery was sorted according to a functional typology. The bulk of survey material is an enormous amount of so-called un-diagnostic plain and coarse ware body sherds, a group of pottery relatively little known". The functional typology applied to the material from the Hellenistic, Roman and Late Antique periods comprises six categories: "architectural fragments …, cooking wares …, light and heavy utility wares …, transport amphorae … and table wares", and Winther-Jacobsen notes that "any sherd that does not belong to any of the more easily recognizable functions is registered as "utility wares" … and is divided into two categories: light and heavy utility. …. The distinction between sherds of light and heavy utility is arbitrary: a fixed wall thickness of 8 mm".[12] To illustrate how the system works, a comparison is made between what is called "the ceramic profile", i.e. the relative proportions of each of these categories, at four Late Antique sites in Cyprus. It is easy to

10. Peña 2007; Lawall and Lund 2011.
11. Millett 2000, 54.
12. Winther-Jacobsen 2009; Winther-Jacobsen 2010.

see that there are considerable variations between these sites, which presumably correspond to functional differentiation. There is no reason to repeat Winther-Jacobsen's detailed conclusions, but this brief presentation of her approach hopefully gives an idea of its potential. It is not supposed to supersede the traditional classification methods as feared by some observers,[13] but to supplement them.

Yet, the Troodos survey was not the first archaeological project to attempt to determine the functionality of a site from a scrutiny of its ceramic spectrum. As cases in point, we may mention T.M. Whitelaw's work in Keos, Franziska Lang's work on survey material from Western Greece,[14] and the approach applied by the ceramic specialists to the Tanagra Project. They divided the ceramic material into "six different functional categories: 1. Agricultural production, containing the local and regional line of amphora production and local products such as beehives, 2.-3. Beverage and food consumption represented by respectively drinking cups, and bowls and dishes forming part of a tableware assemblage, 4. Food processing containing all types of cooking ware, 5. Storage with mainly jugs, jars and containers, and 6. Transport, represented by the types of amphorae imported into Tanagra".[15] Some of these categories correspond with those of the Troodos project, others not, and the distinction between some of them may be open to discussion, but the point is that the "ceramic profile" varies from one place to the other in the survey area.

Old answers to old questions

Before looking for other new approaches we might do well to remind ourselves of some old ones, which are, however, fairly seldom implemented even today. Several are described in the five volumes of the so-called "Populus Project", particularly the one called "Extracting Meaning from Ploughsoil Assemblages", which came out in 2000.

The first concerns the need to combine surveys with excavations,[16] which ought to provide us with a typological and chronological framework for the pottery finds scattered on the surface of the ground – and thus reduce the number of un-identified sherds. To combine excavations and surveys is also important from another point of view, because it appears – as first

13. Nys 2008, 74.
14. Whitlaw 1998; 2000; Lang 2003; Lang *et al.* 2007.
15. Poblome *et al.* 2004-2005 [2007].
16. Hayes 2000, 107: "we must then integrate excavation with survey".

hypothesized by Anthony Snodgrass and John Bintliff – that surface finds are generally of a more recent date than those found in the earth.[17] Such integrated approaches are still relatively rare for the Eastern Mediterranean in the periods under consideration here,[18] but the hypothesis put forward by Bintliff and Snodgrass has apparently been confirmed in Cyprus, at the site of Kopetra,[19] and also in other parts of the ancient world. It remains to be seen, however, whether this is a global phenomenon or one that is dependent on certain soil types.

A second approach which we should like to advocate is the need for regional studies, preferably over an extended period of time, which is incidentally also the best way to ensure that the involved pottery specialists become familiar with the ceramic wares circulating in the study area. The Boeotia survey and the Sagalassos Project are excellent large-scale examples of this, but the these and other survey projects show that much can be achieved with smaller resources.[20]

What about new answers? First of all, we wish to stress that archaeologists should focus on managing resources better in the future when recording and publishing ceramic material than has perhaps been done in the past.

Pottery processing in the field

The degree of precision with which we are able to identify and study our pottery is directly related to the economic resources at hand. Surveys and excavations are apt to produce many thousands of sherds and other kinds of finds, and to process these is an expensive and time-consuming business. Assuming that we are dealing with a project yielding – say – 10.000 sherds, and that a pottery expert on average spends three minutes on each, then it would take her or him 62 days (working eight hours a day without free weekends) to process everything. In reality, three minutes is probably a minimum, since one should not only think about the time it takes to examine a sherd, note its fabric and Munsell colour, identify – if possible – its form, and to enter this information into a computer, perhaps draw it and then put it back

17. Snodgrass and Bintliff 1991.
18. Lund 1993, 457-458,471-472; Rautman 2002, 208 fig. 7; Wriedt-Sørensen 2006, 46-51; Lund 2007.
19. Cf. for Cyprus, Marcus Rautmann's work at Kopetra in Cyprus, and the Danish project in the Akamas, Lund 2007, and at Aradippou, Methenitis 2006. For a comparison involving two Bronze Age sites in Cyprus, see Swiny 2004, 61.
20. For instance, Meyer and Gregory 2003; Lund 2015 and Bintliff *et al.* 2017.

into its box and store it, before a new box crammed with pottery can be brought out.

The greatest assistance one could render a pottery expert would be to provide her or him with tools to help automate and speed up the work. Most pottery experts can be likened to highly skilled doctors, who are expected to perform complex operations with surgical instruments and other apparatus from the early 20th century. Natural scientists, architects and other members of archaeological projects frequently have sophisticated gear and computer programmes at their disposal, but pottery experts are in many cases left at their own devices.

Alternatively, projects might consider to invest in making the team larger, providing helping hands to the pottery specialists, or to balance better the generation of new finds through excavation or survey in the field with the time it takes to process the material. Building on experience, one week of fieldwork at Sagalassos, for instance, generates three weeks of work processing the finds resulting in basic graphic and photographic documentation and a quick scan of the pottery materials in order to help build the chronological framework of the surveyed area or the excavated stratigraphy and crude information on provenance and functionalities.[21] Providing the 'real' answers to the standard archaeological questions takes at least as much time as it does on other sites and for other projects, after which the publishing process still needs to start. Project directors and stakeholding authorities are not necessarily aware of these proportions, and if they can rarely fully cater to these genuine needs.

It was certainly a big step forward when the Munsell colour codes came into use as a standardised way of describing clay colours by archaeologists working in the Mediterranean in the mid 1970's.[22] But different people perceive colours differently,[23] which frankly speaking often render the seemingly objective Munsell colour determinations extremely difficult. It would be helpful, for instance, if colour determination of ceramic fabrics could be done automatically by means of an electronic sensor instead of using the naked eye. Such devises already exist, but they are hardly in general use. An

21. Poblome and Bes 2018.
22. Spennemann *et al.* 1986. The use of the Munsell soil colour charts by John W. Hayes and John A. Riley in their preliminary publication of pottery from the University of Michigan excavations in Carthage in 1975 (Hayes and Riley 1976) seems to have introduced the system to the Mediterranean and definitely contributed to its rapid spread there.
23. Cf., for instance, Frankel 1980 and Tomber and Dore 1998, 6: "The consistent application of the Munsell charts has frequently been called into question".

automated approach would have the additional benefit of eliminating uncertainties caused by the fact that different people perceive colours differently.[24] Other recurring criteria to classify fabrics include hardness, for instance, which is another measurement prone to take time when done properly, or with a very relative outcome when done on the go.

Another much needed device, which is not commonly used in the Mediterranean East, is a standard tool for drawing accurate profiles of pots and sherds, ideally combined with a program that could help identify the type of pottery in question using Artificial Intelligence.[25] This may in fact already be happening, since a method for automated pottery identification using hand-held smart device technology is currently being tested for scanning and classifying archaeological artefacts.[26] If it can truly identify the ceramics involved, it adds a further dimension to the enterprise. But it seems that this device works best – or solely – with wholly preserved pots, which is somewhat unfortunate, since nearly all ceramic material from excavations and surveys in settlements and sanctuaries is made up of sherds.

Further related to basic documentation, aiding classification in the field, why are there not more publications or apps around of the nature of Roberta Tomber and John Dore's "National Roman Fabric Reference Collection" or Raymond Brulet, Fabienne Vilvorder and Richard Delage's "La céramique romaine en Gaule du Nord. Dictionnaire des céramiques?"[27] Why does the international scholarly community not get its head round this issue, why do national managing authorities not create the frameworks for this to happen, and why would this be the first research project proposal to be rejected by funding agencies?[28] Is the elementary not good enough, or do we, as pottery specialists, manage insufficiently to explain why such investments would make a world of difference, not only to ourselves?

A further little explored avenue to increase the efficiency of research time as well as the potential of usefully sharing and co-creating information as a community, is the embracing of existing platforms aimed at standardiza-

24. Ferguson 2014.
25. Many such instruments have been developed by individuals for their private use, but no company has to my knowledge developed a standard package of software and gadgets to assist the pottery expert. The reason is presumably that they perceive that there is hardly any commercial market for these sorts of things.
26. Tyukin *et al.* 2018. See also Piccoli *et al.* 2015.
27. Tomber and Dore 1998; Brulet *et al.* 2010.
28. For a project of this nature that is in the process of succeeding against the odds, see Gattiglia 2018 and http://www.archaide.eu/home.

tion of information. CIDOC CRM,[29] for instance, is an international platform, conforming to ISO standards, providing an ontology for concepts and information relevant in the cultural heritage sector, with specific attention to, amongst others, the space-time dimensions and material things. All of a sudden we could be starting to talk the same language when describing our painstakingly sorted and classified study materials.

How to assist the publication process

Another point we wish to make concerns new ways of publishing the ceramic material more effectively than was often done in the past. Here again, the time has come to move from the "one man show" to a new level of international collaboration aimed at reducing the time involved – and hence the costs.

Most of us thus feel obliged to follow a certain traditional scheme when publishing pottery, which involves giving a lot of repetitive information about each ware, including a brief history of research, a general discussion of its fabric, date and source etc. Most of this might just as well be done by referring to a commonly agreed scheme, preferably one available on the internet. An example of this is the Southampton Roman amphora website,[30] which is an excellent frame of reference for the most common Roman amphora types. Something similar should be established for the other Roman wares, perhaps – as far as the fine wares of the Roman East are concerned – by the Levantine Ceramics Project (LCP),[31] or more generally, by the *Rei Cretariae Romanae Fautores*, as a highly respected learned society with a very wide international audience and dealing with the very matter. But this is only a first step.

In the future, one might envisage the establishment of websites covering the total spectrum of pottery circulating in specific geographical regions – for instance in Cyprus. It would include templates, to be accessed by the pottery expert directly over the internet, and filled in "in situ" to create a living and developing record of the finds, as they come in. This might serve as an instant "publication" of the raw data, which other researchers could tap into, when given access by the project doing the work. Such a system would leave the pottery expert time to ponder the interpretation of the finds – instead of preparing endless and repetitive printed publications. But which institution

29. http://www.cidoc-crm.org, accessed on the 3rd of October 2018.
30. http://archaeologydataservice.ac.uk/archives/view/amphora_ahrb_2005/index.cfm, accessed on the 3rd of October 2018.
31. https://www.levantineceramics.org, accessed on the 3rd of October 2018.

would finance – and which could manage – such a scheme? And would the different national archaeological authorities ever accept such a system?

Conclusions

To conclude, it seems to us that the terms "diagnostic" and "non-diagnostic" are so flexible as to be meaningless. Hardly any sherd is truly "non-diagnostic", and aspects of the identification of the so-called "diagnostic" sherds are more open to discussion than is commonly recognized. Indeed, the term "non-diagnostic" implies that it is inherently impossible to say anything meaningful about an object so labelled, which is why it might be preferable to use instead the word "un-identified", which leaves open a possibility of later identification.

The new approaches developed by the Troodos Archaeological project and the Tanagra project hold the promise of getting around such quandaries. Their most obvious limitation is that they will work best on one- or two-period sites with only one primary function. It is hard to envisage such methodologies used in connection with sites with a long history of occupation and use, and with complex and variable functions. Other than that, we should not forget the old answers, which have still not been generally applied, such as the need for combining surveys with excavations and to look at matters from a regional perspective.

We urge that efforts be focused on providing practical assistance to the pottery experts by developing tools that might help automate the recording of the finds and also simplify and speed up the publication process. But such initiatives would call for a hitherto unseen international collaboration, and for the allocation of substantial economic funds, and we cannot see that happening anytime soon.

There is a growing realization among archaeologists that "Big Data" can provide answers to many of our research questions concerning ancient societies. And ceramic material is well placed to provide such "Big Data", precisely because potsherds are ubiquitous in archaeological excavations and because they encapsulate a wealth of information. But in the case of ceramics, the data is almost too big – unless we can develop new ways of coping with the thousands and thousands of sherds. To achieve this, it would be necessary to launch a multifaceted project aimed at developing the tools required for automating the recording of the finds – and also simplify and speed up and

simplify the publication process. Cheaper and easier scientific clay analyses are but one element in such a project – but an important one. The project, we have in mind should ideally be developed in international collaboration between archaeologists, natural scientists, experts in Artificial Intelligence and computer programming etc.

But in the end, we must also recognize the limits of the information provided by ceramic finds. Ceramic material can only in rare cases provide us with specific information about short-term developments or about specific individuals, and we don't think that we can do anything to change this basic condition in the future. However, we remain convinced that ancient pottery is a unique source for elucidating developments over time, and for informing us about all sorts of relations between people – which is after all no mean feat at all.

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RAPPORTI COMMERCIALI FRA LA SICILIA OCCIDENTALE E L'ITALIA CENTRO-TIRRENICA FRA IV-III SEC. A.C.: I DATI DELLA CULTURA MATERIALE

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Introduzione

Questo contributo si propone di ricostruire, per la Sicilia occidentale, un quadro aggiornato delle importazioni ceramiche dall'Italia centro-tirrenica costiera[1] fra il IV ed il III sec. a.C. Verranno quindi prese in esame delle ceramiche prodotte sostanzialmente in quell'area che dopo la deduzione colonaria dell'*ager Falernus* nel 340 a.C. e la stipulazione del *foedus aequum* con *Neapolis* nel 326 a.C. entrava nella sfera d'influenza di Roma[2]. Riprendo qui una ricerca pubblicata dieci anni fa[3] che ora è possibile puntualizzare grazie soprattutto all'analisi di ca. 190 frammenti di anfore quasi tutte di tipo greco-italico. Oltre ad una revisione della bibliografia archeologica, ho potuto utilizzare dati ceramici, in parte ancora inediti, relativi alle classi delle anfore commerciali (vedi anche Graf. 1) e/o della vernice nera (vedi

* Questa ricerca è stata finanziata dall'Austrian Science Fund (FWF: P 25046-G19). Il mio ringraziamento va a T. Arena (Castellammare del Golfo) e M. de Cesare (Palermo) per la lettura critica del testo italiano e a R. Lampl (Vienna) per la digitalizzazione dei disegni a matita e la composizione delle fig. 1-13.

1. Intendo qui l'ampia fascia, sostanzialmente costiera, compresa fra l'Etruria meridionale a Nord ed il Cilento a Sud con *Elea* come propaggine più meridionale, e quindi parti delle attuali regioni Lazio e Campania.
2. Per una dettagliata discussione del panorama storico si vedano van der Mersch 2001, pp. 189-190; Olcese 2010, pp. 293, 301-303.
3. Bechtold 2007b. Per una sintesi del quadro storico della Sicilia occidentale punica fra IV e III sec. a.C. vedi Bechtold 2015b, pp. 68-69.

HEROM. Journal on Hellenistic and Roman Material Culture, 7.1&2, 2018, 25-61

https://doi.org/10.11116/HEROM.7.1&2.2

anche Graf. 6) dei seguenti siti: Selinunte (tempio B, tempio R)[4], Palermo (necropoli ed abitato)[5], *Lilybaion* (necropoli)[6], Pizzo Cannita nella bassa valle dell'Eleuterio (ricognizione)[7], Segesta (Porta di Valle, necropoli ellenistica, ricognizione)[8], Pantelleria (acropoli e ricognizione)[9] e Malta (sito rurale di Żejtun e ricognizione)[10]. Tratterò in prima linea ceramiche esaminate autopticamente i cui impasti suggeriscono una provenienza centro-tirrenica. La maggior parte dei frammenti anforici presi in considerazione è stata documentata secondo i metodi standardizzati di FACEM che prevedono l'analisi di ciascun campione osservato al microscopio binoculare e la sua fotografia in frattura fresca in triplice ingrandimento (x8, x16, x25). Per l'identificazione della provenienza delle anfore mi sono basata su confronti al microscopio e per mezzo delle microfoto con i materiali campani e lucani già editi nella banca dati di FACEM[11]. Ad integrazione dello studio dei *fabrics* archeologici,

4. Scavi della New York University (IFA) negli anni 2007-2012 sotto la direzione di C. Marconi che ringrazio per avermi affidato lo studio delle anfore commerciali e della ceramica ellenistica, per il tempio B vedi Bechtold c.s. a.
5. Scavi della Soprintendenza BB.CC.AA. di Palermo negli anni 2011 e 2015 sotto la direzione di C. Aleo Nero, M. Chiovaro e S. Vassallo nell'area della necropoli, tra Crs. Calatafimi (civ. 133-137, CAL e Pal. Orlando, PORL) e Pz. Indipendenza (Pal. D'Orléans, PIO) e dell'abitato (Pz. Bologni, PB; Steri/Sala delle Verifiche, STV, e Via del Celso, FRC). Sono estremamente grata agli amici della Soprintendenza della possibilità di studio di ca. 140 frammenti di anfore di produzione tirrenica. Per delle relazioni preliminari degli scavi in Pz. Bologni vedi Aleo Nero and Chiovaro 2017; Aleo Nero *et al.* 2018; per le indagini nelle necropoli cf. Aleo Nero *et al.* 2012.
6. Dati relativi alla vernice nera e a due anfore tirreniche tratti da Bechtold 1999.
7. Materiale inedito, raccolto da S. Muratore per la sua tesi di laurea della quale un riassunto è stato pubblicato in Muratore 2015. Ringrazio l'autore per la gentile concessione di studio di questi frammenti.
8. I dati della ceramica a vernice nera dallo scavo a Porta di Valle sono tratti da Bechtold 2008a. La ceramica a vernice nera rinvenuta nella necropoli ellenistica dell'area 15000 è sostanzialmente inedita. Per una relazione preliminare vedi Bechtold 2001 con bibliografia precedente. La ceramica a vernice nera raccolta nella ricognizione del territorio di Segesta è stata studiata da chi scrive, ma è rimasta inedita. Per il survey si veda Cambi 2003 con bibliografia precedente.
9. Scavi dell'Università di Tübingen (2000-2014) sull'acropoli sotto la direzione di Th. Schäfer e ricognizione suburbana di M. Almonte (2003-2008). Dati anforici in parte editi in Bechtold 2013a ed in parte in corso di studio da parte di chi scrive. Prime indicazioni sui dati relativi alla vernice nera dal survey si trovano in Ferrandes *et al.* 2013, pp. 386, 389; la vernice nera proveniente dall'area sacra sull'acropoli (oltre 1100 frammenti) è in corso di studio da parte di chi scrive.
10. Dati preliminari sullo scavo alla "villa romana" di Żejtun in Vella *et al.* 2018. Ringrazio i direttori di tali lavori N.C. Vella e A. Bonanno per avermi affidato il materiale ceramico delle area B, C, D e G, tuttora in corso di studio. Per un frammento dal *Malta Survey Project* 2008 si veda precedentemente Docter *et al.* 2012.
11. Gassner and Trapichler 2011 (*Poseidonia*); Gassner and Sauer 2015 (*Elea*); Gassner and Sauer 2016 (Campania).

35 campioni rappresentativi degli assemblaggi meglio attestati sono stati sottoposti ad analisi petrografiche[12].

"Classificare e datare con estrema precisione un'anfora greco italica basandosi solo sulla morfologia di un orlo risulta sempre un'operazione pericolosa, dal momento che solo l'insieme di più dettagli (…) permette un buon margine di sicurezza nell'individuazione del tipo specifico."[13] Ciononostante, per l'inquadramento tipologico delle anfore greco-italiche qui analizzate ho privilegiato la recente classificazione di V. Gassner, basata proprio sullo studio dei soli orli rinvenuti negli scavi stratigrafici condotti a Velia[14] che meglio si adattava al mio materiale in genere molto frammentato. I periodi di circolazione dei tipi indicati nel testo riprendono, quindi, le datazioni proposte dalla Gassner che sembrano armonizzare bene, del resto, con le cronologie dei nostri contesti siciliani.

1. Ceramiche centro-tirreniche documentate nella Sicilia occidentale

1.1. I precursori: le importazioni centro-tirreniche di V sec. a.C.

Al momento, la documentazione di ceramiche centro-tirreniche di V sec. a.C. è molto rara: ad un'anfora elea (Fig. 1,4) del tipo Gassner 4 da Pantelleria (Fig. 1,1) della seconda metà del secolo si aggiungono due frammenti di produzione paestana (Fig. 1,5) della stessa forma rinvenuti durante le ricognizioni su Pizzo Cannita, nella bassa valle dell'Eleuterio (Fig. 1,2-3).

12. Bechtold *et al.* 2018. Per una sintesi di questi dati archeometrici si veda anche la tab. 1 in fondo al presente contributo.
13. Premessa alla nuova classificazione di F. Cibecchini fondata sul riesame di anfore greco-italiche integre da una serie di relitti, cf. Cibecchini and Capelli 2013, p. 433 ed utilizzata anche da L. Pugliese (2014). Per la più recente sintesi della storia degli studi di analisi tipologiche della classe, vedi Cibecchini and Capelli 2013, pp. 423-424; Pugliese 2014, pp. 25-29.
14. Gassner and Sauer 2015, pp. 1-2 tipologia proposta per la sola produzione di *Elea*, ma valida, tuttavia, anche per le serie anforiche del Golfo di Napoli (vedi nota 9) con riferimento ad una seconda pubblicazione in corso di stampa che riproporrà la nuova classificazione estesa anche alle produzioni di *Poseidonia* e *Neapolis*. Grosso modo, i nuovi tipi di V. Gassner trovano le seguenti equivalenze tra la tipologia di F. Cibecchini: "Randform" 8 = Gr.-Ita. III; "Randform" 10 = Gr.-Ita. Va; "Randformen" 11-12 = Gr.-Ita. Vb/c.

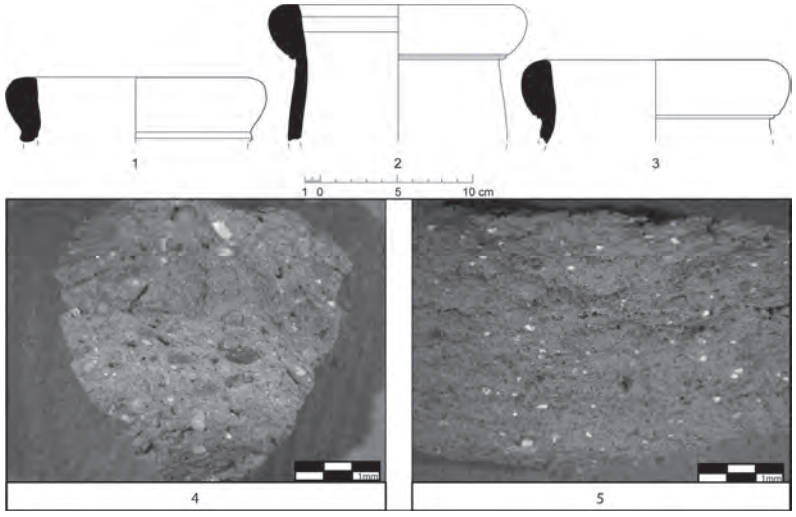


Fig. 1. Anfore centro-tirreniche di V sec. a.C., Gassner "Randform" 4 (1.-3.). *Fabrics* anforici (ad ingrandimento x8). *Elea* (4.). *Poseidonia* (5.).

Vanno ricordate, inoltre, alcune anfore etrusche della forma Py 4 da Lipari[15], Colle Madore (nell'alta valle del fiume Torto)[16], Pizzo di Ciminna (nella media valle del fiume S. Leonardo)[17] e Segesta[18]. Un numero non ancora specificato di anfore etrusche di V sec. a.C. viene segnalato anche per le necropoli di Himera[19]. Sembra tuttavia verosimile che l'attuale, apparente scarsezza dei dati sia dovuta almeno in parte alla mancanza di dettagliati studi sui repertori anforici documentati nei siti della Sicilia occidentale di V sec. a.C. Infatti, perlomeno per gli *emporia* di *Himera*, *Solus* e *Panormos* sulla costa nord-occidentale, sin dai tempi della loro fondazione intimamente legati ai traffici tirrenici[20], non escluderei la presenza di anfore paestane[21], tra l'altro già documentate nella Valle dell'Eleuterio, localizzata nel territorio delle città portuali puniche e nel contempo attestate anche a Cartagine e a Jerba[22].

15. Cibecchini 2006, p. 547 con ulteriore bibliografia.
16. Polizzi 1999, pp. 223-224, Fig. 222-223, n. 416, p. 228, di provenienza sporadica. Vi si aggiungono quattro frammenti di ansa di anfore etrusche (nn. 417-420).
17. Rondinella 2012, pp. 64-65, Tav. 9,56-58.
18. Polizzi 2008, p. 515, cat. 26, Tav. LXXXIII.
19. Vassallo 2009, p. 156.
20. de Cesare 2003, pp. 258-259 con ulteriore bibliografia.
21. Per questa ipotesi per Himera vedi Vassallo 2015, p. 155.
22. Da ultima Bechtold 2018, pp. 3-5, Fig. 2-3, con bibliografia precedente.

1.2. Le importazioni centro-tirreniche di IV sec. a.C.

1.2.1. Anfore da Elea e da Poseidonia

Sullo scorcio del V sec. a.C. arrivano sia a Pantelleria che nella Sicilia occidentale anfore di produzione elea, ma anche paestana (cf. *infra*, Graf. 1) che rientrano nei diversi stadi evolutivi della "Randform" 7 di V. Gassner, databili fra la fine del V e l'ultimo terzo del IV sec. a.C.[23]: nel corso della prima metà del IV sec. a.C. si inquadrano tre frammenti da *Cossyra* (Fig. 2,1-2) e da Palermo (Fig. 2,3), mentre al terzo quarto del IV sec. a.C. ca. attribuisco altri tre esemplari sempre da Pantelleria (Fig. 2,4-5) e da Palermo. Chiaramente più diffuse sono le varianti del successivo tipo Gassner 8 (330-290 a.C. ca.)[24], csd. "ad un quarto di cerchio", con attestazioni a *Cossyra* (Fig. 3,1)[25], *Lilybaion* (Fig. 3,2), Selinunte (Fig. 3,3-4)[26], Palermo (Fig. 3,5-6), Pizzo Cannita[27] e probabilmente nel territorio di Entella[28] (vedi anche Graf. 1). Da Segesta, infine, provengono quattro puntali di anfore elee databili a partire dall'ultimo terzo del IV sec. a.C.[29].

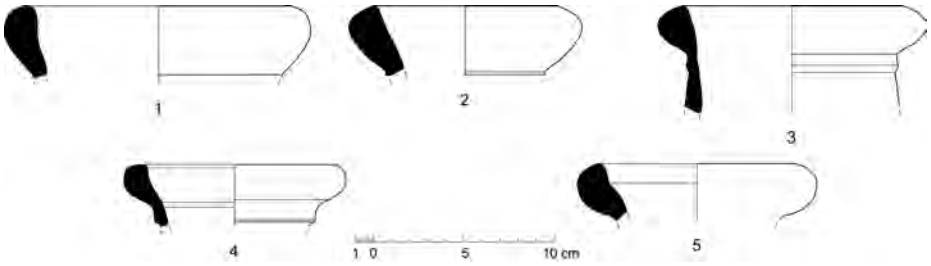


Fig. 2. Anfore lucane di IV sec. a.C., Gassner "Randform" 7 (1.-5.).

23. Gassner *et al.* 2014, pp. 242-243, Fig. 27.
24. Gassner and Sauer 2015, p. 4, Tav. 2, cat. 11-12.
25. Vedi anche FACEM – http://facem.at/m-119-132 da Velia.
26. Inoltre, dai livelli in fase con la costruzione del tempio B sull'acropoli databili al 300 a.C. o poco dopo: FACEM – http://facem.at/m-154-51, FACEM – http://facem.at/m-154-42 e FACEM – http://facem.at/m-154-45, tutti da Velia, FACEM – http://facem.at/m-154-53 da Paestum.
27. M 189/40 (inedito), produzione di Velia.
28. Corretti *et al.* 2014, p. 524, Fig. 7, gruppo petrografico MO 01 (Lucania e/o Sicilia nord-orientale?), attestato solo fra l'ultimo terzo del IV e l'inizio del III sec. a.C. con i tipi "ad un quarto di cerchio e MGS III/IV", assimilabili alla "Randform" 8. Alla p. 525, nota 29 si accenna alla possibile presenza di anfore lucane di questi tipi a Pizzo di Ciminna nella valle del S. Leonardo.
29. Di cui tre pubblicati in Bechtold 2013b, p. 75, Fig. 22,1.3; FACEM – http://facem.at/m-165-40 e FACEM – http://facem.at/m-165-41.

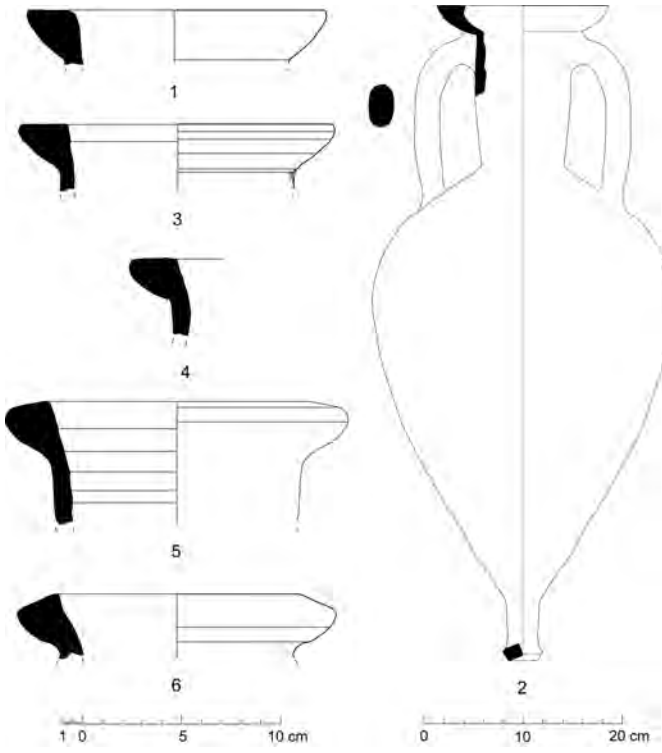


Fig. 3. Anfore lucane dell'ultimo terzo del IV-inizio del III sec. a.C., Gassner "Randform" 8 (1.-6.).

1.2.2. Anfore di produzione campana

Parallelamente all'ampia diffusione della "Randform 8" di produzione lucana, sullo scorcio del IV sec. a.C. troviamo anche le più antiche anfore dello stesso tipo prodotte probabilmente nella città di *Neapolis*[30] (Fig. 4,1-2, cf. anche *infra*, Graf. 1), ben attestate nei livelli relativi alla fondazione del tempio B a Selinunte del 300 a.C. o poco dopo (Fig. 5,1-4)[31]. Ulteriori documentazioni fuori contesto si segnalano per Palermo (Fig. 5,5), Pizzo Cannita (Fig. 5,6) e Pantelleria (Fig. 5,7). Da Malta proviene una Gassner 8 riferibile ad una produzione del Golfo di Napoli in senso lato (Fig. 4,3, 5,8). Va ricordata, infine,

30. In questo lavoro seguo la classificazione di V. Gassner e R. Sauer (2016) dove i *fabrics* BNap-A-1 a BNap-A-7 vengono attribuiti alla città di *Neapolis*, mentre i gruppi BNap-A-8 a BNap-A-10 appartengono più genericamente all'area del Golfo di Napoli.
31. Da aggiungervi altri sei frammenti ancora inediti, tutti attribuibili alla produzione di *Neapolis*, cf. Bechtold c.s. a, cat. 48, 66, 159-160, 210, 212.

l'identificazione di due orli del tipo Gassner 8 da Palermo[32] e da Selinunte probabilmente pertinenti allo stesso *fabric*, secondo le analisi petrografiche genericamente attribuibile all'area campano-laziale.

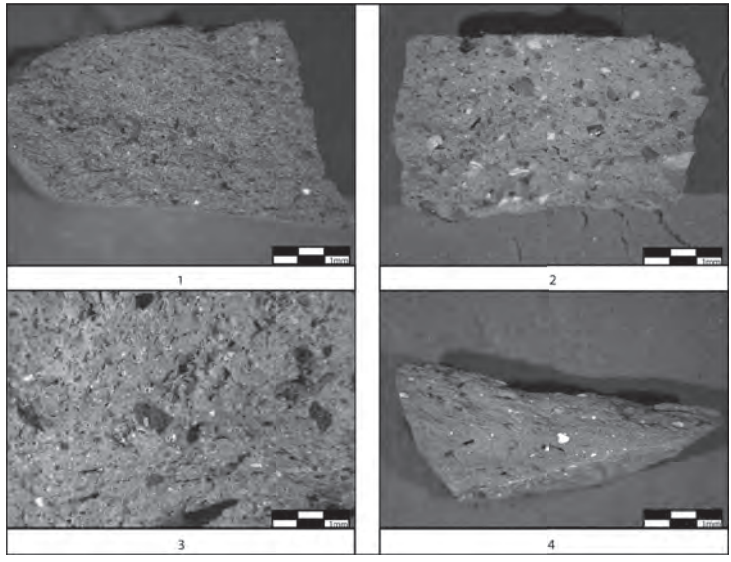


Fig. 4. *Fabrics* anforici (ad ingrandimento x8) del Golfo di Napoli (1.-4.).

