Once upon a Time in the East

The Chronological and Geographical Distribution of Terra Sigillata and Red Slip Ware in the Roman East

Philip Bes

Roman and Late Antique Mediterranean Pottery 6

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‘and I half-closed my eyes and imagined this was the spot
where everything I’d ever lost since my childhood had washed up,
and I was now standing here in front of it, and if I waited long enough,
a tiny figure would appear on the horizon across the field,
and gradually get larger’

Kazuo Ishiguro, *Never let me go* (2005)

In Memoriam

Virginia Ludovica Van Praet
29 June 1920, Niel (Belgium) 7 August 2012, Den Haag (The Netherlands)

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List of Abbreviations

BC	Before Christ
AD	Anno Domini
AAS	Atomic Absorption Spectrometry
ARSW	African Red Slip Ware
Atlante	Enciclopedia dell'Arte. Classica e Orientale. Atlante della forme ceramiche II
BSP	Black-Slipped Predecessor
Consp	Conspectus Formarum
CRSW	Cypriot Red Slip Ware
CVA	Corpus Vasorum Arretinorum
ERSW[1]	Egyptian Red Slip Ware
ESA	Eastern Sigillata A
ESB	Eastern Sigillata B
ESC	Eastern Sigillata C
ESD	Eastern Sigillata D (also known as Cypriot Sigillata)
ETS	Eastern Terra Sigillata
ITS	Italian Terra Sigillata
LRC	Late Roman C
LRD	Late Roman D
LRP	Late Roman Pottery
NAA	Neutron Activation Analysis
OCK	Oxé, Comfort and Kenrick 2000
PRSW	Phocaean Red Slip Ware
SRSW	Sagalassos Red Slip Ware
XRF	X-Ray Fluoresence

[1] Not to be confused with Ephesian Red Slip Ware, for which see Iro *et al*. 2009, 55, ns 11-12.

Acknowledgements

Early on a cold and cloudy Friday, 2 January 2004, I arrived in Leuven as a newly qualified archaeologist. On a warm and sunny Thursday, 17 July 2014, I left Leuven, a city that has further shaped, turned and moulded me, both as a person and as an archaeologist. Those 10.5 years (over 2.5 of which were spent abroad) have not left me unaffected, and with both great joy and the occasional and always unexpected flash of melancholy I look back on my time in Leuven.

First and foremost I wish to express my deepest gratitude to Jeroen Poblome. Throughout my time in Leuven, particularly over the course of my doctoral research at the University of Leuven between 2004 and 2007, but also afterwards, he has been a patient, supportive and crucial guide, who quickly realised what would and would not work. It is not easy for me to capture in words the opportunity he has provided to let me discover and develop my love for all those pottery fragments. But perhaps in reminiscing about the snow-covered hills of Boeotia, the cruising across the vast plains of Cilicia Pedias in search for that elusive ESA, and of course discussing Sagalassos Red Slip Ware in front of your little corner of the world (regularly interspersed with telephone calls), Sagalassos Kazı Evi, depo yedi, you can see the combination of archaeology, the search for and pleasure of good food, and the enjoyment of that often wonderful luxury of being an archaeologist working in the Mediterranean that these opportunities have afforded me. Thank you so much Jeroen.

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Sadly, my grandmother could not witness the completion of my time in Belgium, her country of birth. She may have had only an inkling of what I was doing, and I cherish and remember her continued interest and curiosity about my life in Belgium and in, for her, very distant countries.

My family remains curious about the life of an archaeologist, especially when he is abroad. Sherds, sand and spoons are, jokingly, keywords. On a more serious level, though, I continue to appreciate their enthusiasm about what befalls me abroad.

My brother Elwin knows all too well what it is like to pursue one's passion, sometimes seemingly against the odds. Besides being that dear brother, your longtime and enriching love for film — angle, colour, sound — makes one look at things differently and it continues to be catching, and has also further shown me to be (more) selective; life's simply too short to waste: I wish you and Liesje continued happiness.

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Needless to say that, even if this text has been explored and gone through almost more than I cared for, all faults remaining, omissions, etc., are my own.

The Hague, 23 January 2015

Chapter 1[2]

Aims and Methodology

Introduction[3]

With obvious consideration for its methodological and practical pros and cons, as (ancient) pottery was an integral part of many aspects of daily life, it is considered to be a valuable tool to throw light on ancient society-/ies. This can therefore be done from a number of angles. For one, studying the manufacture of pottery offers us insights into technological aspects but also people's choices with regard to shape and decoration, which in turn could tell us something about their actual use during eating and drinking practices. Also, both archaeometrical and archaeological studies make it quite clear that, with varying intensity and length of time, pottery was traded on a variety of geographical and contextual levels. This, then, prompts us to investigate the reasons why, but also the mechanisms through which, this pottery (yet not only pottery) was traded. It is, in general terms, that ecomonic viewpoint which is the thematic focus of this study, more particularly, the late Republican/late Hellenistic and Roman-period eastern Mediterranean.

This study, then, focuses on explaining the distribution of red slip tablewares (hereafter conveniently referred to as tablewares) between the late Hellenistic and late Roman periods,[4] and is structured as follows. This chapter introduces the aims and methodology, followed by chapter 2 in which the material evidence, on which this study is based, is discussed. The evidence for the late Hellenistic and early Roman periods is presented and discussed in chapters 3 and 4, spanning the mid-2nd century BC to the late 2nd century. Chapter 3 presents the collected evidence, in line with the chronological and regional frameworks presented in sections 1.3.5 and 1.3.6 respectively. Chapter 4 seeks to explain this evidence in relation to the underlying factors affecting the developing and changing exchange patterns within the Roman (eastern) Mediterranean. The evidence pertaining to the mid- to late Roman periods, the early 3rd to the late 7th century, is presented and discussed in chapter 5, followed by the interpretation in chapter 6. Finally, chapter 7 abandons the chronological and regional frameworks, and views and discusses the exchange of tablewares in the eastern Mediterranean diachronically. The idea behind this study is based on the belief that the collected tableware evidence can contribute to an understanding of socio-economic and -cultural aspects of the Roman (eastern) Mediterranean, and make these more visible. Its innovative character lies in its deconstructing approach, with a prime focus on published catalogues of vessels/fragments and seeing as partially subjective entities each with its own history, yet entities that can thus be broken down into the many (objective) elements that catalogues exist of, certain elements perhaps being more significant to this study than others. By subsequently bringing a selection of these individual elements back together within certain geographical and chronological boundaries, it is thought that the subjective cloak is shaken off, thus offering the basis for a more neutral analysis and reconstruction.

