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Stissi, V.

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Diagnosing the undiagnostic

Using sherd databases as a source of interpretation

Vladimir Stissi

Abstract

In this paper, I offer a plea for the use of full sherd databases, rather than a small selection of catalogued items, as a starting point for interpretation of survey finds. While most sherds are not as precisely dateable or otherwise diagnostic as most items in traditional catalogues, in my experience a very large majority of survey finds is usually dateable in period categories, and most can be assigned a shape or function. By looking at examples from projects in Thessaly and Boeotia I am involved with, I hope to show that these 'medium diagnostic' sherds provide a solid starting point for interpretations of assemblages, even if conditions in the field or selective processing have stuck us with less than ideal collections. These examples also showcase possible approaches to find collection and processing.

Of course, the fact that much is possible does not mean that results are always straightforward or that there are no pitfalls. In the second part of the paper I illustrate some problems and possible ways to tackle them, and also reflect on some methodological issues, particularly implications of the limitations of our classification systems – which of course simplify results and produce biases. Finally, I will present some unsolved riddles. None of these difficulties, however, are problematic enough to invalidate or even seriously hamper the use of all kept material as the main source of our interpretations of survey finds. Most of the apparently undiagnostic mass is quite diagnostic and useable if given proper attention!

Keywords: Archaeological Survey; Ceramics; Diagnosticity; Chronology; Function.

Introduction

The finds publications of most Greek and Italian archaeological field surveys are oddly traditional: they usually present a relatively small number of (relatively) highly diagnostic finds – dozens or hundreds out of thousands or ten thousands. This may give a good introduction to local and regional ceramic production, and offers some anchor points for dating, but can at best only partly be related to the chronological and functional analyses of single sites and regions which are often the core of survey publications. The bulk of the finds simply remains out of sight, and conclusions that appear to be based on them, or some of them, are uncontrollable.

In apparently less traditional publications, finds are regularly presented in tables with so many categories and numbers that they are barely readable, and hardly useable as a starting point for interpretations. Furthermore, one sometimes wonders how classification of survey finds can be so precise, and what happened to the large

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proportion of finds which cannot be classified so precisely. In fact, there are clear cases where 'complete' overviews of finds can only be overviews of diagnostic finds – whatever selection these may represent.[1] In the end, the resulting interpretations are often not that different from those coming out of more traditional approaches starting from smaller numbers of catalogued items, and the control problem remains.

Of course, these various approaches leading to selective presentations of finds are at least partly a result of the sad but inevitable fact that in most surveys much of the encountered material is considered to be more or less undiagnostic or uninteresting, and that there often are so many of such finds that it is very tempting to leave them aside and 'forget' them in the interpretative process. It is also only natural to concentrate on finds that are easier to classify and understand – thus remaining in a circle which makes it difficult to extend our expertise into categories of finds we cannot grasp yet.

Shouldn't we be able to do better? I think the now available expertise in processing even worn and highly fragmented sherd collections indicates we could. In my experience, in several Greek surveys the numbers of kept material that can be labelled as what I would call 'medium diagnostic' are very high -- thousands of sherds and more than two thirds of collections can often be dated within a few centuries and a large majority of these can be given a rough shape, fabric and/or functional grouping. As will be shown below, for some areas and periods, over 80% of diagnostic in this wider sense is not unusual, even when relatively little material is left behind in the field.[2] Fortunately, elsewhere in this volume, many good examples of innovative approaches effectively using such masses of finds can be found.

In this paper, I do not want to look at specific methods and results of single projects so much, although I will start from the finds I have studied over the last decades in Thessaly and particularly Boeotia.[3] Instead, I will try to stay close to the material itself, looking at ways it can be approached, starting from basic classifications as used by many projects, but focusing on the possibilities and also limitations of these medium diagnostic sherds mentioned above – items which can be grouped in basic categories, without being very diagnostic. By looking at some partial results and small sections of data I hope to offer some case studies which show how even humble sherds can be quite informative when studied in bulk, but I also want to highlight some problematic aspects of our datasets, indicating limitations and potential pitfalls. In addition, I want to present some riddles: sometimes our data also show inexplicable patterns, at least for now. Finally, my series of small case studies and the accompanying illustrations are also meant to explore possible ways of meaningfully presenting and discussing large collections of normally mostly overlooked finds. In short, this is an article about method, in which specific results and interpretations are only illustrating the main point: survey publications should give more attention to the mass of finds which are not interesting as catalogue entries.

Numbers, densities, diagnostics

A first issue to address regards the numbers of finds which can be labelled as diagnostic in a useful way, and the insights quantitative approaches can offer – or cannot offer, because survey material obviously has its limitations as well. As there is no systematic research in this field I am aware of, it is difficult to judge what proportions of finds which can be dated or classified by specific shapes or fabrics or uses may be considered regular for Greece. Of course this also depends on ways of classification and definitions of what is specific enough to be considered diagnostic, for which there is nothing approaching a standard or even a common practice. I do have the impression however, from both existing publications and discussion with many survey archaeologists, that the interpretative potential of full survey assemblages (rather than small selections of highly diagnostic items) is underestimated.

I will therefore start by looking at two extreme cases I am involved with: on the one hand a relatively small assemblage, subject to heavy selection before study, from an area where finds are generally badly dateable and also otherwise rather undiagnostic and on the other hand a set of assemblages of much better preserved and more diagnostic material, which was mostly less 'filtered' before study, and where the sheer bulk of material may seem overwhelming. These collections come from two entirely different survey projects in Thessaly and Boeotia respectively. However, seen together the rather different problems of diagnosticity in relation to quantity they illustrate combine well in offering generally valid insights and possible approaches to various kinds of 'difficult assemblages'.

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1 See e.g. the find lists in Mee & Forbes 1997; Bergemann 2010; Carter & Prieto 2011.

2 I am not aware of any intensive surveys in Greece or Italy which have collected and published all material on surface in the researched areas and squares, or even all material they picked up. More and more projects are now depositing their datasets in digital repositories, however. These are likely to include more complete documentation, but unfortunately some I have tried to access are not very user-friendly, and many remain only partially filled-in. I have for now abandoned my plans of collecting case material this way.

3 I here want to thank the project directors of the Boeotia surveys, John Bintliff and Anthony Snodgrass, and the Halos Survey, Reinder Reinders, for inviting me to participate and study finds, and the Ephorates of Boeotia and Magnesia and their staff for their cooperation in making this work possible, and the support during the stays there.

In its early phases (1990-2002), the Halos survey, covering parts of the territory of the small polis of Halos in southern Thessaly, has mostly collected very small and highly diagnostic groups of selected material, from rural sites only. These can now be compared with larger samples collected or sometimes only counted during targeted revisits and tests in 2011-2015. These include offsite areas, but coverage remains patchy.[4] By contrast, the Boeotia Survey and its follow-ups have targeted more substantial and more continuous parts of the territories of several poleis, including the main settlements, and have generally collected quite intensively in their long history starting in 1978, especially in the urban sites I will focus on in this paper.[5] Most, but not all, of the surveyed Boeotian cities, but also some villages and larger isolated structures, have produced collections of thousands or even tens of thousands of sherds.

One aspect both projects have in common is that collection strategies and intensity have varied considerably over time, but generally moved towards fuller coverage and more detailed collecting and recording. While on the one hand this can hamper comparisons between sites and collections, on the other hand it also allows a better understanding of the effects of different approaches in picking up and keeping finds. It is moreover a typical situation of many projects, which in the course of time tend to adapt their strategies to earlier experiences.