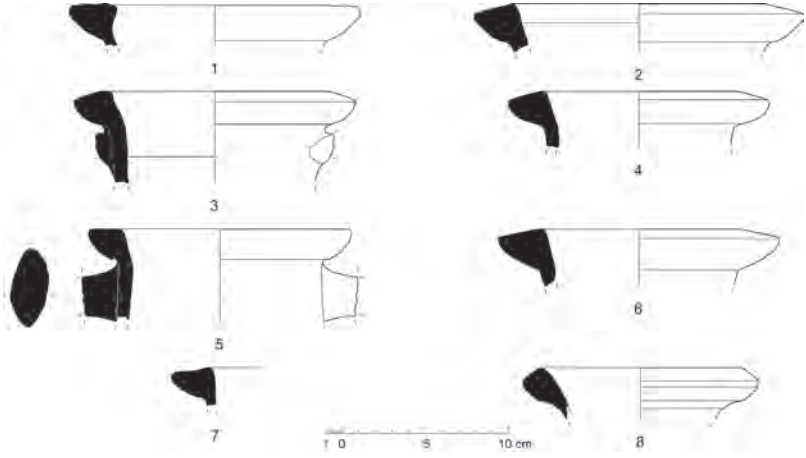


Fig. 5. Anfore campane dell'ultimo terzo del IV-inizio del III sec. a.C., Gassner "Randform" 8 (1.-8.).

32. M 106/154, cf. Bechtold *et al.* 2018, 15, Tab. 1, pl. 3,5; Aleo Nero *et al.* 2018, 34-35, cat. 44.

1.2.3. Anfore etrusche

Altamente significativa, anche se trascurabile in termini quantitativi, è la documentazione di due anfore del tipo Py 4A, l'ultima forma delle serie etrusche, a Segesta[33] e a Camarina nella Sicilia sud-orientale[34]. Secondo F. Cibecchini, la diffusione di questa classe, quasi esclusivamente marittima e con attestazioni molto rare, va inquadrata nel panorama più ampio "di scambi commerciali dominati dalla componente punico-cartaginese"[35].

1.2.4. Ceramiche a figure rosse di produzione campana e paestana

Non è certo questo il luogo per entrare nell'ampia problematica legata all'origine delle produzioni di ceramiche a figure rosse in Sicilia[36], nell'Italia meridionale ed in Campania e Lucania verso la fine del V sec. a.C. e alle interrelazioni particolarmente strette fra l'area campana e la Sicilia[37]. In questa sede basti ricordare la distribuzione abbastanza capillare dei prodotti della bottega del pittore di NYN, noto artista campano trasferitosi a Lipari ed attivo fra il 340-310 a.C., con attestazioni a Himera, Polizzi Generosa, Montagna dei Cavalli, Entella[38], Segesta[39], Agrigento e Monte Adranone[40]. Vi si aggiungono due vasi riferibili a produzioni campane e paestane dell'ultimo ventennio del IV sec. a.C. dalle necropoli di Byrgi che "(...) costituiscono le uniche attestazioni di tali officine in Sicilia, ricordando anche la generale scarsa presenza di vasi di questi due ambiti produttivi nell'isola (…)"[41].

La documentazione di ceramiche campano-liparote nella Sicilia occidentale greca ed anellenica "(...) traccia la via di penetrazione di questi vasetti nell'entroterra indigeno attraverso la costa tirrenica settentrionale e conferma l'apertura dei centri 'elimi' verso prodotti campani o di tradizione iconografica o stilistica liparota-campana, forse mediata dai centri punici o punicizzati delle coste nord-occidentali dell'isola, gestori dei traffici commerciali con il Tirreno centrale già nel VI sec. a.C.; o (…) da ricondurre a quell'afflusso di mercenari campani nella Sicilia occidentale a partire dalla fine del V sec. a.C., già connesso proprio con le «direttrici di comunicazione e di espansione commerciale marittima attraverso le quali si attuano gli scambi e i

33. Polizzi 2008, p. 515, cat. 27, Tav. LXXXIII.
34. Cibecchini 2006, p. 548 con ulteriore bibliografia.
35. Cibecchini 2006, pp. 542-543, 548.
36. Per una recente sintesi con ulteriore bibliografia si veda Elia 2012 e de Cesare 2009.
37. Vedi a proposito de Cesare 2006, pp. 434-436 con ulteriore bibliografia.
38. de Cesare 2003, p. 258.
39. de Cesare 2008, pp. 202-204, cat. 69.
40. de Cesare 2006, pp. 435-436.
41. de Cesare and Serra 2009, pp. 106-107, 130-131, cat. 55-56.

contatti con il mondo tirrenico» sin dal VII-VI sec. a.C."[42]. Secondo M. de Cesare, la distribuzione alquanto "puntiforme" delle ceramiche figurate campane indica forse piuttosto una loro diffusione legata allo spostamento di individui o di gruppi di individui che dei veri e propri flussi commerciali[43].

1.2.5. Ceramiche a vernice nera di produzione centro-tirrenica

Contrariamente alle anfore centro-tirreniche di IV sec. a.C., l'eventuale documentazione, nei siti della Sicilia occidentale, di ceramiche a vernice nera dallo stesso ambito geografico rimane tuttora poco chiara. Fra gli oltre 500 frammenti diagnostici rinvenuti nelle stratigrafie di Porta di Valle a Segesta e databili al IV sec. a.C., nessuno è stato attribuito con certezza ad una produzione tirrenica[44]. Nella necropoli punica di *Lilybaion*[45], come anche nell'abitato di *Iaitas*[46], i più antichi vasi di probabile provenienza centro-italica non appaiono prima dello scorcio fra IV e III sec. a.C. Unicamente per la necropoli di Palermo, C.A. Di Stefano osserva per il IV sec. a.C.: "Più consistente è invece la presenza di ceramiche di probabile produzione campana (...)", segnalando la documentazione di *skyphoi*, *olpai*, *lekythoi*, *gutti* e pissidi cilindriche[47].

1.3. Le importazioni centro-tirreniche di III sec. a.C.

1.3.1. Anfore di produzione campana

I siti precedentemente interessati dall'importazione della più antica "Randform" 8 in genere di produzione neapolitana ricevono anche la successiva "Randform" 9 (310-260 a.C. ca.)[48], identificata a Pantelleria (Fig. 6,1), a Selinunte (Fig. 6,2) e a Palermo (Fig. 6,3-4) (vedi anche *infra*, grafici 1-2).

42. de Cesare 2003, pp. 256-258.
43. de Cesare 2006, pp. 434-435.
44. Dati tratti da Bechtold 2008a.
45. Bechtold 1999, p. 93, impasto "v.n. imp. 6A"; Di Stefano 1992, pp. 261-262.
46. Caflisch 1991, pp. 106-107.
47. Di Stefano 1996, p. 686. Da ultima vedi Di Stefano 2009, p. 39 per la necropoli di Caserma Tuköry.
48. Gassner and Sauer 2015, pp. 4-5, Tav. 2, cat. 13-14.

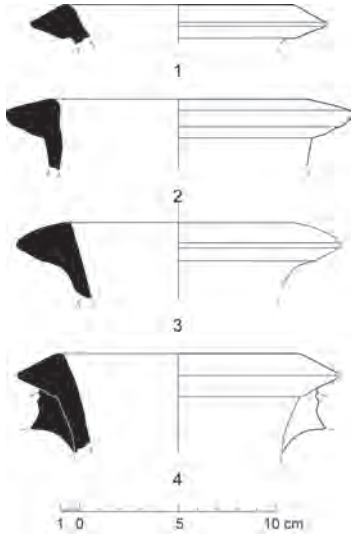


Fig. 6. Anfore campane della fine del IV-primo terzo del III sec. a.C., Gassner "Randform" 9 (1.-4.).

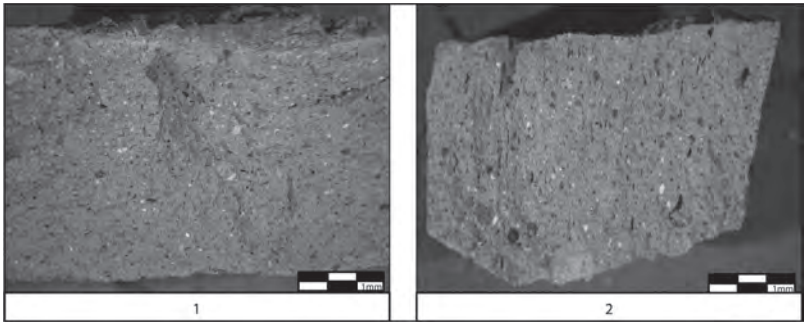


Fig. 7. *Fabrics* anforici (ad ingrandimento x8) dell'area centro-tirrenica (1.-2.).

Ma è soprattutto con l'inizio della circolazione della "Randform" 10 di V. Gassner (300-230 a.C. ca.)[49] all'inizio del III sec. a.C. che assistiamo ad un vistoso incremento delle anfore campane, in gran parte attribuibili alle officine di *Neapolis* o del suo Golfo, ma anche riferibili a siti produttivi centro-tirrenici non ancora identificati (Fig. 7,1-2, cf. anche *infra*, Graf. 1). Attestazioni della forma 10 si registrano a Pantelleria (Fig. 8,1), Selinunte (Fig. 8,2-3), *Lilybaion*

49. Gassner and Sauer 2015, p. 5, Tav. 2, cat. 15.

(Fig. 8,4) e a Palermo[50] (vedi anche *infra*, Graf. 2) dove la maggior parte degli esemplari proviene dal Golfo di Napoli (Fig. 8,5), ma anche da altri siti dell'area campano-laziale (Fig. 8,6). La successiva "Randform" 11, caratteristica del secondo e dell'ultimo terzo del III sec. a.C.[51], è documentata a Palermo (Fig. 9,1-3)[52] e a Pantelleria (Fig. 9,4-5). Negli stessi siti ricorre anche la contemporanea "Randform" 12 (Fig. 9,6-8)[53] (vedi anche grafici 1-2).

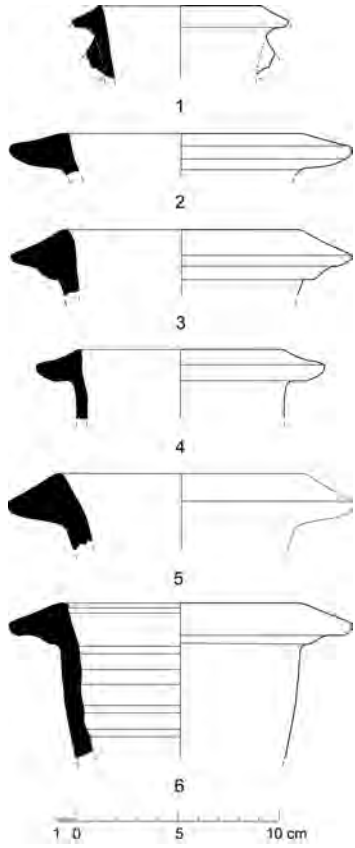


Fig. 8. Anfore campane di III sec. a.C., Gassner "Randform" 10 (1.-6.)

50. Vedi anche Bechtold *et al.* 2018, p. 14, Tab.1, M 106/162 (pl. 2,1); p. 15, Tab. 1. M 106/167 (pl. 2,8).
51. Gassner and Sauer 2015, pp. 5-6, Tav. 2, cat. 16-17.
52. Vedi anche Bechtold *et al.* 2018, p. 14, Tab. 1, M 106/65 (pl. 2,5) e M 106/174 (pl. 1,5); p. 15, Tab. 1, M 106/151 (pl. 2,9); p. 14, Tab. 1, M 106/189 (pl. 1,12) e M 106/158 (pl. 1,11).
53. Vedi anche Bechtold *et al.* 2018, p. 14, Tab. 1, M 119/151 (pl. 2,3); p. 15, Tab. 1, M 119/262 (pl. 3,7), M 106/177 (pl. 3,8), M 106/182 (pl. 3,12) e M 106/150 (pl. 3,3); p. 14, Tab. 1, M 106/67 (pl. 1,8).

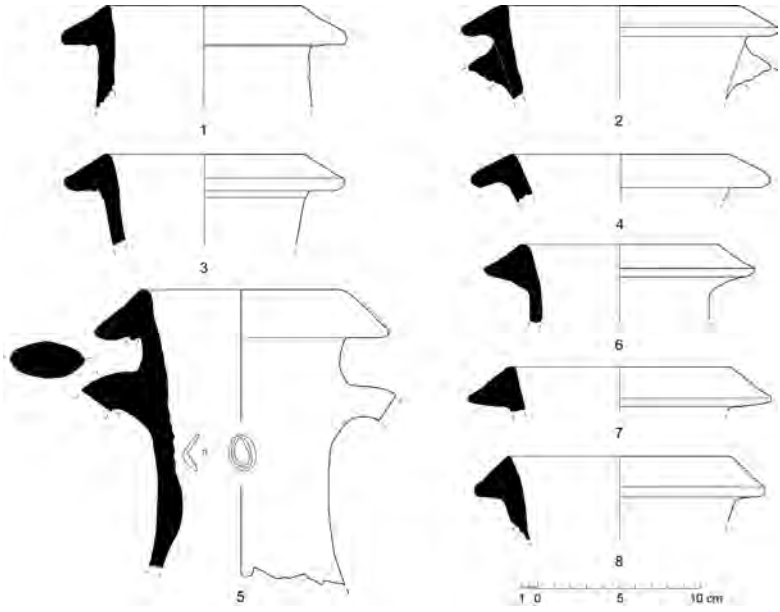


Fig. 9. Anfore campane di III sec. a.C., Gassner "Randform" 11 (1.-5.), Gassner "Randform" 12 (6.-8.).

1.3.2. Anfore da Elea e da Poseidonia

Parallelamente alla circolazione della "Randform" 9 di produzione campana sono attestati anche numerosi esemplari dello stesso tipo prodotti soprattutto ad *Elea*, ma anche a *Poseidonia* (cf. *infra*, Graf. 1), documentati in buon numero a Selinunte (Fig. 10,1-2)[54] e a Palermo (Fig. 10,3-4), ma individuati pure a Pantelleria (Fig. 10,5). Un puntale di una morfologia forse databile alla prima metà del III sec. a.C. di produzione elea proviene da Segesta[55]. La "Randform" 10 (Fig. 10,6-7) è ben attestata a Palermo, ma al momento documentata con un solo frammento a Pantelleria (grafici 1-2).

A partire dai tipi 11 (Fig. 11,1-3) e 12 (Fig. 11,4-5) di V. Gassner del secondo e dell'ultimo terzo del III sec. a.C., nel nostro campionario siciliano le anfore lucane diminuiscono. Poche attestazioni si segnalano per Palermo

54. 8 esemplari rinvenuti nei livelli in fase con la costruzione del tempio B sull'acropoli, databili attorno al 300 a.C. o poco dopo, cf. Bechtold c.s. a, cat. 62-63, 157, 207-208, 230, 266.
55. Bechtold 2013b, p. 75, Fig. 22,2.

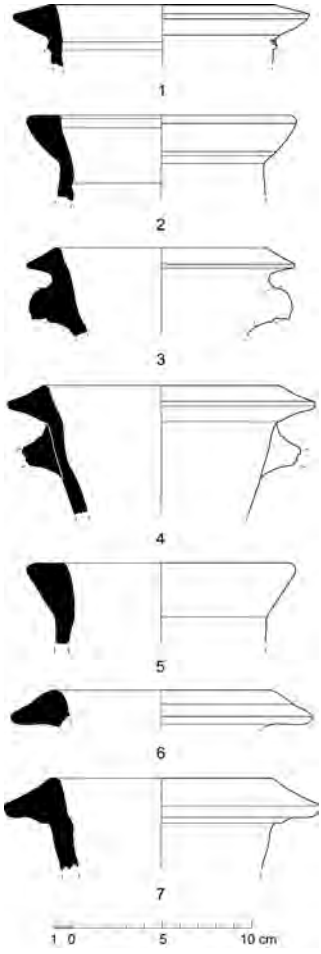


Fig. 10. Anfore lucane di III sec. a.C., Gassner "Randform" 9 (1.-5.), Gassner "Randform" 10 (6.-7.)

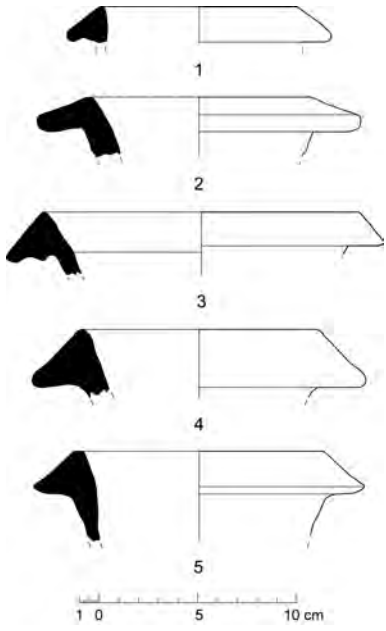


Fig. 11. Anfore lucane di III sec. a.C., Gassner "Randform" 11 (1.-3.), Gassner "Randform" 12 (4.-5.).

e Pantelleria. Degna di nota è, infine, l'identificazione di due frammenti di parete di anfora rispettivamente attribuibili a produzioni di *Poseidonia* ed *Elea* nel sito rurale di Żejtun a Malta, in contesti probabilmente databili alla media età punica (IV-III sec. a.C.?)[56].

56. M 105/55 (da *Poseidonia*) dal contesto ZTN06/1503 e M 105/59 (da *Elea*) dal contesto ZTN06/1181=1179.

1.3.3. Ceramiche a vernice nera di produzione centro-tirrenica

La presenza di ceramiche a vernice nera di provenienza centro-tirrenica è stata segnalata per diversi siti della Sicilia occidentale. Dalla necropoli punica di *Lilybaio*n conosciamo alcuni vasi attribuiti all'impasto 6A ("campana A arcaica") che appartengono a contesti funerari della prima e della seconda metà del III sec. a.C.[57]: due piattelli con orlo estroflesso di cui uno riconducibile al tipo Morel 1521 a1 da un corredo databile al 270/60 a.C.[58] e l'altro, di forma non specificabile, da una tomba della seconda metà del III sec. a.C.[59], un piatto da pesce del tipo Morel 1122 da una sepoltura databile attorno al 300 a.C. (Fig. 12,1), una coppetta del tipo Morel 2711/12 con bollo a tre palmette radiali (Fig. 12,2) da un corredo della fine del IV-inizi del III a.C. e due coppe profonde del tipo Morel 2783/4 con bollo a rosetta centrale da una sepoltura del secondo quarto del III sec. a.C. (Fig. 12,3). Per la necropoli, C.A. di Stefano segnala inoltre "Dal primo quarto del III sec. a.C. (…) la presenza di ceramiche di importazione dall'area etrusco-laziale.", e cioè di alcune "*oinochoai* a cartoccio" e di *gutti* della classe Morel 8210[60]. Anche a Segesta, le importazioni da area campano-laziale identificate fra il numerosissimo materiale a vernice nera rinvenuto a Porta di Valle datano tutte fra lo scorcio del IV ed il III sec. a.C.: troviamo due piatti del tipo Morel 1315 (Fig. 12,4), una coppa avvicinabile alla forma Morel 2411 da un contesto del primo terzo del III sec. a.C. (Fig. 12,5), alcuni fondi di forme aperte[61] di cui uno con bollo centrale a forma di rossetta da un deposito chiuso del primo ventennio del III sec. a.C. (Fig. 12,6) ed una protome leonina di un *guttus* Morel 8150 (Fig. 12,7). Nella necropoli di III sec. a.C. dell'area 15000, lo studio preliminare dei materiali[62] ha identificato una coppa del tipo Morel 2765 ed una coppa skyphoide del tipo Morel 3131 di probabile provenienza campano-laziale da due corredi databili rispettivamente negli anni centrali e nella seconda metà del III sec. a.C. Nell'entroterra segestano, invece, fra i materiali raccolti in 40 siti frequentati fra il IV ed il III sec. a.C., non sono state identificate ceramiche a vernice nera di produzione centro-italica.

Dagli strati in fase con la costruzione del tempio B del 300 a.C. o poco dopo a Selinunte proviene un piccolo gruppo molto significativo di sei vasi attribuiti all'area produttiva di *Neapolis-Cumae* e costituito da tre piatti da pesce Morel

57. Bechtold 1999, p. 3.
58. Bechtold 1999, pp. 374-375, T. 196/4-4 di Via Berta, tipo v.n. P 2D.
59. Bechtold 1999, p. 321, T. 125-1 di Via de Gasperi, tipo v.n. P2.
60. Di Stefano 1992, pp. 261-262.
61. Bechtold 2008a, pp. 351-352, cat. 438-441, Tav. XLIX.
62. Scavi della Soprintendenza BB.CC.AA. di Trapani (1996-1997) sotto la direzione di R. Camerata Scovazzo; il materiale dalle tombe 40 (coppa Morel 2765) e 114 (coppa skyphoide Morel 3131) è inedito ed in corso di studio da parte di chi scrive.

1121/22 (Fig. 12,8) e tre coppe "otturned rim" (Fig. 12,9)[63]. Un mio studio preliminare del vasto insieme di oltre 1100 frammenti a vernice nera dagli scavi nell'area sacra sull'acropoli di Pantelleria ha identificato la presenza di alcune coppe "outturned rim" di produzione tirrenica[64]. Infine, "Qualche coppa Morel 2784/88 di produzione etrusco-laziale o anche campana" viene segnalata anche per il territorio suburbano[65].

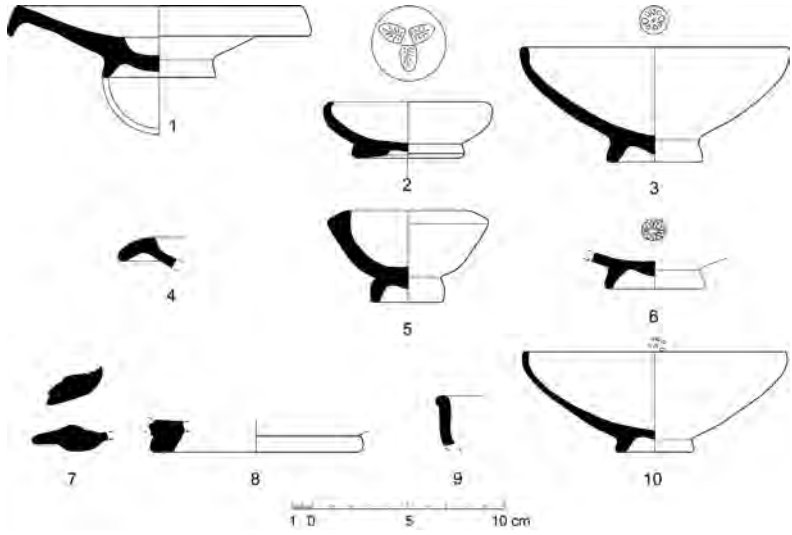


Fig. 12. Ceramiche a vernice nera campano-laziali di III sec. a.C. (1.-10.).

1.3.4. Ceramiche a vernice nera della cerchia "Petites Estampilles"

Il riassunto più aggiornato della documentazione siciliana di coppe della cerchia "Petites Estampilles" di produzione romano-laziale rimane il mio studio pubblicato nell'ambito dell'edizione dello scavo di Porta di Valle a Segesta che segnala la presenza della classe, oltreché a Segesta, a Solunto, Eraclea Minoa, Selinunte, *Lilybaion*/*Motya* e *Iaitas*[66]. Vanno aggiunti alcuni esemplari ancora

63. Bechtold c.s. a, cap. 4.5.3.2, piatti da pesce Morel 1121/22: cat. 185, 256, 264, coppe outturned rim: cat. 186-187, 219.
64. Scavi dell'Università di Tübingen (2000-2012) sotto la direzione di Th. Schäfer, materiale in corso di studio da parte di chi scrive. Primi cenni della presenza di questa classe in Schmidt 2015, pp. 319, cat. 308, Tav. 8,15, dall'US 2045 databile agli anni centrali del III sec. a.C.; p. 323, cat. 350-351, Tav. 9,11-12, dall'US 2044 della prima metà del II sec. a.C., disturbata in età claudiana e contenente anche del materiale di III sec. a.C.
65. Ferrandes *et al.* 2013, p. 386.
66. Bechtold 2008a, pp. 348-349, Tav. XLVIII con bibliografia precedente.

inediti dalla necropoli ellenistica di Segesta (Fig. 12,10)[67] e dall'acropoli di *Cossyra*[68]. Rimane quindi valida l'osservazione di J.P. Morel: "Si la présence en Sicile des productions latiales reste discrète, il est du moins significative que cette présence soit clairement limitée à la partie occidentale de l'île."[69].

1.3.5. Ceramiche a vernice nera di produzione calena

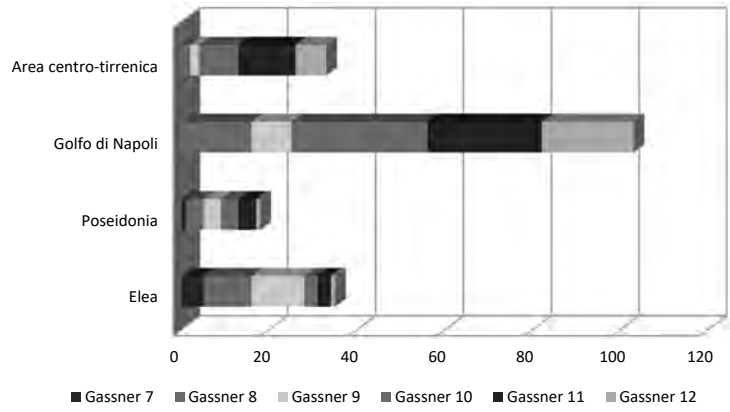
In base al materiale attualmente edito, nella Sicilia occidentale la documentazione di ceramica calena di III sec. a.C. sembra limitata a due o tre vasi del primo terzo del secolo, rinvenuti nella necropoli di *Lilybaion* e dettagliatamente discussi altrove[70], nonché alla recente segnalazione di un piccolo gruppo di ceramica calena arcaica identificato nella *Cossyra* suburbana[71]. Le due colonie cartaginesi rimangono quindi gli unici siti siciliani con attestazioni di questa classe, a conferma di un legame particolarmente stretto e di tipo non solo commerciale, ma anche e soprattutto culturale con la madrepatria[72] dove la calena arcaica sembra regolarmente documentata in contesti urbani di III sec. a.C.[73].

2. L'interpretazione dei dati ceramici dalla Sicilia occidentale

2.1. I primi due terzi del IV sec. a.C.

Come a Cartagine[74], anche nella Sicilia occidentale un primo aumento delle presenze di ceramiche centro-tirreniche si coglie nel corso del IV sec. a.C. quando troviamo alcune anfore della "Randform" 7 di origine quasi esclusivamente elea. Al momento, questi contenitori sono stati identificati soltanto a Palermo e a Pantelleria (vedi cap. 1.2.1 e grafici 1-2), forse perché solo in questi due siti ho potuto campionare del materiale preellenistico.

67. Vedi nota 62; il materiale proviene dalle tombe 20 e 101 del primo terzo del III sec. a.C. ed è in corso di studio da parte di chi scrive.
68. Vedi nota 64. Due frammenti (PN 10 ACR II 4351-1.2), in corso di studio da parte di chi scrive.
69. Morel 2010, p. 126.
70. Bechtold 2007a, pp. 29-30, Fig. 14, nn. 2 (coppa Morel 2646), 5 (*guttus* "angolare"), 6 (*oinochoe* trilobata).
71. Ferrandes *et al.* 2013, p. 386, nota 21, 388, Tab. 3: una coppa Morel 2686, sette coppe Morel 2775 ed una coppa a rilievo Morel 2170.
72. Per *Lilybaion* da ultima Bechtold 2015a, p. 80, nota 336 con bibliografia precedente. Per *Cossyra* vedi Ferrandes *et al.* 2013, p. 387 e Bechtold 2013a, pp. 453-455.
73. Bechtold 2007a, in particolare pp. 22-23, Fig. 12.
74. Bechtold 2013b, pp. 77-78.



Graf. 1. La distribuzione quantitativa di anfore greco-italiche (Gassner "Randformen" 8-12) e della precedente "Randform" 7 di produzione centro-tirrenica fra IV e III sec. a.C. in alcuni siti della Sicilia e delle isole (N 189 di cui 101 da Palermo, 52 da Pantelleria, 31 da Selinunte, 2 da Pizzo Cannita, 2 da Lilibeo/Marsala, 1 da Malta).

Il periodo di circolazione di queste anfore coincide con il momento più alto della presenza di mercenari italici negli eserciti cartaginesi in Sicilia, impegnati nei conflitti contro le diverse città greche ed in seguito utilizzati in contingenti di presidio[75] oppure inseriti in maniera stabile nel contesto territoriale[76]. Secondo A. Ch. Fariselli, durante questa prima fase "L'assunzione del ruolo di centro di reclutamento da parte di Neapolis (…) potrebbe (...) aver determinato l'inaugurazione di contatti e l'apertura di canali mercantili paralleli a quello del traffico mercenario e, di conseguenza, aver favorito un generale potenziamento economico dell'area."[77]. "Si prospetterebbe in tal caso un quadro nel quale un tipo di mercenariato prevalentemente stanziale avrà anch'esso assunto in alcuni casi un ruolo di stimolo e sostegno a flussi commerciali di più o meno ampia entità o forse solo un ruolo nella circolazione di merci (…)."[78]. Aumentano, infatti, le testimonianze archeologiche di tipo campano (cinturoni, fibule[79] e statuette in bronzo[80]) "totalmente esclusi (…) dai normali cir-

75. Fariselli 2002, pp. 293-294; Hans 1983, p. 138.
76. Fariselli 2002, pp. 296, 300; Hans 1983, p. 142.
77. Fariselli 2002, pp. 293-294. Particolarmente interessante in relazione ad un ipotetico ruolo del porto di *Neapolis* è la recentissima identificazione di due frammenti di anfore puniche di produzione soluntina rinvenuti in due contesti stratigrafici scavati in Pz. Nicola Amore, Napoli, un'area localizzata sull'antica spiaggia all'esterno delle fortificazioni greche. Per l'identificazione delle anfore si veda Bechtold 2015a, p. 33, note 69 (tipo Sol/Pan 3.3) e 73 (tipo Sol/Pan 4.1).
78. de Cesare 2006, p. 434.
79. Si veda Guglielmino 2006 con ulteriori riferimenti bibliografici.
80. Fariselli 2002, p. 295 con bibliografia precedente.

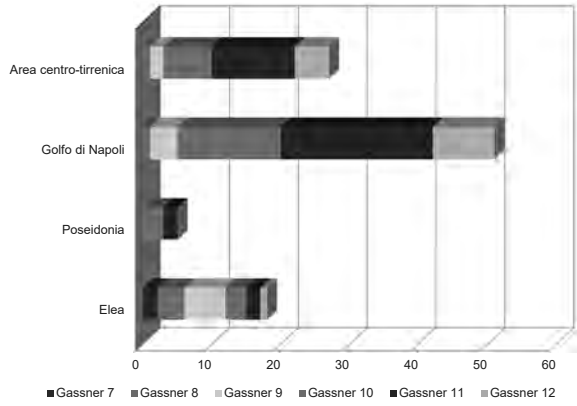
cuiti commerciali"[81] e da collegare, invece, a una presenza fisica di mercenari italici nella Sicilia occidentale. Agli oggetti in bronzo si aggiungono gli apporti e gli intrecci fra le ceramiche a figure rosse di produzione protocampana, protopestana e protosiceliota[82] e le anfore di cui sopra che nell'insieme sembrano iscriversi nel contesto più ampio di una mobilità di individui[83] e di gruppi di individui, di mercanzie[84] e di risorse che caratterizza i rapporti fra la Campania e la Sicilia per tutto il IV sec. a.C. Nel contempo, diventa sempre più evidente una modesta distribuzione di anfore puniche di produzione soluntina e palermitana, databili fra la fine del V e la metà del IV sec. a.C., lungo le coste del Basso Tirreno fino agli *emporia* di *Elea* e di *Neapolis*[85] che attestano inequivocabilmente il crescente potere economico di queste due città della Sicilia nordoccidentale soprattutto in seguito alla pace del 405-404 a.C.[86].