Despite the fact that pottery lies at the very core of this study, it is hoped *and* thought that some parts will be of certain interest and relevance to those that are less of an insider. In particular this goes for chapters 4 and 6, wherein the regional data is discussed and contextualised, as well as chapter 7, which offers a synthetic discussion.

1.1 Definition of Terms

To avoid confusion, several standardised terms are used in this study: form refers to a vessel that is included in a (published) typo-chronological framework and has, or should have, defined morphological and/or decorative features that make it distinct from other forms, whilst shape refers in more general terms to a certain kind of vessel, for example a bowl or dish. W-/ware, then, refers to a coined and acknowledged class of terra sigillata or red slip tableware with recognised properties of fabric composition, typo-chronology and/or provenance.[5]

What is meant by tablewares in the context of this study are all vessels assumed to have been used on or in close proximity to the table, though table can, or perhaps even should be applied in a less narrow way to other occasions of eating and drinking. This basically denotes vessels used for the serving and consumption of food and beverages, and includes shapes such as bowls, dishes, serving trays, cups, jugs, as a matter of fact any vessel that is perceived as being fit for use on or in relation to the table. Most of the distinguishing morphological criteria

[2] All dates are AD, unless otherwise noted.

[3] The original doctoral research, completed in November 2007 (Bes 2007) and of which this is a reworked version, was carried out within the framework of the ICRATES Project (Inventory of Crafts and Trade in the Roman East), supported by the Fund for Scientific Research-Flanders (FWO research projects G.0152.04 and G.0245.02). It also results from the Belgian Programme on Interuniversity Poles of Attraction (IUAP/V) initiated by the Belgian Federal Science Policy Office, and the Concerted Action of the Flemish Government (GOA 02/02).

[4] The nomenclature used here is strongly dependent on tableware chronology. Thus, late Hellenistic starts when the first major red slip tableware, ESA, emerges in the northern Levant *c.* 150-140 BC. Consequently, late Roman ends when the tradition peters out in the second half of the 7th century, although reduced production and distribution may have continued at places into the early 8th.

[5] This partly parallels Schneider's definition of 'Referenzgruppe' (1996a, 129).

are not necessarily much different from those we apply nowadays, though certain shapes are peculiar to the period in question. Hellenistic and Roman tablewares to a large extent comprise slipped vessels: before firing, the clay body was dipped into a refined and liquid clay solution that covered the vessel's surface. The colour of the slip of tablewares in the period under study was mostly red or reddish, indicative of an oxidising firing process, yet tableware vessels with a black- or grey-coloured slip, more common in pre-Roman societies, continued to be manufactured in certain parts of the Roman World. Red slip tablewares of late Hellenistic to late Roman date are generally referred to as terra sigillata or (Late) Roman Red Wares. The former is commonly applied to the late Hellenistic and early Roman period, the latter spanning the early to late Roman, although the distinction is largely artificial. Both terms describe tableware vessels covered by a red or reddish slip. In fact, terra sigillata is mostly an incorrect term — for one, it is not an ancient term — yet has grown to represent the glossy, early Roman vessels, in particular the Arretine products. On the other hand, the use and meaning of both terms have become firmly embedded in Roman pottery studies, making it difficult, perhaps even unnecessary, to seek alternatives, even though these may be more correct.

Tableware services were supplemented by so-called thin-walled vessels, with walls of sometimes not more then 1-2mm, generally comprising drinking and small serving/pouring vessels. Performing the same function are lead-glazed vessels, drinking or serving vessels covered with a lead glaze. These were produced in a number of places in the Roman Mediterranean, yet possibly due to their intricate manufacturing process such products never became very common until mid-Byzantine times.[6] Despite the desire and necessity to categorise the different classes of tablewares, partly in an attempt to identify services (morphologically- and chronologically-associated vessels), we may picture a more flexible and ad hoc approach to tablewares in the past, with the composition of a household's tableware collection being dependent on personal choice or taste, social context, distance to the production centre(s), distance to points of distribution and redistribution, and so forth. And let us not forget tablewares made in materials other than pottery. Tableware assemblages thus must have showed a considerable variety in their composition, and may have grown over time.

Fine ware is a term often employed in Roman pottery studies, yet is considered too subjective for proper use here, evoking an image of only the finer red slip vessels of the best quality. This study therefore opts to use the more neutral term tableware(s) throughout, as it allows us to include thin-walled wares and other categories in the discussion which were used for eating and drinking but are not necessarily fine in all respects.

[6] Thin-walled wares: e.g. Marabini Moevs 1973, Mayet 1975; lead-glazed wares: e.g. Hochuli-Geysel 1977, 2002.

1.2 Aims

Before describing the aims in more detail, four key points which form the basis of this study deserve to be introduced briefly. First, the distribution of tablewares, and for that matter, most, if not all other goods, was not driven by a single mechanism. In fact, complex networks of intentions, social relationships, individual-collective and/or private-public interests, opportunism, and so forth were the driving forces behind exchange patterns. At the same time, geographical factors also had their share in determining the direction and intensity of such patterns. A commodity formed part of one particular mechanism, for example, in order for those involved to gain a profit. Yet in many cases, at virtually any point in the distribution chain, an object could have been transferred from one exchange mechanism to another, thereby gaining a new or added function or significance. Secondly, disentangling distribution patterns of tablewares is further complicated when one takes into account the hypothesis that tablewares (as well as comparable items, such as oil lamps and glass vessels) were taken on board as a secondary cargo, riding piggy back, stowed away in the hull, between or on top of the main cargo. The evidence from shipwrecks, however, clearly shows that the secondary cargo-hypothesis does not always apply.[7] Although this could imply that the distribution of tablewares may have been less firmly organised, moving along with bulk goods more haphazardly, the patterns emerging from the collected evidence largely argue against this. Thirdly, the data presented in chapters 3 and 5 is presented using several descriptive statistical methods. These views should not be perceived as representing detailed historical precision, but rather serve as an index, providing clues to understand the quantitative, chronological and geographical distribution of tablewares; their interpretation needs to take shape accordingly. Finally, a direct cause-and-effect model between events or developments in the more general historical and socio-economic frameworks and the quantitative, chronological and geographical distribution of tablewares is treading upon thin ice, and not advocated here. However, a political and administrative entity the size of the Roman Empire was dynamic. As such, it touched on, and interacted with, the different communities and different areas that it controlled. Since material culture formed an integral part of these communities, in theory, then, the archaeological evidence potentially reflects socio-economic change and interaction.