During the 1990-2002 surveys around Halos, offsite finds were usually not picked up, and only small numbers of very diagnostic finds were brought in from the sites encountered. During processing, further selection took place, removing duplicates and finds which were somehow considered to be of little diagnostic value. All judgment was impressionistic, and not based on systematic criteria. As a result, the number of kept sherds is very low, and the representativity of the kept assemblages is unclear. In many sites (48 out of ca. 230) no finds at all were collected or kept; in the majority of remaining sites (119) less than 20. As a result of the selection process, in most sites, almost all preserved sherds are dateable, and many are also diagnostic regarding shape and surface finish. However, diagnostic sherds are not necessarily unproblematic. In some cases (like some Early Iron Age sherds found in a ruinous Medieval or Ottoman building on top of the Halos Akropolis) these are clearly not representative of the surface assemblage. The picture is not always so straightforward, however. Especially in small multi-period sites, which seem to be quite frequent in the area, many bags contain finds belonging to three or four chronological phases, each represented by one or two sherds. Obviously, some of these may well be background noise (although offsite density is very low in much of the area), but even if they are not, these tiny quantities are not much to base a site history on.

Unfortunately, a series of intensive resurvey campaigns in 2011-2015 have shown that bringing in more finds does not necessarily solve such problems. The combination of low artefact densities on mostly small sites, rather badly preserved material and multiperiod sites often still leads to very low numbers of sherds for each period. It must be said, however, that, rather to our own surprise, the chronological patterns visible in the old small selections of material were mostly confirmed by the somewhat larger new collections. This, at least, appears to confirm that our multiperiod sites are not built up out of background noise.

Meanwhile, even in some of the larger sites where we now picked up hundreds of sherds instead of handsful or dozens, diagnosticity remains a major problem. Particularly on unplowed, overgrown hilltop sites, but also in some plowed fields, most of the surface material is highly fragmented and heavily eroded, leaving very few sherds which can be classified by shape or surface finish (see Figures 1-2 for examples). Perhaps further study focused on fabric and bringing in finds from excavations and well-dated single period survey sites could help here, but for the moment on many sites we remain stuck with small numbers of even roughly dateable sherds, which do not bring us much further than the original selective collections.

However, in some cases the revisits did offer new insights. Particularly sites on plowed land do show that looking at larger numbers of finds can really take us forward. The enigmatic site 1990/35, a small elevation close to the large Early Iron Age cemetery at Voulokaliva, is perhaps the best example. Even though a large number of finds had been kept after the first survey in 1990 and several revisits, allowing us to differentiate between Bronze Age settlement material and Early Iron Age finds with an apparent, but less certain, funerary profile, the spread of finds of different periods over the site was not very clear, mainly because the collection units were large. As a result, particularly the possible connection between the site and the nearby cemetery area remained problematic.[6] This was addressed in 2011 by a short intensive collection in 14 × 14 m squares, aligned with the olive trees in one

4 For an introduction to the Halos Surveys and further references, see Stissi et al. 2015.

5 There is no overall summary of the work in the various phases of the Boeotia surveys. A very short introduction can be found online: http://www.boeotiaproject.org/site/project-history/ (visited 26/8/2018; online but not accessible 26/5/2020); some important summaries can be found in Bintliff & Snodgrass 1985; Bintliff et al. 2004; Bintliff, Howard & Snodgrass 2007 and Bintliff et al. 2017 (the last two also offer many references to earlier publications); see also Stissi 2011; 2012; 2017 for some targeted studies on Boeotian finds.

6 Stissi in Reinders 2004, 91-93, 99-102; Stissi et al. 2015, 79-81.

Figure 1: Halos Survey: some of the sherds from site 1992/1, just after they were collected during the 2012 revisit (photo by the Halos field team).

of the fields (Figure 3). Since it was known beforehand that find density would be high, we already had a good collection for qualitative analysis and we did not want to spend much time on this, we chose to do the processing in the field with a primarily chronological focus, taking in only exceptional finds. Of course, this was only possible because our knowledge of the existing collections made it relatively easy to identify and date the artefacts. In less than two working days, more than 5.000 sherds were collected and processed, of which 78% turned out to be dateable (Figure 4). One of the clear results was that a small core with Mycenaean and early Early Iron Age finds, possibly a small settlement, could be distinguished within a general spread of later Early Iron Age finds that seem to be related to the cemetery area, which indeed seems to have expanded and to have been used much more intensively in this period.[7] While this outcome was not a complete surprise – the Mycenaean core was already visible in the earlier finds, and there already was a little bit of Protogeometric – only the detailed mapping of all the finds allowed a better understanding of what we saw.

While the Halos survey has a strong focus on rural sites, the surveys in Boeotia have always been more focused on polis centers and their surroundings, even though smaller towns and more peripheral areas were often covered as well. Ground conditions and preservation of finds were generally much better than in Thessaly, but not always.

7 See Stissi 2011, 65-67; Stissi et al. 2015, 80-81.

Figure 2: Halos Survey: some of the sherds from site 2000/48 (Kato Xenias), just after they were collected during the 2012 revisit (photo by the Halos field team).

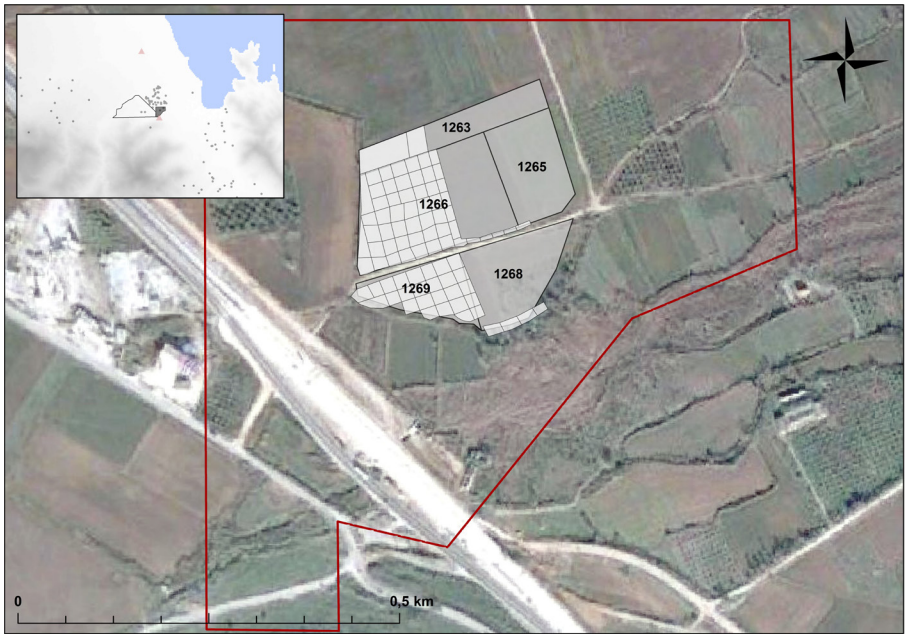


Figure 3: Halos Survey: map of site 1990/35 showing field numbers, the areas examined in 1990-1996 (light and dark grey) and the 2011 revisit transects (light gray) (map by Jitte Waagen).

Indeed, the first cities to have been surveyed in the project, Haliartos and Thespiai, offered contrasting conditions, resulting in two very different finds assemblages: Haliartos was mostly unplowed and overgrown, leaving little material on surface, much of it very worn, while the area of Thespiai is almost entirely intensively cultivated and regularly plowed, resulting in a thick carpet of finds, partly very worn, but also partly quite fresh.

In both cities, the collection and processing focus was strongly on diagnostic finds, that is feature sherds (rims, handles, bases, decorated sherds), but interestingly the rather desperate situation at Haliartos led to a very small collection (ca. 660 sherds) including a surprising 90% of dateable items, while at Thespiai a much more impressive number of finds was retained-14.500, of which 81% were dateable and 44% diagnostic by shape – still fairly high percentages.