2.2. L'ultimo terzo del IV ed il III sec. a.C.

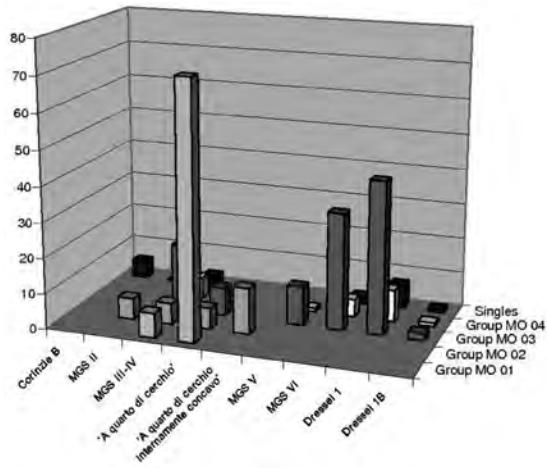
Probabilmente come conseguenza della concessione della *civitas sine suffragio* ai Campani da parte di Roma, nel corso dell'ultimo terzo del IV sec. a.C. l'area fra il Sele e l'entroterra lucano sembra diventare una delle zone di maggior reclutamento di mercenari e *Poseidonia* l'ipotetico punto di smistamento e d'imbarco[87]. Proprio in questo periodo o poco dopo si colloca il picco della documentazione di anfore lucane delle "Randformen" 8 e 9 della Gassner, con numerose attestazioni non soltanto nelle città portuali della Sicilia punica (grafici 2, 4), ma probabilmente anche in alcuni siti interni come Entella (Graf. 3), Segesta (vedi nota 29) e Pizzo di Ciminna nella valle del S. Leonardo[88]. I nuovi dati siciliani smentiscono quindi l'affermazione di

81. Guglielmino 2006, p. 505.
82. de Cesare 2006, p. 435.
83. Per il trasferimento del Pittore di NYN a Lipari e la distribuzione dei suoi prodotti attraverso i poli mercantili della Sicilia punica, senza escludere "(...) possibili collegamenti di queste ceramiche con presenze mercenarie nell'isola.", vedi de Cesare 2006, pp. 435-436.
84. Per la "distribuzione puntiforme" in Sicilia di quindici vasi figurati di produzione apula, lucana e paestana, databili fra la fine del V e la metà del IV sec. a.C., e l'interpretazione di questo fenomeno come "(...) una circolazione occasionale, legata a movimenti di uomini più che di merci." si veda de Cesare 2006, pp. 434-435.
85. Per una carta di distribuzione delle anfore puniche di produzione soluntina/palermitana fra V e IV sec. a.C. cf. Bechtold 2015a, p. 97, Fig. 33. Per *Neapolis* vedi nota 77. Ad *Elea*, i contesti stratificati della città bassa hanno restituito due frammenti del tipo Sol/Pan 6.3 / T-2.2.1.2 ed un frammento del tipo Sol/Pan 4.4 / T-4.2.2.6 di produzione palermitana, cf. Bechtold 2015a, pp. 50-52, note 171, 179.
86. In dettaglio vedi Bechtold 2015a, pp. 93-95, 97, Fig. 33 (per il V sec. a.C.), 96, 98-100, 101, Fig. 34 (per il IV sec. a.C.).
87. Fariselli 2002, pp. 328-330.
88. Rondinella 2012, pp. 58-60, Tav. 2-4.

F. Cibecchini in relazione ai suoi tipi Gr.-Ita. III e IV / "Randform 8" per cui il "ruolo nei traffici del Mediterraneo" sarebbe stato molto limitato[89].



Graf. 2. La distribuzione quantitativa di anfore greco-italiche (Gassner "Randformen" 8-12) e della precedente "Randform" 7 di produzione centro-tirrenica fra IV e III sec. a.C. (N 101) rinvenute a Palermo (area urbana e necropoli).



Graf. 3. La distribuzione quantitativa dei gruppi archeometrici (MO) identificati fra le anfore di tipo greco-italico e Dressel 1 della ricognizione di Entella (N 255, da: Corretti *et al.* 2014, p. 524, Fig. 7) per il quale si possono assumere, grosso modo, le seguenti equivalenze tipologiche: MGS II = Gassner 7; "Quarto di cerchio" e MGS III-IV = Gassner 8-9; MGS V = Gassner 10; MGS VI = Gassner 11-12. MO 1 = Campania meridionale e/o Sicilia nord-orientale? MO 2 = produzione locale/regionale MO 3 = Ischia/Golfo di Napoli MO 4 = Campania/Lazio.

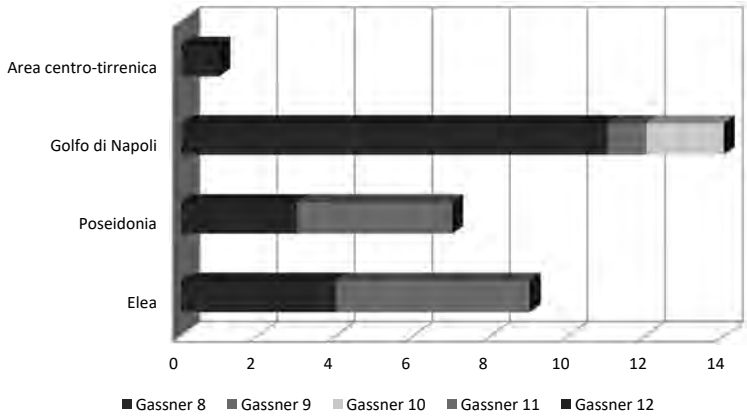
89. Cibecchini and Capelli 2013, p. 433.

Nel contempo si registra la notevole distribuzione in Sicilia dei prodotti del pittore campano-liparota di NYN e l'ampia circolazione di materiale anforico dall'area di Solunto/Palermo in Lucania[90], ma probabilmente pure in molti altri contesti italici del Basso Tirreno[91]. A questo proposito va anche ricordata la vasta diffusione, a partire dalla fine del IV sec. a.C., dei prodotti dell'officina del Pittore di *Bastis* (soprattutto dei piatti da pesce a figure rosse), una produzione forse da localizzare proprio nella Sicilia occidentale punica, lungo tutta la costa tirrenica fino in Campania[92]. L'insieme di questi elementi rafforza l'ipotesi "(...) che fra la fine del IV ed il III sec. a.C. si vadano definendo dei percorsi, mercenariali e commerciali insieme, forse reciprocamente vincolati in un rapporto di causa-effetto, fra le basi militari puniche e le maggiori riserve guerriere italiche in quell'epoca."[93].

In base ai dati quantitativi esposti sopra, per il periodo compreso fra la fine del IV e gli inizi del III sec. a.C. mi sembra quindi appropriato parlare di veri e propri "rapporti commerciali" fra le città puniche della Sicilia nord-occidentale e l'area produttiva di *Poseidonia/Elea* e *Neapolis*[94]. In tutti i siti siciliani esaminati, ma anche a *Cossyra* e *Melite*[95], troviamo anfore lucane delle forme 8-9 in associazione con i medesimi tipi prodotti nel Golfo di Napoli. È interessante sottolineare che fra le selezioni anforiche da Palermo (Graf. 2) e dall'entroterra di Entella (Graf. 3) che raccolgono frammenti in genere fuori contesto, fra i frammenti della "Randform" 8 prevalgono ancora i contenitori prodotti ad *Elea*. Nei depositi chiusi in fase con la costruzione del tempio B a Selinunte del 300 a.C. o poco dopo (Graf. 4), invece, domina

90. Bechtold 2015a, p. 97, Fig. 33; vedi anche Mollo 2007, p. 82 "(...) una generale e documentata presenza di materiali ceramici ed anforici di origine punica dai contesti brettii e da quelli lucani dell'area tirrenica (…)".
91. Mollo 2011, p. 243 "(...) anfore puniche Ramón T-7.1.2.1 e 6.1.2.1, diffuse praticamente in tutti i contesti italici del Tirreno, dalla presenza (…)". Un caso particolarmente interessante, non menzionato da F. Mollo, viene costituito dal sito di Cività di Tricarico, ubicato al centro della Lucania interna, dove i tipi punico-siciliani T-4.2.2.7 e soprattutto T-7.1.2.1 risultano "(…) molto comuni (…)" nelle stratigrafie della fase IIa della fine del IV-inizi del III sec. a.C., vedi Caravelli 2008 e per la datazione assoluta delle fasi urbane p. 35.
92. Mollo 2007, pp. 81-82, per l'officina vedi p. 66; Mollo 2011, pp. 239-243, Fig. 9, oltre alla presenza di altre ceramiche a vernice nera di produzione siculo-punica vedi "(...) da considerare come merce di accompagnamento dei carichi anforari che circolavano dalla Sicilia occidentale verso le coste tirreniche italiche e viceversa, utilizzando come testa di ponte l'arcipelago eoliano.".
93. Fariselli 2002, p. 325.
94. In questo senso vedi precedentemente Bechtold 2013b, pp. 79-80; Bechtold 2015a, p. 99.
95. Anche fra i materiali anforici rinvenuti a Porta di Valle a Segesta, anfore realizzate con "impasti vulcanici" sembrano documentate, per la prima volta, fra i contenitori "con orlo ad echino", assimilabili alle "Randformen" 8-9, cf. Polizzi 2008, pp. 518-519, cat. 56, 61, 63, Tav. LXXXV.

già la "Randform" 8 dal Golfo di Napoli, mentre diametralmente opposta appare l'incidenza delle diverse produzioni attribuibili alla "Randform" 9.

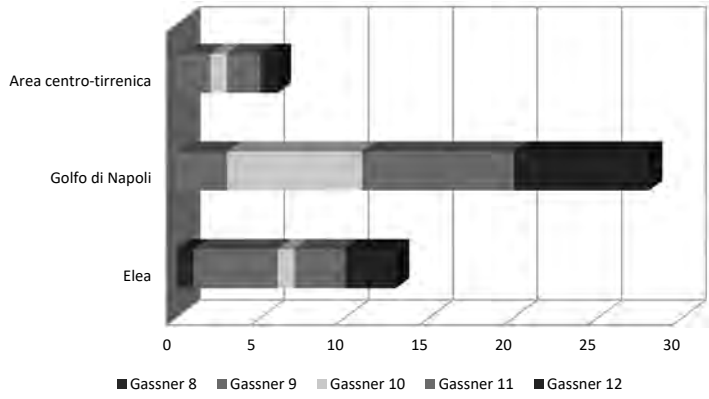


Graf. 4. La distribuzione quantitativa delle anfore greco-italiche (Gassner "Randformen" 8-10) di produzione centro-tirrenica nei contesti chiusi del tempio B a Selinunte, ca. 300 a.C. o poco dopo (N 31).

Le evidenze derivate dallo studio del preziosissimo contesto chiuso selinuntino suggeriscono che – perlomeno sulla costa sud-occidentale – negli anni a cavallo fra IV e III sec. a.C. le anfore "ad un quarto di cerchio" / "Randform" 8 rappresentano il contenitore da trasporto di tipo greco più diffuso, seguito da alcuni esemplari del tipo 9 e da un solo frammento del tipo 10, evidentemente ancora molto raro agli inizi del III sec. a.C.[96]. Stando soprattutto a questi recenti dati stratigrafici da Selinunte, l'ampia distribuzione delle anfore originarie del Golfo di Napoli inizierebbe allora sullo scorcio del IV sec. a.C. Le nuove evidenze derivate dall'analisi dei gruppi anforici dalle ricognizioni di *Cossyra* suburbana[97] e di Entella (Graf. 3), ma anche dai recenti scavi a Palermo (Graf. 2) dimostrano che già con la regolare circolazione della "Randform 10", a partire dal primo o secondo decennio del III sec. a.C., le produzioni del Golfo di Napoli dominano in maniera incontestata i mercati regionali. Nei contesti chiusi in fase con la costruzione del tempio B sull'acropoli di Selinunte attorno al 300 a.C. o poco dopo, invece, troviamo

96. Alle stesse conclusioni arriva V. Gassner in base alla distribuzione stratigrafica del materiale anforico di Velia, cf. Gassner and Sauer 2015, p. 5.
97. Le anfore MGS V / "Randform" 10 campane rappresentano nella fase Va della prima metà del III sec. a.C. con il 34% ca. la classe anforica meglio attestata (N 77), cf. Bechtold 2013a, p. 434, Tab. 10.

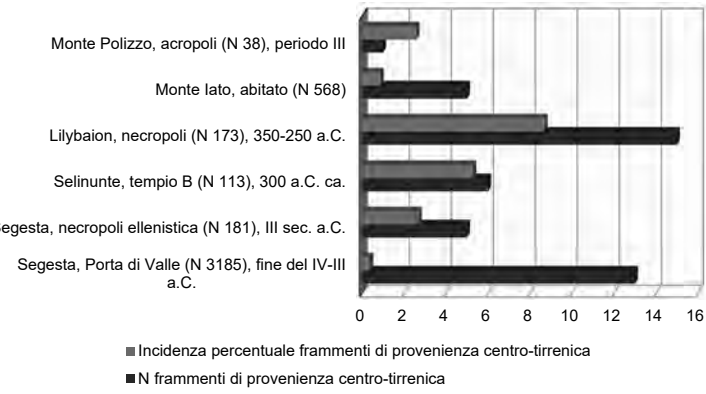
ancora presenze quantitative all'incirca uguali fra le anfore delle officine del Golfo di Napoli e delle botteghe di *Elea* e *Poseidonia* (Graf. 4).



Graf. 5. La distribuzione quantitativa delle anfore greco-italiche (Gassner "Randformen" 8-10) di produzione centro-tirrenica negli scavi sotto lo Steri (Sala delle Verifiche, 2011) a Palermo (N 47).

Soprattutto l'insieme anforico dagli strati di scarico e di accumulo scavati sotto lo Steri[98] – nell'area dell'antico porto della Palermo di III sec. a.C. – sembra evidenziare "l'esplosione" delle importazioni dal Golfo di Napoli avvenuta con la circolazione della "Randform" 10, a svantaggio della distribuzione di anfore lucane (Graf. 5). Le associazioni nei contesti palermitani tuttora in corso di studio sembrano suggerire, inoltre, la contemporaneità per lo meno parziale delle "Randformen" 10-12 di produzione campana in depositi databili forse agli anni della prima guerra punica, a conferma di precedenti osservazioni di V. Gassner per Velia[99]. Anche i dati relativi alla documentazione, in alcuni siti della Sicilia occidentale, di ceramiche a vernice nera centro-tirreniche (Graf. 6), indicano una presenza costante, seppur contenuta, di questa classe, compresa fra l'1% e l'8% ca.

98. I materiali archeologici dello scavo Steri/Sala delle Verifiche 2015 sono tuttora in corso di studio. Con riferimento ai ca. 120 frammenti diagnostici di anfore commerciali (di cui ca. 45 di tipologia punica, 5 di tipologia greca e ca. 70 della classe delle greco-italiche), soltanto tre frammenti sono anteriori alla fine del IV sec. a.C. Tutti gli altri frammenti datano fra la fine del IV e la metà del III sec. a.C. e almeno un terzo potrebbe appartenere anche alla seconda metà del III o all'inizio del II sec. a.C.
99. Gassner and Sauer 2015, p. 5.



Graf. 6. La distribuzione quantitativa (in blu) e percentuale (in rosso) di ceramica a vernice nera centro-tirrenica in alcuni siti della Sicilia occidentale fra la seconda metà del IV ed il III sec. a.C. (dati rielaborati da Bechtold 2008, p. 385, Fig. 19).

La bibliografia archeologica registra la documentazione di anfore campane di III sec. a.C. a Segesta[100], Erice[101], Lilybaeum[102], Eraclea Minoa, Monte Adranone, San Benedetto di Caltabellotta, Licata, Gela[103] e a Termini Imerese[104] sulla costa settentrionale. Inoltre, le analisi archeometriche confermano un'origine neapolitana/ischitana del materiale anforico di almeno due dei quattro relitti più antichi delle isole Eolie (Filicudi F, Secca di Capistello)[105], tappa obbligata per la rotta navale dalla Campania verso la

100. Bechtold 2007b, pp. 61-62.
101. Probabile alta presenza di anfore campane nel santuario, ipotizzata in base alla ricca documentazione di materiale bollato, vedi da ultima Panella 2010, p. 34, nota 4.
102. Primi cenni della possibile presenza di anfore campane fra i corredi della necropoli punica in Bechtold 1999, p. 164, impasto 3, per contatti commerciali con il mondo campano vedi p. 260.
103. Olcese 2010, pp. 265-276, 282-284, Tab. VIII.1 con i risultati di analisi archeometriche condotte su materiali anforici campionati a Lipari, Erice, Marsala, Selinunte, Eraclea Minoa, Monte Adranone, San Benedetto di Caltabellotta, Licata, Gela.
104. Alaimo *et al.* 1997, pp. 46-48.
105. Olcese 2012, p. 572, Filicudi F (300-280 a.C.); p. 573, Secca di Capistello (300-280 a.C.); Olcese 2010, p. 259, Tab. VII.1. Secondo il parere di G. Olcese (2010, p. 248), anche le anfore dei relitti di Roghi 1 e Filicudi B potrebbero essere di origine campana. Per una recente sintesi tabellare dei relitti affondati alle isole Eolie fra la fine del IV e la metà del III sec. a.C. cf. Cibecchini and Capelli 2013, p. 425, Tab. 2.

Sicilia occidentale[106]. I carichi di Filicudi F[107] e Secca di Capistello[108] danno anche prova dell'associazione di anfore neapolitane con ceramica a vernice nera, non necessariamente di produzione campana.

Fig. 13. Anfore centro-tirreniche documentate nella Sicilia occidentale e anfore prodotte fra Palermo e Solunto attestate nell'Italia meridionale (ca. 330-250 a.C.).

106. de Cesare 2006, p. 435 "(...) Lipari, quale punto di snodo di un itinerario fra Sicilia e Campania, che deve aver veicolato merci, culture e uomini, creando processi di contatto e di assimilazione culturale, nei quali una parte non secondaria deve aver svolto anche il mercenariato."
107. Olcese 2010, p. 238. Il carico di ceramica a vernice nera non è stato analizzato e la ceramica acroma non è di origine campana ma, secondo F. Cibecchini, di produzione liparota (Cibecchini and Capelli 2013, p. 225, Fig. 2).
108. Olcese 2010, p. 248 secondo le analisi archeometriche, almeno una parte del carico a vernice nera sarebbe di origine campana. Una produzione campana o punico-siciliana viene proposta da F. Cibecchini (Cibecchini and Capelli 2013, p. 225, Fig. 2).

Fra l'ultimo terzo del IV e la metà del III sec. a.C., le città della Sicilia occidentale e sud-occidentale diventano quindi i centri di consumo extra-regionali più importanti dei prodotti agricoli, probabilmente da identificare con i vini[109], dell'area compresa fra il Golfo di Napoli a Nord ed *Elea* a Sud (Fig. 13). Gli *emporia* punici della costa nord-occidentale fungono inoltre da centri di distribuzione verso l'entroterra siciliano ed il mondo punico nordafricano. A conferma della mia ipotesi di un coinvolgimento diretto di *Panormos/Solus*[110] nel commercio fra l'area centro-tirrenica e la Sicilia occidentale, anfore punico-siciliane delle varianti Sol/Pan 7.1-3 / Ramon T-7.1.2.1 risultano ben distribuite in Lucania (sia in area costiera che nell'entroterra)[111], ma probabilmente anche nel Tirreno cosentino in Calabria[112].

Infine, particolarmente interessante è l'identificazione di un frammento di un'anfora punica di un tipo ibrido, per il suo profilo avvicinabile alla forma Ramon T-6.1.1.1 (ma dal profilo dell'orlo più schiacciato)[113] da Velia[114], realizzato con un impasto vulcanico che al microscopio sembra assomigliare a due *fabrics* attributi a *Neapolis*[115]. Se l'anfora punica da Velia fosse davvero prodotta nel Golfo di Napoli, essa potrebbe costituire un ulteriore indizio di qualche tipo di rapporto non meglio definibile, ma evidentemente abbastanza stretto fra l'ambiente campano e l'area punico-siciliana.

Sfortunatamente, gli studi specifici di contesti archeologici databili nei decenni fra le prime due guerre puniche non sono avanzati in maniera significativa e rimane tuttora valido che "Per la Sicilia occidentale la seconda metà del III sec. a.C. rappresenta un periodo estremamente problematico per quanto riguarda la seriazione dei repertori ceramici attestati."[116]. Al quadro delineato brevemente dieci anni fa[117] e riassunto nel cap. 1.3 vanno aggiunti

109. Per la produzione vinicola di Ischia ed il probabile collegamento fra anfore greco-italiche e la circolazione del vino locale vedi Olcese 2010, p. 17, nota 13; p. 25, nota 7.
110. Mi sembra opportuno ricordare, in questo contesto, che a bordo del relitto di Filicudi F fu trovata un'anfora punica del tipo Ramon T-6.1.1.1 (Ramon 1995, pp. 134, 533, n. 193), simile alle varianti Sol/Pan 7.1 o 7/3 che al momento sembrano esclusive della produzione dell'area di Solunto e Palermo, cf. Bechtold 2015a, pp. 10, Tab. 1, 16-17, Fig. 4, 7-9.
111. Bechtold 2015a, p. 101, Fig. 34.
112. Mollo 2011, p. 234.
113. Ramon 1995, pp. 199-200, 533, Fig. 170.
114. FACEM – http://facem.at/ig-pun-a-6, da un contesto stratigrafico datato al secondo terzo del III sec. a.C.
115. FACEM – http://facem.at/bnap-a-1 e FACEM – http://facem.at/bnap-a-2. Un buon confronto costituisce anche il campione M 149/3 da Ghizène (Jerba), menzionato in Bechtold c.s. b, cap. 7.4, attribuito al fabric BNap-A-2. Si tratta di un frammento di parete di anfora da un contesto stratigrafico chiuso del III sec. a.C. (GH 180170.143).
116. Bechtold 2007b, p. 58.
117. Bechtold 2007b, p. 60 (per la vernice nera) e p. 62 (per le anfore).

soltanto i risultati emersi dall'analisi del materiale anforico raccolto nelle ricognizioni di Entella (Graf. 3) e di *Cossyra*[118]: entrambi gli assemblaggi documentano elevate presenze di anfore campane databili fra la metà del III e l'inizio del II sec. a.C., indicando quindi una continuità delle importazioni campane anche nel periodo successivo alla prima guerra punica.

3. Conclusioni

La documentazione della cultura materiale esposta nel cap. 1 ha permesso di distinguere tre fasi: una più antica di importazioni anforiche solo lucane (fine del V-metà avanzata del IV sec. a.C. ca.), una intermedia dell'ultimo terzo del IV sec. a.C. caratterizzata da importazioni prevalentemente lucane, ma anche campane, e la fase di III sec. a.C. contraddistinta dalla dominanza assoluta di produzioni del Golfo di Napoli.

Il periodo più antico al quale sono stati associati alcune anfore lucane ed altri oggetti di tipo campano, è stato collegato al fenomeno del mercenariato italico in Sicilia. L'arrivo del materiale tirrenico in Sicilia non sarebbe quindi il risultato di regolari flussi commerciali, ma piuttosto di spostamenti di gruppi di individui italici.

La seconda fase inizia con la circolazione delle anfore "ad un quarto di cerchio" / "Randform" 8 di produzione lucana e campana nel corso dell'ultimo terzo o quarto del IV sec. a.C. e quindi proprio nel periodo dell'intensificazione della produzione vinicola nella zona di Capua-Golfo di Napoli successivamente all'espansione romana nell'*ager Falernus* e alla stipulazione del *foedus* fra Napoli e Roma nel 326 a.C., motivato sicuramente anche dal "(...) valore del porto di *Neapolis*, tra i più importanti del Tirreno (...)."[119].

Il flusso di anfore tirreniche verso la Sicilia punica[120] aumenta ulteriormente nella terza fase, ovvero negli anni successivi alla stipulazione del terzo contratto romano-cartaginese, detto di Filino, del 306 a.C. con il quale tutta la Sicilia rientra nella zona interdetta ai Romani e ai suoi alleati, mentre ai

118. Bechtold 2013a, pp. 439-441, Tab. 13: le anfore greco-italiche campane rappresentano nella fase ceramica Vb (250/240-200/190 a.C.) la seconda classe nell'ordine di frequenza (N 128).
119. Panella 2010, p. 23.
120. Olcese 2010, p. 302 "I centri punici o di influsso punico (Erice, Lilibeo, Selinunte) e alcuni dell'interno (come Caltabellotta, Monte Adranone e Monte Iato) sono i punti di arrivo, di consumo e di smistamento del vino e dei prodotti contenuti nelle anfore del Golfo, tra la fine del IV e nel III sec. a.C., cioè nel periodo appena successivo al terzo trattato tra Roma e Cartagine (306 a.C.)."

Cartaginesi viene vietato l'avvicinamento alle sponde italiche[121]. Nel contempo, per l'eparchia "I dati numismatici parlano (…) chiaramente a favore di una centralizzazione della produzione monetale attorno al 300 a.C., probabilmente ad espressione di cambiamenti avvenuti a livello amministrativo (…) accompagnata da una restrizione dell'autonomia delle singole città siciliane."[122]. Tuttavia, "Panormos e Solus, pur (...) private della loro secolare autonomia amministrativa e politica, vivono (…) l'acme della loro produzione economica proprio negli anni compresi fra la fine del IV ed il primo terzo del III sec. a.C."[123], quando si intensificano i rapporti commerciali con la Campania.

Nei contesti siciliani, il dominio della componente anforica campana sui contenitori lucani inizia nel primo o secondo decennio del III sec. a.C., in sintonia con la datazione dei più antichi relitti eolici che segnano una delle tappe più importanti di questa rotta commerciale nel Basso Tirreno. Le navi mercantili, in partenza probabilmente da *Neapolis* ed in gran parte cariche di anfore prodotte nel suo Golfo, erano dirette verso gli *emporia* punico-siciliani di *Panormos* e *Solus* che a partire dall'inizio del III sec. a.C. consolidano la loro "(...) posizione d'interfaccia commerciale privilegiata con l'Italia tirrenica (...)"[124], fungendo da centri di smistamento del vino italico verso l'entroterra[125], lungo le stesse coste siciliane, per mezzo di una navigazione di cabotaggio[126], oppure anche verso il *mare clausum*, ovvero le coste tunisine sotto il controllo politico e militare di Cartagine[127].

Nulla sappiamo ancora degli agenti di questi traffici, secondo il trattato del 306 a.C. preclusi ai Cartaginesi, ai Romani e ai loro alleati. L'ampia distribuzione di anfore palermitane o soluntine in molti dei siti del Basso Tirreno ubicati lungo la rotta fra il Golfo di Napoli e la Sicilia nord-occidentale, permette, a mio avviso, di ipotizzare un possibile ruolo di commercianti delle

121. Hans 1983, p. 110.
122. Bechtold 2015b, p. 69 con ulteriore bibliografia. Per gli aspetti numismatici vedi in dettaglio Frey-Kupper 2013, pp. 178, 338.
123. Bechtold 2015a, pp. 99-100.
124. Bechtold 2015b, p. 69.
125. Lungo i fiumi in antico almeno parzialmente navigabili, quali l'Eleuterio a Nord, lo Iato ad Ovest e il Belice a Sud (Spatafora 2012).
126. Interpreto in questo senso la documentazione di numerose anfore puniche di produzione palermitana e soluntina, associate ad anfore greco-italiche di produzione campana e lucana nei livelli in fase con la costruzione del tempio B di Selinunte (300 a.C. o poco dopo), vedi Bechtold 2015b, p. 71. Associazioni analoghe caratterizzano i contesti databili al primo terzo del III sec. a.C. di Porta di Valle a Segesta (Bechtold 2008b, p. 544), collegata con il mare attraverso lo scalo di Castellammare del Golfo.
127. Precedentemente Bechtold 2013b, p. 80.

due città punico-siciliane. Indipendentemente dalla difficile domanda dei vettori commerciali, rimane però ancora valida l'affermazione di S. Lancel secondo la quale "La guerre della Sicile apparaîtrait ainsi comme décidée sous l'influence d'un véritable lobby commercial, et pour la défence de ses intérêts."[128]. Il forte incremento della presenza di anfore neapolitane nei depositi archeologici della Sicilia occidentale della prima metà del III sec. a.C. denomina magistralmente il motivo dietro questi "(...) intrecci di interessi tra famiglie romane, neapolitane e mercanti greci, che si percepiscono dietro l'alleanza del 326."[129] e avvalora l'ipotesi di una conquista di nuovi sbocchi commerciali per il vino campano in una delle regioni consumatrici più importanti del Mediterraneo centro-meridionale, ovvero l'area punica della Sicilia occidentale e del Nordafrica[130].

Tab. 1. Tabella di corrispondenza dei dati relativi ai frammenti illustrati nelle fig. 1-12. Le indicazioni riportate nella colonna "dati petrografici" sono tratti da Bechtold *et al.* 2018.

Figura	Sito di scoperta	Inv. frammento	Inv. FACEM	Tipo	Provenienza	Fabric FACEM	Dati petrografici	Pubblicato
1,1.4	Pantelleria PN 03 ACR RIC	UT 38.1-2	119/134	Gassner 4	Velia	VEL-A-2		FACEM – http://facem.at/m-119-134; Bechtold 2013a, pp. 493-494, cat. 119, Tav. 36.
1,2.5	Pizzo Cannita survey	EL2-07F	189/35	Gassner 4	Paestum	PAE-A-2		
1,3	Pizzo Cannita survey	EL2-03B	189/38	Gassner 4	Paestum	PAE-A-3		
2,1	Pantelleria PN 08 ACR RIC	UT 220.1-3	119/141	Gassner 7	Paestum	PAE-A-1		FACEM - http://facem.at/m-119-141
2,2	Pantelleria PN 07 ACR RIC	UT 175.1-91	119/139	Gassner 7	Velia	VEL-A-2		FACEM - http://facem.at/m-119-139
2,3	Panormos necropoli	PORL 28 = PORL 37	106/125= 106/134	Gassner 7	Velia	VEL-A-2		

128. Lancel 1992, p. 383. Per la presenza di monete italiche del periodo della prima guerra punica in contesti siciliani vedi anche Frey-Kupper 2013, p. 168, Fig. 34 dove *Neapolis* risulta la zecca meglio documentata, seguita da *Arpi* e *Cales*. Anche se le attestazioni di emissioni campano-sannitiche saranno in prima linea da mettere in relazione con gli scontri armati fra Roma e Cartagine e gli spostamenti di contingenti armati, rimane pur sempre aperta la possibilità di un loro possibile collegamento di tipo anche commerciale (p. 178).
129. Panella 2010, p. 23.
130. Per Cartagine e la sua colonia di *Cossyra* vedi in sintesi Bechtold 2013b, pp. 97-98. Da ultima Bechtold 2018, pp. 17-18.