The distribution and consumption of tablewares in the eastern Mediterranean between *c*. 150 BC-700, as investigated in this study, concerns six classes of tableware manufactured in eastern pottery workshops. In addition, two western classes attained a wide and significant distribution, and are included. The emergence and development of a class of tableware points to considerable investment in its production infrastructure, taking advantage of existing and/or newly developing

[7] Jurišić 2000.

exchange mechanisms, in order to market the product. Its disappearance may result from the demise or change of such exchange patterns, whatever the cause or causes, or the increasing importance of substitute products.

Following an evaluation of the collected evidence, the geographical, chronological and quantitative dimensions of the eight classes of tablewares are mapped using a regional framework.[8] These dimensions assist in drawing the outlines of their regional and/or supraregional distribution and consumption, shifts in which can be charted using a diachronic focus. Regarding their distribution, it will be shown that not all wares behaved similarly. It is especially those tablewares whose distribution spanned the (eastern) Mediterranean that suggest that specific factors were working favourably, illustrating the dynamic nature of 'the' economy. This study aims to explain this dynamism against the general political and socio-economic background, by considering the different and developing interests of the imperial government, of military and religious centres (pagan and Christian) as well as of private persons (elite and non-elite). The regional and supraregional distribution of tablewares can also be used to evaluate the interaction between the developing political, socio-economic and socio-cultural landscape and the consumption and use of tablewares. The typological repertoire of late Hellenistic to late Roman tablewares is characterised by quite a number of developments, some profound, some subtle. The collected evidence has the potential to explain aspects of consumer preferences against this developing background. Since the distribution patterns of the eight tablewares under study show considerable geographical and quantitative differences, both internal (manufacturers' and consumers' choices and responses) and external (the role of pivotal centres such as Delos and Alexandria) factors are considered, which reflect the debate about the integration of, and interaction between, people and their material culture within the Roman world.

1.3 Methodology

1.3.1 The Published Record and Data Collection

The quantity of excavated pottery sherds from the study area is staggering, and one may only shiver thinking about what is yet to be unearthed. Hayes, for one, estimated that some 30 to 40 million pottery sherds are excavated around the Mediterranean each year.[9] The accuracy of this figure is irrelevant: it does, however, give an impression of the numbers Roman pottery experts are faced with. The question what to do with such quantities — practically, interpretatively, etc. — increasingly suggests itself. Roman pottery studies appear to be moving away, albeit gradually and in dispersed ways, from a tradition of cataloguing and describing, even though such information remains essential and needs to be made available through publication.

Despite the steady progress in the field of Roman pottery studies, some topics are touched upon only superficially, if at all. Our knowledge of the diversity of fabrics and wares increases quite rapidly yet remains still rather basic for many pottery classes, and with the discovery, excavation and/or publication of known and new sites long-term views are required.

Like other categories, such as amphorae, cooking wares and oil lamps, some Roman-period tablewares were produced in massive numbers. Lund recently estimated that the entire output of ESA, one of the most prolific tablewares in the east, approximated 24 million vessels, and the south Gaulish potter Castus (i.e. his workshop) is estimated to have manufactured some 300,000 vessels each year.[10] In spite once more of the tentative character of such figures, Lund was at least able to illustrate the magnitude we theoretically have to deal with. More importantly, one could start to comprehend the role tablewares played in the economy and daily life of the Roman Mediterranean.

Only a fraction of such (tentative) figures has been excavated and published. This fraction nevertheless represents a formidable amount of published data, which from the outset of this research had to be stored and controlled in a uniform way, to allow careful analysis and interpretation. To this end, a relational database was developed wherein the variety of available information was grouped into logically defined groups. The original ACCESS-database consisted of six interrelated tables, into which each published fragment was individually recorded:[11] (1) the PUBLICATION table stores information particular to the publication, such as author, full bibliographic reference, whether it contains a catalogue and/or quantification, and the year(s) wherein the excavation and/or survey was conducted; (2) the LOCATION table stores data pertaining to the site(s) from which material was published. It comprises a wide range of parameters: the ancient name (if known), geographical and topographic information (for example in what provincia or theme the site was located), and connections to ancient land and sea routes; (3) the DEPOSIT table contains information that concerns the archaeological and architectural context. This includes the proposed date range of the deposit, the nature of the site or archaeological context where the material was found, the relative quality of the deposit (open-closed, primary-secondary), the dating criteria other than tablewares

[8] Regional or supraregional studies figure prominently in the published record, with greatly varying thematic scopes. For pottery-based examples, see Reynolds 1995, 2005a, b, 2010; Bonifay 2002, 2003, 2004, 2005; Pieri 2005; Sodini 2000; Tomber 1993a, 2004; Lewit 2011 for a recent attempt at contextualisation. For other examples, see Safrai 1994; Dar 1999; Drexhage 2007; Wickham 1988, 2005; Morrisson and Sodini 2002.

[9] Hayes 2000b, 285.

[10] Lund 2005, 233-234; Hartley and Dickinson, quoted in Lewit 2011, 315.

[11] Since the conclusion of this research, the original database has been transformed into a web-based application which other scholars may contribute to and consult, and new data is being added. The research potential is greatly enhanced by building in, along similar lines, the possibility to enter (published) data on amphorae, which will allow us to compare and interpret distribution patterns of both categories.

(stamped amphorae handles, coins, lamps, glass, historical information, epigraphy); (4) the CHRONOLOGY table[12] recorded the (available) information on the chronology of the deposit and the typo-chronological information of the tableware found in that deposit; (5) finally, the CATALOGUE table stores information relating to the individual tableware fragment or vessel, and includes form, measurements, stamps, decoration, etc.; and (6) the ICRATES table stores the main parameters from these five tables, and thus serves as the database's nerve system.

The published material is critically approached on an individual basis: each catalogued fragment that belongs to one of the eight major classes is collected in the database and receives a unique entry number. The study here works with the data originally collected, comprising about 23,272 pieces, 15,665 of which are typo-chronologically useable. By the end of 2012 the database held nearly 26,000 entries. It was not possible to include this additional information, yet it is referred to where appropriate. It is safe to say that the information that has emerged or been published since, refines, yet does not negate the observations made here. The database is a tool not merely to store data.[13] It is a valuable instrument that can answer queries, or carry out searches, customised on the basis of accurately defined research questions. In any case, it is our conviction that the collected evidence is sufficient to investigate the stated aims.