While on the one hand the conditions at Haliartos have clearly led to a very strict selection, leaving almost all of the less diagnostic material in the field, the Thespiai results

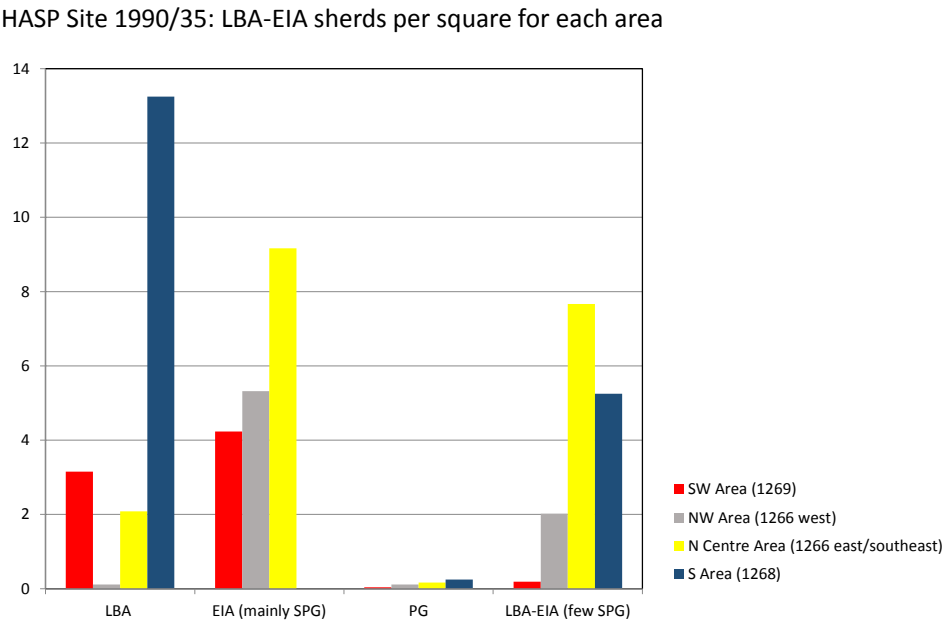


Figure 4: Halos Survey: the Late Bronze Age to Early Iron Age finds recorded during the 2011 revisit of site 1990/35, subdivided by area and period (figure by Vladimir Stissi).

seem to show that rough dating by fabric partly works, but also that not all feature sherds are dateable. Interestingly, transects walked in the direct surroundings of Haliartos, which were mostly plowed, brought in a larger find collection of much lower diagnosticity (over 1.500 sherds, 58% dateable), while the eight smaller sites around the city which were surveyed separately occupy a middle ground, closer to the Thespiai figures (ca. 2.200 sherds, 73% dateable); these are again from cultivated land, mostly. I have not looked at material from the direct surroundings of Thespiai, but the nearby large village of Askra, which was mainly surveyed through rather small samples, on its own yielded 2.282 sherds (88% dateable), again indicating that high densities of finds can go well with high proportions of dateable (and otherwise diagnostic) material.

During the later years of the Boeotia surveys, field walking was more intensive and relatively more material was collected and kept. The peak was reached at the town of Koroneia, a fairly large site (ca. 40 ha), where more than 60.000 sherds have been collected and kept, even though substantial parts of the site were not surveyed. Even leaving aside the partial coverage, the number of kept sherds per hectare is ten times that reached in Thespiai. These finds have not been fully processed yet, but preliminary study clearly indicates that both the quantity of diagnostic material and its quality are relatively high, so very detailed analysis should be possible. With these numbers, however, processing and presentation of the results may become issues to consider.

This was less of a problem when working on the now upcoming Boeotia volume, on the small city of Hyettos and a part of its hinterland. In the city itself about 14.000 sherds were picked up, a number similar to that at Thespiai, on a site which is less than a third its size (104 ha vs. ca. 30 ha). Just as at Thespiai most of the area is cultivated (or was till recently) and the percentage of diagnostic material (82% dateable, while 46% of the Early Iron Age to Hellenistic finds which I studied has a shape attribution) is very similar. It is, however, quite a bit higher than that of the part of the rural territory near the town which was surveyed, and the sites in that territory which were separately surveyed. In the territory, about 56% of the slightly more than 10.000 finds were dated, and of the almost 10.900 sherds from seventeen sites ca. 52% were dateable, while the proportions of Early Iron Age-Hellenistic items with a recognizable shapes were 39% and 40% respectively.

These similar general figures, however, hide a rather complex reality. The rural transects also covered the sites, including some with much higher percentages of dateable material. Almost all of these clear, dense sites belong to the Roman period or later, a time span which produces almost two thirds (64%) of the dated site finds. The same period, however, covers less than half (48%) of the dated transect finds, and most of these finds appear to come from these very sites or their surroundings. In other words, the actual percentage of dateable offsite material is lower than it seems, and the percentage of Early Iron Age-Hellenistic material in it (about two thirds of the dated material) is higher than it looks at first sight. Taking this into account it can hardly be a coincidence that all but one of the areas designated as 'Classical' (or rather Archaic-Hellenistic) sites have a rather wide date range very similar to that of the rural 'background noise', and also show very high percentages of small non-diagnostic sherds, suggesting that actual site-related material there may be rather

meagre, or even non-existing. The shape and functional ranges, which are nearly identical in offsite and 'site' areas, seem to confirm this. Determining sites mainly or exclusively from find densities may be problematic, it seems – but dating alone already offers an interesting possibility to control things.

It may be remarked that these 'thin' multiperiod collections from the surroundings of Hyettos look somewhat similar to those of the Halos multiperiod sites mentioned above. There are two crucial differences, however: first, in most of the Halos area, there is no 'background' noise in between sites, while this seems to be a very significant factor around Hyettos. It is possible, nevertheless, that at least some of the smaller Halos multiperiod sites in reality represent some form of on site noise, not resulting from primary use of materials on the spot. Intentional or accidental (in mudbrick, perhaps) reuse of older items might be one (partial) explanation. Second, the date and shape ranges in the Hyettos 'sites' are remarkably uniform (and similar to the background noise) whereas they show considerable variation in the Halos area.

Returning to Boeotia, it is interesting to note that the relatively high percentage of Early Iron Age-Hellenistic material in the offsite collections is a recurring phenomenon. It has been noted around Thespiai,[8] and it also seems to characterize the Tanagra offsite (about 15.500 sherds, still under study), where in the various transects between 15-40% of all finds are Archaic to Hellenistic (Early Iron Age finds are generally absent in most areas), while the numbers of Roman and later material are usually much smaller. The provisional data suggest that the proportion of diagnostic material is comparable to that around Hyettos, so about half (for dates) or somewhat less (for shapes). A difference, however, is that Classical-Hellenistic sites usually seem to stand out more clearly. On the other hand, I have argued elsewhere that a thin spread of Early Iron Age and Archaic finds which can be found in one specific area near Tanagra only, may represent a combination of site and site haloes with traces of burial plots.[9] Here again, it seems detailed study of apparently ephemeral phenomena can offer very specific results, if the right focus can be found.

More generally, I hope the case studies offered show that both dating and shape attribution of complete preserved assemblages, whether small or large, and highly diagnostic or less so, generally provide a solid basis for interpretation. Proportions of usable finds are usually substantial, and by closely looking at specific features of assemblages in comparison with other assemblages, and taking account of contextual factors, even superficially similar situations can be differentiated. Focused approaches can reach a level of detail that may seem surprising to some.