Figura	Sito di scoperta	Inv. frammento	Inv. FACEM	Tipo	Prove-nienza	Fabric FACEM	Dati petro-grafici	Pubblicato
2,4	Pantelleria PN 04 ACR RIC	UT 83.1-19	119/131	Gassner 7	Velia	VEL-A-3		FACEM – http://facem.at/m-119-131; Bechtold 2013a, p. 494, cat. 120, Tavv. 36, 92,2
2,5	Pantelleria PN 08 ACR RIC	UT 229.1-3	119/138	Gassner 7	Velia	VEL-A-3		FACEM - http://facem.at/m-119-138
3,1	Pantelleria PN 08 ACR RIC	UT 235.1-3	119/135	Gassner 8	Velia	VEL-A-2		FACEM – http://facem.at/m-119-135
3,2	Lilybaion necropoli	Crs. Gramsci 1989, US 1029-2	166/12	Gassner 8	Velia	VEL-A-4		FACEM – http://facem.at/m-166-12; Bechtold 1999, p. 328, Tav. XXX,277.
3,3	Selinunte tempio B saggio H	US 1, P09.92	154/40	Gassner 8	Velia	VEL-A-2		FACEM – http://facem.at/m-154-40; Bechtold c. s. a, cat. 154
3,4	Selinunte tempio B saggio H	US 4, P09.45	154/43	Gassner 8	Paestum	PAE-A-2		FACEM – http://facem.at/m-154-43; Bechtold c. s. a, cat. 231
3,5	Palermo Pz. Bologni	PB 701/25	106/55	Gassner 8	Velia	VEL-A-2		Aleo Nero *et al.* 2018, pp. 33-34, cat. 41
3,6	Palermo Pz. Bologni	PB 701/27	106/57	Gassner 8	Velia	VEL-A-5		Aleo Nero *et al.* 2018, p. 34, cat. 42
4,1	Palermo Pz. Bologni	PB 720/1	106/180	Gassner 8	Napoli	BNap in-edito	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,1; Aleo Nero *et al.* 2018, p. 35, cat. 45
4,2	Palermo Steri/Sala Verifiche	STV UE 4/1	106/193	Gassner 10	Napoli	BNap-A-3	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,3
4,3	Malta MSP 2008	I/B16/P7/2	105/5	Gassner 8	Golfo di Napoli	BNap-A-8	Ischia-Golfo di Napoli	Docter *et al.* 2012, pp. 133-134, Fig. 27, cat. 41; Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,9
4,4	Palermo Steri/Sala Verifiche	STV 28/10	106/164	Gassner 11	Golfo di Napoli	BNap-A-10	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, pl. 2,2
5,1	Selinunte tempio B saggio D	US 2, P08.543	154/4	Gassner 8	Napoli	BNap-A-2		Bechtold c. s. a, cat. 44
5,2	Selinunte tempio B saggio H	US 3, P09.239	154/60	Gassner 8	Napoli	BNap-A-3		Bechtold c. s. a, cat. 211
5,3	Selinunte tempio B saggio H	US 4, P09.44	154/3	Gassner 8	Napoli	BNap-A-6		Bechtold c. s. a, cat. 232
5,4	Selinunte tempio B saggio H	US 3B, P09.96	154/1	Gassner 8	Napoli	BNap-A-3		Bechtold c. s. a, cat. 209
5,5	Palermo Pz. Bologni	PB 720/1	106/180	Gassner 8	Napoli	BNap in-edito	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,1; Aleo Nero *et al.* 2018, p. 35, cat. 45

Figura	Sito di scoperta	Inv. frammento	Inv. FACEM	Tipo	Provenienza	Fabric FACEM	Dati petrografici	Pubblicato
5,6	Pizzo Cannita survey	EL2-06C	189/41	Gassner 8	Napoli	BNap-A-7		
5,7	Pantelleria PN 04 ACR RIC	UT 101.2-5	119/25	Gassner 8	Napoli	BNap inedito		
5,8	Malta MSP 2008	I/B16/P7/2	105/5	Gassner 8	Golfo di Napoli	BNap-A-8	Ischia-Golfo di Napoli	Docter *et al.* 2012, pp. 133-134, Fig. 27, cat. 41; Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,9
6,1	Pantelleria PN 07 ACR RIC	UT 182.1-1	119/18	Gassner 9	Napoli	BNap inedito		
6,2	Selinunte tempio B saggio E	US 1, P08.526	154/10	Gassner 9	Napoli	BNap-A-3		Bechtold c. s. a, cat. 65
6,3	Palermo Steri/Sala Verifiche	STV 29/8	106/179	Gassner 9	Napoli	BNap inedito	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,2
6,4	Palermo Steri/Sala Verifiche	STV 34/10	106/165	Gassner 9	Golfo di Napoli	BNap-A-10		
7,1	Palermo necropoli	CAL 13/4	106/65	Gassner 10	Tirrenica	CAMP-A-3	Campania-Lazio	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 2,5
7,2	Palermo Steri/Sala Verifiche	STV 28/1	106/175	Gassner 11	Tirrenica	CAMP-A-4	Campania-Lazio	Bechtold *et al.* 2018, p. 15, Tab. 1, Pl. 3,1
8,1	Pantelleria PN 06 ACR I	US 2044-2	119/5	Gassner 10	Napoli	BNap-A-7		Bechtold 2015c, p. 364, cat. 18
8,2	Selinunte tempio B saggio L	US 1, P10.38	154/8	Gassner 10	Napoli	BNap-A-6		
8,3	Selinunte tempio B saggio H	US 3B, P09.98	154/2	Gassner 10	Napoli	BNap-A-2		Bechtold c. s. a, cat. 212
8,4	*Lilybaion* Baglio Anselmi	Saggio D, US 46-7, MR 9947	166/8	Gassner 10	Napoli	BNap-A-2		Bechtold and Valente 1990, p. 43, Tav. 2
8,5	Palermo Steri/Sala Verifiche	STV UE 4/1	106/193	Gassner 10	Napoli	BNap-A-3	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,3
8,6	Palermo necropoli	CAL 13/4	106/65	Gassner 10	Tirrenica	CAMP-A-3	Campania-Lazio	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 2,5
9,1	Palermo Pz. Bologni	PB 703/3	106/194	Gassner 11	Golfo di Napoli	BNap-A-8	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,10; Aleo Nero *et al.* 2018, pp. 36-37, cat. 49
9,2	Palermo Steri/Sala Verifiche	STV 28/10	106/164	Gassner 11	Golfo di Napoli	BNap-A-10	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, pl. 2,2
9,3	Palermo Steri/Sala Verifiche	STV 28/1	106/175	Gassner 11	Tirrenica	CAMP-A-4	Campania-Lazio	Bechtold *et al.* 2018, p. 15, Tab. 1, Pl. 3,1
9,4	Pantelleria PN 08 ACR RIC	UT 247.1-1	119/260	Gassner 11	Napoli	BNap-A-3	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,4

Figura	Sito di scoperta	Inv. frammento	Inv. FACEM	Tipo	Provenienza	Fabric FACEM	Dati petrografici	Pubblicato
9,5	Pantelleria PN 10 ACR XVI	US 4414-1	119/259	Gassner 11	Tirrenica	CAMP-A-3	Campania-Lazio	Bechtold *et al.* 2018, p. 14, Tab. 1, pl. 2,4
9,6	Palermo Steri/Sala Verifiche	STV 27/7	106/171	Gassner 12	Napoli	BNap-A-7	Ischia-Golfo di Napoli	Bechtold *et al.* 2018, p. 14, Tab. 1, Pl. 1,7
9,7	Palermo Steri/Sala Verifiche	STV 29.6	106/170	Gassner 12	Tirrenica	CAMP-A-4	Campania-Lazio	Bechtold *et al.* 2018, p. 15, Tab. 1, Pl. 3,2
9,8	Pantelleria PN 04 ACR RIC	UT 84.1-8	119/7	Gassner 12	Golfo di Napoli	BNap-A-10		
10,1	Selinunte tempio B saggio E	US 1 fondo, P08.49	154/46	Gassner 9	Paestum	PAE-A-3		FACEM – http://facem.at/m-154-46; Bechtold c. s. a, cat. 63
10,2	Selinunte tempio B saggio H	US 4, P09.46	154/50	Gassner 9	Velia	VEL-A-2		FACEM – http://facem.at/m-154-50; Bechtold c. s. a, cat. 62
10,3	Palermo Steri/Sala Verifiche	STV 34/1	106/147	Gassner 9	Velia	VEL-A-2		
10,4	Palermo Sala Verifiche	STV 40/24		Gassner 9	Velia	VEL-A-2		
10,5	Pantelleria PN 03 ACR RIC	UT 38.1-1	119/133	Gassner 9	Velia	VEL-A-2		Bechtold 2013a, p. 494, cat. 122, Tavv. 36, 92,4.
10,6	Pantelleria PN 07 ACR RIC	UT 214.1-3	119/217	Gassner 10	Paestum	PAE-A-2		FACEM – http://facem.at/m-119-217
10,7	Palermo Pz. Bologni	PB 401/403/1		Gassner 10	Velia	VEL-A-4		Aleo Nero *et al.* 2018, p. 34, cat. 43
11,1	Pantelleria PN 04 ACR RIC	UT 72.1-3	119/136	Gassner 11	Velia	VEL-A-2		FACEM – http://facem.at/m-119-136; Bechtold 2013a, p. 494, cat. 123, Tav. 36.
11,2	Pantelleria PN 07 ACR RIC	UT 176.1-4	119/218	Gassner 11	Paestum	PAE-A-3		FACEM – http://facem.at/m-119-218
11,3	Palermo Via del Celso	FRC 24.10	106/207	Gassner 11	Paestum	PAE-A-1		
11,4	Pantelleria PN 04 ACR RIC	UT 182.1-5	119/261	Gassner 12	Paestum	PAE-A-3	Campania-Lazio	Bechtold *et al.* 2018, p. 15, Tab. 1, Pl. 3,9
11,5	Palermo Steri/Sala Verifiche	STV 34/40	106/149	Gassner 12	Velia	VEL-A-2		
12,1	*Lilybaion* necropoli	Via Berta T. 190/N/5-6		Morel 1122	Campano-laziale			Bechtold 1999, pp. 370-372, Tav. VI,56
12,2	*Lilybaion* necropoli	Crs. Gramsci 1989 US 1032-55		Morel 2711/12	Campano-laziale			Bechtold 1999, pp. 327-328, Tav. I,4
12,3	*Lilybaion* necropoli	Via Berta T. 71A-2		Morel 2783/84	Campano-laziale			Bechtold 1999, p. 354, Tav. II,28

Figura	Sito di scoperta	Inv. frammento	Inv. FACEM	Tipo	Provenienza	Fabric FACEM	Dati petrografici	Pubblicato
12,4	Segesta Porta di Valle	US 5764-64		Morel 1315	Campano-laziale			Bechtold 2008a, p. 350, cat. 436, Tav. XLIX
12,5	Segesta Porta di Valle	US 5253-27		Morel 2411	Campano-laziale			Bechtold 2008a, p. 351, cat. 437, Tav. XLIX
12,6	Segesta Porta di Valle	US 5856-11		Morel 235 a1	Campano-laziale			Bechtold 2008a, p. 351, cat. 439, Tav. XLIX
12,7	Segesta Porta di Valle	US 5723-7		Morel 8150	Campano-laziale			Bechtold 2008a, p. 352, cat. 442, Tav. XLIX.
12,8	*Selinunte* tempio B	Saggio H, US 1, P09.146		Morel 1122	Napoli	Simile a BNap-g-3		Bechtold c. s. a, cat. 185
12,9	*Selinunte* tempio B	Saggio H, US 1, P09.148		"out-turned rim"	*Cumae?*	Forse BNap-g-5?		Bechtold c. s. a, cat. 186
12,10	Segesta necropoli SAS 15	T. 101/1		Morel 2784/88	Campano-laziale			

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FINE-TUNING THE CHRONOLOGY OF KNIDIAN AMPHORA STAMPS (PERIODS IVB AND V) BY MEANS OF *SERIATION*[*]

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One of the Virginia R. Grace's many significant contributions to the study of transport amphorae concerned the Knidian transport amphorae. Based on finds from the Athenian Agora and material in the National Museum of Greece,[1] she identified more than 2,500 different Knidian stamp types (the KT series) in collaboration with Maria Petropoulakou, Andreas Dimoulinis, Carolyn G. Koehler and Philippa M. Wallace Matheson,[2] and she established a chronological framework for this sequence.[3]

After Grace passed away in 1994, Koehler and Wallace Matheson continued her work,[4] and Gerhard Jöhrens published a meticulous catalogue of two important Athenian collections of amphora stamps in 1999 – including many Knidian ones.[5] But the study of the Knidian amphorae has otherwise been somewhat neglected in recent years, with the exception of Nikolai Jefremow's

* I am grateful to Natalia Vogeikoff-Brogan for patiently facilitating my study of the papers of Virginia R. Grace in the American School of Classical Studies at Athens, and to Mark L. Lawall for helpful advice about the Agora amphorae. I also wish to thank Patrick Monsieur for thoughtful and constructive criticism and Stephen Lumsden for correcting my English.

1. Lawall 2009.
2. Koehler 1996, 154; Jöhrens 1999a, 95.
3. Grace and Savvatianou-Pétropoulakou 1970, 285-287; Koehler and Matheson 2004, 164-165. See also Balzat *et al.* 2014, xxi-xxii and *passim*, and for recent summaries of the history of Knidos, cf. Özgan *et al.* 2013 and Bresson 2013. I am grateful to Alain Bresson for sending me a copy of this publication.
4. Koehler and Matheson 2004.
5. Jöhrens 1999a. See also Bruno Garozzo's publication of Knidian stamps from Sicily (2011, 321-345).

HEROM. Journal on Hellenistic and Roman Material Culture, 7.1&2, 2018, 63-96

https://doi.org/10.11116/HEROM.7.1&2.3

revision of the chronology, which has not, however, been generally accepted,[6] and Christoph Börker's recent study of amphora stamps from Laurion.[7]

The relative scarcity of scholarly work on the Knidian amphorae is striking, when compared with the intensive ongoing research on the Rhodian amphorae.[8] The discrepancy is curious, because Knidian amphorae constitute a majority in the Athenian Agora, in Delos and elsewhere,[9] and they are not only testimony to the Knidian wine trade, but also encapsulate chronological information about the contexts in which they are found.[10] The aim of this paper is to attempt to fine-tune by means of *seriation* the relative chronology of the Knidian amphora stamps belonging to Grace's Periods IVB and V,[11] following the precedent of my previous *seriation* ot the Rhodian amphorae.[12]

Prolegomena

Most Knidian amphora stamps carry two names:[13] that of the annually changing *damiourgos*,[14] and that of the so-called fabricant.[15] The numerous preserved stamps show that fabricants could often be associated with more than one *damiourgos*, which provides us with a firm basis for ordering them by means of *seriation*. Some amphorae, however, carried a stamp on one handle naming the *damiourgos* and another one on the other naming the fabricant, but isolated stamps naming only one individual are not helpful in this respect.

6. Jefremow 1995, 61-81. Cf. Empereur and Garlan 1997, 181-182 ad nos. 95-97; Jöhrens 1999a, 96 and Garozzo 2011, 326. I am grateful to Nikolai Jefremow for providing me with a copy of his publication from 2008.
7. Börker 2018.
8. Finkielsztejn 2001 and 2004; Lund 2011a; Badoud 2015; Castelli 2017.
9. See Koehler and Matheson 2004, 163-164 figs. 1-2; Rotroff 2014; Panagou 2016, 221-225. For a general survey of the distribution, see Garozzo 2011, 322-324.
10. Lawall 2002, 295-296 note 2.
11. These correspond to Jefremow's (1995, 71-76) "Chronologische Gruppe V" and "Chronologische Gruppe VI".
12. Lund 2011a.
13. Lawall 2014, 159.
14. Tzochev 2016, 9-10.
15. See Tzochev 2016, 10-11.

Periode	Datierung	Erläuterungen
proto-knidisch	Ende des 4. Jhs. – ca. 240 v. Chr.	Monogramme, Ligaturen
früh-knidisch	ca. 240–ca. 220 v. Chr.	Abkürzungen, Monogramme, Ligaturen oder Attribute
III	ca. 220–ca. 188 v. Chr.	Vor der Periode der Phrourarchen, überwiegend abgekürzte Namen
IV	ca. 188–146 v. Chr.	
IV A	ca. 188–ca. 167	Periode der Phrourarchen
IV B	ca. 167–146	Die Zuschreibung zu IV B order V hängt in erster Linie vom Vorkommen bzw. Fehlen der Namen in Karthago und Korinth ab
V	146–108 v. Chr.	s. zu IV B
VI	107–78 v. Chr.	Periode der *duoviri*
VI A	107–98	Eponymen auf Gefäßen des Töpfers Δαμοκράτης
VI B	97–88	Eponymen auf Gefäßen des Töpfers Διοσκουρίδας
VI C	85–78 (?)	Eponymen aus den Jahren, nachdem die Römer 85 v. Chr. Knidos zurückerobert hatten
VII	nach 78 v. Chr.	überwiegend nur ein Name
spät-knidisch	spätes 1. Jh. v. Chr.	Buchstaben, Atribute wie Palmblatt oder Amphora

Fig. 1. The chronological system of the Knidian amphora stamps established by Virginia Grace, after Jöhrens 1999a, 95 Tabelle 8.

Grace distributed the stamps into seven periods (I-VII), of which some have subdivisions (Fig. 1).[16] This investigation focuses on Periods IVB and V in her classification. In the preceding period, IVA, two officials, the *phrourarchoi*, may be named on the stamps in addition to the *damiourgos* and the fabricant.[17] *Phrourarchoi* are also documented in other Hellenistic cities, and the term is at times translated as a garrison-, citadel- or mercenary-commander.[18] Alain Bresson has suggested that they may have been responsible for safeguarding the production sites in their territory.[19] But the nature of their role in Knidos "remains a mystery" according to Koehler and Wallace Matheson.[20] Be that as it may, the practice of naming *phrourarchoi* on the Knidian amphora stamps did not continue into Period IVB, perhaps because the *phrourarchos* system had by then been abolished. The Knidian stamps of Periods IVB and V follow a similar formula: they name only the *damiourgos* and the fabricant. Stamps from the succeeding Period VI, on the other hand, carry the names of two offi-

16. Grace 1985, 13-18 and 31-35; Jöhrens 1999a, 95-96; Koehler and Matheson 2004.
17. Grace 1985, 31-32; Koehler and Matheson 2004, 165-169; Balzat *et al.* 2014, xx-xxi.
18. Chaniotis 2005, 32, 89 and 93; Bresson 2016, 243.
19. Bresson 2016, 243. For a general discussion, see Jefremow 1995, 50-58 and 2008. I am grateful to Nikolai Jefremow for sending me a copy of the latter.
20. Koehler and Matheson 2004, 169.

cials, *andres*, thought to correspond to the Latin *duoviri*.[21] The defining feature of stamps from Periods IVB and V is, accordingly, an absence of *phrourachs* on the one hand and of *andres* on the other. Jefremow noted in 1995 that there is no difference in typological terms between the stamps from Periods IVB and V,[22] which is why it seems logical to me to treat them together.

Grace attributed 50 *damiourgoi* to Periods IVB and V (in alphabetical order): ΑΓΑΘΟΚΛΗΣ 2 [V], ΑΜΟΤΕΛΗΣ [IV B or Va], ΑΜΥΝΤΑΣ [IV B or Va], ΑΝΑΞΙΠΠΙΔΑΣ [IV B], ΑΠΟΛΛΟΔΩΡΟΣ [V], ΑΡΙΣΤΟΚΛΗΣ [IV B], ΑΣΚΛΗΠΙΟΔΩΡΟΣ 2 [V], ΔΙΟΓΕΝΗΣ [IV B], ΔΙΟΚΛΗΣ 1 [V], ΔΙΟΝΥΣΙΟΣ 2 [V], ΔΙΩΝ 1 [IV B], ΔΙΩΝ 2 [V], ΔΡΑΚΩΝ 1 [IV B], ΔΡΑΚΩΝ 2 [V], ΕΠΙΓΟΝΟΣ [IV B], ΕΠΙΝΙΚΙΔΑΣ 2 [V], ΕΠΙΧΑΡΜΟΣ [IV B], ΕΡΜΟΦΑΝΤΟΣ 1 [IV B], ΕΥΚΡΑΤΗΣ 2 [IV B], ΕΥΦΡΑΓΟΡΑΣ 1 [IV B], ΕΥΦΡΑΝΩΡ 1 [V], ΖΗΝΟΔΟΤΟΣ [IV B], ΗΡΟΦΑΝΤΟΣ [V], ΘΑΛΙΜΒΡΟΤΙΔΑΣ [V], ΘΕΥΔΩΡΙΔΑΣ [IV B], ΘΗΡΟΚΡΑΤΗΣ 2 [IV Ba], ΙΕΡΟΚΛΗΣ [V], ΚΑΛΛΙΔΑΜΑΣ (VA), ΚΑΡΝΕΟΔΟΤΟΣ[[V], ΚΛΕΙΣΙΠΠΙΔΑΣ [IV B], ΚΛΕΥΜΒΡΟΤΟΣ [IV B], ΚΛΕΩΝ (IVB or VA], ΚΟΙΡΑΝΟΣ [IV B], ΚΥΔΟΚΛΗΣ [V], ΛΥΣΙΚΛΗΣ 2 [IV B], ΜΕΓΑΚΛΗΣ [IV B], ΜΕΝΕΚΡΑΤΗΣ 2 [V], ΜΕΝΙΠΠΟΣ 2 [IV B], ΝΙΚΟΜΑΧΟΣ [V], ΞΕΝΟΚΛΗΣ [IV B], ΠΟΛΥΧΑΡΗΣ [IV B], ΠΤΟΛΕΜΑΙΟΣ 2 [V], ΠΥΘΟΝΙΚΟΣ [V], ΣΙΜΥΛΙΝΟΣ [V?], ΤΕΛΕΚΡΕΩΝ [IV B], ΤΙΜΑΣΙΚΡΑΤΗΣ [V], ΦΙΛΙΠΠΟΣ 2 [V], ΦΙΛΙΣΤΟΣ [IV B or V A], ΦΙΛΟΜΒΡΟΝΤΙΔΑΣ [V], ΧΡΥΣΙΠΠΟΣ [V].[23] These *damiourgoi* constitute the basis for my investigation. Their number, 50, indicates the minimum length of Periods IVB and V.[24]

Seriation

Seriation is a statistical method, which "allows assemblages of artefacts to be arranged in a succession, or serial order, which is then taken to indicate their ordering in time: it is thus an exercise in relative chronology".[25] In my previous article on the chronology of Rhodian amphora stamps it emerged that this method is not without merit for establishing the relative chronology of amphora stamps.[26]

21. Grace 1985, 31-32, 34-35; Lawall 2005, 37; Kögler 2014 [2018].
22. Jefremow 1995, 72.
23. Grace 1985, 32-34.
24. It cannot be excluded that a few names of *damiourgoi* are missing, i.e. those who were in office in years of failed wine harvests, resulting in a dearth of exports of Knidian amphorae. See also Lawall 2002, 318-319.
25. Renfrew and Bahn 2008, 126; Shennan 2005, 61-62.
26. Cf. Badoud 2014, 23; Palaczyk 2016, 123 note 3; Castelli 2017.

In the present case, the application of *seriation* to the Knidian stamps is based on the numerous examples that provide us with a secure link between the annually changing *damiourgos* and the fabricant. Grace also relied on such associations when she established her scheme for the Knidian chronology. The novelty of the present paper consists merely in employing *seriation* for this purpose.

Indeed, the association between the annually changing "*damiourgoi*" and the fabricants, many of whom officiated over several years, constitute a "chain" that can be ordered by means of *seriation*, using a statistical computer program – *in casu* the data analysis package called PAST.[27] No other pieces of information than that of the eponym-fabricant pairs have been entered into the matrix of the PAST program, which is entirely "unaware" of all other dating criteria including find contexts or stylistic links.

Methodological challenges

A great many associations between *damiourgos* and the fabricant can be established from the Knidian stamps, and those known to me are listed below in the Appendix. Still, it is necessary to make allowance for possible pitfalls.

The most obvious methodological challenge is that it is not always possible to distinguish between two or more individuals sharing the same name.[28] To avoid confusion, three pairs of homonymous *damiourgoi*, who were active in consecutive periods such as IVA? and IVB, IVB and V, and IVB and VB, have been omitted from the *seriation*: ΜΕΝΙΠΠΟΣ 1 [IVA?] and ΜΕΝΙΠΠΟΣ 2 [IVB], ΔΙΩΝ 1 (IVB) and 2 (V), and ΔΡΑΚΩΝ 1 (IV B) and 2 (V B). The fabricants were often associated with more than one *damiourgos*, indicating that they were active for several years, and their careers can in fact span two or more of Grace's periods.[29] The lengths of some careers (30 years or more) may seem surprising, but they are matched by those of some of the Rhodian fabricants.[30] It cannot be excluded that some of the Knidian fabricants were homonyms, but I cannot at this point come up with criteria for

27. Hammer *et al.* 2001; PAST may be downloaded for free at http://www.nhm.uio.no/norlex/past/download.html.
28. See Tzochev 2016, 65: "The distinction of homonyms among the officals is one of the greatest challenges for the construction of the Thasian chronology".
29. ΑΡΙΣΤΟΚΛΗΣ [IVA,IVB, V, VIA], ΕΠΙΦΑΝΗΣ [IVB,V,VI], ΑΓΑΘΙΝΟΣ [IVB, V,VIA,VIB], ΔΙΟΝΥΣΙΟΣ [III,IVA,IVB,V,VIA], ΘΕΥΦΕΙΔΗΣ [III, III-IV, IVB, VA], ΚΛΕΩΝ [III, IVA-B,V].
30. Lund 2011a, 275 fig. 2.

identifying possible homonyms among the fabricants.[31] They have therefore all been included in the *seriation*.

The most frequently occurring fabricant, ΔΙΟΝΥΣΙΟΣ, is associated with 19 *damiourgoi*, closely followed by ΜΕΝΗΣ with 18. Further down the list we find ΑΓΑΘΙΝΟΣ and ΧΑΡΜΟΚΡΑΤΗΣ with 13 such combinations each, and ΑΡΙΣΤΟΚΛΗΣ, ΑΣΚΛΗΠΙΟΔΩΡΟΣ, ΑΝΑΞΑΝΔΡΟΣ with 11 and ΞΕΝΟΚΛΗΣ with 10. But no less than 38 out of a total of 101 fabricants attested in Periods IVB and V only associated with one *damiourgos*.[32] Judging by what is presently known this implies that they only functioned in a single year. Unique names are of no use for *seriation* purposes, which is why these individuals have been left out.[33]

The corpus of *damiourgos*-fabricant pairs in Periods IVB and V presented in the Appendix is primarily based on information gathered from Grace's files in the American School of Athens, supplemented by references to published evidence. It emerges that the average number of such associations for the 38 *damiourgoi* is 8.[34] ΕΥΦΡΑΓΟΡΑΣ 1 is the highest scorer with 23 combinations. He is followed by ΑΜΥΝΤΑΣ with 22, and ΚΛΕΥΜΒΡΟΤΟΣ with 20 each. Next come ΑΓΑΘΟΚΛΗΣ 2 with 17, ΙΕΡΟΚΛΗΣ with 15, ΔΙΟΝΥΣΙΟΣ 2 with 14, ΕΥΦΡΑΝΩΡ 1, ΑΣΚΛΗΠΙΟΔΩΡΟΣ 2, and ΕΥΚΡΑΤΗΣ 2 with 13 associations. At the other end of the scale are *damiourgoi* with few documented associations with fabricants. Some have only one: ΚΛΕΩΝ, ΑΝΑΞΙΠΠΙΔΑΣ, ΖΗΝΟΔΟΤΟΣ, ΜΕΓΑΚΛΗΣ, ΚΟΙΡΑΝΟΣ, ΚΛΕΙΣΙΠΠΙΔΑΣ and ΛΥΣΙΚΛΗΣ 2. Two associations are known for ΦΙΛΙΣΤΟΣ and ΠΟΛΥΧΑΡΗΣ, three for ΠΥΘΟΝΙΚΟΣ, ΘΗΡΟΚΡΑΤΗΣ 2, and four for ΜΕΝΕΚΡΑΤΗΣ 2, ΜΕΝΙΠΠΟΣ 2 and ΕΠΙΓΟΝΟΣ. They probably officiated in years with a below average wine production – and hence exportation of Knidian wine.[35]

31. Perhaps it will be possible to do so when all of the KT stamps have been published.
32. ΑΛΚΙΝΟΣ, ΑΡΙΣΤΟΚΡΑΤΗΣ, ΑΡΙΣΤΟΤΕΛΗΣ, ΑΡΙΣΤΙΩΝ, ΑΡΧΑΓΟΡΑΣ, ΑΡΧΗΣ, ΑΦΡΟΔΙΣΙΟΣ, ΒΟΥΛΑΡΧΟΣ, ΔΑΜΟΚΛΗΣ, ΔΗΜΥΛΟΣ [10], ΔΙΟΝΥΣΟΚΛΗΣ, ΔΙΩΝ, ΔΡΑΚΩΝ, ΔΩΡΙΩΝ, ΕΙΡΗΝΙΔΑΣ, ΕΡΜΙΑΣ, ΕΥΒΟΥΛΟΣ, ΕΥΚΑΙΡΟΣ, ΕΥΦΟΡΙΩΝ, ΕΥΦΡΑΝΤΙΔΑΣ [20], ΕΥΦΡΑΝΩΡ, ΕΥΦΡΟΣΥΝΟΣ, ΕΥΦΡΩΝ, ΘΕΥΔΑΜΟΣ?, ΙΣΙΔΩΡΟΣ, ΚΑΛΛΙΔΑΜΑΣ, ΚΥΔΟΚΡΑΤΗΣ, ΛΥΣΑΝΔΡΙΔΑΣ, ΜΕΛΑΝΤΑΣ, ΜΕΝΑΝΔΡΟΣ, ΝΙΚΑΓΟΡΑΣ, ΝΙΚΑΝΩΡ, ΝΙΚΙΑΣ (?),ΝΙΛΟΣ, ΠΥΘΟΝΙΚΟΣ, ΣΩΣΤΡΑΤΟΣ, ΦΑΙΔΩΝ, ΦΙΛΕΤΑΙΡΟΣ.
33. Thus also with the Rhodian singletons, see Lund 2011a, 274.
34. If the *damiourgoi* associated with only one fabricant are included, the average number drops to 6.
35. For possible evidence of variations in the wine production of Rhodes from one year to the other, see Lund 2011b. There is no reason to think that conditions were different in Knidos.

Establishing the relative chronology

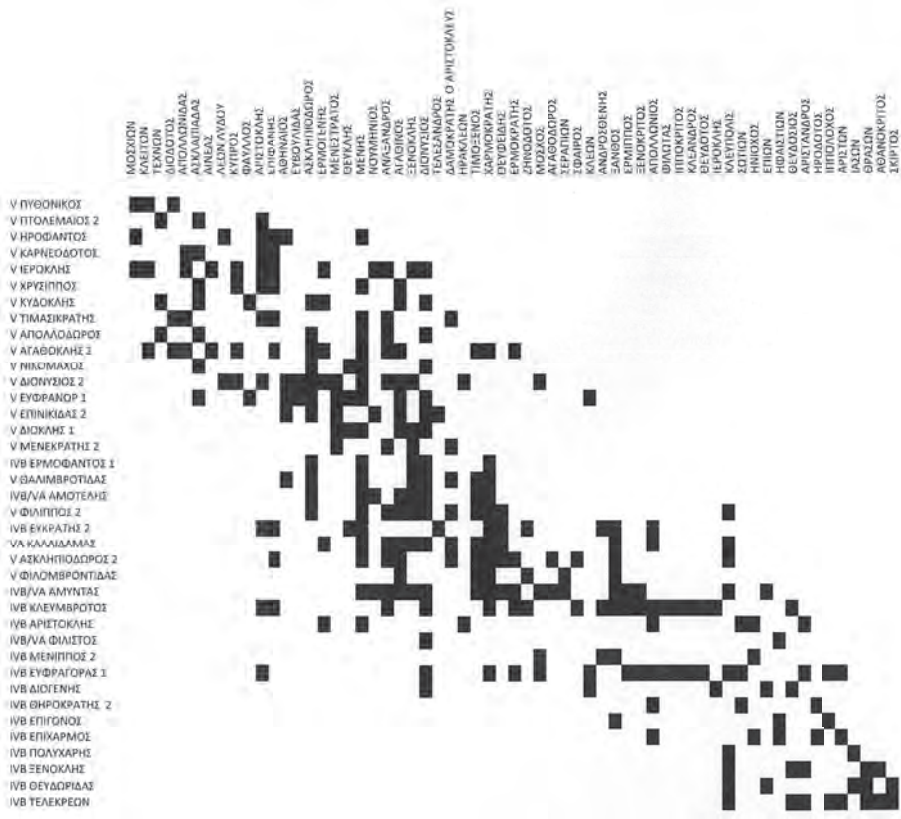

Fig. 2. The new sequence of *damiourgoi* (and fabricants) as established by *seriation*. Note that individuals who only occur once have been excluded.

The relative sequence of *damiourgoi* as worked out by the PAST program (Fig. 2) corresponds largely to the division into periods established by Grace: nearly all of the individuals she assigned to period IVB precede those of period V. It is reassuring, also, that all of the *damiourgoi* documented in the fill of the Stoa of Attalos (ΑΡΙΣΤΟΚΛΗΣ, ΕΠΙΧΑΡΜΟΣ, ΚΛΕΥΜΒΡΟΤΟΣ, ΜΕΝΙΠΠΟΣ 2, ΠΟΛΥΧΑΡΗΣ and ΤΕΛΕΚΡΕΩΝ) are placed in the early part of the sequence.[36] And the new sequence established by *seriation* tends to create clusters of *damiourgoi* that we encounter again in Deposits in the Athenian Agora

36. Grace 1985, 32-35. The following two *damiourgoi* were also represented in the fill: ΑΝΑΞΙΠΠΙΔΑΣ, ΚΛΕΙΣΙΠΠΙΔΑΣ, whereas ΔΙΩΝ 1, who was originally thought to be so was later struck off the list, cf. Koehler and Matheson 2004, 168 note 18. Grace attributed

FIG. 3. Occurrences of stamps naming *damiourgoi* from Periods IVB and V in deposits at the Agora of Athens.

(Fig. 3). This is the case with three *damiourgoi* represented in Group F 5:1: ΔΙΟΓΕΝΗΣ, ΜΕΝΙΠΠΟΣ 2 and ΕΥΦΡΑΓΟΡΑΣ 1,[37] as well as those in Group L 19:2 Upper Fill: ΚΛΕΥΜΒΡΟΤΟΣ, ΑΡΙΣΤΟΚΛΗΣ and ΕΥΦΡΑΓΟΡΑΣ 1,[38] and Group A 16:4 Lower Fill: ΑΡΙΣΤΟΚΛΗΣ, ΕΥΚΡΑΤΗΣ 2, ΕΥΦΡΑΓΟΡΑΣ 1, ΚΛΕΥΜΒΡΟΤΟΣ and ΜΕΝΙΠΠΟΣ 2,[39] and – to a lesser degree – Group E: ΑΓΑΘΟΚΛΗΣ 2, ΕΥΚΡΑΤΗΣ 2, ΙΕΡΟΚΛΗΣ, ΚΑΛΛΙΔΑΜΑΣ, ΚΛΕΥΜΒΡΟΤΟΣ.[40] The *seriation* also places the stamps from Group A 18:1 Upper Fill close together: ΚΑΛΛΙΔΑΜΑΣ and ΦΙΛΟΜΒΡΟΝΤΙΔΑΣ.[41] Those from Group H 12:1 likewise constitute a fairly compact group: ΕΥΦΡΑΝΩΡ 1, ΜΕΝΕΚΡΑΤΗΣ 2, ΑΣΚΛΗΠΙΟΔΩΡΟΣ 2 and ΦΙΛΟΜΒΡΟΝΤΙΔΑΣ[42] as does Group M-N 15:1 (South Stoa building fill): ΔΙΟΚΛΗΣ 1 and ΦΙΛΙΠΠΟΣ 2,[43] and even more so Group B 21:24: ΤΙΜΑΣΙΚΡΑΤΗΣ, ΑΠΟΛΛΟΔΩΡΟΣ, ΕΥΦΡΑΝΩΡ 1, ΔΙΟΚΛΗΣ 1 and ΜΕΝΕΚΡΑΤΗΣ 2.[44]

Only 38 *damiourgoi* could be included in the *seriation*, which means that we need to add 12 individuals to the sequence. Grace assigned two of these, ΔΙΩΝ 2 and ΔΡΑΚΩΝ 2 to Period V. The latter should probably be placed close to its end, if she was right in regarding him as the immediate successor of ΗΡΟΦΑΝΤΟΣ.[45] And there is no reason to doubt that ΔΙΩΝ 2 officiated in the same time span as the other *damiourgoi* of period V. It seems likely, also, that ΚΛΕΩΝ, referred to period IVB/V by Grace, probably functioned

ΠΟΛΥΧΑΡΗΣ to period IVB, but noted (1985, 39) that he was mostly associated with fabricants associated with *phrourachoi*. See also Rotroff 2006, 372 Deposit P-R 6-12.