How does a/the collected total relate to the geographical and chronological scope?[14] When one considers Lund's proposed output of ESA, regardless of its tentative character, clearly this figure seems wildly inadequate to answer any such question. However, one has to bear in mind that this approach offers a starting point, yet does not pretend to solve (all major) problems. Rather, it focuses on offering *indications* on the way tablewares circulated in economic and social spheres of interaction. This is echoed, in our opinion, in the quantified patterns that are discussed in chapters 4, 6 and 7. There, the movements observed in the data should not be seen as reflecting the finest historical detail. Rather, diachronic, geographic and quantitative shifts in the distribution patterns of tablewares should be seen as indicating *change*. Also, this study is aimed at a regional comparative character concerning the circulation of tablewares, not on the *volumes* that circulated. What then was the nature of these changes is of great interest and importance, and forms part of the interpretative part of this study. Finally, it is our conviction that in an ongoing process of collecting (new sites and) data, the distribution and consumption patterns, and their interpretation, become more refined.

Through the published evidence — which encompasses the late Hellenistic to late Roman eastern Mediterranean — it will be noted that certain wares occur more prolifically in one or more regions or during a certain period than others, or that certain forms are more common. In order to evaluate and determine the possible strengths and/or weaknesses of the published data on which this study is so strongly dependent, ceramic data from three archaeological projects, Sagalassos, Boeotia, and Kinet Höyük, is used.[15]

In so far as quantification is concerned, the database unavoidably contains only part of the published evidence, a situation that does little justice to the importance of, as well as concern and valuable work done on this matter.[16] The choice by research projects to present material as a catalogue was preceded by selection criteria that are rarely made explicit. Nonetheless, it was decided to refrain from entering publications into the database in their entirety, which would seriously misrepresent the proportions for certain sites and/or regions. Tel Anafa serves as a good example, where the quantification comprised nearly 24,000 sherds.[17] Incorporating this entire quantification would simply result in a greatly unbalanced picture, not for the site, but for the region in question.

The regions as defined in section 1.3.6 are represented, as far as was possible, by publications that would ideally reflect the quantity and variety to be used for further interpretation. Malfitana used a somewhat similar methodology in his overview of tablewares in the eastern Mediterranean.[18]

This innovative approach is in accord with new directions which the study of Roman pottery is taking. Since the 1970s an important broadening of the discipline has been taking place, characterised by [1] a growing number of, and diversity in, publications, not only contributing to a process of densification of distribution patterns, but also allowing a detailed study of the typo-chronological framework and, where necessary, the making of adjustments;[19] [2] quantified pottery studies, providing a better methodological basis for the reconstruction of exchange patterns within the Roman World;[20] [3] a steady growth

[12] This table was regarded as redundant and therefore not included in the new web-based application.
[13] A preliminary catalogue is available for the pottery found at Troia: http://classics.uc.edu/troy/grbpottery/, and the Pylos Regional Archaeological Project (PRAP) also made the pottery database available on the internet: http://docs.classics.uc.edu/fmi/xsl/prap/pottery_list.xsl?-db=PRAPPottery&-lay=Single&-skip=21930&-max=25&-findall. Other projects have also in one way or the other made information about their pottery available on the internet, for example the excavations at Aqaba.
[14] Willet and Poblome 2011.
[15] Sagalassos (Turkey): Sagalassos Archaeological Research Project, directed by Jeroen Poblome as of 2014 (University of Leuven, Belgium); Hyettos, Koroneia, Tanagra, Thespiae (Boeotia, Greece): The Ancient Cities of Boeotia Project, directed by Anthony Snodgrass (University of Cambridge) and John Bintliff (University of Edinburgh, Scotland); Kinet Höyük (Turkey): directed by Marie-Henriette Gates (Bilkent University, Ankara, Turkey). Since 2010, the author has become involved in other projects, notably surveys on the islands of Skyros and Zakynthos, and the regions around and west of Patras, in the northwest Peloponnese, as well as excavations in Limyra (Turkey) and Horvat Kur (Israel). Observations made in the course of these projects are included where appropriate.
[16] Berlin 2006, 4-11, 21-23; Jackson and Tidmarsh 2011.
[17] Slane 1997.
[18] Malfitana 2002.
[19] Fulford 1984; Bonifay 2004.
[20] Riley 1975, 1979; Hayes 1976a, 1977; Tomber 1993a; Kingsley 1999. See Peña 2007b for methodological considerations on quantification, and

in regional syntheses;[21] [4] a growing attention for, and understanding of, the distribution into and use of pottery in non-urban and -coastal contexts;[22] and [5] archaeometrical analyses, comprising a number of methods with which not only the mineralogical and chemical composition of a fabric can be determined, and consequently a possible provenance proposed, but also serving as an approach to technological matters.[23]

All these developments are part of a broader trend of conceptual expansion.[24] More and more scholars employ the broad palette of research topics and methodologies in order to investigate the role of Roman pottery in local, regional and supraregional patterns of distribution, and find explanations on whether and how pottery (including tablewares) relates to the contemporary political, economic and socio-cultural landscape.[25]

1.3.2 Typo-Chronologies

To an excavator, tablewares are first and foremost seen as chronological markers, secondly as objects that reflect ancient socio-cultural and -economic activity. This notion should obviously include other categories of (ceramic) products besides tablewares.[26] Fortunately, the eight wares that are discussed in this study can be used because for each one or more typo-chronologies have been published. Since tablewares are important for the aforesaid reasons, the accuracy of a typo-chronology is essential, albeit liable to change due to ongoing research. For a more detailed discussion of these eight wares, see chapter 2. Over the years, a number of suggestions have been made regarding the chronology of certain forms and even wares, ranging from argued cases to rather loose suggestions based on less palpable observations.[27] Although these may be considered, the decision was made to remain faithful to the existing typo-chronological frameworks, for the published evidence is based upon these. Yet Bonifay's revised typo-chronological study for part of Hayes' original ARSW typo-chronology is a case in point, and a comparison between the two based on the collected evidence is discussed elsewhere.[28] About 95% of the database concerns the eight major wares discussed in chapter 2.[29] Their respective typo-chronological frameworks allows us to attain, among other aspects, a much-desired degree of uniformity to be built into the database. To this end, the following works are used: for ITS, the Conspectus Formarum; for stamps on ITS, the OCK; for ESA, ESB, and ESD, the Atlante; for ESC, Meyer-Schlichtmann's pergamenischen Sigillata and, occasionally, the Atlante; and Hayes' LRP and A Supplement to LRP for Çandarlı Ware (ESC hereafter, cf. infra, 2.2.3), ARSW (combined with Bonifay's Études), CRSW/LRD and PRSW/LRC.[30]