Shapes, diagnosticity, classification vs. reality

The high potential of our assemblage-based data does not mean that results are always easy to achieve and straightforward. While making nice tables showing chronological developments and shape ranges and using these to trace historical developments in habitation and use of space seems relatively simple, we should be aware that such tables hide complex issues of diagnosticity and classification. Our chronologies are at least partly constructs, based on simplifications, and on a partial knowledge of assemblages, and we have to remain aware of the bias we build in our data when producing tables and filtering out categories of finds to support our interpretations. I would like to illustrate this by Figure 5, which shows the relative numbers of the ten most frequently present shapes through time, in Early Iron Age to Hellenistic Thespiai.

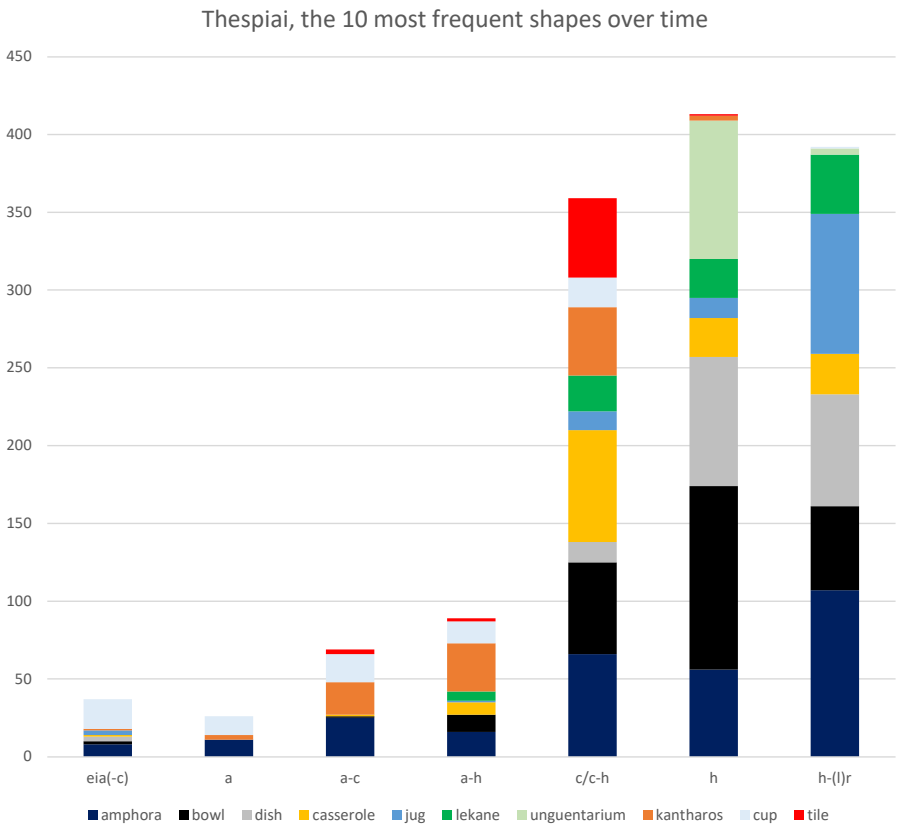
First of all, we should be aware that such tables represent only a fraction of the material, in this case a little more than 10% (1.385 out of ca. 14.500) of the total finds, and about 30% of the ca. 4600 finds with an Early Iron Age-Hellenistic date. Most survey finds, even dateable ones, are wall fragments which can at best be assigned to open or closed shapes. Even many feature sherds, particularly handles but also bases, cannot be associated with specific shapes. Generally, simple household pottery is more strongly affected by this than finer material, but it is also clear that some shapes, like unguentaria or beehives, are much easier to recognize than others, through shape details, ware and/or fabric and finish. While this obviously affects our understanding of functional aspects of pottery, there are also chronological implications.

In the earliest period shown in Figure 5, more than half of the items with a recognizable shape are cups, which completely disappear from the assemblage later on, while the jugs, dishes and unguentaria present in the final periods of the table are hardly present before. Most of these developments appear to represent 'real' chronological evolution of shape preferences, but it is clear typochronology plays a significant role too: the more than 20% jugs in the Hellenistic-Roman group are simply there because many sherds of a rather recognizable type of small jug cannot be dated more precisely than this; on the other hand, unguentaria tend to end up in the Hellenistic group, even though very few might be a little earlier,[10] and some are likely to be later. Part of this

8 Bintliff, Howard & Snodgrass 2007, 25, 149-151, 164-166.

9 Stissi 2011, 68-71.

10 For an overview of the history of the shape, see Anderson-Stojanović 1987.



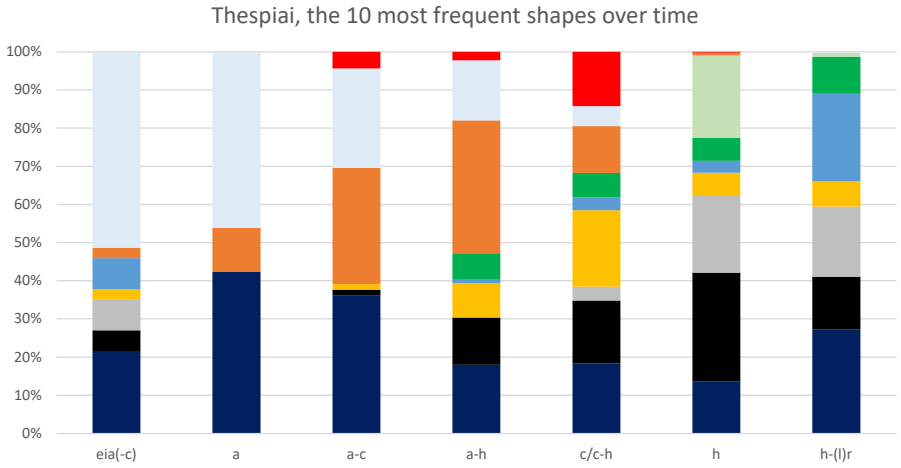


Figure 5: Boeotia Survey, Thespiai city: The ten most frequently recorded shapes over time (figure by Vladimir Stissi).

simplification could be avoided by using more precise dating categories, but these are available for ~~a part only~~ some of the material only, and do not always overlap neatly, thus impeding a concise overall picture.

It should also be noted that showing proportions or absolute numbers gives a very different impression: the relatively many early cups are few in absolute numbers, while the jugs just mentioned alone form 125 of the 1.385 finds taken into account in Figure 5. This means they are much more visible in the field, but would also be over-represented in any functional analysis which does not take chronology into account. We can be sure that similar situations are hidden in single period analyses, since not every shape lasts as long as our chronological categories. Similarly, shapes that remain in use for long periods, like transport amphorae, or that appear to do so because a single term is used for pots that are quite different in reality (like cups and bowls, or more generic terms like 'container' or 'jar') would also show more prominently in the overall picture than they may be when focusing on shorter periods, as continuous presence in low numbers may results in fairly high totals.

Besides issues of chronological definition, as just mentioned there is also a second problem affecting the interpretation: even though some of the popular shapes, like cups and kantharoi and (part of the) bowls appear represent a similar functional category through time, and (transport) amphorai are always present, none of the single bars in Figure 5 offers a convincing functional assemblage, and parts of the use range of pottery appear and disappear in the bars. Of course, this is at least partly a result of the focus on the ten most frequent shapes – but surely not completely: these ten shapes alone cover the large majority of recognized shapes (76%, 1.385 out of 1.811). In fact, other shapes are barely represented the material: the eleventh, the plate, is represented by only 48 items which are all Hellenistic or later, and the total of 426 items not in the shape top ten covers about 22 different shapes, of which half are represented by less than ten items. Clearly, a very large part of the assemblages which must have been there, including shapes and types which should be easy to date, remain mostly or completely invisible in our collection. While on the one hand we have to assume that our dated assemblage does somehow give a reasonable overall picture of chronological developments, on the other hand we can also be sure that our tables are more blurry than they look, and hide quite some problems on a detailed level.