37. Rotroff 1982, 99-100; 1997, 448; 2006, 354-355: "Ca. 200-150, with a few 3rd century pieces and Early Roman intrusions". The group also includes a stamp of ΔΙΟΝ from Period IVB as well as earlier Knidian stamps.
38. Rotroff 1982, 103; 1997, 460. The Upper Fill also contained earlier Knidian stamps; it is dated by Rotroff (1982, 103) to "Second to early third quarter of 2nd century".
39. Rotroff 2006, 343: "a close group of 14 Knidian handles and fragmentary jars dating in period IV, some near its end". She dates the deposit to "2nd century, to at least 140, with a large Early Roman component".
40. Rotroff 1982, 110; Grace 1985, 37 where the date suggested for this group is mainly based on her presumed dates of these stamps.
41. Rotroff 2006, 343: "Ten Knidian stamped amphora handles from perhaps eight jars, the latest dating in period V". She dates the fill to "Early 1st century AD, with some residual Hellenistic".
42. Rotroff 1997, 434: "Latest coins deposited in third quarter of 2nd century or slightly later … one of late 1st or early 2nd century after Christ, probably intrusive"; 2006, 360.
43. Rotroff 1982, 104: "Among coins are two issues of Athenian bronzes which … confirm [a] date slightly later than the fill of the Stoa of Attalos. Deposit probably closed between 145 and 140".
44. Rotroff 1997, 438-439; 2006, 346: "Thirteen stamps, mostly Knidian of period V …, including some near end of period". She dates the group to "Ca. 140-115".
45. See Grace and Savvatianou-Pétropoulakou 1970, 329 ad no. E 73 and Jöhrens 1999a, 180 ad no. 534.

about the middle of the sequence. ΔΙΩΝ 1 and ΔΡΑΚΩΝ 1, ascribed by Grace to Period IVB, may be placed in the early half of the sequence. Grace assigned eight further individuals to period IVB: ΑΝΑΞΙΠΠΙΔΑΣ,[46] ΔΙΩΝ 1, ΔΡΑΚΩΝ 1, ΚΛΕΙΣΙΠΠΙΔΑΣ, ΚΟΙΡΑΝΟΣ, ΛΥΣΙΚΛΗΣ 2, ΖΗΝΟΔΟΤΟΣ, and ΜΕΓΑΚΛΗΣ, and it seems likely that they were active together with the other *damiourgoi* assigned to period IVB.

A possible cause for alarm cannot pass unnoticed. According to Grace, the stamp KT 926, on which the fabricant ΚΥΠΡΟΣ is associated with the *damiourgos* ΔΙΟΝΥΣΙΟΣ 2, was "written on an erasure. The original die is KT 928 (no published example), in which the eponym is ΙΕΡΟΚΛΗΣ. We therefore presumably have a sequence of eponyms ΙΕΡΟΚΛΗΣ to ΔΙΟΝΥΣΙΟΣ".[47] However, in the sequence of *damiourgoi* established by *seriation*, the order of the two names is reversed. But my close study of the photos of the two stamp types in the Grace archive in the American School at Athens did not reveal any sign of such an erasure.[48] The two stamps (KT 926 and 928) are certainly similar in many respects,[49] but I was unable to detect any erasure on either of them. And if the die of one of these types was indeed reworked, which seems doubtful, the sequence might just as well be the other way around.

Approaching the absolute chronology

The next step is to tie the relative sequence to the absolute chronology. This is no easy task, because hardly any independently dated fixed points are available.[50] The Knidian amphora stamps have often been used as dating evidence, which is why circumspection is called for in order to avoid circular arguments. The Attalos Stoa in the Athenian Agora is a case in point. It was constructed at some time during the reign of Attalos II, i.e. between 159 and 138 BC,[51] but the dates of its construction quoted in the literature have mainly been derived from the Knidian amphora stamps found in its fill.[52] Virginia Grace originally suggested that construction of the Stoa of

46. An amphora stamp of his was found with one naming ΚΛΕΥΜΒΡΟΤΟΣ in Agora Group C20:2 (Rotroff 2006, 347), perhaps suggesting that they should not be placed too far apart.
47. Grace and Savvatianou-Pétropoulakou 1970, 329 ad no. E 72 and Jöhrens 1999a, 180 ad no. 534; 192 ad no. 618. See also Jefremow 1995, 76 note 662.
48. Unfortunately, these photos are unavailable for publication due to copyright restrictions.
49. For KT 926, see Lenger 1955, 498 no. 48 pl. 24 and Grace and Savvatianou-Pétropoulakou 1970, 329 no. E 72. It seems that KT 928 remains unpublished.
50. Jefremow 1995, 75-76; Börker 2018, 68-69.
51. Lawall 2005, 34. The recent discussion of the inscription of the Stoa of Attalos by Noah Kaye (2016) does not refer to the chronology of the building.
52. For the building fill, see Rotroff 1997, 468-469; 2006, 372.

Attalos began "somewhere about" 150 BC, but she later opted for a date at ca. 157 BC,[53] a conclusion that according to Mark L. Lawall "rests solely on Grace's interpretation of the Rhodian and Knidian stamp chronologies; this date is not a historically 'fixed point'".[54] The 35 Rhodian handles found in the fill have not been published in detail, but the seemingly latest ones name the eponym priest ΑΡΙΣΤΕΙΔΑΣ ΙΙ,[55] who was dated to ca. 168 BC by Gérald Finkielsztejn and Nathan Badoud. I arrived at the hypothetical date of 161/160 BC for him in my attempt at establishing the chronology of the Rhodian Halios priests through *seriation*.[56] Still, this is only a *terminus post quem*, and most scholars now date the construction of the Stoa about the middle of the 2nd century BC.[57]

The destruction of Carthage in 146 BC is a fairly secure *terminus ante quem*,[58] but only a handful of stamped Knidian amphora handles have been brought to light there in contrast to the numerous occurrences of Rhodian stamps. One of the Knidian stamps names the *damiourgos* ΙΑΣΩΝ from Period III,[59] three refer to individuals from Period IVA: ΦΙΛΤΙΔΑΣ (*phrourarchos*),[60] ΕΠΙΚΡΑΤΗΣ (*phrourarchos*),[61] ΘΕΥΔΟΤΟΣ, along with the names of two fabricants ΕΙΡΗΝΙΔΑΣ,[62] and ΑΡΙΣΤΑΡΧΟΣ.[63] Only one belongs to Period IVB. It bears the name of the fabricant ΑΠΟΛΛΩΝΙΟΣ ΠΙΣΙΔΑΣ.[64] In addition, mention may be made of a stamp naming ΕΠΙΚΡΑΤΗΣ who officiated in Period VII.[65]

A Roman army destroyed Corinth in 146 BC, but Knidian amphora stamps found there postdate the destruction.[66] By 1990, no less than 42 Knidian stamps dated between 146 and ca. 80 BC had been brought to light in Corinth, representing 24% of the Knidian stamps from this city,[67] and it is now clear that the site was never abandoned completely between 146 BC and

53. Grace 1974, 196 and 1985, 15. See also Jefremow 1995, 72-73.
54. Lawall 2002, 303 and 319 note 32.
55. Grace 1985, 8.
56. Lund 2011a, 278 fig. 4.
57. Schalles 2011, 120: "um die Mitte des 2. Jhs." See also Rotroff 2005, 16.
58. Lund 2011a, 286.
59. Jöhrens 1999b, 255 no. 37 pl. 25: "Lesung fraglich".
60. Jöhrens 1999b, 255-256 no. 38 pl. 25.
61. Icard 1943-1945, 620-621 no. 5 pl. 27.5; Jöhrens 1999a, 117 ad no. 322; 1999b, 255-256 ad no. 38.
62. Icard 1935, 142 no. 29 fig. 2.4; Jöhrens 1999a, 128-129 ad nos. 372-373; 1999b, 255-256 ad no. 38.
63. Icard 1935, 142 no. 30 fig. 2.5; Jöhrens 1999b, 256 ad no. 38.
64. Grace 1934, 242 note 2 and 277 ad no. 222; Jöhrens 1999a, 180 nos. 453-455; 1999b, 256 ad no. 38.
65. Morel 1990, 26 note 40; Jöhrens 1999b, 256 ad no. 38.
66. Grace 1953, 119 note 7.
67. Lawall 2002, 318-319.

the re-founding of the city in early Imperial times. Hence, the destruction of Corinth may no longer be regarded as a safe terminus *ante quem* as far as the Knidian amphora stamps are concerned.[68] The destruction of Samaria in 108 BC on the other hand, provides a *terminus ante quem* for periods IVB and V, because two Knidian stamps naming ΕΥΦΡΑΓΟΡΑΣ 1 [IVB] and ΦΙΛΟΜΒΡΟΝΤΙΔΑΣ [V] were found there.[69]

Christoph Börker recently made an ingenious attempt at providing fresh evidence for the dating of Knidian amphorae by associating the Knidian amphora stamps found at Laurion with the minting of the Attic tetradrachms of the so-called New Style.[70] The timing of the introduction of this coinage is, however, disputed by numismatists. Some have argued for a date about 196, others 185-180 and still others 164/163 BC, which is favoured by recent scholarship.[71] Börker noted that some of the Knidian stamps from Laurion "mögen auch in der vorangehende Zeit [i.e. before 164/163 BC] gehören", and he also pointed to the finding of two Rhodian eponym stamps naming ΔΑΜΟΚΛΗΣ (Period IIIc), dated between 177-176, 176-174, or 175-172 BC,[72] and ΑΡΧΙΛΑΙΔΑΣ (IIIe) dated at 173/172 or between 165 and 163 BC.[73] Evidently, most of these stamps predate 164/163 BC, when the New Style coinage is currently thought to have been introduced.[74] Also, the idea of a close connection between the occurrence of Knidian and Rhodian amphorae at Laurion and the mining of silver for the New Style coinage is in itself uncertain.[75] Hence, the lowering of the date of Period IVB to between 156/151 and 135/130 BC on this basis seems doubtful.[76] Moreover, it would almost certainly push the construction of the Stoa of Attalos beyond the death of this sovereign in 138 BC, and one might ask why the Knidian (and Rhodian) amphora stamps at Laurion should have stopped in the second half of the 2nd century BC, when the New Style Coinage continued to be minted well in the 1st century BC.[77]

68. Jefremow 1995, 71, 73-74, Lawall 2005, 35 note 39; Lund 2011a, 286-287; James 2014a and b.
69. V.A. Grace in Crowfoot *et al.* 1957, 385: ΕΥΦΡΑΓΟΡΑΣ [IVB] and ΦΙΛΟΜΒΡΟΝΤΙΔΑΣ [V].
70. Börker 2018.
71. Börker 2018, 70 with references.
72. Börker 2018, 62 no. I.2 with reference to dates suggested by Lund 2011a, Finkielsztejn 2001 and Habicht 2003.
73. Börker 2018, 62 no. I.1 with reference to dates suggested by Lund 2011a and Finkielsztejn 2001.
74. Börker 2018, 72 suggests that these could be re-used vessels.
75. The notion that the mines at Laurion were the prime source of the New Style Athenina coinage is not un-disputed, cf. D'Aco 2009, 199.
76. Börker 2018, 71.
77. Kroll and Waggonner 1984, 334 note 64.

Hypothetical dates of *damiourgoi* in Period IVB and V

In the absence of reliable chronological fixed points, one way to tackle the problem is to assume that Grace was right in regarding *c.* 167 BC as the start date of Period IVB, even if this is not based on incontrovertible external evidence. She associated the institution of *phrourarchoi* with a hypothetical Rhodian occupation of Knidos between 188 and 167 BC.[78] However, the names of the *phrourarchoi* are not Rhodian,[79] and Lawall concluded that: "any degree of certainty as to the city's status seems nearly impossible to achieve". In his view, the *phrourarchoi* "do not bear the weight of an entire amphora chronology".[80] Still, while it is often wise to err on the side of caution, one might also take the bolder view that whether or not Knidos was under Rhodian control between 188 and 167 BC, it would almost be too much of a coincidence if the *phrourachs* were not in some way associated with this period, as proposed by Grace – in particular because their number seems to fit the time span perfectly, assuming that each pair served for periods of four months as she suggested. This is in line with Koehler and Wallace Matheson's conclusion that the *phrourarchy* cannot "be moved much in date away from the 188-167 range associated with increased Rhodian activity in the area".[81] Indeed, there seems to be a scholarly agreement that *c.* 167 BC marked the end of the period of the *phrourarchoi*.[82] In view of this, it seems legitimate to maintain that period IVB began in 167 or possibly in 166 BC. Since 50 *damiourgoi* officiated in Periods IVB and V, corresponding to 50 years, Period V must have ended in 118/117 BC, i.e. 9 to 10 years earlier than suggested by Grace, and close to the date of 115 BC proposed by Jefremow.[83] In any event, Lawall has pointed out that Grace's end date for Period V, 108 BC, "is not a historically fixed point",[84] and if this date should stand, as maintained by Jean-Yves Empereur and Yvon Garlan,[85] then it must be supposed that up to ten *damiourgoi* are missing from the series of names assigned to Period IVB and V – unless Period IVB is assumed to have begun some 8 to 10 years later than suggested by Grace. By contrast, some support for accepting 118/117 BC as the final year of Period V may be found in the

78. Lawall 2002, 308-309; Koehler and Matheson 2004, 165-167.
79. Grace and Savvatianou-Pétropoulakou 1970, 318-320; Lawall 2002, 303: Koehler and Matheson 2004, 169.
80. Lawall 2002, 308-309; 2005, 36-37 note 53.
81. Koehler and Matheson 2004, 169.
82. Jefremow (1995, 71-73) quotes 166 BC as the end date of Grace's period IVA. For another view, see Börker 2018.
83. Jefremow 1995, 75-76. Lawall (2002, 319 note 133) observes that the 32 years allotted by Jefremow to his Period VI (i.e. Grace's Period V), makes it "still not short enough to be filled with Grace's Period V eponyms".
84. Lawall 2005, 37 note 56. Thus also Jefremow 1995, 73.
85. Empereur and Garlan 1997, 181-182.

occurrence of five Knidian amphora stamps naming ΙΕΡΟΚΛΗΣ in Agora Group F 15:2 together with an inscription dated 122/121 BC,[86] because the new sequence suggests that he officiated approximately five years before the end of period V, which I put at 118/117 BC.

If it be accepted as a working hypothesis that the first year of Period IVB was 167 or 166 BC, and allowing for 20 functioning *damiourgoi* between this year and that of ΚΛΕΥΜΒΡΟΤΟΣ,[87] the latest Knidian *damiourgos* represented in the fill of the Stoa of Attalos (Fig. 3), we arrive at 147/146 BC as a hypothetical *terminus post quem* for the beginning of construction of this Stoa.[88] Lawall concluded that a date near 144 BC is "certainly possible for the construction", based on his observation that the Attalos Stoa Fill contains stamps naming 25 or 26 Knidian eponyms, which are absent from the Middle Stoa Building Fill, dated by him to 169 BC or later.[89] Kathleen Slane seems to favour a start date for Attalos Stoa at 145 BC.[90] The reconstruction of the Stoa after the Second World War took about two years and nine months,[91] which is probably the minimum amount of time used by the ancient builders, leaving ample time to complete it before the death of Attalos in 138 BC.

Conclusions

The results of this investigation rest on two assumptions that cannot be proven at the present time. The first is that the 50 *damiourgoi* referred to Periods IVB and V represent the complete sequence – or nearly so. The second is that the time of the *phrourarchoi* (Period IVA) ended in 167 BC, as Grace believed, implying that Period IVB began in 167 or 166 BC. If these conjectures are correct, Period V must have ended 50 years later, i.e. in 118 or 117 BC, which is pretty close to 115 BC, as suggested by Jefremow.[92] The two assumptions may well hold true, but it would be unwise to deny that they introduce an element

86. Rotroff 2006, 356.
87. A stamp naming ΑΝΑΞΙΠΠΙΔΑΣ was found together with one naming ΑΡΙΣΤΟΚΛΗΣ in Agora Group R 9:5 (Rotroff 2006, 174), perhaps an indication that he should be placed close to him in date.
88. Susan Rotroff (2006, 372) noted that the fill contained "a coin of the Achaian League dating 191-146".
89. Lawall 2002, 319. See also Rotroff 1982, 102. Börker 2018, 71 dates the construction of the Middle Stoa between c. 183 and 170 BC.
90. According to Lawall 2002, 319 note 36.
91. Sakka 2013, 206.
92. A third assumption is that there are either no undetected homonyms among the fabricants – or if there are, that these do not distort the emerging chronological pattern significantly.

of uncertainty into the conclusions.[93] Hence, we can for now only speak about hypothetical dates. Be that as it may, the relative sequence of the 38 *damiourgoi* included in the *seriation* seems relatively secure, in particular with regard to those attributed by Grace to Period V and those with an above average number of fabricant associations. The smaller the number of such combinations, the more unsecure is the relative place of the *damiourgos*.

Judging by the sequence of *damiourgoi* established by *seriation*, the latest one represented in the fill of the Stoa of Attalos names ΚΛΕΥΜΒΡΟΤΟΣ. His hypothetical date, 147/146 BC is a *terminus post quem* for the beginning of its construction, which is close to "near 144 BC", the date previously suggested by Lawall.

Fixing the end date of Period V at c. 118/117 necessitates a revision of the dates of the following periods.[94] Grace attributed 27 *damiourgoi* to Period VIA-C,[95] which now implies that it ended c. 91/90 BC, and she allocated 31 *damiourgoi* to Period VII, suggesting that this period came to a close *c.* 61/60 BC. It is beyond the scope of this paper to look into the Knidian amphorae and their chronology in these periods. They depend to a large extent on the contexts in Athens and Delos. But, as observed by Susan I. Rotroff, Grace's chronology was in part derived from "the appearance (or not) of Knidian stamps in precisely the deposits under discussion here; the circularity of the exercise is obvious".[96]

93. In consideration of Christoph Börker's (2018) attempt to down-date period IVB, it may be noted that the dates proposed in this paper can at the most be lowered by 6 years. Otherwise there would not have been time to complete the Stoa of Attalos, before he died in 138 BC. If the dates are lowered by 6 years, its construction would have begun in 141 BC, Period IVB would have started in 161 BC and Period V would have ended about 112 BC. Also, Period VI would have come to a close about 86/85 BC, and Period VII about 56/50 BC.
94. For the history and archaeology of Knidos during the Mithridatic Wars, see the assessment of Patricia Kögler 2014 [2018].
95. Grace 1985, 35.
96. Rotroff 2014, 88.

Appendix: Links between *damiourgoi* and fabricants

The names of ***damiourgoi*** are written in bold; those of fabricants are underlined. The KT number refers to the stamp type as established by Virginia Grace and her collaborators. Roman numerals in square brackets quote to the periods allotted to each individual by Grace.

ΑΓΑΘΟΚΛΗΣ 2 [V] ΔΑΜΙΟΥΡΓΟΣ [KT 649]

ΑΓΑΘΙΝΟΣ
KT 2
ΑΙΝΕΑΣ
KT 84
Jöhrens 1999a, 174 ad no. 548
ΑΝΑΞΑΝΔΡΟΣ
KT 108; Jöhrens 1999a, 174 no. 548; 280 no. AS 41
ΑΠΟΛΛΩΝΙΔΑΣ
KT 154
Jöhrens 1999a, 177 ad no. 557
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 315; Jöhrens 1999a, 179 no. 566
ΔΑΜΟΚΛΗΣ
KT 349; Jöhrens 1999a, 182 nos. 575-576
ΔΙΟΔΟΤΟΣ
KT 388
ΕΠΙΦΑΝΗΣ
KT 561; Jöhrens 1999a, 186 no. 590
ΕΡΜΟΓΕΝΗΣ
KT 592
ΕΡΜΟΚΡΑΤΗΣ
KT 598
KT 599
Jöhrens 1999a, 174 ad no. 548
ΕΥΦΡΑΝΤΙΔΑΣ
KT 649; Jöhrens 1999a, 188 no. 601; 189 nos. 602-603
ΕΥΦΡΩΝ
KT 671; Jöhrens 1999a, 189 no. 605
ΚΛΕΙΤΩΝ
KT 884; Jöhrens 1999a, 190-191 nos. 611-612
ΚΥΠΡΟΣ
KT 933
KT 2163
ΜΕΝΗΣ
KT 985; Jöhrens 1999a, 194 no. 627
KT 986; Jöhrens 1999a, 194 no. 628
ΤΙΜΟΞΕΝΟΣ
KT 2172
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1261
KT 1262
KT 2063

ΑΜΟΤΕΛΗΣ [IV B or VA] ΔΑΜΙΟΥΡΓΟΣ [KT1864][97]

ΑΓΑΘΙΝΟΣ
KT 6; Jöhrens 1999a, 146 no. 440
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 316; Jöhrens 1999a, 153-154 no. 467; KT 2218
ΔΙΟΝΥΣΙΟΣ
KT 413; Jöhrens 1999a, 155 no. 473
KT 414
ΕΡΜΙΑΣ
KT 586; Jöhrens 1999a, 156 no. 476; KT 1971
ΜΕΝΗΣ
KT 1011; Jöhrens 1999a, 162-163 no. 507

97. Jefremow 1995, 143 adds ΔΑΜΟΚΡΑΤΗΣ with reference to Grace and Savvatianou-Pétropoulakou 1970, 327-328 no. E 66, but no such association is indicated on the List of Knidian fabricants in the Grace archive.

ΝΟΥΜΗΝΙΟΣ
KT 1090
Dumont 1872, 149 no. 40
ΞΕΝΟΚΛΗΣ
KT 1129
KT 2266
Cf. Jöhrens 1999a, 146 ad no. 440
ΤΙΜΟΞΕΝΟΣ
KT 1235; Jöhrens 1999a, 165 no. 516
KT 1790
KT 2173
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1263
Cf. Jöhrens 1999a, 146 ad no. 440

ΑΜΥΝΤΑΣ [IV B or VA]

ΑΓΑΘΙΝΟΣ
KT 7
ΑΓΑΘΟΔΩΡΟΣ
KT 33; Jöhrens 1999a, 146 no. 441
KT 34
ΑΝΑΞΑΝΔΡΟΣ
KT 109; Jöhrens 1999a, 147 no. 444
ΑΡΧΑΓΟΡΑΣ
Thiersch 1838, 788 no. 6; Neroutsos 1874, 445 no. 9
ΔΙΟΝΥΣΙΟΣ
KT 415
Cf. Jöhrens 1999a, 146 ad no. 441
ΕΠΙΩΝ
KT 578
Jöhrens 1999a, 146 ad no. 441
ΕΡΜΙΠΠΟΣ
KT 591
ΕΡΜΟΚΡΑΤΗΣ
KT 600
Jöhrens 1999a, 146 ad no. 441 and 187-188 ad no. 597
ΘΕΥΦΕΙΔΗΣ
KT 781; Jöhrens 1999a, 158 no. 486
ΚΛΕΥΠΟΛΙΣ
KT 892
KT 893; Jöhrens 1999a, 160 nos. 496-498
ΚΥΔΟΚΡΑΤΗΣ
KT 922; Jöhrens 1999a, 162 no. 504
KT 2020
KT 2021
ΜΕΝΗΣ
KT 987
KT 988[ΜΑΗΣ]
KT 989[ΜΑΝΥΣ]
Cf. Jöhrens 1999a, 146 ad no. 441
ΜΟΣΧΟΣ
KT 1031
ΝΟΥΜΗΜΙΝΟΣ
Jefremow 1995, 145, 177-178 no.232 (25)
ΞΑΝΘΟΣ
KT 1115; Jöhrens 1999a, 163 no. 510
ΞΕΝΟΚΛΗΣ
KT 2167; Palaczyk and Schönenberger 2003, 200 no. 52 pl. 7
ΞΕΝΟΚΡΙΤΟΣ
KT 1856
Cf. Jefremow 1995, 145-146, 178 no. 233 (26)
ΣΕΡΑΠΙΩΝ
KT 2051
ΣΩΣΤΡΑΤΟΣ
KT1862
Cf. Jefremow 1995, 146
ΤΙΜΟΞΕΝΟΣ
KT 1235
KT 1236
ΦΑΙΔΩΝ
KT 1242; Jöhrens 1999a, 165 no. 517
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1264; Jöhrens 1999a, 165-166 no. 5201
KT 1265; Jöhrens 1999a, 166 no. 522.

ΑΝΑΞΙΠΠΙΔΑΣ [IVB]

ΑΠΟΛΛΩΝΙΟΣ
KT 163; Jöhrens 1999a, 149 no. 450; Balzat *et al.* 2014, 25 (4)

ΑΠΟΛΛΟΔΩΡΟΣ [V]

ΑΝΑΞΑΝΔΡΟΣ
KT 110; Jöhrens 1999a, 175-176 no. 549
KT 112
KT 113
ΑΣΚΛΑΠΙΑΔΑΣ
KT 304
Jöhrens 1999a, 175-176 ad no. 549
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 317; Jöhrens 1999a, 179 no. 567
ΔΙΟΝΥΣΙΟΣ
KT 1819
Jöhrens 1999a, 175-176 ad no. 549
ΜΕΝΗΣ
KT 990
Jöhrens 1999a, 175-176 ad no. 549
ΤΕΧΝΩΝ
KT 1232
Jöhrens 1999a, 175-176 ad no. 549

ΑΡΙΣΤΟΚΛΗΣ[98] [IVB]

ΑΠΟΛΛΩΝΙΟΣ
KT 167
KT 1919; Jöhrens 1999a, 149-150 no. 451
ΑΡΙΣΤΑΝΔΡΟΣ
KT 214
ΕΡΜΟΓΕΝΗΣ
Neroutsos 1874, 445 no. 16; Jefremow 1995, 137
ΗΝΙΟΧΟΣ
KT 675; Jöhrens 1999a, 157 no. 481
ΗΡΑΚΛΕΩΝ
KT 679
Cf. Jefremow 1995, 137
ΘΕΥΔΑΜΟΣ?
KT 2156
ΙΣΙΔΩΡΟΣ
KT 862; Jöhrens 1999a, 159-160 no. 494; Palaczyk and Schönenberger 2003, 200 no. 53 pl. 7
ΚΑΛΛΙΔΑΜΑΣ
Pridik 1897, 150 no. 6
ΜΕΝΗΣ
KT 991
ΣΩΤΙΩΝ
KT2170

ΑΣΚΛΗΠΙΟΔΩΡΟΣ 2 [V][99]

ΑΓΑΘΙΝΟΣ
KT 11; Jöhrens 1999a, 169 no. 530
KT 12; Jöhrens 1999a, 169 no. 531
ΑΝΑΞΑΝΔΡΟΣ
KT 112
KT 113
Jöhrens 1999a, 169 ad no. 530
ΑΓΑΘΟΔΩΡΟΣ
KT 35 [no period stated]
Garozzo 2011, 326-328 no. ICn1)
ΔΑΜΟΚΡΑΤΗΣ Ο ΑΡΙΣΤΟΚΛΕΥΣ
KT 1705; Jöhrens 1999a, 183 no. 578
ΕΠΙφΑΝΗΣ
KT 562

98. The following associations listed by Jefremow have been disregarded: 1) ΔΙΟΔΟΡΟΣ (Jefremow 1995, 136 with reference to Pridik 1896, 163 nr. 131; however, no such combination of names is indicated there); 2) ΔΙΟΝΥΣΙΟΣ (Jefremow 1995, 136, 175 nos. 196-198 (11-12, 63) because the first part of the eponym's name is restored), 3) ΘΕΥΔΟΣΙΟΣ (Jefremow 1995, 137 with reference to Neroutsos 1874, 445 no. 17; but the name of the *damiourgos* is written there as ΑΡΙΣΤΟΠΟΛΙΣ); 4) ΙΠΠΟΛΟΧΟΣ (Jefremow 1995, 138 with reference to Dumont 1872, 165 no. 146, where the first part of the eponym's name is quoted as ΑΠΟΛΛΟ…).
99. The association with ΑΘΗΝΑΙΟΣ reported by Jefremow (1995, 142) on the basis of a fragmentary stamp published by Dumont (1872, 170 no. 171) was not accepted by Grace and Jöhrens. The same goes for the supposed connections with ΘΡΑΣΥΜΗΔΗΣ and ΤΕΛΕΦΑΝΗΣ (Jefremow 1995, 144 from Pridik 1896, 160 no. 162 and Jefremow 1995, 146 from Pridik 1897, 154 no. 30). No persons with these names are included in Balzat *et al.* 2014.

ΕΡΜΟΚΡΑΤΗΣ
KT 601; Jöhrens 1999a, 187-188 no. 597
ΘΕΥΦΕΙΔΗΣ
KT 872
ΚΛΕΥΠΟΛΙΣ
KT 897
KT 898; Jöhrens 1999a, 191 no. 614
KT 899; Jöhrens 1999a, 191 no. 615
ΜΕΝΗΣ
KT 2185 [ΜΑΗΣ]
ΤΙΜΟΞΕΝΟΣ
KT 1237
ΞΑΝΘΟΣ
KT 1116
ΣΦΑΙΡΟΣ
KT 1193
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1266; Jöhrens 1999a, 198 no. 646

ΔΙΟΓΕΝΗΣ [IV B][100]

ΑΡΙΣΤΟΚΡΑΤΗΣ
KT 268
Dumont 1872, 176 no. 206
Cf. Jöhrens 1999a, 154 ad no. 469
ΔΗΜΥΛΟΣ
KT 384; Jöhrens 1999a, 154 no. 469
ΔΙΟΝΥΣΙΟΣ
Pridik 1896, 147 no. 68
ΕΠΙΩΝ
Dumont 1872, 178 no. 220.
KT 518; Palaczyk and Schönenberger 2003, 201 no. 54 pl. 7
Cf. Jöhrens 1999a, 154 ad no. 469
ΙΕΡΟΚΛΗΣ
Dumont 1872, 177 no. 214
KT 831
Jöhrens 1999a, 154 ad no. 469
ΚΛΕΩΝ
KT 912; Grace and Savvatianou-Pétropoulakou 1970, 323 E 60; Jöhrens 1999a, 161 no. 502
ΘΕΥΔΟΣΙΟΣ
KT 728
Cf. Jöhrens 1999a, 154 ad no. 469

ΔΙΟΚΛΗΣ 1 [V]

ΑΓΑΘΙΝΟΣ
KT 14; Jöhrens 1999a, 169-170 no. 532
ΔΙΟΝΥΣΙΟΣ
KT 445
KT 1823
ΘΕΥΚΛΗΣ
KT 777; Jöhrens 1999a, 189-190 nos. 606-607
ΜΕΝΕΣΤΡΑΤΟΣ
KT 971; Jöhrens 1999a, 193 no. 621
ΜΕΝΗΣ
KT 993
ΝΙΛΟΣ
KT 1087; Jöhrens 1999a, 196 no. 637
ΞΕΝΟΚΛΗΣ
KT 1130; Jöhrens 1999a, 196 no. 638

ΔΙΟΝΥΣΙΟΣ 2 [V] ΔΑΜΙΟΥΡΓΟΣ [KT 249]

ΑΓΑΘΙΝΟΣ
KT 17; Jöhrens 1999a, 170 no. 533
KT 15
ΑΘΗΝΑΙΟΣ
KT 53; Jöhrens 1999a, 172 no. 540
ΑΝΑΞΑΝΔΡΟΣ
KT 115; Jöhrens 1999a, 175 nos. 550-551
KT 114
ΑΡΙΣΤΟΚΛΗΣ
KT 249; Jöhrens 1999a, 177-178 no. 559
KT 248
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 318; Jöhrens 1999a, 180 no. 568

100. Gerhard Jöhrens (1999a, 154 ad no. 469 and 167 no. 527) links ΔΙΟΓΕΝΗΣ with ΠΑΙΔΑΙΑ ΘΕΥΔΩΡΙΔΑ due a similar engraving.