1.3.3 Descriptive Statistics

Archaeological data can be stored and studied in many different ways. One particular method for the quantification of tablewares was developed specifically for ARSW,[31] but can be applied to other categories of tablewares, or better still also, to a wide range of material culture. It can be used to assess the quantitative development of a ware through time, or how that ware relates quantitatively to other wares. The methodology requires two parameters: a form is defined (or a range of forms), and each form has a chronological range with a lower *and* upper limit, the period during which the form/shape is assumed to have been produced and/or distributed.[32] A specimen of a specific form has, theoretically speaking, an equal chance of being produced in any of the years of its chronological range. Fentress and Perkins thus took the year as their basic chronological unit. They illustrated this by using a form with a date range of 100 years, thus the vessel had a theoretical chance of 1/100 (or 1%) of being produced in either one of the years of its date range. By multiplying the yearly 'chance' by the number of specimens of that particular form found or identified, this results in a diachronic 'volume' of that form, and can lead to a diachronic volume for each form by replicating the exercise for all other forms identified. This can then also be replicated for other wares. These volumes subsequently support further study and interpretation. This enabled the authors to 'count African Red Slip Ware' by quantifying the forms of ARSW from several archaeological projects.[33] Considering the nature of the collected evidence and the objectives of this study, this methodology is suitable for application to the collected data.[34]

However, an adaptation was made out of both practical and methodological considerations. Using the year as the basic chronological unit suggests a very secure knowledge of the chronological ranges of forms, which in most cases remains debatable. Instead of using 1-year units, it was

a case study on ARSW from Rome.

[21] Reynolds 1995; Bonifay 2004; cf. supra, n. 8.

[22] E.g. Orssaud 1980; Rossiter and Freed 1991; Harper 1980, 1995; Slane 1997; Rautman 2003; Lund 2006a, b.

[23] For instance Schneider 1995, 1996a, b; Mackensen and Schneider 2002, 2006.

[24] Wickham 1998; Sodini 2000; Bonifay 2003, 2005; Tomber 2004.

[25] Poblome *et al.* 2006.

[26] Peacock 1982a; Tomber 1993, 2004; Bonifay 2003, 2004, 2005; Ward-Perkins 2001; Wickham 2005.

[27] For instance, Abadie-Reynal 2005b and Sieler 2004 summarising evidence arguing in favour of the revision of date ranges of certain forms. See Reynolds 2010 for ESA continuing well into the 3rd century; n. 126 for 3rd-century ESB.

[28] Bes and Poblome 2009.

[29] In addition to the eight major wares, further tablewares entered into the database include Gaulish Sigillata, Pontic Sigillata, thin-walled ware(s), lead-glazed ware(s) and ERSW.

[30] ITS: Ettlinger *et al.* 1990; ITS stamps: OCK 2000; ESA, ESB, ESC, ESD: Hayes 1985a; ESC: Meyer-Schlichtmann 1988; ESC (Çandarlı Ware), ARSW, CRSW (LRD), PRSW (LRC): Hayes 1972, 1980; ARSW: Bonifay 2004.

[31] Fentress and Perkins 1988, 205-214; Fentress *et al.* 2004, 147-162.

[32] The chronological range can be based on other pottery classes, for instance stamped amphora handles or amphorae more generally, oil lamps, cooking ware, but also numismatic evidence, glass, historical circumstances, epigraphy, stratigraphic sequence, architectural setting, the style of mosaics, and so forth. Note, however, that the chronological ranges for production, distribution and consumption/use need not have run parallel: Peña 2007a.

[33] Fentress and Perkins 1988.

[34] Lund 1996b.

Ware	Form	Date range	Frequency	AD 16-30	AD 31-45	AD 46-60	AD 61-75	AD 76-90	AD 91-105
ITS	Consp20.4	25-100	17	0.07x17	0.2x17	0.2x17	0.2x17	0.2x17	0.1x17
	Consp23	25-75	9	0.1x9	0.3x9	0.3x9	0.3x9		
	…	…	…	…	…	…	…	…	…
Subtotal									
ESA	37A-B	60-100	3				0.38x3	0.38x3	0.25x3
	48	40-70	15		0.17x15	0.5x15	0.33x15		
	…	…	…	…	…	…	…	…	…
Subtotal									
Etc.									

Figure 1. An example of the method of distribution by Fentress and Perkins 1988 (© Philip Bes/ICRATES Project).