This does not mean we should despair. In fact, we have some indications that at least substantial parts of our picture may be quite reliable on a general level. Looking more closely at the functionality of assemblages, and taking into account finds which cannot be linked to a specific shape but can be assigned to a range of use (like drinking or cooking vessels), it seems possible to discern a 'typical domestic assemblage' for the Classical-Hellenistic Greek world, which can be seen in both survey and excavation assemblages from both urban and rural sites. As I have illustrated earlier[11], these assemblages show a combination of a large proportion of vessels related to drinking with a wide range of processing, cooking and storage vessels and some loomweights and lamps. Perhaps not a surprising combination, but the relative proportions of the components can be quite strikingly similar throughout the Classical-Hellenistic period, in different places (see Figure 6[12]). Even in the hinterland of Halos, where almost all single 'farm' sites are too small to offer reliable figures, combining them gives a near perfect match (Figure 6a-b).

Interestingly, ongoing PhD research by Anna Meens on survey material from Boeotia suggests that within this generally similar basic pattern, some differentiation between small rural sites ('farms'), a village (Askra) and urban sites like Thespiai can be noted. Perhaps unsurprisingly, the urban assemblage looks slightly more 'luxurious', with somewhat more fine wares and drinking vessels, while the small rural sites have a stronger focus on basic utilitarian pottery and simpler fabrics. The composition of the assemblage from Askra falls somewhere in between. It seems clear that the means of the purchasers, practical considerations, but perhaps also status play a role. Further study of the other Boeotian cities may allow further differentiation – a first look suggests Hyettos has a relatively 'poor' assemblage and Koroneia a richer one. Furthermore, both survey and excavation material from the Halos area suggest a much lower presence of black gloss fine wares, even though the functional range of material, as expressed by shape groups, appears to be similar. At the Magoula Plataniotiki excavations, the proportions of decorated and of black gloss wares also seem to ~~the~~ decrease through time, along with the general quality of the pottery (measured by fineness, hardness, regularity of shape and smoothness of finish). Again, this may suggest that the investment people were willing or able to devote to pottery was a relevant factor, even though perhaps not the only one.

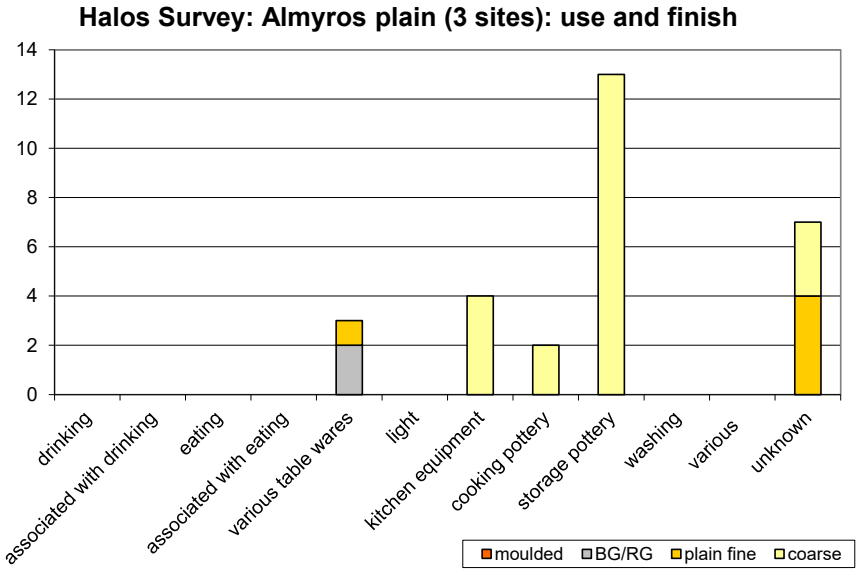
This brings us back to Figure 5. It may be noted that typical fine ware shapes, including cups, dishes and unguentaria, are very well represented in the 'top 10' of shapes. While this certainly is a result of their diagnosticity, as mentioned, and, related to that, the effects of selection in the field and during processing, we should perhaps take into account durability, as an effect of production quality, as well. Hard, high-fired and coated fine wares are likely to have better chances of survival in a recognizable form, and thus become somewhat overrepresented, perhaps not so much on the ground, but certainly in collections of kept finds. We could even speculate that low investment in quality may be a factor (certainly not the only one) in the relatively low diagnosticity of pottery at both Hyettos and Halos. Perhaps a comparison of the most commonly found shapes and their frequencies between a series of survey and excavation contexts, which has not been done yet, may also be revealing in this way. I hope to have showed that, despite some difficulties and potential pitfalls, survey material allows such comparisons.

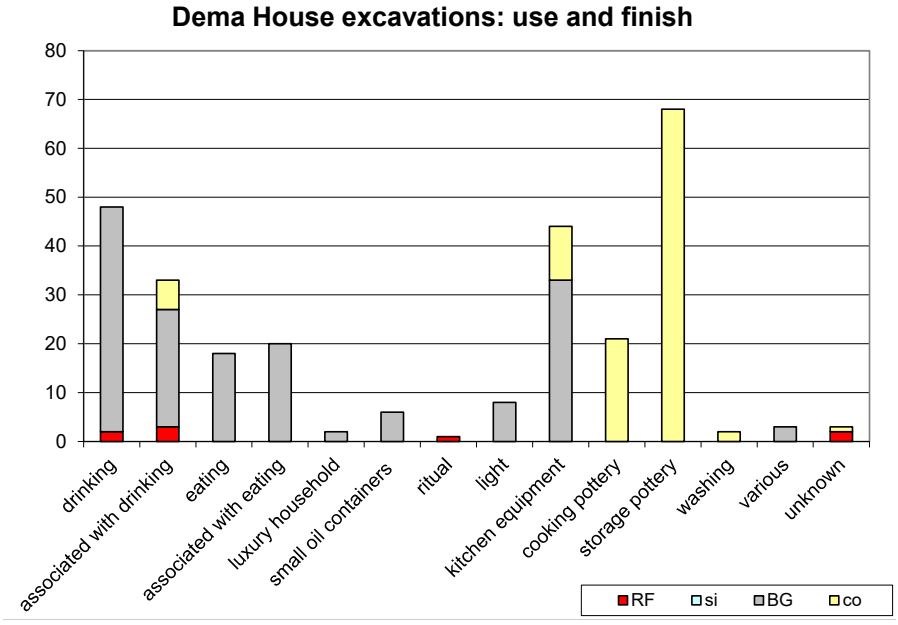
Some 'funny' phenomena

Selection does not only affect the range of wares and functions in our find collections. One obvious, but generally overlooked, result of selection of pottery during survey and find processing is that normally find collections contain relatively few wall fragments, and

11 Stissi 2002, 220-229; Stissi 2012, 396-399.

12 Tables 6a-c are based on the author's research; 6d on Jones, Sackett & Graham 1962; 6e on Jones, Graham & Sackett 1973; 6f on Mee & Forbes 1997, Appendix 4, 282-343.