ΕΥΒΟΥΛΙΔΑΣ
Jöhrens 1999a, 188 no. 598
ΕΡΜΟΓΕΝΗΣ
KT 593
ΗΡΑΚΛΕΩΝ
KT 680
ΚΥΠΡΟΣ
KT 926; Jöhrens 1999a, 192 no. 618
ΛΕΩΝ ΛΥΔΟΥ
KT 936
ΜΕΝΕΣΤΡΑΤΟΣ
KT 972
ΜΕΝΗΣ
KT 994
ΜΟΣΧΟΣ
KT 1032
ΞΕΝΟΚΛΗΣ
KT 1131; Palaczyk and Schönenberger 2003,203-204 no. 71 pl. 1.8

ΔΙΩΝ 1 [IV B][101]

ΑΦΡΟΔΙΣΙΑΣ
Dumont 1872, 253 no. 44
Cf. Jöhrens 1999a, 155 ad no. 475
ΔΙΟΝΥΣΟΔΩΡΟΣ
KT 474
Jefremow 1995, 136 no. 390 (115)
ΕΠΙΦΑΝΗΣ
KT 563; Jöhrens 1999a, 155 no. 475
ΕΥΦΡΑΓΟΡΑΣ [?]
KT 646; Palaczyk and Schönenberger 2003, 201 no. 55 pl. 7
ΚΛΕΩΝ
KT 913; Dumont 1872, 185 no. 264
ΣΩΣΟΣ
KT 1204; Jöhrens 1999a, 164 no. 515

ΔΙΩΝ 2 [V] ΔΑΜΙΟΥΡΓΟΣ [KT 55; KT 250; KT 1244; KT 1713; KT 1932]

ΑΘΗΝΑΙΟΣ
KT 54; Jöhrens 1999a, 172 nos. 541-542
KT 55
ΑΡΙΣΤΟΚΛΗΣ
KT 251; Jöhrens 1999a, 178 no. 560; Palaczyk and Schönenberger 2003, 204 no. 72 pl. 8
KT 250
KT 1932
ΑΦΡΟΔΙΣΙΟΣ
KT 332
ΔΙΟΝΥΣΙΟΣ
KT 426; Jöhrens 1999a, 184-185 no. 584
ΕΥΦΡΑΓΟΡΑΣ [?][102]
KT 648; Palaczyk and Schönenberger 2003, 201 no. 55 pl. 7
ΗΡΩΔΑΣ ΚΑΛΛΙΚΡΑΤΕΥΣ
KT 1713
ΞΕΝΟΚΛΗΣ
KT 1132
ΜΗΤΡΟΔΩΡΟΣ
KT 1012
ΠΕΡΙΓΕΝΗΣ
KT 1148
ΦΙΛΕΤΑΙΡΟΣ
KT 1244

ΔΡΑΚΩΝ 1 [IV B]

ΔΩΡΙΩΝ
KT 527
ΕΥΦΡΟΣΥΝΟΣ [?] (unless ΔΡΑΚΩΝ of period V)
KT 659
Dumont 1872, 187 no. 276
ΛΕΩΝ ΛΥΔΟΥ
KT 937 [unless ΔΡΑΚΩΝ of period V]

101. An association with ΕΙΡΗΝΙΔΑΣ suggested by Jefremow (1995, 137 with reference to Dumont 1872, 254 no. 49) cannot be verified and is therefore disregarded.
102. The association may refer to the *damiourgos* ΔΙΩΝ in period IV B, see Palaczyk and Schönenberger 2003, 201 ad no. 55.

ΜΕΝΗΣ [?] (unless ΔΡΑΚΩΝ of period V)
KT 995
Jefremov 1995, 189 nos. 403-404 (123-124)
ΞΑΝΘΟΣ
KT 1118
Powell 1903, 36 no. 10b

ΔΡΑΚΩΝ 2 [V] ΔΑΜΙΟΥΡΓΟΣ [KT 252].[103]

ΑΓΑΘΙΝΟΣ
KT 18; Jöhrens 1999a, 170 no. 534
ΑΘΗΝΑΙΟΣ
KT 1900
ΑΙΝΕΑΣ
KT 89; Jöhrens 1999a, 173 no. 545; Palaczyk and Schönenberger 2003, 204 no. 73 pl. 8
ΑΡΙΣΤΟΚΛΗΣ
KT 252; Jöhrens 1999a, 178 no. 561
ΔΑΜΟΚΡΑΤΗΣ Ο ΑΡΙΣΤΟΚΛΕΥΣ
KT 1749
ΔΙΟΔΟΤΟΣ
KT 389
Dumont 1872, 186 no. 272
Jöhrens 1999a, 170 ad no. 534
ΕΠΙΦΑΝΗΣ
KT 564; Jöhrens 1999a, 186 no. 591
ΕΥΒΟΥΛΙΔΑΣ
KT 611; Jöhrens 1999a, 188 no. 599
ΕΥΦΡΟΣΥΝΟΣ
KT 659; Jöhrens 1999a, 189 no. 604; Palaczyk and Schönenberger 2003, 204 nos. 74-76 pl. 8
ΙΠΠΟΛΟΧΟΣ
KT 2007
KT 2008
ΚΥΠΡΟΣ
KT 927
KT 2257
ΜΕΝΕΣΤΡΑΤΟΣ
KT 973; Jöhrens 1999a, 193 nos. 622-623
ΠΕΡΙΓΕΝΗΣ
KT 1151
ΤΙΜΟΞΕΝΟΣ
KT 1238
Cf. Jöhrens 1999a, 170 ad no. 534

ΕΠΙΓΟΝΟΣ [IV B]

ΕΥΚΑΙΡΟΣ
KT 1196
ΗΦΑΙΣΤΙΩΝ
KT1984
ΞΑΝΘΟΣ
KT 1119; Jöhrens 1999a, 163 no. 511
ΙΠΠΟΛΟΓΟΣ
KT 847
KT 2334
Dumont 1872, 187 no. 279a; 221 no. 469
Cf. Jöhrens 1999a, 165 ad no. 511

ΕΠΙΝΙΚΙΔΑΣ 2 [V]

ΑΓΑΘΙΝΟΣ
KT 19
ΑΘΗΝΑΙΟΣ
KT 56; Jöhrens 1999a, 279-280 no. AS 40
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 1940
Cf. Jöhrens 1999a, 172-173 ad no. 543
ΔΙΟΝΥΣΙΟΣ
KT 450; Jöhrens 1999a, 185 no. 586
ΜΕΝΕΣΤΡΑΤΟΣ
KT 975; Jöhrens 1999a, 193 no. 624
ΝΟΥΜΗΝΙΟΣ
Dumont 1872, 261 no. 129
Jöhrens 1999a, 172-173 ad no. 543
ΤΕΛΕΣΑΝΔΡΟΣ
KT 1229

103. An association of ΜΕΝΗΣ with ΔΡΑΚΩΝ [KT 995] may either refer to this *damiourgos* (Jöhrens 1999a, 194 no. 629) or to his namesake of Period IV B. See above.

ΕΠΙΧΑΡΜΟΣ [IV B]
ΔΑΜΙΟΥΡΓΟΣ [KT1264, KT2281][104]

ΑΠΟΛΛΩΝΙΟΣ
KT 168
KT 1809
ΑΡΙΣΤΩΝ
KT 280; Jöhrens 1999a, 152 no. 462
ΗΝΙΟΧΟΣ
KT 676
ΗΡΟΔΟΤΟΣ
KT 683; Jöhrens 1999a, 157 no. 483
ΗΦΑΙΣΤΙΩΝ
KT 690
Cf. Jöhrens 1999a, 152 ad no. 462

ΕΡΜΟΦΑΝΤΟΣ 1 [IV B]

ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 320; Jöhrens 1999a, 154 no. 468
KT 319
ΔΙΟΝΥΣΙΟΣ
KT 397; Jöhrens 1999a, 155 no. 472
ΕΥΒΟΥΛΟΣ
KT 620; Jöhrens 1999a, 156 no. 479
ΜΕΝΗΣ
KT 997
KT 998
ΞΕΝΟΚΛΗΣ
KT 1133
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1267; Jöhrens 1999a, 166 no. 523

ΕΥΚΡΑΤΗΣ 2 [IV B]
ΔΑΜΙΟΥΡΓΟΣ [KT 1970][105]

ΑΝΔΡΟΣΘΕΝΗΣ
KT 126; Jöhrens 1999a, 147-148 nos. 445-446
Palaczyk and Schönenberger 2003, 201 no. 56 pl. 7
ΑΠΟΛΛΩΝΙΟΣ
KT 169
KT 170
Dumont 1872, 194 no. 310
ΑΡΙΣΤΙΩΝ
KT 1923
KT 1924
ΑΡΙΣΤΟΚΛΗΣ
KT 253
KT 254
Etienne and Braun 1986, 241 no. 58
ΖΗΝΟΔΟΤΟΣ
KT 1833; Palaczyk and Schönenberger 2003, 201 no. 57 pl. 7
KT 1835; Palaczyk and Schönenberger 2003, 201 nos. 58-59 pl. 7
ΕΙΡΗΝΙΔΑΣ
KT 1970
ΕΠΙΦΑΝΗΣ
KT 2235
ΘΕΥΚΛΗΣ
Neroutsos 1874,447 no. 49
ΘΕΥΦΕΙΔΗΣ
KT 783

104. The association with ΔΙΟΝΥΣΙΟΣ suggested by Jefremow (1995, 136 with reference to Pridik 1897, 153 no. 27) cannot be substantiated.
105. The association with ΞΕΝΟΚΡΙΤΟΣ suggested by Jefremow (1995, 145) with reference to Dumont 1872, 261-262 nos. 95-96 cannot be substantiated. The same holds true for the association with ΤΕΛΕΦΑΝΗΣ (Jefremow 1995, 146, 193 no. 463 (151)), who is not otherwise documented; the name does not occur in Balzat *et al.* 2014. The association with ΑΝΑΞΑΝΔΡΟΣ (Jefremow 1995, 142 based on Dumont 1872, 153 no. 67) seems uncertain. Only the first and the last four letters of the name are preserved. Dumont found the reconstruction of the name ΕΠΙΚΡΑΤΗΣ "probable". A suggested association with ΞΕΝΟΚΛΗΣ (Jefremow 1995, 145) relates in fact to ΑΡΙΣΤΟΚΛΗΣ, and a connection with the fabricant ΘΕΥΦΕΙΔΗΣ (Jefremow 1995, 144) relates to ΕΥΚΡΑΤΗΣ 1 from period III (KT 783).

ΜΕΗΗΣ
KT 1000; Jöhrens 1999a, 163 no. 508; Palaczyk and Schönenberger 2003, 201-202 nos. 60-61 pl. 7
ΞΑΝΘΟΣ
KT 1120
Dumont 1872, 193 no. 309
ΤΕΛΕΣΑΝΔΡΟΣ
KT 1230
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1268
Jöhrens 1999a, 166-167 no. 524

ΕΥΦΡΑΓΟΡΑΣ 1 [IV B]
ΔΑΜΙΟΥΡΓΟΣ [KT 1221, KT 2061]

ΑΛΚΙΝΟΣ
KT 1913
Stoddart 1850, 123 no. 188
ΑΠΟΛΛΩΝΙΟΣ
KT 151; Jöhrens 1999a, 151 no. 457; Palaczyk and Schönenberger 2003, 202 no. 62 pl. 7
ΑΡΙΣΤΑΝΔΡΟΣ
KT 197; Jöhrens 1999a, 151 no. 458; Palaczyk and Schönenberger 2003, 202 no. 63 pl. 7
ΑΡΙΣΤΟΚΛΗΣ
KT 1933
KT 1934
KT 2143
ΑΡΙΣΤΩΝ
KT 281; Jöhrens 1999a, 152 no. 463
ΑΡΧΗΣ
KT 1001
ΔΙΟΝΥΣΙΟΣ
KT 431
ΕΡΜΙΠΠΟΣ
KT 589; Jöhrens 1999a, 156 no. 477
ΕΡΜΟΚΡΑΤΗΣ
KT 602
ΘΕΥΔΟΤΟΣ
KT 739
Dumont 1872, 198 no. 334
ΙΠΠΟΚΡΙΤΟΣ
KT 834
Jöhrens 1999a, 159 no. 491
ΙΠΠΟΛΟΧΟΣ
KT 851; Jöhrens 1999a, 159 no. 492
ΚΛΕΑΝΔΡΟΣ
KT 883; Jöhrens 1999a, 160 no. 495
ΚΛΕΥΠΟΛΙΣ
KT 900; Jöhrens 1999a, 161 no. 499
ΚΛΕΩΝ
KT 916; Jöhrens 1999a, 162 no. 503
ΛΥΣΑΝΔΡΙΔΑΣ
KT 2336
Pridik 1896, 165 no. 198
ΜΕΛΑΝΤΑΣ
KT 962; Jöhrens 1999a, 162 no. 506
ΜΟΣΧΟΣ
KT 1033
ΞΕΝΟΚΡΙΤΟΣ
KT 1139
Dumont 1872, 257 no. 71
ΣΩΤΙΩΝ
KT 1221
ΦΙΛΤΑΤΟΣ
KT 1257 [ΦΙΛΤΑΤΟΣ ΔΗΜΙΤΡΙΟΥ]
KT 1258; Jöhrens 1999a, 165 no. 518 with patronymic ΔΙΜΙΤΡΙΟΥ
ΦΙΛΩΤΑΣ
KT 2061; Jöhrens 1999a, 165 no. 519
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1269
KT 1270; Jöhrens 1999a, 167 no. 525
KT 2348

ΕΥΦΡΑΝΩΡ 1 [V]

ΑΓΑΘΙΝΟΣ
KT 21; Jöhrens 1999a, 170 no. 535
ΑΘΗΝΑΙΟΣ
KT 2195
ΑΣΚΛΑΠΙΑΔΑΣ
KT 305
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 321
Jöhrens 1999a, 170 ad no. 535
ΔΙΟΝΥΣΙΟΣ
KT 432

ΕΥΒΟΥΛΙΔΑΣ
KT 614; Jöhrens 1999a, 188 no. 600
ΘΕΥΚΛΗΣ
KT 778; Jöhrens 1999a, 190 no. 608; Palaczyk and Schönenberger 2003, 204-205 no. 77 pl. 8
ΚΛΕΩΝ
KT 917
ΜΕΝΑΝΔΡΟΣ
KT 963
ΜΕΝΕΣΤΡΑΤΟΣ
KT 979
ΜΕΝΗΣ
KT 1022
ΦΑΥΛΛΟΣ
KT 1719
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1721; Jöhrens 1999a, 198 no. 647

ΖΗΝΟΔΟΤΟΣ [IV B]

ΗΦΑΙΣΤΙΩΝ
KT 691; Grace 1934, 269-270 no. 200; Balzat *et al.* 2014, 175 (9)

ΗΡΟΦΑΝΤΟΣ [V] ΔΑΜΙΟΥΡΓΟΣ [KT 256; KT 1003]

ΑΘΗΝΑΙΟΣ
KT 58; Jöhrens 1999a, 173 no. 544
ΑΡΙΣΤΟΚΛΗΣ
KT 256
Jöhrens 1999a, 173 ad no. 544
ΕΠΙΦΑΝΗΣ
KT 565; Jöhrens 1999a, 186 no. 592
ΛΕΩΝ ΛΥΔΟΥ
KT 938; Jöhrens 1999a, 192-193 nos. 619-620
ΜΕΝΗΣ
KT 1003
ΜΟΣΧΙΩΝ
KT 1026; Jöhrens 1999a, 195 no. 632
ΝΙΚΑΓΟΡΑΣ
KT 1049
ΠΕΡΙΓΕΗΣ
KT 1152; Jöhrens 1999a, 197 no. 643

ΘΑΛΙΜΒΡΟΤΙΔΑΣ [V]

ΑΘΗΝΑΙΟΣ
KT 59
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 322; Jöhrens 1999a, 281 no. AS 44
ΔΑΜΟΚΡΑΤΗΣ Ο ΑΡΙΣΤΟΚΛΕΥΣ
KT 1393
Cf. Jöhrens 1999a, 183 ad no. 579
ΔΙΟΝΥΣΙΟΣ
KT 433
KT 1821
ΜΕΝΗΣ
KT 1004; Jöhrens 1999a, 195 no. 630
ΞΕΝΟΚΛΗΣ
KT 1134; Jöhrens 1999a, 197 no. 639
KT 1135; Jöhrens 1999a, 197 no. 640; 197 no. 641
ΤΙΜΟΞΕΝΟΣ
KT 1239
Dumont 1872, 202 no. 353
Cf. Jöhrens 1999a, 180 ad no. 569
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1272
Cf. Jöhrens 1999a, 180 ad no. 569

ΘΕΥΔΩΡΙΔΑΣ [IV B][106]

ΔΙΟΝΥΣΟΚΛΗΣ
KT 476
Stoddart 1850, 124 no. 307
ΔΙΩΝ
KT 2229
ΕΠΙΩΝ
KT 1720
ΘΡΑΣΩΝ
Dumont 1872, 260 nos. 85 and 88

106. The association with ΔΙΟΚΛΗΣ (Jefremow 1995, 136 with reference to Neroutsos 1874, 447 no. 48) cannot be substantiated; the name is not listed as a Knidian fabricant by Balzat *et al.* 2014, 112. This is also true for ΚΑΡΝΕΟΔΟΤΟΣ (Jefremow 1995, 138 with

Jöhrens 1999a, 158-159 ad no. 489
ΙΑΣΩΝ
KT 828
Jöhrens 1999a, 158-159 no. 489
ΚΛΕΥΠΟΛΙΣ
KT 901; Jöhrens 1999a, 161 no. 500
ΣΚΙΡΤΟΣ
KT 1179
KT 1180
Jöhrens 1999a, 158-159 ad no. 489

ΘΗΡΟΚΡΑΤΗΣ 2 [IV B][107]

ΑΠΟΛΛΩΝΙΟΣ
KT 172; Jöhrens 1999a, 150 no. 452
KT 171
ΗΡΟΔΩΤΟΣ
KT 685; Jöhrens 1999a, 157 no. 483
ΣΩΤΙΩΝ
KT 1220
KT 1221

ΙΕΡΟΚΛΗΣ ΔΑΜΙΟΥΡΓΟΣ [KT 156; KT 1872] [V]

ΑΙΝΕΑΣ
KT 90; Jöhrens 1999a, 173-174 nos. 546-547 [spelled ΕΙΡΟΚΛΗΣ]
ΑΝΑΞΑΝΔΡΟΣ
KT 117; Palaczyk and Schönenberger 2003, 205 no. 78 pl. 8
ΑΠΟΛΛΩΝΙΔΑΣ
KT 156; Jöhrens 1999a, 177 no. 557
ΑΡΙΣΤΟΚΛΗΣ
KT 258; Jöhrens 1999a, 178 no. 562
KT 257
ΒΟΥΛΑΡΧΟΣ
KT 339
KT 1945
KT 1946
Dumont 1872, 250 no. 24
ΔΙΟΝΥΣΙΟΣ
KT 435 [ΕΙΡΟΚΛΗΣ]
ΕΠΙΦΑΝΗΣ
KT 566; Jöhrens 1999a, 186-187 no. 593
ΕΡΜΟΓΕΝΗΣ
KT 594
ΕΥΦΡΑΝΩΡ
KT 653
ΚΛΕΙΤΙΩΝ
KT 885
ΚΥΠΡΟΣ
KT 928
Jöhrens 1999a, 173-174 ad no. 547
ΜΟΣΧΙΩΝ
KT 1027; Jöhrens 1999a, 195 no. 633
ΝΙΚΙΑΣ (?)
Stoddart 1850, 123 no. 196; Jefremow 1995, 150
ΝΟΥΜΗΝΙΟΣ
KT 1093
Jöhrens 1999a, 173-174 ad no. 547
ΞΕΝΟΚΛΗΣ
KT 2265

ΚΑΛΛΙΔΑΜΑΣ [V A]
ΔΑΜΙΟΥΡΓΟΣ [KT 438; KT 2286]

ΑΓΑΘΙΝΟΣ
KT 23; Jöhrens 1999a, 171 no. 536
ΑΝΑΞΑΝΔΡΟΣ
KT 118; Jöhrens 1999a, 175 no. 552
ΑΠΟΛΛΩΝΙΟΣ
KT 1810; Jöhrens 1999a, 177 no. 558
ΔΑΜΟΚΡΑΤΗΣ Ο ΑΡΙΣΤΟΚΛΕΥΣ
Jöhrens 1999a, 183 no. 580 attributed due to stylistic similarities
ΔΙΟΝΥΣΙΟΣ
KT 438
KT 1953

reference to Broneer 1947, 239-240 note 9 pl. 57.8.).

107. The association with ΔΙΟΝΥΣΙΟΣ (Jefremow 1995, 136 with reference to CIG IV, 258 no. 17) cannot be substantiated. The association with ΘΗΡΟΚΡΑΤΗΣ documented by KT 698-699 probably refers to the older *damiourgos* with the same name.

ΔΩΡΙΩΝ
KT 528; Jöhrens 1999a, 185-186 no. 588-589
ΕΡΜΟΓΕΝΗΣ
KT 595; Jöhrens 1999a, 171 ad no. 536
ΘΕΥΦΕΙΔΗΣ
KT 786
Jöhrens 1999a, 171 ad no. 536
ΚΛΕΥΠΟΛΙΣ
KT 902; Jöhrens 1999a, 191 no. 616
ΜΕΝΗΣ
KT 1853
KT 1766 [ΜΑΗΣ]
ΞΑΝΘΟΣ
KT 1125
ΞΕΝΟΚΛΗΣ
KT 1135
Jöhrens 1999a, 171 ad no. 536
ΤΙΜΟΞΕΝΟΣ
KT 1240
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1273; Jöhrens 1999a, 198-199 no. 648

ΚΑΡΝΕΟΔΟΤΟΣ [V]
ΔΑΜΙΟΥΡΓΟΣ [KT 1417; KT 1740; KT 2191]

ΑΠΟΛΛΩΝΙΔΑΣ
KT 157
ΑΡΙΣΤΟΚΛΗΣ
KT 259; Jöhrens 1999a, 178-179 no. 563
ΑΣΚΛΑ[ΠΙΑΔΑΣ
KT 1740
ΕΠΙΦΑΝΗΣ
KT 568; Jöhrens 1999a, 187 no. 594
ΔΙΟΝΥΣΙΟΣ
KT 442; Palaczyk and Schönenberger 2003, 205 no. 80 pl. 8
KT 439
Jöhrens 1999a, 178-179 ad no. 563

ΚΛΕΙΣΙΠΠΙΔΑΣ [IV B (SA)]

ΑΡΙΣΤΩΝ
KT 283; Jöhrens 1999a, 153 no. 464; Balzat *et al.* 2014, 236 (2)

ΚΛΕΥΜΒΡΟΤΟΣ [IV B (SA)]
ΔΑΜΙΟΥΡΓΟΣ [KT 740, KT 1260, KT 1661, KT 1662, KT 2204, KT 443]

ΑΝΑΞΑΝΔΡΟΣ
KT 119
Jöhrens 1999a, 148 ad nos. 447-448
ΑΝΔΡΟΣΘΕΝΗΣ
KT 129; Jöhrens 1999a, 148 nos. 447-448
KT 2204
ΑΠΟΛΛΩΝΙΟΣ
KT 174
KT 175
KT 176
ΑΡΙΣΤΟΚΛΗΣ
KT 260
ΔΙΟΝΥΣΙΟΣ
KT 443
Jöhrens 1999a, 148 ad nos. 447-448
ΕΠΙΦΑΝΗΣ
KT 569
ΕΡΜΙΠΠΟΣ
KT 591
Jöhrens 1999a, 148 ad nos. 447-448
ΕΡΜΟΚΡΑΤΗΣ
KT 603; Jöhrens 1999a, 156 no. 478; Palaczyk and Schönenberger 2003, 202 no. 64 pl. 1.7
ΕΥΦΡΟΣΥΝΟΣ
KT 663
Dumont 1872, 209 no. 393 b
ΖΗΝΟΔΟΤΟΣ
KT 1661
KT 1662
ΘΕΥΔΟΣΙΟΣ
KT 734; Jöhrens 1999a, 157 no. 484
KT 740
ΘΕΥΔΟΤΟΣ
KT 740

ΙΕΡΟΚΛΗΣ
KT 832; Jöhrens 1999a, 159 no. 490
ΙΠΠΟΚΡΙΤΟΣ
KT 835; Jöhrens 1999a, 159 no. 491
ΚΛΕΑΝΔΡΟΣ
KT 2254
ΞΑΝΘΟΣ
KT 1122
ΞΕΝΟΚΡΙΤΟΣ
KT 1123
ΣΦΑΙΡΟΣ
KT 1195
KT 1195
KT 1861
Jöhrens 1999a, 164 no. 514
ΦΙΛΩΤΑΣ
KT 1260
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1274; Palaczyk and Schönenberger 2003, 202-203 nos. 65-66 pl. 7
KT 1275

ΚΛΕΩΝ [IV B or V A]

ΔΙΟΝΥΣΙΟΣ
KT 444; Palaczyk and Schönenberger 2003, 203 no. 68 pl. 8; Balzat *et al.* 2014, 238 (10)
Dumont 1872, 211 no. 407

ΚΟΙΡΑΝΟΣ [IV B]

ΑΡΙΣΤΩΝ
KT 284; Balzat *et al.* 2014, 240 (2)
Jöhrens 1999a, 153 ad no. 465

ΚΥΔΟΚΛΗΣ [V] ΔΑΜΙΟΥΡΓΟΣ [KT 25]

ΑΓΑΘΙΝΟΣ
KT 25; Jöhrens 1999a, 171 no. 537
[ΚΛΥΔΟΚΛΗΣ]

ΑΣΚΛΑΠΙΑΔΑΣ
KT 306
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 324; Jöhrens 1999a, 180 no. 570
KT 323
ΔΙΟΝΥΣΙΟΣ
KT 1822
ΕΡΜΟΓΕΝΗΣ
KT 596; Jöhrens 1999a, 187 no. 596
ΤΕΧΝΩΝ
KT 1233
ΦΑΥΛΛΟΣ
KT 1243
Dumont 1872, 271 no. 158
Jöhrens 1999a, 171 ad no. 537

ΛΥΣΙΚΛΗΣ 2 [IV B][108]

ΑΡΙΣΤΩΝ
KT 285; Jöhrens 1999a, 153 no. 465; Balzat *et al.* 2014, 266 (2)

ΜΕΓΑΚΛΗΣ [IV B]

ΑΡΙΣΤΩΝ
KT 286; Jöhrens 1999a, 153 no. 466; Balzat *et al.* 2014, 276 (1)

ΜΕΝΕΚΡΑΤΗΣ 2 [V]

ΑΝΑΞΑΝΔΡΟΣ
KT 10; Jöhrens 1999a, 175-176 no. 553
ΔΑΜΟΚΡΑΤΗΣ Ο ΑΡΙΣΤΟΚΛΕΥΣ
Jöhrens 1999a, 183-184 no. 580 attributed due to stylistic reasoning
ΜΕΝΕΣΤΡΑΤΟΣ
KT 980; Jöhrens 1999a, 194 no. 626
KT 985; Jöhrens 1999a, 194 no. 627
ΞΕΝΟΚΛΗΣ
KT 1136; Jöhrens 1999a, 197 no. 642

108. The suggested association with ΑΝΔΡΟΣΘΕΝΗΣ (Jefremow 1995, 135 with reference to Pridik 1896, 174 no. 263) cannot be substantiated.

ΜΕΝΙΠΠΟΣ 2 [IV B] (SA 2)

ΑΝΔΡΟΣΘΕΝΗΣ
KT 130; Jöhrens 1999a, 149 no. 449
ΗΝΙΟΧΟΣ
KT 677; Jöhrens 1999a, 157 no. 482; Palaczyk and Schönenberger 2003, 203 no. 69 pl. 8.
ΜΟΣΧΟΣ
KT 1034; Jöhrens 1999a, 163 no. 509
ΞΑΝΘΟΣ
KT 1123; Jöhrens 1999a, 163-164 no. 512

ΝΙΚΟΜΑΧΟΣ [V]

ΑΣΚΛΑΠΙΑΔΑΣ
KT 307
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 325; Jöhrens 1999a, 181 no. 571
ΔΙΟΝΥΣΙΟΣ
KT 450; Jöhrens 1999a, 185 no. 586
ΘΕΥΚΛΗΣ
KT 779; Jöhrens 1999a, 190 nos. 609-610
ΜΕΝΗΣ
KT 1006

ΞΕΝΟΚΛΗΣ [IV B]

ΑΘΑΝΟΚΡΙΤΟΣ
KT 38; Jöhrens 1999a, 147 no. 442
ΑΡΙΣΤΑΝΔΡΟΣ
KT 132; Jöhrens 1999a, 151 no. 459
ΔΡΑΚΩΝ
KT 526
KT 2148
Jöhrens 1999a, 155 no. 474
ΘΡΑΣΩΝ
KT 816
ΘΕΥΔΟΣΙΟΣ
KT 736
Jöhrens 1999a, 146-147 ad no. 442
ΚΛΕΥΠΟΛΙΣ
KT 903; Jöhrens 1999a, 161 no. 501

ΠΟΛΥΧΑΡΗΣ [IV B] (SA)[109]

ΙΑΣΩΝ
KT 829
ΚΛΕΥΠΟΛΙΣ
KT 904
KT 905

ΠΤΟΛΕΜΑΙΟΣ 2[V]
ΔΑΜΙΟΥΡΓΟΣ [KT 334]

ΑΡΙΣΤΟΚΛΗΣ
KT 262
ΑΦΡΟΔΙΣΙΟΣ
KT 334; Jöhrens 1999a, 181-192 nos. 573-574
ΑΣΚΛΑΠΙΑΔΑΣ
KT 308
Cf. Jöhrens 1999a, 181-182 ad no. 574
ΕΥΦΟΡΙΩΝ
KT 647
ΠΥΘΟΝΙΚΟΣ
KT 1164
ΤΕΧΝΩΝ
KT 1234

ΠΥΘΟΝΙΚΟΣ [V]

ΔΙΟΔΟΤΟΣ
KT 393; Jöhrens 1999a, 187 ad no. 595
ΚΛΕΙΤΩΝ
KT 886; Jöhrens 1999a, 191 no. 613
ΜΟΣΧΙΩΝ
KT 1029; Jöhrens 1999a, 195 no. 634
KT 1028

109. ΠΟΛΥΧΑΡΗΣ is associated with the fabricant ΔΗΜΗΤΡΙΟΣ on KT 378 and KT 381. However the latter is dated to periods III-IV(?) in Grace's archive, which is why the association is omitted here.

ΣΙΜΥΛΙΝΟΣ 2 [V?][110]

KT 1454; Dumont 1872, 244 no. 98; Balzat *et al.* 2014, 384

ΤΕΛΕΚΡΕΩΝ [IV B] (SA)[111]

ΑΘΑΝΟΚΡΙΤΟΣ
KT 39; Jöhrens 1999a, 147 no. 443
ΑΡΙΣΤΑΝΔΡΟΣ
KT 199; Jöhrens 1999a, 152 nos. 460-461
ΑΡΙΣΤΩΝ
Jeferemow 1995, 136; 209 no. 738 (287)
ΘΕΥΔΩΣΙΟΣ
KT 737; Jöhrens 1999a, 158 no. 485
ΘΡΑΣΩΝ
KT 822; Jöhrens 1999a, 158 nos. 487-488
ΙΠΠΟΛΟΧΟΣ
KT 857; Jöhrens 1999a, 159 no. 493; 279 no. AS 39
ΚΛΕΥΠΟΛΙΣ
KT 906
ΣΚΙΡΤΟΣ
KT 1184
KT 1859
KT 1860

ΤΙΜΑΣΙΚΡΑΤΗΣ [V]

ΑΝΑΞΑΝΔΡΟΣ
KT 121; Jöhrens 1999a, 176 nos. 554-555
ΑΠΟΛΛΩΝΙΔΑΣ
KT 160; Jöhrens 1999a, 280 no. AS 41
KT 158
ΑΡΙΣΤΟΚΛΗΣ
KT 276; Jöhrens 1999a, 179 no. 564
KT 264
ΑΡΙΣΤΟΤΕΛΗΣ
KT 276
Cf. Jöhrens 1999a, 176 ad no. 555
ΔΑΜΟΚΡΑΤΗΣ Ο ΑΡΙΣΤΟΚΛΕΥΣ
KT 1881
ΔΙΟΔΟΤΟΣ
KT 395; Jöhrens 1999a, 184 no. 583
ΕΠΙΦΑΝΗΣ
KT 573
KT 573
ΜΕΝΗΣ
KT 1007
KT 1008
ΝΙΚΑΝΩΡ
KT 1055; Jöhrens 1999a, 196 nos. 635-636
ΦΙΛΕΤΑΙΡΟΣ
KT 2174

ΦΙΛΙΠΠΟΣ 2 [V]

ΑΓΑΘΙΝΟΣ
KT 1895
ΑΝΑΞΑΝΔΡΟΣ
KT 122; Jöhrens 1999a, 176-177 no. 556
ΑΣΚΛΗΠΙΟΔΩΡΟΣ
KT 326; Jöhrens 1999a, 181 no. 572
ΔΑΜΟΚΡΑΤΗΣ Ο ΑΡΙΣΤΟΚΛΕΥΣ
Jöhrens 1999a, 184 no. 582: the attribution is due to stylistic similarities
ΔΙΟΝΥΣΙΟΣ
KT 461; Jöhrens 1999a, 185 no. 587
KT 459
KT 460
KT 1959
ΘΕΥΦΕΙΔΗΣ
KT 788

110. Grace 1985, 32.
111. Jöhrens 1999a, 168 ad no. 529 suggests an association between ΤΕΛΕΚΡΕΩΝ and the ΠΑΙΔΑΙΑ ΘΕΥΔΩΡΙΔΑ based on the similarity of the stamp with Jöhrens 1999a, 135-136 nos. 401-405. The association with ΕΠΙΦΑΝΗΣ (Jefremow 1995, 137 with reference to Pridik 1896, 171 no. 241) cannot be substantiated. The same holds true for the association with ΔΙΟΔΟΡΟΣ (Jefremow 1995, 136 with reference to Pridik 1896, 171 no. 240).