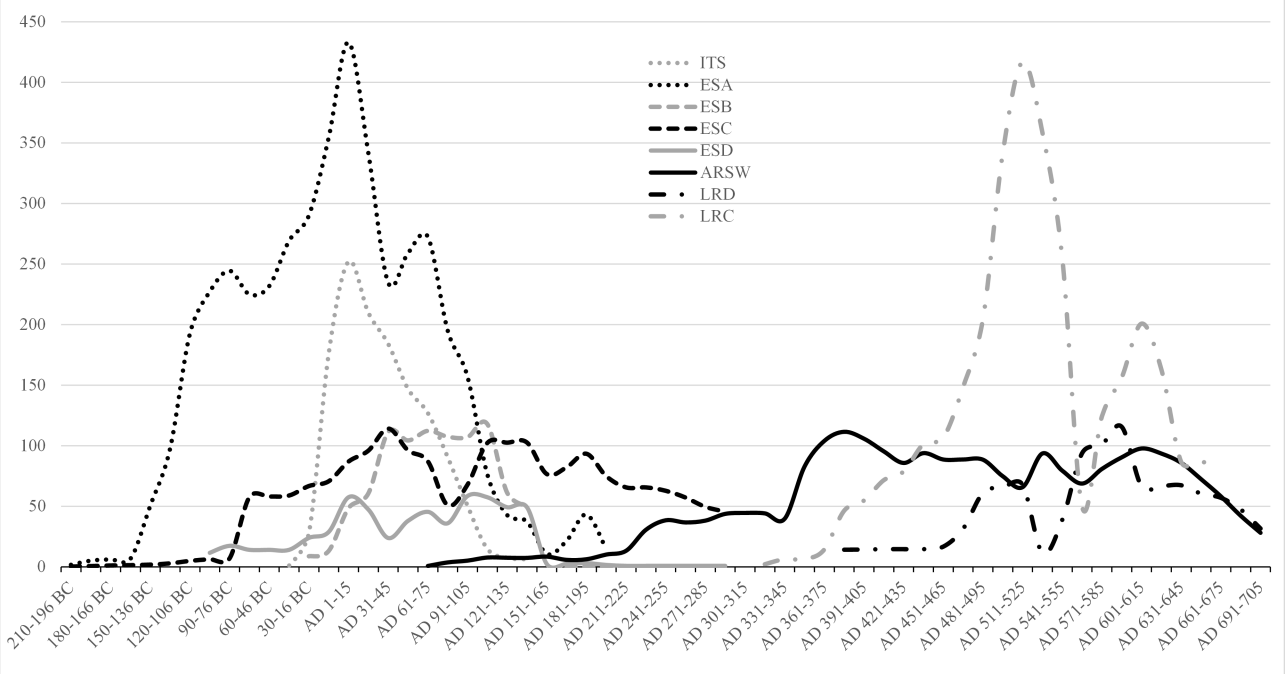

Figure 2. Line chart showing the development, in absolute numbers, of the collected evidence per 15-year interval (n=15,665) (© Philip Bes/ICRATES Project).

decided to use 15-year intervals.[35] This not only overcomes the problem of indecipherable charts, with the consequent tendency to over-interpret, as such charts represent a very detailed chronological and quantitative dimension: it also deals with the issue of the relative uncertainty of the chronological ranges of forms. As a 15-year interval appears a fairly good standard, it should be stressed though that if a form falls into a 15-year interval for only five years, it follows that it is attributed to that interval for only one-third. This practice closely follows the available typo-chronologies, yet by adopting it one avoids assigning a form to years during which it was (hypothetically) not produced and/or distributed. An example illustrating this method is shown in Figure 1. The 15-year interval implies a detailed knowledge of the chronological *production* range of a form or a ware, which, regrettably, is not the case for most tablewares of eastern manufacture, the exceptions being ESC and especially SRSW.[36] Here, the pitfall of overinterpretation looms, which should — given the current state of affairs of the production infrastructure — be avoided at all costs. At the same time, it is felt that broader intervals (25, or even 50 years) might obscure some of the detail of the data. Therefore, Figure 2 show the data set for 15-year intervals.

Because this methodology requires the lower and upper limit of a form's chronological range to be known, forms

[35] Following editorial work on Early Italian Sigillata: Poblome *et al.* 2004.

[36] ESC: Meyer-Schlichtmann 1988; Poblome *et al.* 2001b; SRSW: Poblome 1999.

lacking one or both had to be omitted from the data set. Whereas all typo-chronologies contain forms whose chronological range is uncertain or only partly known, this actually poses no serious problem since often the quantity of such forms is (very) small. This is not the case with a number of stamps on ITS, though confusion can be forestalled by identification of the form using the Conspectus Formarum. The case is, however, more critical for ESB, as a considerable number, especially forms of Hayes' ESB-I series, have no chronological range. Consequently, these forms are not included in this study.

This methodology involuntarily also ignores the fact that a form may have been more popular during part of its chronological range. Although we may suppose this to have been the case, it is a rather grey zone of knowledge, often perception rather than fact. An important way out of this problem is the availability of high-quality, closed and well-dated archaeological deposits from comparable sites (for example major harbours, or from sites destroyed or abandoned suddenly which were not or only sparsely occupied, i.e. disturbed, afterwards) and contexts (for instance cistern fills and mosaic beddings). The popularity of a form can be tracked down more closely using such narrowly-dated deposits.

Within the chronological and geographical framework (cf. infra, 1.3.5-6), an important question is how to accommodate forms whose date range falls roughly into two phases. This matter can only be taken into account to some extent. A form is attributed to a phase when the larger part of its standardised date range falls into that particular phase. Although this ignores the possibility that a form could also have arrived at a site within any year of its date range, the maps for the nine phases thus serve as (visual) guides for the distribution of the different wares. Further support is sought in the archaeological record, even if only a few relatively good and narrowly-dated deposits are published.

Concerning the data presentation on the regional maps, even though a site has less than 100 fragments/entries, the relative quantities are presented in a pie chart. Fully aware that this approach does not adhere to statistical principles, it is thought that in this way each piece of data is at least equally represented visually; the text and appendices proper should then serve to clarify each map's quantitative background.

Appendices 1 to 4 offer geographical, typological and quantitative information concerning the distribution maps and charts used throughout: appendix 1a-b shows all the sites and surveys from which data was collected, and all other sites mentioned in the text, respectively; appendix 2 lists the sites attributed to each region (cf. infra, 1.3.6); appendix 3a-b lists the absolute and relative quantities per ware, per region; and appendix 4a-b captures the quantitative data for each of the nine chronological phases (cf. infra, 1.3.5).

Finally, with regard to the share of ESC in each pie chart, throughout this study the quantitative data for unidentified ESC for the late Hellenistic-early Roman and the mid- to late Roman periods, respectively, is divided proportionally, based on the identified entries.

1.3.4 Data: Problems and Limitations

The collected tableware evidence results from a long tradition of research. Although each publication has its value, needless to say, they vary greatly in quality. Each publication is obviously a product of its time. The content can also have been determined by the author's or excavator's agenda, or may have been forced to reconcile with certain circumstances. A critical study of the published data is nevertheless required in order to bring it to its fullest potential.

What are some of the major problems encountered? First, the quantitative character of the publication. The custom of discarding undiagnostic (body) sherds is less and less common, but was, for instance, not exceptional into the 60s of the 20th century, and possibly even later in the case of the eastern Mediterranean. This mostly needs to be seen as an observation rather than a qualification: it shows a developing discipline. In basically all publications the data is presented as a catalogue, a selection composed arbitrarily or based on a set of criteria, whilst other publications contain both a catalogue and a quantified overview. However, only a handful of publications actually indicate whether their catalogue is representative of the material that was excavated, and without a quantification any form of control is rendered impossible. Creating a methodology capable of testing the nature of a ceramic catalogue seems far-fetched. In addition, the representativeness of a catalogue is highly prone to circular reasoning as well as individual interpretation. Therefore, this study is firmly rooted in the belief of the intrinsic value of an overall approach. By collecting the material en masse (173 excavations and/or surveys were studied, see appendices 1a, 2) within a broad chronological and geographical framework, thereby taking into consideration the non-representative character of the material, the finer points will, perhaps, not be overlooked; although important, these are of less concern for this study. Rather, it aims to outline certain basic patterns that are undeniably present in the material. The matter, however, may also be reversed. Why would a large collection of published tableware fragments *not* be generally representative of ancient patterns of exchange? It is believed that context-, site- or publication-specific issues are smoothed away because of the geographical and chronological scope of the study. This of course applies specifically to the macro-economic or supraregional level: after all, a site's historical character *is* expressed in its archaeological record, distorted in most cases, and site-specific factors (location, for one) are taken into account in further interpretation. This archaeological record includes pottery, the interpretation of which gains added significance when compared with other sites and areas.