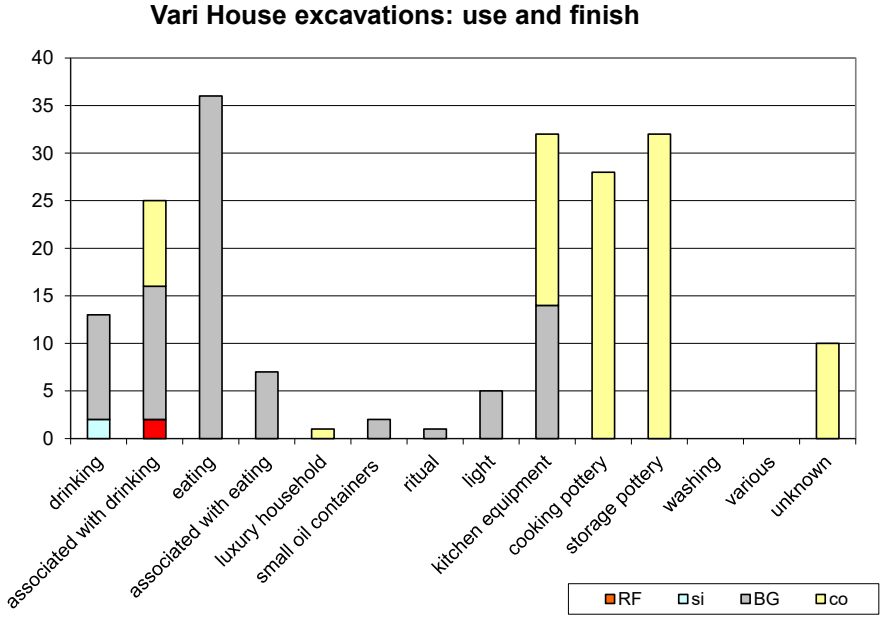
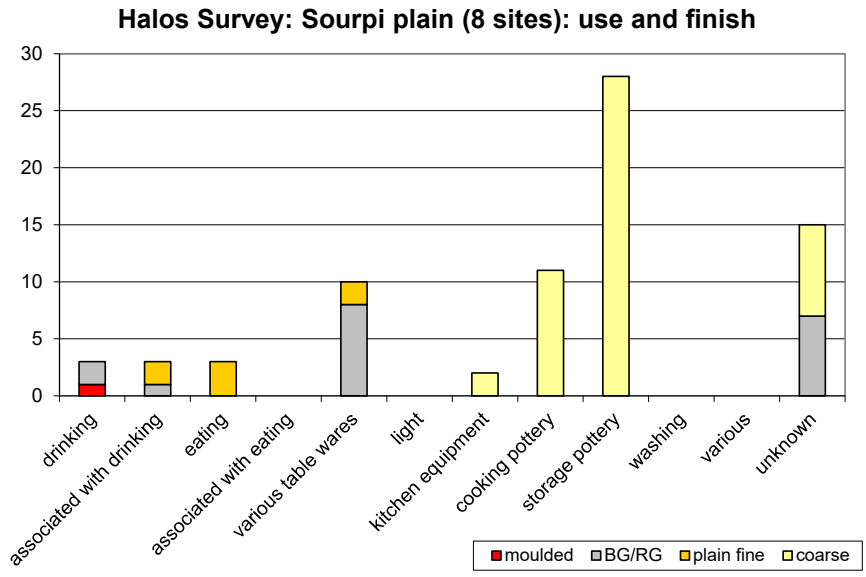
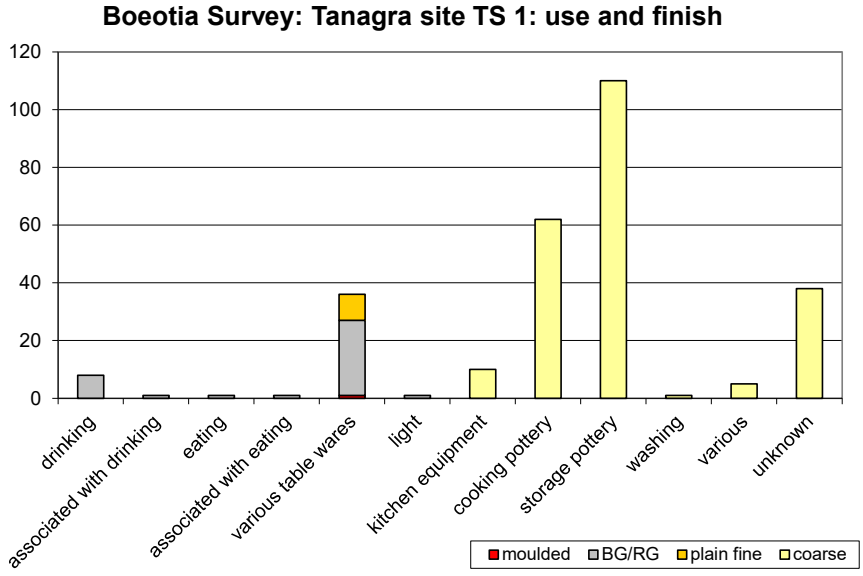
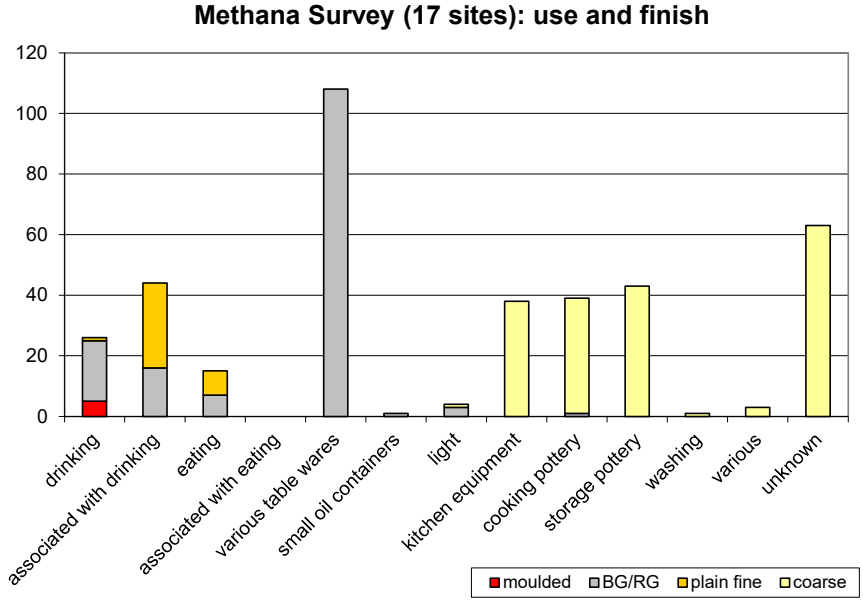


Figure 6: Domestic assemblages from various excavations and surveys in Greece (Classical-Hellenistic period) (figure by Vladimir Stissi).







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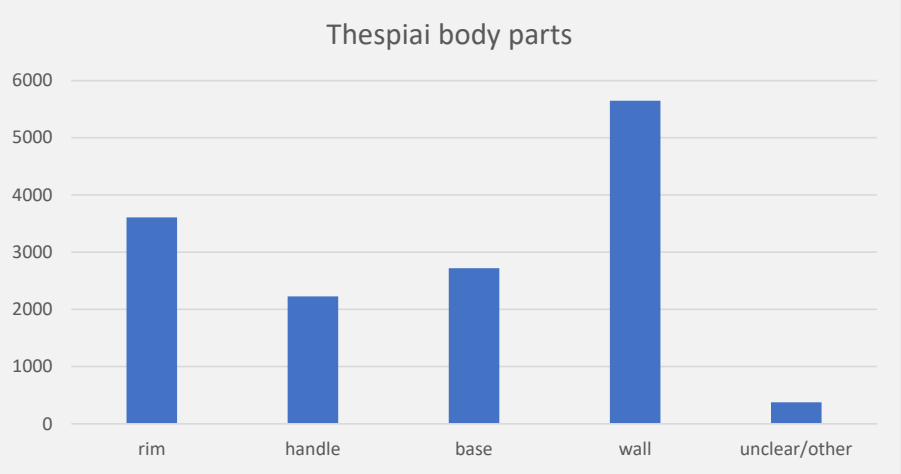