KT 2001
ΚΛΕΥΠΟΛΙΣ
KT 909; Jöhrens 1999a, 192 no. 617
ΜΕΝΗΣ
KT 1009; Jöhrens 1999a, 195 no. 631
ΞΕΝΟΚΛΗΣ
KT 1138
Cf. Jöhrens 1999a, 176-177 ad no. 556
ΤΙΜΟΞΕΝΟΣ
KT 2059
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1276; Jöhrens 1999a, 199 nos. 649-650

ΦΙΛΙΣΤΟΣ [IV B or Va]

ΔΙΟΝΥΣΙΟΣ
KT 462
KT 467
ΗΦΑΙΣΤΙΩΝ
KT 1985

ΦΙΛΟΜΒΡΟΝΤΙΔΑΣ [V]

ΑΓΑΘΙΝΟΣ
KT 30; Jöhrens 1999a, 171 no. 538
KT 29
ΖΗΝΟΔΟΤΟΣ
KT 1834
ΞΑΝΘΟΣ
KT 1124
ΣΕΡΑΠΙΩΝ
KT 1858
ΤΙΜΟΞΕΝΟΣ
KT 1241; Jöhrens 1999a, 198 nos. 644-645
ΧΑΡΜΟΚΡΑΤΗΣ
KT 1278; Jöhrens 1999a, 199 nos. 651-652
KT 1277

ΧΡΥΣΙΠΠΟΣ [V] ΔΑΜΙΟΥΡΓΟΣ [KT 265; KT 1479]

ΑΓΑΘΙΝΟΣ
KT 31; Jöhrens 1999a, 172 no. 539
ΑΡΙΣΤΟΚΛΗΣ
KT 265; Jöhrens 1999a, 280-281 no. AS 43
KT 266
ΑΣΚΛΑΠΙΑΔΑΣ
KT 309
ΕΠΙΦΑΝΗΣ
KT 574
KT 575
Cf. Jöhrens 1999a, 172 ad no. 539
ΚΥΠΡΟΣ
KT 930
KT 931
Cf. Jöhrens 1999a, 172 ad no. 539
ΜΕΝΗΣ
KT 1010
Cf. Jöhrens 1999a, 172 ad no. 539

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ROLLING THE DICE: PUBLIC GAME BOARDS FROM SAGALASSOS

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Introduction

Playing games has been a human practice of all times. Although authors asserted that board games were invented by the Greeks (Pausanias, *Periegesis*, 10.31.1) or Lydians (Herodotos, *Historia*, 1.94), it is now commonly assumed that they originated in the ancient Near East and Egypt, possibly already in Neolithic times[2], from where they spread throughout the Mediterranean World. Both literary and archaeological evidence indicates that the playing of board games was an equally widespread and culturally significant phenomenon among the inhabitants of the Roman world, a popular form of entertainment enjoyed by all classes of society.[3]

In spite of their common presence, ancient board games have been paid relatively little attention by the disciplines studying classical antiquity, and especially their material aspect has been neglected until the end of the 20th century.[4] Literary sources relating to ancient games are better known but are

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2. See Simpson 2007.
3. Purcell 1995 and 2007.
4. For an overview of earlier studies see Schädler 1995.

HEROM. Journal on Hellenistic and Roman Material Culture, 7.1&2, 2018, 97-132

https://doi.org/10.11116/HEROM.7.1&2.4

also problematic as they generally consist of poetic references, or reflect the world of the literary elite through the filter of medieval tradition.[5] In recent years, however, the study of board games in Antiquity has gained popularity among archaeologists and historians alike as a way of conjuring up images of daily life and approaching social and cultural values of the communities they are studying.[6]

The archaeology of this activity is more or less limited to the material remains of the board game. Generally, these comprise stray finds (or occasionally grave goods) of gaming stones (*pettos* or *tessera*) and dice – generally the cubical die (*kubos* or *alea*) or the knucklebone of sheep (*astragalos*) – on the one hand, and game boards (*abakos* or *tabula*) on the other. The former, produced in a wide array of materials, are of course essential components of gaming and the most common finds of this pastime in the archaeological record.[7] Yet, the game boards are the material category that allow us to identify the type of game being played and that inform on its social context through its location and material form.

Although boards were most often made of wood and therefore rarely preserved[8], there were also numerous examples carved on stone, frequently found as graffiti. Many ancient cities are littered with evidence of board games scratched in the slabs and steps of streets, squares and public buildings, as a typical material manifestation of this popular practice.[9] Stone game boards found in private houses are very rare, the example from Unit 7 of *Hanghaus* 2 at Ephesos being the only one known so far[10]; wooden boards were undoubtedly more common in domestic contexts.

A variety of game boards have been registered in the ancient Mediterranean, which relate to different kinds of games. 'Space games' include games of alignment and configuration such as *merels* (mill) which carry squares (or circles) with spokes forming a wheel-like pattern, reflecting the representa-

5. Purcell 2007, p. 90.
6. See Purcell 1995 and 2007, and Schädler 1994, 1995, 1998 and 2008. Examples of archaeological studies of game boards are Hall and Forsyth 2011 (Britain); Amores Carredano and Jimenez Cano 2014 (Spain); Mulvin and Sidebotham 2004 (Egypt); Schädler 1998, Roueché 2007 (Asia Minor); de Voogt 2010 (Syria); Pritchett 1968 (Greece).
7. For a recent overview of gaming stones in the Roman world see Mihailescu-Birliba 2016.
8. For two notable exceptions from Nubia see de Voogt *et al*. 2017.
9. E.g. Ersoy and Erdin 2015 for Smyrna; Ferrua 2001 for Rome; Roueché 2007 for Aphrodisias.
10. Schädler 2016.

tion of a millwheel.[11] 'Displace games' comprise games of capture such as *mancala* with a gaming field which has a number of little scoops or cup-shaped cavities arranged in rows[12], as well as most war games such as *ludus latrunculorum* which have square grids upon which two rows of pieces – soldiers or "little bandits" – lined up against each other.[13] Finally, in 'race games', which are characterised by rows of places, the objective was to advance competing teams of gaming stones using dice, and race to the finish line.[14] It will be the archaeology of this latter group of board games, in which the element of chance (through the throw of dice) played an important role, that will be looked into in this paper.

In most studies, a game board is seen in the first place as a particular disposition of places for the counters, in order to identify the types of games that were played on a given board.[15] This emphasis on disposition instead of formal design has led to the fact that much less attention is paid to the material aspect of the actual boards, something that was also motivated by the fact that gaming equipment could be readily created from found objects and improvised playing surfaces.[16] Yet, in several cities of southwestern Asia Minor, game boards have been found carved on large stone blocks which due to their considerable weight – generally between 400 and 600kg – must have been part of a more permanent set-up or installation. Together with their formal attributes, as carefully carved boards created by professional stone cutters, and their prominent locations in public spaces – set up in the porticoes of city squares, streets or public buildings – these can be considered public installations. That being said, hardly any of the studies devoted to game boards have taken this monumental form and public nature into account. If they are mentioned at all, these installations are normally intermixed among all other boards with the same disposition of the places, without any special attention to their specific shape and prominent location.[17]

11. Parlett 1999, pp. 116-119, although the interpretation of the wheel-like pattern as a game board is nowadays contested (Schädler 2013, Heimann and Schädler 2014).
12. Schädler 1998; Parlett 1999, pp. 205-223. Although mancala is generally not considered as a game played in the Mediterranean during classical antiquity, Schädler (1998) tentatively identified several boards of two rows of four to six cells with cup-like holes found at sites in Roman Asia Minor as mancala boards, something that was supported by Ersoy and Erdin 2015.
13. Austin 1934, pp. 25-30.
14. Parlett 1999, pp. 72-73.
15. See Schädler 1998, p. 11. Bell and Roueché have devised a typology for the study of game boards (Bell and Roueché 2007) based on the deposition of the places.
16. See Hall and Forsyth 2011, p. 1335.
17. See e.g. Schädler 1995, Bell 2007 and the website "Jouer à Ephèse", created for the occasion of an exhibition at the Museum of Games at Nyon (Switzerland): http://www.venividiludique.

While these monumental examples undoubtedly served the same purpose as the *ad hoc* graffiti boards, their shape and location suggest a wholly different public attitude towards gaming in those cities, with communities investing in their monumental form. In other words, large, professionally carved game boards imply a very different set of social relationships than do casually inscribed graffiti.[18]

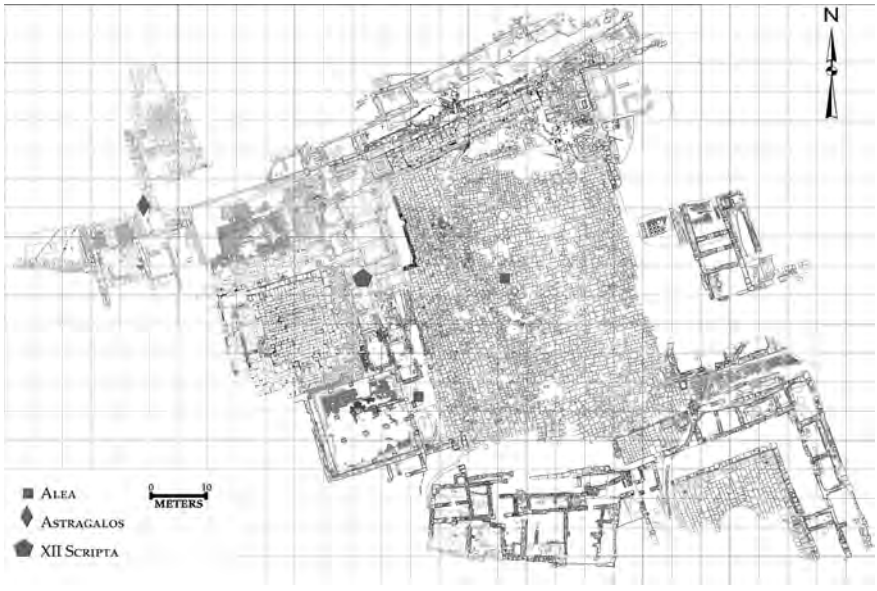

FIG. 1a. Plan of the upper city of Sagalassos with distribution of the monumental dice installations (Sagalassos Project).

ch/ephese/games.html (last accessed on 27/02/2018). Only the catalogue of boards from Aphrodisias discusses the formally inscribed boards separately (Roueché 2007). Studies on the public nature of game boards in other archaeological contexts were made by Crist 2016 (for Bronze Age Cyprus) and Rogersdotter 2015 (for late Medieval India); I want to thank one of the anonymous reviewers for pointing these studies out to me.

18. See Lavan 2013a, p. 62. Recently, Purcell pointed out the importance of understanding the artefacts of ancient play as formal or informal modifications of the public architectural scene (Purcell 2007, p. 92).

FIG. 1b. Plan of the lower city of Sagalssos with distribution of the monumental dice installations (Sagalassos Project).

The focus of enquiry of this article is a series of such monumental public boards used for dicing that have been unearthed at the ancient Pisidian city of Sagalassos (southwestern Asia Minor) over the last 25 years (FIG. 1a and 1b).[19] The analysis of these boards and their specific formal design will not only identify the type of game these were used for but will also provide information on their materiality and location. This will prove important for establishing a chronology of the games played during the Roman Imperial period, because their elaborate nature and find contexts provide far more clues to dating the board game than graffiti which are notoriously difficult to date and generally result in a vague attribution to the Roman Imperial period.[20]

19. Some of these boards have already been mentioned by Lavan in his studies of the streets (2008) and squares (2013b) of the city but were not systematically discussed.
20. See Bell and Roueché 2007, p. 106.

The presentation of the boards will also be used to address further questions. The material informs on the attitudes to and associations of the game in the Roman period and in turn sheds some light on the values and priorities of the community responsible for their construction. Although very popular, dicing, as we will see, was generally frowned upon by public authorities – whether civic or ecclesiastical – due to the element of gambling that was often attached to it, which makes public installations for these practices somewhat surprising. The installations allowed for these activities and the people who performed them to be present in public space, adding to the wide array of activities that took place in public space. Any chronological evolution in this presence can be related to changing attitudes towards the games.

Furthermore, the monumental form of the boards also encourages questions about the reasons for these complex reactions to the various forms of gaming on the part of the community. What caused such a different attitude in this and other cities of southwestern Asia Minor towards a popular practice that was generally condoned but never publicly supported? The paper will try to approach this aspect by looking at another type of monumental public installation erected for dicing and restricted to this part of the Mediterranean, the *astragalos* oracle. Although the relation between the two is perhaps not clear at first, the act of throwing the dice (although with different dice), the role of chance/fortune in the outcome, and the involvement of the public authorities in both instances, were all aspects which they had in common.

XII scripta

Game boards of different types and kinds have been registered in many areas of Sagalassos.[21] Most of these can be described as graffiti. The area of the Upper Agora, for example, is littered with evidence of board games scratched on the pavement slabs or steps of monuments. Three possible round game boards or *merels* are known on the paving of the square and one in the nearby Bouleuterion-Basilica. A cross-in-square game board in the northeast corner of the agora should be dated after the laying-out of a mid-6th century sewer on the cover of which it was inscribed.[22] Another game of four spokes in a square was present on the bench-shaped base of the southwest honorific column.

21. For an overview see Lavan 2008 and Lavan 2013b.
22. Talloen and Poblome 2016, p. 146.

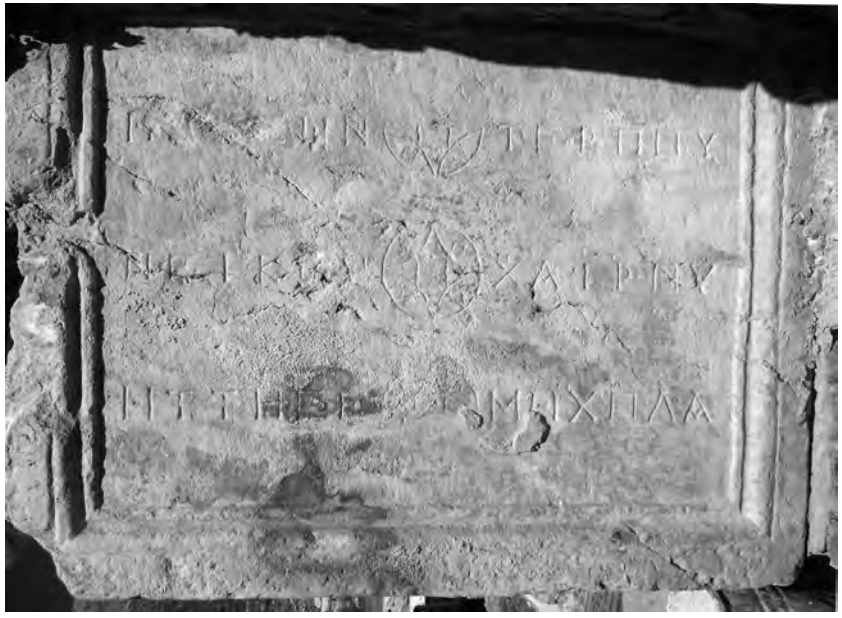

Fig. 2. 3rd century *Duodecim scripta* board from the West Portico (Sagalassos Project).

A part of a more elaborate installation was found in the west portico of the Upper Agora where it had been reused as a wall block in the east wall of one of the rooms (Room D2) built at the back of the portico in the early 6th century AD (Fig. 1a and 2).[23] The game board was carved on a rectangular block cut from locally quarried red veined limestone (0.91m long, 0.74m wide, and 0.31m thick; weighing about 500 kg). The board was composed of three parallel rows of two times six well-carved letters on a field with a length of 0.71m and a width of 0.54m; the bottom and top row were separated by half circles (diameter: 11cm) which circumscribed half of a lozenge with a central square, while the letters of the central row were separated by a whole circle with inscribed lozenge and square (diameter: 10.5cm).[24] The inscribed recessed field was surrounded by a double moulding with a width of 4.5cm, which in its turn was surrounded by a rim of 6cm, to prevent the dice falling off. The letters were arranged to spell out the following phrases[25]:

23. On the excavation of the west portico, under the supervision of the author, see Waelkens 2002; the board is mentioned by Lavan 2013b, p. 334.
24. This disposition makes it a variant of type 3Rows.10 of the British Museum Working Typology (hereafter BMWT) devised by Bell and Roueché (2007), with an inscribed rhombus instead of a rosette.
25. Thanks are due to Prof. Em. Willy Clarysse who kindly agreed to read the text, and to Nikos Tsivikis for his reconstruction of the first word.

Π A [I] Z ΙΙΙ N ◊ T E P Π O Y ("Enjoy when you play")
N E I K E N ◊ X A I P O Y ("enjoy the victory")
H T T H Σ E ◊ M H X O Λ A ("don't let defeat make you melancholic".)

The style of its lettering – particularly the square shapes of omicron and sigma – suggests a date in the 3rd century AD for the board.[26]

Tables comprising 36 places marked by letters in six groups of six (or hexagrams) have been identified elsewhere as boards for the *ludus duodecim scriptorum*, also referred to as *XII scripta*, which is generally translated as the "game of twelve markings".[27] Our knowledge of this game of chance is limited, even the name itself is problematic. Although *scripta* means "text", the name *XII scripta* is conventionally understood as twelve lines.[28] U. Schädler, on the other hand, related the *XII scripta* to the use of two dice with twelve spots as the highest result, yet this seems hardly characteristic for *XII scripta*, as any game using two dice will have had twelve as the highest result.[29] It seems more likely that the name actually refers to the 12 letters present on every line, and that these were therefore an essential characteristic of the game.[30] This would mean that the boards with abstract symbols instead of letters, cannot simply be identified as *XII scripta* boards as is the case now[31], but may in fact belong to a different type of (albeit very similar) game. It is on the basis of this distinction, as well as a more widespread geographical distribution and an apparent chronological difference, that this group of abstract game boards, which we have provisionally designated as *alea* on the basis of the term used by ancient authors to the describe the game in late antiquity[32],

26. Guarducci 1967, pp. 377-378.
27. For a general introduction see Schädler 1995. One of the earliest known mentions of the game in literary sources is Ovid's Ars Amatoria (3.363-364) written between 1 BC and AD 8, but the mention of Quintus Mucius Scaevola as a formidable player of the *ludus duodecim scriptorium* by Cicero (*De oratore*, 1.217) indicates that it was already played in Republican times.
28. See Schädler 1995, p. 83.
29. Schädler 1998, p. 17. He does this on the basis of a 2nd century commentary on Cicero by Nonius (*In Hortensio*, frag. 32: 170.22) in which the author refers to *scripta* as "*puncta tesserarum*"; these are identified by Schädler as the dots on the dice, but could equally mean "the markings of the gaming stones", as the latter could also be called *tesserae* (see Goncalves 2013, p. 262-263). Moreover, Ovid, uses *script(ul)a* to refer to the markings on the boards which are "as many as the rolling year has months" (*Ars Amatoria*, 3.363-364). Finally, in *Anthologia Latina* (192,3) *scripta* are termed places on the board the counters must pass through. All this clearly relates the *scripta* to the design of the actual game board.
30. See also Goncalves 2013, p. 259 who characterizes XII scripta as "un jeu littéraire".
31. E.g. Schädler 1995; Roueché 2007.
32. Ammianus Marcellinus, *Res Gestae*, 14.6.24-26, 28.4.12-14; Isidore of Sevilla, *Origines*, XVIII, 60-64.

will be discussed separately. This does not necessarily mean, however, that they were fundamentally different games; the element of literacy involved appears to be the main distinction between the two.

Little information about specific gameplay of *XII scripta* has survived. It was played by two players who sat face to face. Each player had 15 game pieces which they put on a game board. The aim of the game was to carry all of the pieces out of the board by throwing two dice.[33] The arrangement of the letters on the board seems to indicate that the pieces were moved in the same directions.[34] The hexametric word lines are part of an inscribed slogan which offers direct contact with the world of the people who used it. These hexagrams tended to spell out clever sentences, mostly related to daily life and the circus[35], gambling and good fortune[36], or matters with military overtone.[37] The example from Sagalassos expresses the good and bad sides of luck: the unpredictability of games as a symbol of the unpredictability of human life.

Ludus duodecim scriptorum was very popular in the western, Latin part of the Roman Empire.[38] The 150 or so known examples derive overwhelmingly from Rome itself; for the rest, Italy and Northern Africa account for almost all the instances, while few are known from the northwest frontier zone.[39] The almost total absence of examples from the Eastern Mediterranean is striking. Apart from the example found at Sagalassos, only one other game board is known from the Greek East: a board from Ephesos with the hexagrams

33. Schädler (1995, p. 84) argues for two dice based on a 2nd-3rd century AD mosaic from Ostia depicting a game board with two dice (*CIL* XIV n° 607).
34. Schädler 1995, p. 84.
35. One example, written on a graffiti board from the forum at Timgad in Algeria (*CIL* VIII, n° 17938) reads: *Venari – lavari / ludere – ridere / Hoc est – vivere* ("Hunting, bathing, playing, laughing: this is living!"). In the Roman city, the central expectation was the baths, the tavern providing the opportunity for playing dice, and the spectacle of the hunt in the arena (and the tavern) (Purcell 1995, p. 24).
36. An example from Rome (Purcell 1995, p. 21): *Victor – vincas / nabige – sfelix / salbus redeas* ("Victor, you might win. You might sail lucky. You might return safely"). Winning at dice was a gauge of good fortune. The special nature of games of chance raised the prospect of insight into a hidden order of things to which rich and poor alike are subject (Purcell 1995, pp. 26-27).
37. Several hexagrams refer to Roman military victories (see Schädler 1995, pp. 80-81): *Virtus – Imperi(i) / Hostes – vincti / ludite – Romani* ("The empire's strength! The enemy are conquered! Play, Romans!") from Rome, dated AD 271 (*CIL* XIII, n° 3865); or *Parthi occisi / Britto victus / ludite Romani* ("the Parthians are slain, the Briton is defeated. Play, Romans!") from Trier, dated AD 296 (Dessau 1906, n° 8626a). The contest of the game was an overt metaphor for the circumstances of actual conflict (Purcell 1995, p. 26).
38. For an overview see Purcell 1995, pp. 18-19; Schädler 1995, p. 81.
39. Montesano 1980; Purcell 1995, p. 91.

written into the square markings of the field (Fig. 3).[40] It was found near the Celsus Library, in the eastern portico along the Marble Street.[41] The example from Ephesos reads: H tabla * xrycou / Apolia * terpsin / Echouca * pollēn ("The ruinous golden table, bringing much delight (?)"). No description of the board or its find context is provided, nor any date, though the lunate shape of the letters epsilon, sigma and omega suggests a Roman Imperial origin.

Fig. 3. *Duodecim scripta* board from Ephesos (courtesy of Willy Clarysse).

Undoubtedly more of these boards will come to light as our knowledge of dicing increases and archaeological research in general progresses, but the limited number of these boards in the Greek East still remains remarkable. Together with the absence of any direct mention of the "twelve markings" in Greek authors, it suggests that this form of dicing was Roman rather than Greek. According to Schädler, the absence can be explained by a Greek preference for abstract, anepigraphic game boards, while the Romans would have had a special predilection for the connection between games and language.[42]

40. See Merkelback 1978 and Börker and Merkelbach 1979, p. 226 n° 556 who wrongly attribute it to the *ludus latrunculorum*.
41. Keil 1964, p. 111.
42. Schädler 1995, p. 81. Krüger (1982, p. 163) remarks that the hexagrams were less common in regions outside the Latin West because the players would not have understood Latin, yet the examples of Ephesos and Sagalassos demonstrate the existence of boards in other languages.

Yet, while the known *XII scripta* boards belong to the first three centuries AD, nearly all of the securely dated abstract boards can be attributed to a considerably later period (see below). This suggests that we are dealing with a chronological distinction, making the abstract boards the probable descendants of the hexagram boards, or even a different type of game, although this seems less likely given the general formal overlap. Whatever the case, the adoption of this typically Roman type of game in a city of mountainous Pisidia goes to show how Roman rule not only impacted on political life but also influenced forms of popular entertainment.[43]

Their overall distribution indicates that the *XII scripta* games were typical for an urban environment. Moreover, the game implies a level of literacy on the side of the players. The letters, their shapes, the spelling of the words, and the ways in which they were distorted show that the milieu which used them was on the edge of literacy as a practical skill. On the board, people played at letters, in a potent evocation and appropriation of one of the most significant hallmarks of the ancient elite: literacy. The game can thus be seen as an offshoot of the world of elite literary culture.[44] In the (quasi-) monumental form of the inscribed stone, the game also alludes to the monumentality of the most prestigious uses of writing in the city, on public texts on stone, and is infused with a different form of intellectuality.[45]

The most common type of *XII scripta* boards was engraved on sheets of marble, of the sort used for wall veneer; the usual size is about 1m long by 0.50m wide and only a few centimetres thick, thus weighing less than 50kg; portability is seen as an essential characteristic of this class of games.[46] These *tabulae* could be designed for private settings such as gardens and atria[47], but the tavern was the most likely spot for most of these as the necessary space will only have been available communally, not privately, to the social classes involved.[48]

Unlike most of the western boards, the example from Sagalassos was professionally carved, with detailed execution of the letters and of the surrounding mouldings. Furthermore, as the only known example in the Roman Empire, this was done on the surface of a large block with a weight of 500kg, indi-

43. Game boards are discussed as a form of Roman acculturation by MacMullen 2000, pp. 44-45, 64-65 and 125. On the distribution of game boards within empires see de Voogt *et al*. 2013.
44. Purcell 1995, pp. 31-34; see also Goncalves 2013.
45. Purcell 1995, p. 34; Purcell 2007, p. 90.
46. Purcell 2007, p. 91.
47. See Schädler 2016 for the example from Ephesos, although of the anepigraphic type.
48. Purcell 2007, p. 92 n. 20.

cating that it was not a portable board but part of a permanent installation. Like other examples of monumental writing meant for public display, these characteristics would situate the board in the public sphere. Although caution about the boundary between licensed and unlicensed game boards is appropriate given the variation of neatness, accuracy and finish of genuinely official projects[49], the public nature of the board seems certain.

The original setting of this board can no longer be ascertained, yet its current location does provide us with some clues. The wall of the shop in which it was incorporated is part of a range of constructions around the Upper Agora which were (re)built in the first half of the 6th century AD and to a large extent consisted of *spolia*. Earlier studies indicated that many of these reused blocks originally belonged to monuments which embellished the square and its immediate surroundings, and were removed as part of a large clean-up operation of the agora in the early 6th century, of monuments which were no longer considered relevant to contemporary society.[50] Therefore, it seems likely that the *XII scripta* board too was part of a civic installation on or surrounding the square, a suggestion that finds further corroboration in the findspots of the other boards that will be discussed below.

Its monumental form and presumably public setting hint at a completely different attitude towards *XII scripta* at Sagalassos. Attitudes towards games of chance throughout the Mediterranean will undoubtedly have varied. In the Greek world dicing, linked as it was with wastrel aristocratic youths, received unfavourable comments, but condemnation was not universal.[51] In Rome, on the other hand, it is hard to find any positive presentation of dicing where it was seen as a disgrace.[52] Given the importance for dicing of staking money on it, board games using dice, such as the *XII scripta*, became a principal location for gambling. In Roman society bets were made on other issues too, most noticeably the outcome of races in the circus; but the dice and board were the location of gambling *par excellence*.[53] The amounts of money that could be won (or lost) were substantial, causing literally changes of fortune.[54]

49. Purcell 2007, pp. 91-92.
50. Lavan 2013b; Talloen and Poblome 2016, p. 140; Talloen in press.
51. Purcell 1995, p. 7.
52. With an overview of anecdotes on the topic, Purcell illustrates the extreme badness of *alea* or dicing in the mainstream discourse of elite morality (Purcell 1995, pp. 7-8).
53. Purcell 1995, pp. 9-10. As indicated by numerous written sources about playing dice, most games were usually played for stakes (Schädler 2013, p. 2842).
54. Purcell 1995, p. 21.

The dissolute lifestyle of a gambler would not have been so reprehensible if it had not become visible in a public setting. Public gambling in Rome, including dice-games, was prohibited since Republican times, and enforcing the legal ban on dicing was part of the supervisory duties of the junior magistrates.[55] Only when *otium* or leisure was officially sanctioned, as during the great religious festivals, dicing was less of a problem, and also games in a domestic context were considerably less reprehensible.[56]

There was a graded set of times for playing then, as there was of places. People could play dice in taverns and private houses throughout the year, but public space does not appear to have been one of those places, let alone that a civic amenity would be put in place for it. That is not really surprising in view of the moral disdain with which all forms of gaming were regarded by the official morality of Roman political circles, and their association with the daily life in the cities of the Roman Empire. All of this makes the Sagalassos board even more exceptional.

Some boards identified as Greek *abakia* or game boards for the game of 'five lines', on the other hand, are monumental, as great blocks of stone that must have been considered part of the accoutrements of some public space or some setting that wanted to give the impression of a city centre.[57] Yet, their identification is contested, claimed by some as a counting frame rather than a gaming board, something that appears to be corroborated by the numbers present beside them in some cases.[58] But even if these were indeed gaming boards, they generally belong to the 5th – 3rd century BC and can therefore hardly be used as elements of a contemporary tradition to explain the monumental form of *XII scripta* boards some 500 years later.

At some point in time between the (late) 3rd and (early) 6th century AD, the board at Sagalassos was removed from public space and eventually reused in the 6th century as building material in the walls of one of the shops at the back of the western portico of the city's Upper Agora where it was carefully plastered over, removing all sign of its presence. The reason for its removal is not clear. Certainly, the recycling of this *XII scripta* board as a building block should not be seen as an indication of the difficulty of obtaining good qual-

55. See Cicero, *Philippicae* 2, 55-56; on the legal ban on dicing see *Digest* 11, 5.1-4.
56. Purcell 1995, p. 12. Skill at board games was even considered applaudable in some aristocratic circles (Goncalves 2013).
57. See Pritchett 1968.
58. Purcell 2007, p. 91. See also Schädler 2008, pp. 182-184. As pointed out by one of the reviewers, they could also have had a dual purpose.

ity stone for construction; there was plenty of good limestone available.[59] It was also not broken or substantially damaged to warrant its removal. Could it have been a sign of the new Christian times at Sagalassos, with the Upper Agora now dominated by Christianity through the construction of a church in the former *Bouleuterion*, accessible from the square by means of a monumental staircase, and pagan statuary present on the square being removed or up-dated?[60] The Church Fathers were not particularly supportive of dicing. Early Christian invectives against gambling reveal their negative attitude towards games of chance which were accused of having a disastrous impact on morality.[61] A major reason was also the tendency to abstain from playing with Tyche or Fortune.[62] Whatever the exact motivation, it seems certain that the board was no longer considered relevant to contemporary society and, together with elements of other monuments, ended up in new buildings on and around the agora as part of a deliberate clean-up of the agora in the early 6th century (see above). Elsewhere as well, *XII scripta* boards suffered a similar fate in late antiquity, with many of them being reused as closing stones of burial niches in the catacombs, alongside many other sorts of reused marble.[63]

Alea

Was this removal of the *XII scripta* board then the end of officially sanctioned dicing at Sagalassos? Other examples of game boards involving dice from the same city indicate that this was not the case. In the course of the 6th century another professionally cut game board was installed in the western portico of the Upper Agora (Fig. 1a and 4). The rectangular beige limestone block (0.96m long, 0.67m wide, 0.38m high; weighing about 600 kg) was found *in situ* in the southwest corner of the portico, in front of the so-called *Prytaneion*, a late 1st century AD monumental building which functioned as a public dining hall in late antiquity.[64] This game board, carved within a recessed rectangular field of 0.80m by 0.50m which was surrounded by a rim (2cm high and 8cm wide) to prevent dice falling off, had three well-chiselled rows of two times six round markers (diameter: 4cm) separated

59. On the limestone quarries of Sagalassos see Degryse *et al.* 2008.
60. On the Christianization of the Upper Agora see Talloen in press.
61. The reuse of *XII scripta* boards in Christian tombs as grave markers has been interpreted by some scholars to reflect the Christian hostility towards dicing and illustrate a deliberate gesture of conversion (Purcell 1995, p. 19).
62. Karpozilos 1991, p. 820.
63. Purcell 2007, p. 93.
64. On the *Prytaneion* see Poblome *et al.* 2018.

by an inscribed Maltese cross (diameter: 9cm) for the central row and two half-circles (diameter: 7cm) for the side rows.[65] It is flanked by the threshold of the dining hall to the west and a rectangular smooth ashlar to the east, which served as benches around the game board. Both its size and the fact that it was set up in front of a public dining hall characterise the board as a public installation, possibly even part of the furnishings of the hall itself. Moreover, this board must at least have been condoned by the ecclesiastical authorities as it was installed in a space adjacent to the staircase which lead from the square to the atrium of the city's main church, the basilica built in the former *Bouleuterion*.[66]

Fig. 4. *Alea* board from the West Portico on the Upper Agora of Sagalassos (Sagalassos Project).