Second, the published pottery itself poses several problems and therefore needs to be critically judged. A first problem

Phase	Lower Date (*c.*)	Upper Date (*c.*)	Criteria
1	150 BC	30 BC	Initiation and development of ESA, ESC and ESD
2	30 BC	25/30	Inception of ITS and ESB, typological change in the repertoire of, in particular, ESA
3	30	60/70	Contraction distribution of ESA, flourishing of ITS, development of ESB and ESD
4	70/75	200	Contracting distribution of ITS, disappearance of ESA, ESB and ESD, appearance of ARSW
5	200/225	325	Supra-regional distribution of two tablewares: ESC and ARSW
6	325	400/425	First peak for ARSW, beginnings of LRD and LRC
7	425/450	500/525	Decrease in the distribution of ARSW, increase of LRC
8	500/525	575/600	Continued increase of LRC, renewed increase of quantities of ARSW
9	575/600	700	LRD somewhat more common, all three wares disappear from supra-regional exchange towards 675/700

Figure 3. The nine-phase chronological framework used in this study (© Philip Bes/ICRATES Project).

that springs to mind is the delicate relationship between the dating of forms (and by extension, wares) and the dating of a deposit. For example, understanding the distribution pattern of the earliest forms of ESA, significant though this is, is possibly hampered if the dating of a deposit relies solely on the typo-chronological dating of these early forms: it becomes something of a self-fullfilling prophecy. One might also be confronted with the misidentification of a form, which can be the case for instance with small rim fragments of ESA forms 3 and 4. Not only a form, also a ware may be misplaced, or not identified at all.[37] Also, certain illustrations-identifications raise serious doubt about the attribution. For one, we may be dealing with a locally- or regionally-made vessel inspired by a prototype in a commonly distributed ware. The database accommodates alternative suggestions when a more appropriate form can be recognised. The proportion of misinterpreted forms and wares is considered to be small, likely not exceeding an acceptable 1-2%. Striving for a high degree of uniformity, and attempting to have information as accurate as possible, is essential since all faults work through in the analyses and potentially influence the interpretation of the data. Something else that is occasionally encountered is the persistent use of terms such as 'Samian' and 'Pergamene'. These can cause confusion, as both are reminiscent of Zahn's 'Pergamene' and 'Samian',[38] terms that are, in the main, no longer acceptable.

Catalogues of pottery can occasionally be highly confusing, or simply composed erroneously due to whatever cause.[39] Sporadically, illustrations also pose problems because of their quality, thus hampering identification,[40] or simply because of the quantity, as with over 1200 drawings of oftentimes small fragments of ESA.[41] Perhaps a basic set of parameters needs to be more consistently published, in order to approach certain research questions.[42] With software technology increasing at a rapid pace, one could favour pottery (and other artefact) catalogues or quantifications being published digitally.[43] This would make available large numbers of artefacts that would otherwise not have been possible, or at least too costly, thus increasing research potential.

1.3.5 The Chronological Setting

The archaeological evidence for the production and distribution of red slip tablewares as presently understood imposes the chronological limits of this study. For centuries, pottery with a (partly) red surface existed in many regions, before a fully red slip tableware began to be produced on a large scale somewhere in the northern Levant in the mid-2nd century BC, developing from an already existing framework of production.[44] The lower

[37] E.g. Hayes 2001, 278.
[38] For modern use of these terms in the east, see Wintermeyer 2004; see also Slane 1991a, referring to British archaeologists' use of the term Samian.
[39] For an example, Harrison and Hayden 2005, 57-79.
[40] See for example the illustrations in Adamsheck 1979.
[41] Vanderhoeven 1989. Some profile drawings resemble ESD much more than ESA.
[42] Poblome *et al.* 2006, 564-565.
[43] See n. 13.
[44] Jeroen Poblome, pers. comm.: unpublished chemical analyses by the Centre for Archaeological Sciences (CAS, University of Leuven) of early and mid-Hellenistic colour-coated tablewares *and* ESA from Kinet