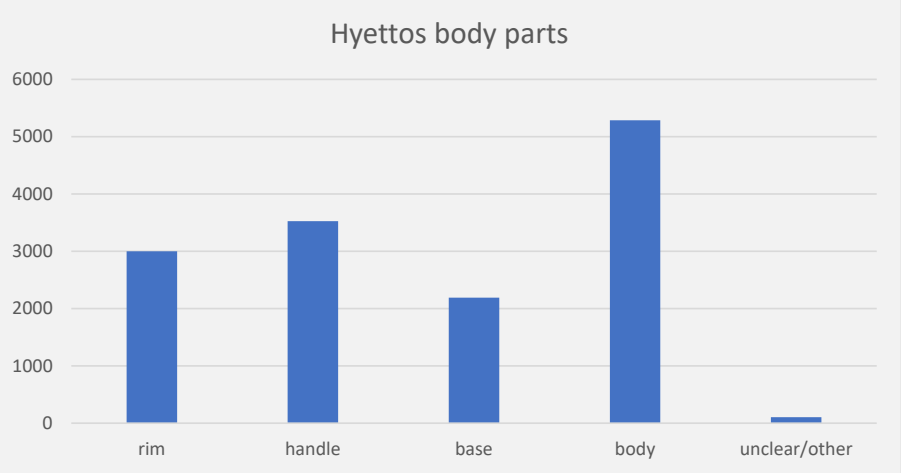
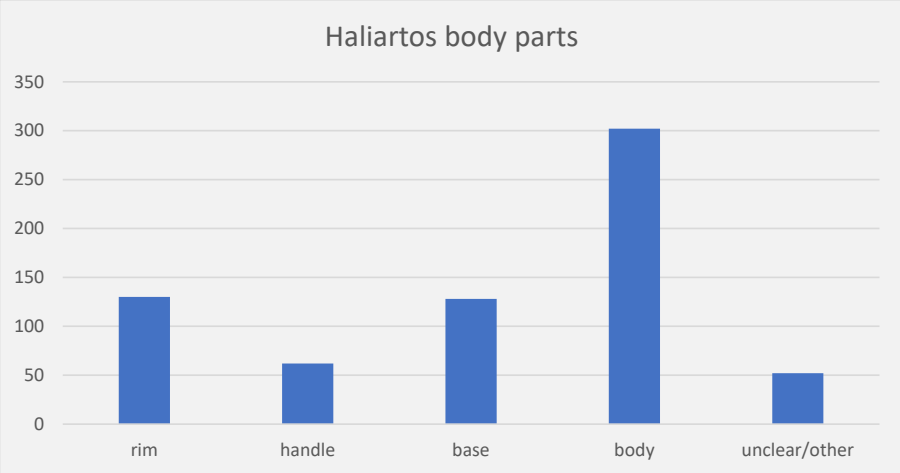
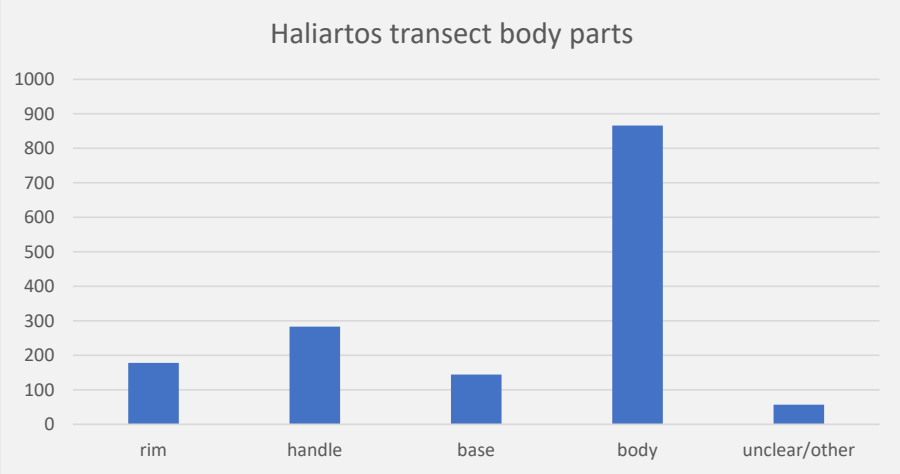


Figure 7: Boeotia Survey: the relative numbers of rims, handles, bases and bodysherds in different cities and their surroundings (figure by Vladimir Stissi).





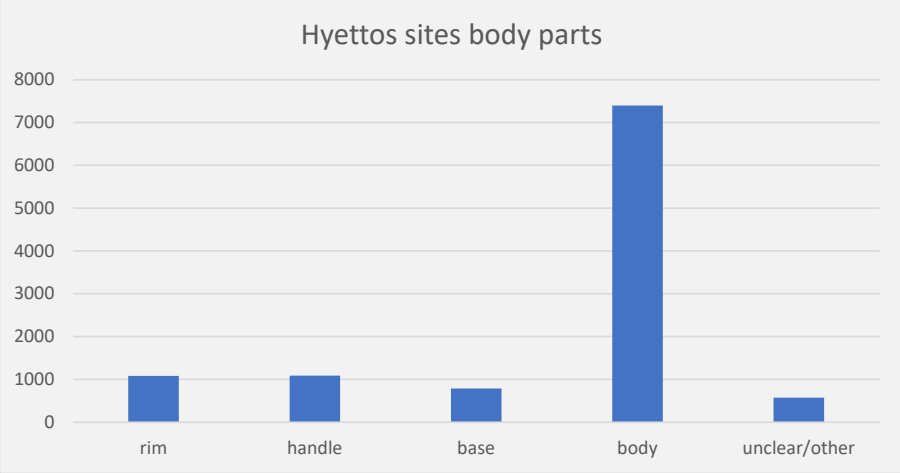


Figure 7: continued.

rather too many rims, handles and bases. At the cities of Thespiai and Hyettos, the proportion of walls to features seems to be about 5:9; the figure for Askra is more or less the same; the very small collection at Haliartos, however, has an almost 50/50 division (Figure 7a-d). This may be related to the relatively large numbers of decorated items, and perhaps the presence of easily recognizable prehistoric sherds, in a small and probably relatively selective collection which seems strongly focused on highly diagnostic finds, and, as said, generally has very little undiagnostic material.

However, things are not completely straightforward: as we have seen, the transects around Haliartos, where the proportion of wall fragments is even higher (they form 57% of the assemblage, Figure 7e), have relatively many undated finds (ca. 42%, compared to the ca. 10% of the city). The situation here may be compared to that of the sites around Hyettos, which yielded more than twice as many wall fragments as features, at about 52% dated (Figure. 7f). This material is poorly preserved and has very few decorated sherds. Here, it seems that not high quality but lack of anything better to pick up has led to the resulting pattern. It would be interesting to explore if we could indeed systematically distinguish between 'normal', 'high quality and selective' and 'poor and desperate' find collections by looking at proportions of features and percentages of diagnostics, perhaps in combination with sample size.