The board itself, on the basis of the inscribed Maltese cross, can only be broadly dated to the 5th-6th century, but the fact that the whole western portico was rebuilt in the first half of the 6th century, as well as the fact that it was found in front of a building that remained in use until the early 7th century[67], clearly situates its installation and use in the portico in the 6th century.

65. Variant of BMWT Type 3Rows.4 with inscribed crosses instead of rosettes.
66. The game boards on the steps of the atrium of the Theodosian Hagia Sophia reveal, as with other churches such as the Bouleuterion Basilica at Sagalassos (see above), the presence of gamblers even within church precincts (Lavan 2013a, p. 61).
67. See note 60.

Fig. 5. *Alea* board on the Upper Agora of Sagalassos (Sagalassos Project).

A similar, but fragmentarily preserved game board (1.55m long, 0.60m wide, and 0.28m thick; weighing about 600kg) in red veined limestone was found in the central part of the agora, immediately to the northwest of the southern stepped monument (Fig. 1a and 5). The latter may have served as one of the benches, while a block originally present to the west of the board (now removed) may have served as the second bench.[68] The game board originally consisted of three rows of two times six round markers (diameter: 5cm) separated by inscribed Maltese crosses (diameter: 13cm)[69], carved in a recessed rectangular field of 1.35m by 0.65m, surrounded by a 7cm wide rim to prevent the dice falling off. A small opening in the rim

68. See Lavan 2013b, p. 317, Fig. 8 Gam 11 and p. 334.
69. Variant of BMWT Type 3Rows.4.

of one of the long sides was most probably cut to drain (rain) water from the recessed field which would suggest that the board was intended to be placed in the open air. Lavan considers its findspot, in the centre of the square, a prominent location befitting such a public game board.[70] The Maltese cross again suggests an origin in the 5th or 6th century AD. At some point in time the stone was recut as only two of the rows are now preserved, an aspect to which we will return below.

Fig. 6. *Alea* board from the Hadrianic Nymphaeum at Sagalassos (Sagalassos Project).

A third professionally carved game board of this type was found on the plaza immediately south of the Hadrianic Nymphaeum, above the city's Lower Agora (Fig. 1b and 6). It was carved on the shaft (1.30m high, 0.56m wide and 0.52m thick; weighing about 900 kg) of a reused statue base for an unidentified emperor carrying an honorific inscription in Latin which had

70. Lavan 2013b, p. 334.

been set up by a late 3rd or early 4th century AD governor of Pamphylia.[71] Though badly weathered, it features three rows of two times six squares (side: 5cm) separated by an inscribed rosette (diameter: 15cm) and two half rosettes within circles[72], set within a carefully cut recessed board (1.10m long and 0.49m wide) which removed part of the original moulding of the block. The late 3rd-early 4th century date of the statue base constitutes a *terminus post quem* for the creation of the game board. Eight casually inscribed game boards (graffiti) – either cross in square or rectangular grid game boards – were also identified on the steps in front of this nymphaeum, characterising the area as a favourite spot for socialising.[73] Yet, the example discussed here must again have been a public initiative. Although it seems that in the 5th and 6th centuries there was a slight loosening of control over what was inscribed on public stone surfaces[74], the reuse of public monuments – especially those of former emperors – and the erection of permanent installations in public space would still have been the prerogative of civic authority.

Fig. 7. Fragmentary *alea* board from the Colonnaded Street at Sagalassos (Sagalassos Project).

71. Lavan 2013b, p. 327, Fig 10c, p. 328 and 339. The inscription should be dated prior to 309CE, when Sagalassos became part of the newly established province of Pisidia (see Christol and Drew Bear 1999, pp. 41-43).
72. BMWT Type 3Rows.7.
73. Lavan 2013b, p. 327, Fig. 10c and p. 339.
74. Lavan 2013a, p. 63.

Finally, a small limestone fragment of a fourth professionally-cut board (0.27m long and 0.14m wide) was found on the Colonnaded Street to the south where it had been reused in a post-6th century AD encroachment wall built across the street.[75] The game board originally consisted of rows of square places (side: 3cm) separated by an inscribed club (diameter: 9cm) (Fig. 1b and 7). Although the fragment cannot be securely provenanced, the board may have come from the porticoes along the Colonnaded Street where a similar graffiti board has been recorded.[76]

These boards with abstract signs instead of letters all belong to a type which is commonly found in cities throughout the Roman Empire. They are quite similar to the *duodecim scripta* but the 36 letters forming three rows of two hexagrams were replaced by three rows of two times six squares, circles or holes, separated by circles or inscribed rosettes. Schädler identifies this type as the *alea* or "dice" game mentioned in literary sources, which he considers a late antique variant of the *XII scripta*[77]; in late antique sources, the name *XII scripta* is not mentioned anymore. Only a few of all these game boards can be dated, but, on the whole, they seem to be of a relatively late date.[78] The *alea* board type appears to originate in the 3rd century AD. One of the earliest dated examples is the game board incised on a marble table found in the peristyle of Unit 7 in *Hanghaus* 2; it is composed of a row of two times six x's flanked by two rows of two times six ivy leaves, separated by squares.[79] According to Schädler, who bases himself on the description of the game by bishop Isidore of Sevilla in the 7th century (*Origines*, XVIII, 60-64), it is played now with 3 instead of 2 dice.

Rome has produced a number of graffiti boards with the places marked by geometrical or ornamental patterns.[80] A graffiti board found in Carthage has a central row marked by circles while the outer rows have stylised heart-shaped leaves; in the centre of the board there is a circle with a Christogram, the outer rows are divided by a semicircle and a horizontal scroll respectively.[81] A similar crudely carved board of three rows of two times six squares separated

75. Lavan 2008, p. 207.
76. Jacobs and Waelkens 2013, p. 238; identified as "*duodecim scriptorium*".
77. Schädler 1995; *idem* 2013.
78. Schädler 1995, p. 81.
79. The board on a marble table found in Unit 7 of *Hanghaus* 2 in Ephesos can be dated prior to the catastrophic event of 262 CE that caused the destruction of the complex in the later 3rd century. Although Schädler (2016, p. 519) argues for a 2nd century date on the basis of a parallel with a game board from Holt in Wales, the date of the latter itself is not certain (see note 83 below).
80. Schädler 1995, p. 80.
81. Schädler 1995, p. 80 and Fig 7b.

by double x-in-square – identified as *XII scripta* – was found in the so-called gaming room of the 4th century AD Roman fort of Abu Sha'ar in Egypt.[82] Stylized ivy leaves pointing to the centre of the board marked the outer rows of a portable board with a moulded border of which fragments have been found at the Roman fort of Holt in Wales. The outer rows are divided by a semicircle with an inscribed half-rosette with three leaves, the central row of pairs of scrolls is divided by a circle with an inscribed six-armed rosette.[83] In Greece, three graffiti boards are known from the "Tower of the winds" at Athens, and a board was cut on the back of a reused metope of the temple of Apollo on Aegina.[84] In Ephesos, a graffiti board with three rows of two groups of six squares divided by x-like patterns was cut into the pavement of the Curetes Street[85]; several more are reported along this and other streets of the city.[86] In addition to the aforementioned gaming table in Unit 7 of *Hanghaus* 2, a second private game board in the shape of a small, crudely executed board (0.75m long and 0.24m wide) was found in a room at the back of a 6th century AD tavern along the Curetes Street, opposite of the so-called temple of Hadrian.[87] The slab has a recessed panel in the shape of a *tabula ansata* which was inscribed with circles separated by inscribed rhombi. Further graffiti boards are known from Didyma and especially Aphrodisias.[88]

Contrary to the *XII scripta* which was largely limited the western part of the Empire, this type of board with abstract places proves to be attested throughout the Roman Empire. Still, professionally-cut, monumental boards are harder to find. What is more, they are all located in southwestern Asia Minor. At Aphrodisias in Caria, a group of five such monumental boards have come to light. These are all marked by three rows of 2 x 6 circles; in the centre of each of the boards is a circle with an incised six-armed rosette, while the outer rows are divided by semicircles with three-armed half-rosettes (BMWT Type 3Rows.4). Their playing areas are framed by a moulded border carrying an inscription. Three of them were found in the area of the east court of the Hadrianic baths, where they were dedicated by a certain Flavius Photius at the end of the 5th – beginning of the 6th century AD. The first was carved on

82. Mulvin and Sidebotham 2004, pp. 614-615.
83. Austin 1938. The alleged 2nd century CE date of this board is only based on the activity of the workshops of the XXth legion where it was found (Schädler 1995, p. 81).
84. Athens: Schädler 1995, p. 74; Aegina: Wurster 1974, p. 62, Fig. 92.
85. Börker and Merkelbach 1979, p. 227 n° 556A.
86. An overview of the game boards at Ephesos can be found on the website "Jouer à Ephèse", created for the occasion of an exhibition at the Museum of Games at Nyon (Switzerland): http://www.venividiludique.ch/ephese/games.html (last accessed on 27/02/2018).
87. Bell 2007, p. 99.
88. Didyma: Höckmann 1996; Aphrodisias: Roueché 2007.

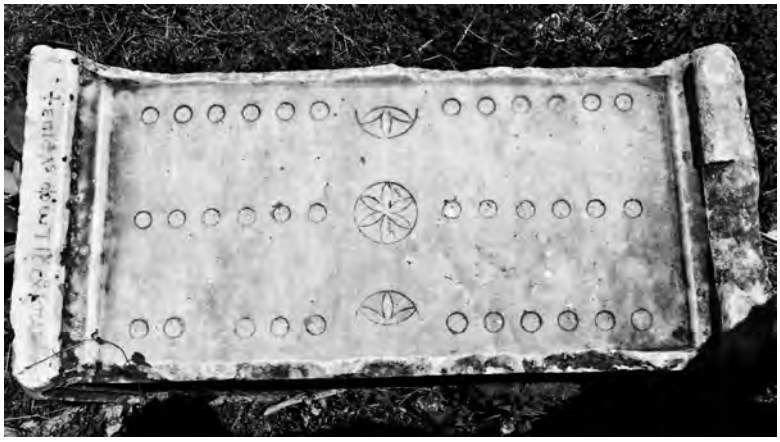

Fig. 8. *Alea* board from the Hadrianic Baths at Aphrodisias (courtesy of William Neuheisel https://www.flickr.com/photos/wneuheisel/7471668214/).

a rectangular base (1.23m long, 0.54m wide and 0.47m thick; weighing about 700kg) with panels within moulded edges on all four sides (Fig. 8).[89] One face has an honorific inscription of the late 2nd-3rd century CE; the board was carved on the opposite face, with circles (diameter: 3cm) separated by central (half-)rosettes (diameter: 8.5cm). The second board was carved on a rectangular base (1.47m long, 0.57m wide, and 0.44m thick; weighing about 900kg), with a moulded edge above and below on three sides.[90] It had circles 3cm in diameter and central inscribed rosettes of 10cm. The third board was cut on a block without mouldings which has an inscription of the early 3rd century AD on the adjacent face.[91] The side was hollowed out to create a recessed panel which was inscribed with circles (diameter: 3cm) and inscribed rosettes (diameter: 9.5cm). A fourth board of the same type (1.58m long, 0.57m wide, and 0.43m thick, weighing about 900kg), again coming from the same baths, was dedicated by an unknown *exceptor* at some time between the 4th and 6th century AD.[92] The stray find of a fragment of a fifth example of Type 3Rows.4 with a fragmentary dedicatory inscription of a *magnificentissimus* dating to the 5th-6th century is equally reported.[93]

89. Roueché 2004, n° 68.
90. Roueché 2004, n° 69.
91. Roueché 2004, n° 238.
92. Roueché 2004, n° 70.
93. Roueché 2004, n° 71.

Two professionally-cut boards have recently come to light at Kibyra, a city on the border of Lycia and Pisidia. The first example, carved on a limestone block (originally 0.99m long, 0.72m wide and 0.21m thick, weighing ca. 340 kg), was found in the east part of the portico of the colonnaded street below the agora of the city.[94] It consisted of three rows of incised squares (side: 4cm) which were separated by what are perhaps best described as radiate rectangles. The second board (0.99m long, 0.80m wide and 0.26m thick; weighing ca. 500kg) was found reused at the bottom of the basin of a 5th-6th century AD fountain erected along the same colonnaded street.[95] The incised round places (diameter: 3cm) were separated by inscribed (half-)rhombi (diameter: 16.5cm). Although the boards were attributed to the 2nd-3rd century CE, on the basis of their identification as *XII scripta* boards[96], their date of origin should most probably be adjusted to the late antique period on the basis of the dated parallels discussed here.

Fig. 9. *Alea* board from the State Agora at Ephesos (http://www.venividiludique.ch/ephese/games.html).

Also at Ephesos, several examples of professionally-cut game boards of this type have been reported, though none of them have been published so far. A marble block with a professionally carved board, with three rows of squares separated by inscribed Maltese crosses, was found in the *Basilik*ē *Stoa* on the north side of the State Agora (Fig. 9).[97] A similar game board with squares and inscribed Maltese crosses, is displayed in the Ephesos Museum, together

94. Demirer 2015, p. 78.
95. Demirer 2015, p. 78.
96. Demirer 2015.
97. See http://www.venividiludique.ch/ephese/games.html (last accessed on 27/02/2018).

with two further monumental examples of game boards composed of circles separated by inscribed rhombi, yet no details of these boards are available; these three instances are all exhibited as backgammon boards dating to the Roman Imperial period.

Another undescribed example of a monumental board was found in the portico of the so-called Syrian Street at Phrygian Laodikeia, next to the entrance of a late antique shop.[98] Similar but unpublished monumental boards have also been seen by the author at Perge, in the northern portico of the local *macellum*, and at Side in Pamphylia, where it was found at the local baths.[99] A final instance of such professionally carved boards originates from the village of Çarşamba, northwest of Kotiaion in Phrygia.[100] It is composed of three rows of two times six squares, divided by inscribed (half-) lozenges. Inscriptions were carved on the rim of the long sides: "Let the dweller here not be in conflict with God" and "Let the snorter be covered in sooth"[101]; crosses for protection and luck were carved at the beginning and end of each line, as well as inside the lozenges. The editors date the marble board on the basis of its inscriptions to the 4th or 5th century AD, but a 6th century date equally seems possible. Although considerably smaller and lighter than the other examples mentioned above (0.82m long, 0.52m wide, and 0.15m thick, weighing about 150kg), it was still a professionally carved board that may have been set up publically. Furthermore, it constitutes the only example known from a village.

Nearly all of these instances were found in public urban spaces, such as squares and porticos bordering squares and colonnaded streets.[102] Also contemporary sources characterise dicing as a typical activity near squares and in porticoes.[103] As monumental items, deliberately placed in these prominent

98. Şimşek 2014, pp. 48-50 and Fig. 20.
99. See also Bell 2007, p. 99. The mere mention of boards at Miletos in Ionia (Schädler 1995, p. 74) and at Sardis in Lydia (Lavan 2008, p. 207) does not allow to establish their nature.
100. Levick and Mitchell 1993, p. 107 n° 330.
101. Ammianus Marcellinus describes the poor of 4th century Rome playing *alea*, making loud snuffling and snorting by sucking in air through their nostrils as they concentrated intently on the game (Ammianus Marcellinus, *Res Gestae*,14.6.25-26).
102. The distribution map of boards at Ephesos, for example, shows a clear concentration of game boards – both graffiti and professionally carved game boards – along the squares and streets of the city. See http://www.venividiludique.ch/ephese/games.html (last accessed on 27/02/2018).
103. The late 5th century CE Yakto mosaic from Daphne near Antioch on the Orontes, for example, situates two men playing a board game in a location characterized by porticoes and statues, likely the agora (or a colonnaded street), while another pair of players is represented in a portico (*O Peripatos*) together with a vendor (Saradi 2006, p. 120 and p. 121, Fig 7a).

public settings, their status as public amenities does not seem in doubt.[104] These installations must have been erected with the permission of city officials and in some cases even by them. This was certainly the case at Aphrodisias where Flavius Photius, a *scholasticus* or advocate as well as *pater civitatis* or "father of the city" – a leading civic magistrate in charge of civic finances – was responsible for the dedication of no less than three game boards during the late 5th-early 6th century[105]; the dedication formula suggests that these boards were actually put up with civic money.[106] The unidentified donor of a fourth board carried the title of *exceptor*, a clerk in the imperial bureaucracy and almost certainly part of the staff of the governor of Caria.[107] All four of these were found at the Hadrianic Baths, on the west side of the southern agora, as a public amenity to be used by those at leisure in the baths. On a fragmentary fifth board the donor is identified as *magnificentissimus*, again implying a high rank official.[108] None of the other boards mentioned above have the donor's name inscribed on them, but these as well will have been public rather than private installations, given their size and location.

The fact that several of the game boards – f.i. at Aphrodisias, Ephesos, Perge and Sagalassos – were left unspoliated in their original location strongly suggests this public character was respected until the 7th century when many of these urban centres were abandoned.[109] In turn, this indicates the continuing habit of gaming well into late antiquity, in spite of Christian opposition. What is more, the presence of inscribed crosses instead of the normal rosettes as the central elements of the two boards found on the Upper Agora of Sagalassos – a feature also attested at Ephesos – suggests that this mundane activity was not only condoned but even placed under the protection of the Christian God.[110] The fact that the entire Upper Agora appears to have become dominated by Christianity in the course of the 6th century AD could have played a role, causing the 'Christianization' of this popular social practice. In any case, it is clear from the evidence that, although it was frowned upon by the Church Fathers[111], the practice proved too deep-rooted to be abolished.

104. See also Lavan 2013b, p. 346.
105. Roueché 2004, n° 68, 69 and 238.
106. Roueché 2007, p. 101.
107. According to Roueché, this was a relatively low-rank official who may have paid for the donation himself rather than using public funds (Roueché 2004, n° 70).
108. Roueché 2004, n° 71.
109. Lavan 2013b, p. 346.
110. A graffiti board from Rome, for example, has an invocation (in Greek) to Jesus to assist the writer in his dicing (*CIG* n° 8983).
111. E.g. Clement of Alexandria, *Paedagogus*, 3.11; Ambrose of Milan, *De Tobia*, 11.38-39.

The date of these boards demonstrates that the 3-row boards continued to thrive into the later 6th century. They will then have overlapped with a 2-row game board – perhaps named *tabula* and the ancestor of backgammon with two rows of 12 markers – that appears to have come into existence during the 5th century.[112] The aforementioned recut *alea* board on the Upper Agora of Sagalassos may then be the product of an attempt to accommodate the new two-line game, sometime during the 6th or 7th century.[113]

Astragalos oracle

Whereas board games involving dice are normally situated outside the bounds of normative social behaviour, the game boards from Sagalassos and other cities of southwestern Asia Minor demonstrate that dicing was not only socially accepted in those localities but even facilitated by public authorities. How can this divergent public interest in dicing in this well-defined geographical area be explained? A regional predilection for activities related to dice possibly played a role in its official adoption. This paper continues to contextualize this phenomenon by looking at another type of dicing for which public installations were created, the *astragalos* oracle.

From its initial stages, dicing was closely tied to sacred practices.[114] Both chance-throwing and its optional spatial dimension – the movement of objects in accordance to the random outcome of the throw – are relatively simple activities and in themselves essentially trivial. Yet, the high cultural standing of chance (Tyche/Fortuna) and competition in antiquity made them recipients of deeper significance: the obvious religious connotations were of considerable importance in the ancient Mediterranean.[115] Especially the ritual practice of cleromancy or divination by casting and reading lots in the shape of *astragaloi* or four-sided knucklebones of sheep or goats has often been related to dicing. Luck at the game could be seen as an omen of more comprehensive good fortune, and the associations of the business of play with foretelling the future and ensuring the favour of the gods were never wholly lost.[116]

112. Schädler 1995, pp. 85-89; *idem* 2013.
113. Similar graffiti boards of two times twelve squares have been noted at Didyma and Sardis (Bell 2007, p. 99).
114. See Widura 2015, pp. 143-146.
115. Purcell 1995, p. 4.
116. Purcell 2007, p. 95.

Fig. 10. *Astragaloi* from the late Achaemenid – early Hellenistic site of Düzen Tepe (Sagalassos Project).

Dice in the shape of *astragaloi* are common in the archaeological record of the eastern Mediterranean, often as game pieces but also serving ritual functions as elements of divining sets.[117] The late Achaemenid- early Hellenistic site of Düzen Tepe near Sagalassos, for example, yielded several *astragaloi* of sheep/goat with flattened and polished sides (Fig. 10).[118] It was not possible to determine whether these were gaming pieces or instruments of divination, yet other evidence from Pisidia indicates that the practice of divination by means of throwing dice – *astragalomanteia* – was long established in the region, which was known for its cleromancy.[119] The depiction of such knucklebones on the 5th-4th century BC coinage of Selge, for example, can most probably be related to this practise of divination.[120] Their depiction on Selgian coins not only indicates the practice of dice oracles, but also suggests the official sanction of this

117. See Gilmour 1997.
118. Waelkens *et al.* 2011, p. 8 (inv. n° SA2009TD1-67-90).
119. For an overview see Talloen 2015, pp. 58, 69 and 74.
120. For coins dating to the period 400-300 BCE: Breitenstein 1956, n° 240-242 and Aulock 1964, n° 5243-5257; for the period 300-190 BC: Breitenstein 1956, n° 251-254 and Aulock 1964, n° 5275-5280.

popular ritual, considering its presence on an official document. Although *astragaloi* frequently occur on ancient coins as a subsidiary symbol to differentiate batches of coins – with little significance – more rarely they appear as the principal type or as unchanging sole symbols, as is the case at Selge. Such occurrences cluster on the south coast of Asia Minor – Lycia, Pisidia and Cilicia[121] – precisely the area where a group of Roman Imperial period inscriptions in the form of oracle stones records the practice of astragalomancy (see below). A second cluster of coins with *astragaloi* appears in Ionia, on the central part of the west coast of Asia Minor, among cities very close to the sanctuary of Apollo at Klaros, a famous oracle where astragalomancy was almost certainly practiced[122]: they included Ephesos, Kolophon, Phygela and Teos.

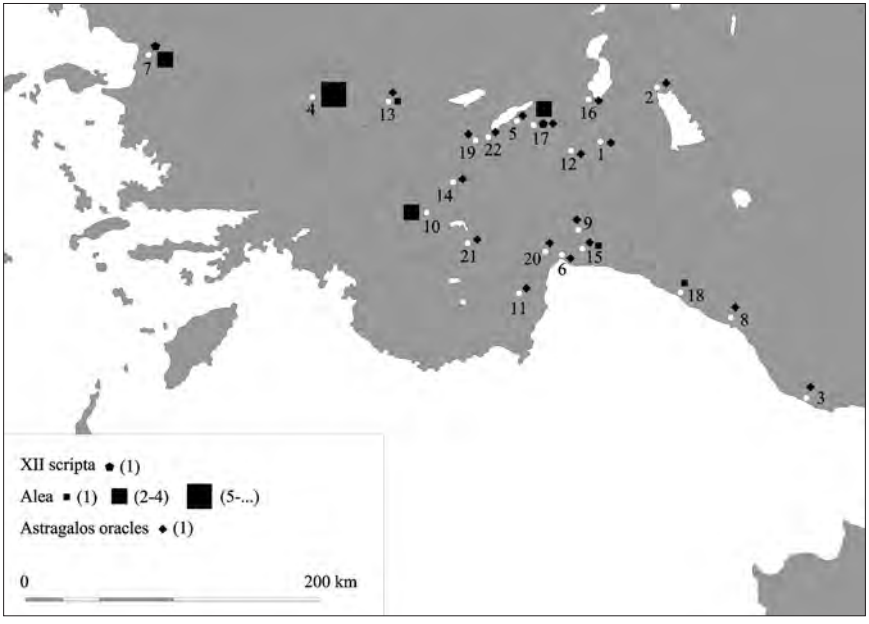

Fig. 11. Distribution map of public game boards and *astragaloi* oracles in southwestern Asia Minor (Eliane Mahy). 1) Adada; 2) Anabura; 3) Antiocheia am Kragos; 4) Aphrodisias; 5) Askeriye (territory of Sagalassos); 6) Attaleia; 7) Ephesos; 8) Hamaxia (territory of Korakesion); 9) Incik (territory of Perge); 10) Kibyra; 11) Kitanaura; 12) Kremna; 13) Laodikeia; 14) Ormeleis; 15) Perge; 16) Prostanna; 17) Sagalassos; 18) Side; 19) Takina; 20) Termessos; 21) Tyriaion (territory of Balboura); 22) Yariköy (territory of Sagalassos).

121. Ashton 2015.
122. Ashton 2015. On the use of *astragaloi* in divinatory practices at the nearby sanctuaries of Artemis at Ephesos and Apollo at Didyma during the 6th and early 5th century BC see Greaves 2012.

The popularity of this ritual practice was such that, in the course of the 2nd century AD, it resulted in the construction of monumental installations in public buildings and spaces of the cities of southwest Anatolia, especially in Pisidia, but also in the neighbouring regions of Pamphylia, Phrygia and Lycia (Fig. 11).[123] Although this tradition of divination had its roots in the pre-Hellenistic period, it now became a 'visible' practice, taking on a public profile through the erection of oracular installations at prominent spots in the urban space, such as *agorai* and gates. The installation normally took the form of a free-standing pillar-shaped monument carrying an *astragalos*-oracle inscription on its four sides. This often served as the base for a statue of its tutelary deity, Hermes, the god of lesser divination. These oracles were believed to reveal the divine will through the random fall of a handful of dice. Those who wished to consult the oracle would throw five *astragaloi*. Fifty-six combinations were available and a verse appropriate to each combination was carved on the oracle stone itself. The user had to read off the lines to which the dice referred him and work out the message which it contained.

The limestone pillar of such an *astragalos*-oracle (1.35m high, 0.49m wide and 0.69m thick) was found in a secondary context near the North-West City Gate of Sagalassos, where it had been incorporated into the late antique fortification walls (Fig. 12).[124] Its original location is not known, but judging by examples from the nearby Pisidian cities of Kitanaura, Kremna, Prostanna and Termessos, where such oracles were recorded on the local *agorai*[125], the Sagalassian example too most probably originated from the nearby Upper Agora. Along with the ban on sacrifice, which caused many temples in the city to be closed and converted to other uses at the end of the 4th century AD[126], laws were issued that prohibited the practice of divination.[127] The ritual installation was probably removed from the agora and its blocks reused in the construction of the late 4th century AD fortification walls. Two sides of the inscription were erased at the time by masons who recut the block for use in the late antique walls, thus terminating the use of this symbol of human credulity.

Their prominent location and monumental form indicate that these *astragalos* oracles were civic installations. As such, they were often erected by members of the elite as acts of local euergetism and self-display: the priest of Fortune at

123. For a thorough discussion of such oracles and their distribution see Nollé 2007.
124. For the discussion of the example from Sagalassos see Nollé 2007, pp. 54-58.
125. Talloen 2015, pp. 216-217.
126. See Talloen and Vercauteren 2011, pp. 355-363; Talloen in press.
127. *Codex Theodosianus*, 9.16.2 and 6; 16.16.4.

Fig. 12. *Astragalos* oracle stone from Sagalassos (Sagalassos Project).

Kremna, Lucius Fabricius Longus, had one erected at the western end of his new forum which he dedicated to the emperor Hadrian; at Anabura, a similar oracle text was inscribed on the walls of a 2nd century CE double exedra-shaped monument or *psalis*, erected by the brothers Telemachos and Attalos, who were both eubosiarch or magistrate responsible for the grain supply of the city; Tbemes, the *agoranomos* or supervisor of the agora, was responsible for the establishment of an oracle pillar on the agora of Termessos in the early 3rd century AD.[128]

Despite their public set-up, these ritual installations were still essentially a do-it-yourself facility without priestly mediation, designated for popular use.

128. Kremna: Horsley and Mitchell 2000, p. 22 n° 5; Anabura: Nollé 2007, pp. 33-40; Termessos: Nollé 2007, pp. 77-84.

The person who consulted the oracle probably offered a prayer in front of the image of the oracular deity – often Hermes – and then threw the *astragaloi*. He would note the combination of numbers they displayed and then look up the relevant oracle, 'sponsored' by a particular divinity, whose name preceded it. Thus, rolling one six, three threes and a one, for instance, directed one to the name Herakles and the following advice: 'The moment has not yet arrived, you make too much haste; do not act in vain nor like the bitch that has borne a blind puppy. Deliberate calmly and the god will lead you'.[129] It was up to the enquirer to figure out how these words applied to his situation. Many of the responses that the gods offered related to business and travel, and appear to have been directed at the public frequenting the agora.

These installations have been seen as a manifestation of the renewed popularity of oracles and other forms of divination during the Roman Imperial period, as part of the ongoing quest for closer contact with the divine in search for answers.[130] The old oracular shrines in Ionia, at Klaros and at Didyma, were still popular and attracted a wealthy clientele from far afield. But the common man was also in need of routine guidance from oracles which were more cheaply and easily available. The *astragalos* oracles offered this service. Their prominent location and their erection by city officials testify to the fact that these oracles were not some hidden interest of a lower-class minority, but a common and public instrument of divination in the cities of southwest Asia Minor during the 2nd and 3rd centuries AD. Through the creation of public oracular installations and thus 'officialising' divination, the civic authorities of the region perhaps wanted to get control over these popular practices. In any case, the public attention given to dicing in the form of divination, which resulted in the monumental oracle stones, is unique to this part of the ancient Mediterranean. By erecting monuments in public spaces, communities were making statements about their cultural identity[131]; for those of southwestern Asia Minor *astragalos* oracles were obviously a fundamental part of this identity. Therefore, the exceptional attention paid to lot oracles in the region can perhaps be construed as evidence in favour of path dependence – the continuation of a practice based on historical preference – as the regulating force that determined the monumentalisation of another popular practice involving dice, dicing on board games.[132] Influence of this concept has already been recognised in the typological choices and use of raw mate-

129. Translation taken from Graf 2005, p. 88.
130. Lane Fox 1986, pp. 168-259; Nollé 2007.
131. On the construction of cultural identity in public space at Sagalassos see Talloen 2017.
132. On the concept of path dependence in archaeology see Hegmon 2017.

rials by the potters of Sagalassos[133], and one may wonder whether it can also be held responsible for the unusual monumental form of game boards in southwestern Asia Minor during the Roman Imperial and late antique periods. But it is beyond the scope of this paper to assess the applicability of the theory in the study of board games.

Conclusion

Dicing and divination, activities for which dice were generally used, are normally not considered fields in which public authorities were active, other perhaps than trying to regulate the hindrance that resulted from those activities. Yet, in the ancient Pisidian city of Sagalassos, a whole series of public installations, dating between the 2nd and the 6th century AD, has come to light as a result of the ongoing excavations which suggests that one of the tasks of civic institutions was to provide amenities for these popular social and religious activities.

The game boards presented here illustrate a process of creative local response to foreign stimulus in which the typically Roman game of *XII scripta* was adapted to local cultural and social contexts. The playing of board games works as a cultural transmitter because of the intrinsic appeal of playing games and because of their cultural fluidity. They could be taken readily from one cultural context to another with or without changes of meaning.[134] In the case of *XII scripta*, they were both able to carry some form of *Romanitas* to the mountains of Pisidia, and at the same time be amenable to redefinition in the hands of their recipients. Redefinition here meant the translation of the hexagrams into Greek, as well as the fact that the board was erected as a public installation, a step that most communities were not willing to take, except for cities in southwestern Asia Minor it seems.

The evidence also suggests an evolutionary development of the *XII-scripta* board with hexagrams, via a 3-row *alea* board with abstract signs that apparently originated in the 3rd century AD but has mainly been found in late antique contexts, to a 2-row board – the ancestor of backgammon – that was used up to the very end of Late Antiquity when many monumental centres were abandoned.

133. Poblome 2016.
134. Hall and Forsyth 2011, p. 1335. On the role of cultural transmission models in the distribution of game boards see de Voogt *et al.* 2013; I would like to thank one of the reviewers for bringing this article to my attention.

The provision of monumental game boards in urban public spaces reveals a surprising degree of identification between the elite and popular pursuits, much as before when *astragalos* oracles were erected to cater for the need for divine guidance. By erecting these monuments in public space, the community was making statements about its cultural identity. The local predilection for dice, attested since pre-Hellenistic times, may have played a role in the initial adoption of a monumental form for the game board. Yet, the evidence also demonstrates the continuation of the gaming tradition in a monumental form into the late antique period. Path dependence, the continuation of a practice based on historical preference, may have had a determining influence in this regard.

It is hoped that this preliminary evaluation of monumental game boards can be a basis for future investigation of the role of these installations as vehicle of cultural transmissions and interactions at the interface of the public and private spheres.

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