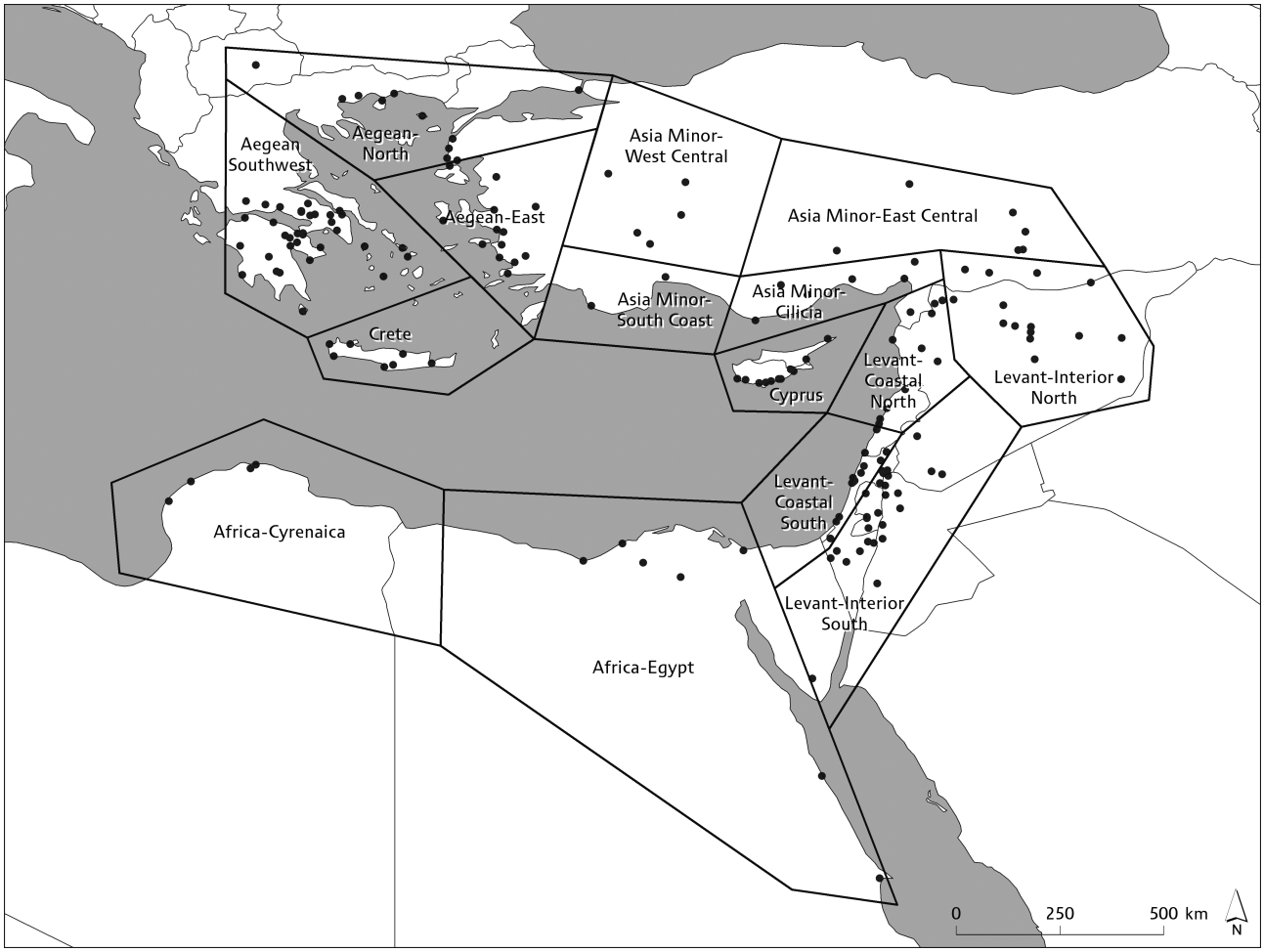

Figure 4. Map of the eastern Mediterranean showing the regional framework used throughout the text; each dot represents a site or area/survey from where data was collected (© Philip Bes/ICRATES Project).

limit of the mid-2nd century BC is established because it was at that time that the production process of slipped tablewares underwent a technological change of lasting importance: the shift from black to red slip, though red and/or brown slips were already favoured in for example parts of Asia Minor.[45] This technological and cultural evolution came to determine the production and use of tablewares for the next nine centuries or so.[46] The upper limit falls towards the end of the 7th century, when the large-scale production of red slip tablewares dwindled, though production (and distribution?) may have continued on a reduced, regionalised scale into the late 7th, if not the early 8th century.[47] That being so, the topic proper dictates the chronological boundaries of this study: the period that began with the inception of terra sigillata in the mid-2nd century BC, right up to its disappearance in the late 7th, early 8th century, even if for the Roman imperial period the term red slip ware is generally used/preferred, a term which nonetheless reflects the same ceramic product and its manufacturing procedures.

In order to facilitate the discussion of the collected evidence, a nine-phase chronological framework was created (Figure 3; all dates are *c*.): the phases are defined when major changes occurred in the quantity of wares or the (dis)appearance of existing or new wares. Thus, the collected evidence directs this framework. The boundaries between these phases are not determined by a historical framework, though as will be discussed, the phasing does coincide with certain developments. As with the geographical framework, these nine phases are intended to facilitate the presentation and discussion of the collected material, and should not act as a directive, rigid framework.

1.3.6 The Geographical Setting

The eastern Mediterranean is a vast area with a turbulent history, covering the modern countries of Greece, Turkey, Syria, Lebanon, Israel and the Palestinian territories, Jordan, Egypt and Libya. This may evoke the thought that the age-old distinction between west and east is yet again sustained by this study. This has at least two obvious reasons. The first is provided by the substantial quantity

Höyük show that these were made from the same clay (group).
[45] Van der Enden *et al.* 2014, 85, fig. 3.
[46] Élaigne 1999.
[47] Hayes 2007, 435-436; Bonifay 2003, 128, 2005, 570 (ARSW); Armstrong 2007, 20, 24-25.

of published evidence for the eastern Mediterranean. Secondly, which is less of a practical motivation but historically prompted, the Roman Empire actually continued in the east. Large parts were subdued by Persian invasions in the 6th and early 7th century, followed by Arab incursions in the course of the 7th century. A relative caesura was established between west and east around the late 3rd century. Ties were not completely cut off: for instance certain legislative frameworks and institutions were taken over by 'barbarian' tribes,[48] and the 6th century saw Justinian's reconquest of large parts of the former western Empire. In the east, economic activities beyond any doubt continued, and perhaps even grew; yet, at the same time, the western Mediterranean was certainly not a dilapidated no man's land.[49] A great deal of work has been done on tableware finds[50] and specimens of Riley's Late Roman Amphora package from the east have been identified at sites such as Carthage, Marseille, Rome, and even Britain.[51] The distribution of LRC in the west,[52] and that of ARSW and African amphorae in the east are testimonies of a continued economic integration of west and east.

A grouping of sites according to the early Roman provincial framework, and for the mid- and late Roman periods following Diocletian's system of themes and dioceses and Hierokles' list of cities in his Synekdemos respectively,[53] was ultimately dismissed in favour of an artificial geographical framework. This framework is principally based on the available evidence, although obvious cases such as Cyprus and Crete were taken into account. In this way 15 regions were 'created', illustrated in Figure 4. Appendix 2 lists, by region, the sites and surveys from which data was collected; see also appendix 1a. As with the chronological framework, this offers a flexible framework within which, at any given point, these regions can be further subdivided, or boundaries shifted. Suggestions for such are given below. This approach also provides an opportunity to investigate a possible relation between political-administrative, geographical and/or other boundaries on the one hand, and the distribution of pottery and other goods and commodities on the other. The order of presentation of the regions in chapters 3 and 5 is clockwise, starting with Africa-Cyrenaica and ending with Cyprus.

[48] See e.g. Whittaker 1983; Liebeschuetz 1997, 2001.
[49] Whittaker 1983; Reynolds 1995; Wickham 1998.
[50] See e.g. Berti *et al.* 1970; Carandini and Panella 1973, 1977; Tortorella 1986, 1987; Mackensen 1993; Bowman 1996; Campbell 1996; Bonifay 2004.
[51] See Riley 1979 for his Late Roman Amphora package. For the distribution of some of these, see Kingsley 2001, 51-55, esp. 53-54 (fig. 3.4); Decker 2001, 76-77; Karagiorgou 2001.
[52] Reynolds 2005a, 486, map 10.
[53] Talbert 2000, maps 101-102; Hierokles may have written his travel guide around 535.