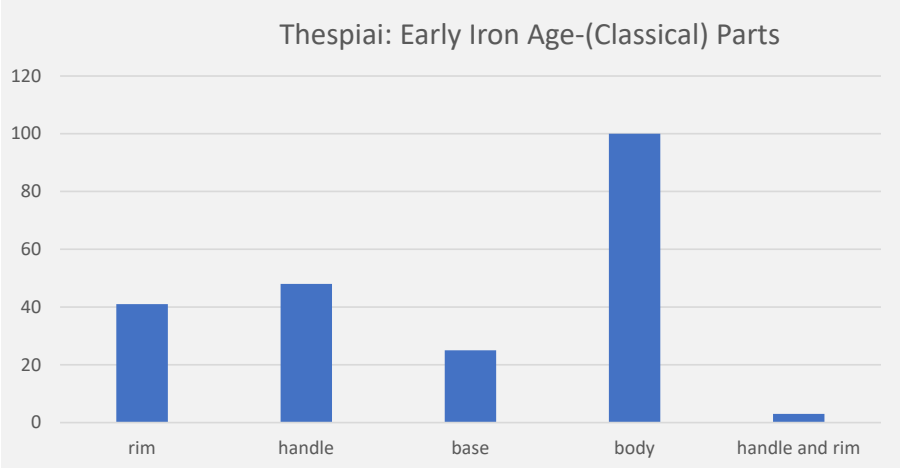
While the general patterns regarding proportions of feature vs. non-feature sherds do not seem surprising, nor very relevant for interpretation, a closer look also shows a far more puzzling phenomenon: the relative numbers of handles, rims and bases not only show considerable fluctuations between collections, but also within collections through time. In Askra and Thespiai, rims are the most frequent feature, in Hyettos city and the Haliartos transects handles, while in the Hyettos sites the numbers of rims and handles is more or less the same, and in Haliartos city the numbers of rims and bases (Figure 7). In Thespiai, each of six periods shows a different pattern (Figure 8). While the latter is surely at least partly a reflection of classification bias (e.g. we simply do not seem to be able to recognize specifically Hellenistic handles), the differences between sites are not easy to explain. Differences in the chronological composition of the material might play a role, but at first sight there are no obvious patterns. Possibly, besides chronology variations in shape, preferences or functional context of the material play a role, in addition to unintentional differences in pick-up strategy and perhaps issues of preservation. Correlation analysis might offer some interesting outcomes here.

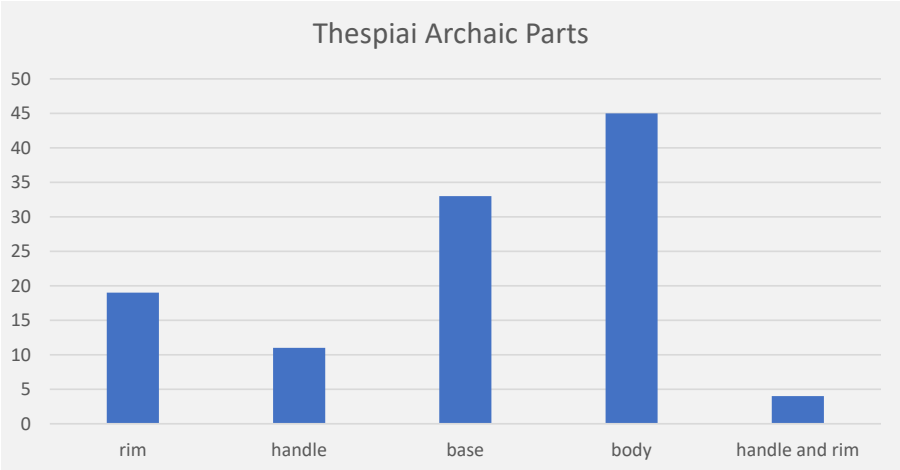
Conclusions

I hope my examples and cases have shown that 'widening our nets' by using not only highly diagnostic selections but full datasets from intensive collections is worthwhile. Squeezing out as much as possible from the large numbers of 'medium diagnostic' finds that even apparently 'difficult' collections produce can offer useful insights – not only directly in the form of archaeological interpretations and conclusions, but also indirectly by revealing patterns in our collection, processing and classification strategies, which in turn affect our interpretations. In other words, if we study and understand our full assemblages more comprehensively, this then allows more specific interpretations of parts of it.

Comparing and contextualizing survey results from different areas, and from different sites or areas within a single region (like Boeotia) seem to offer one way to gain insights in the ways archaeological formation processes (from deposition to modern land use), survey strategies and interpretations could interact. More specifically, a comparative approach could help us understand how apparently similar finds collections can be a product of different archaeological realities. It could also help us to handle the qualitative and quantitative diversity of our collections. As the Halos and Boeotia cases show, numbers and state of preservation of finds can vary considerably depending on the situation at deposition and past and present circumstances in the field, with consequences for diagnosticity. Particularly if pottery is thinly spread or badly visible under unfavorable conditions, numbers of even 'medium diagnostic' finds can be low, while in ancient urban areas densities are often staggering.

Low numbers and low diagnosticity are relative phenomena however, and rarely turn out to be so low that survey assemblages are useless for interpretation. While both too small and too large datasets do offer difficulties, one interesting consistent pattern in all my datasets (also from other projects I am involved in, on Zakynthos and Keros, actually) seems to be that, contrary to what may be expected, intensity of collection and selection (in the field or afterwards) do not appear to affect the relative numbers of dateable material very much: in all Boeotian cities, but also in Halos site 35 (a total collection!), the percentage seems to be between 70 and 90%, with the lowest figure for Thespiai, where the number of picked up sherds per hectare was perhaps below average, but still quite high, and the highest for Haliartos, where indeed kept finds are very few; outside the cities, where find densities are mostly much lower, and preservation is not always very good, even offsite the percentages of dated material remain well over 50. The proportions of items





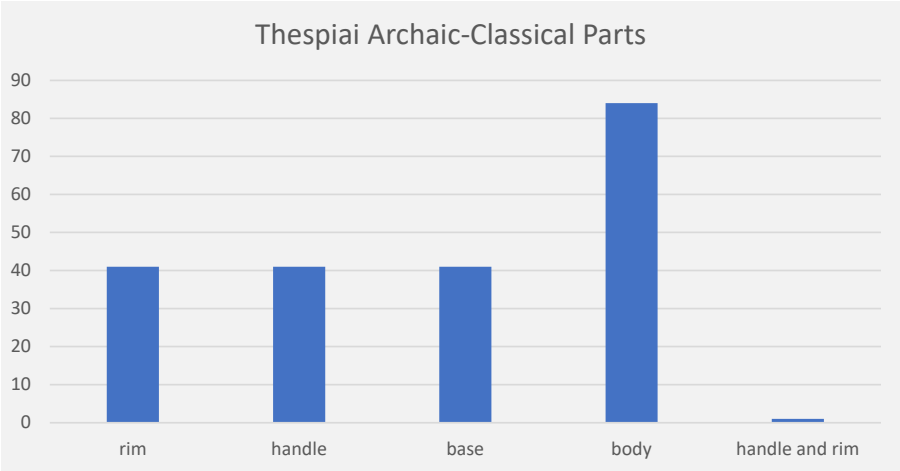
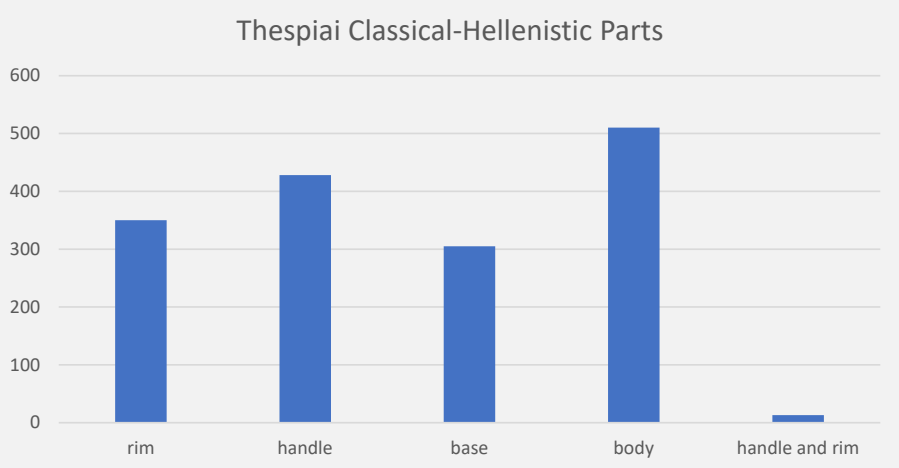
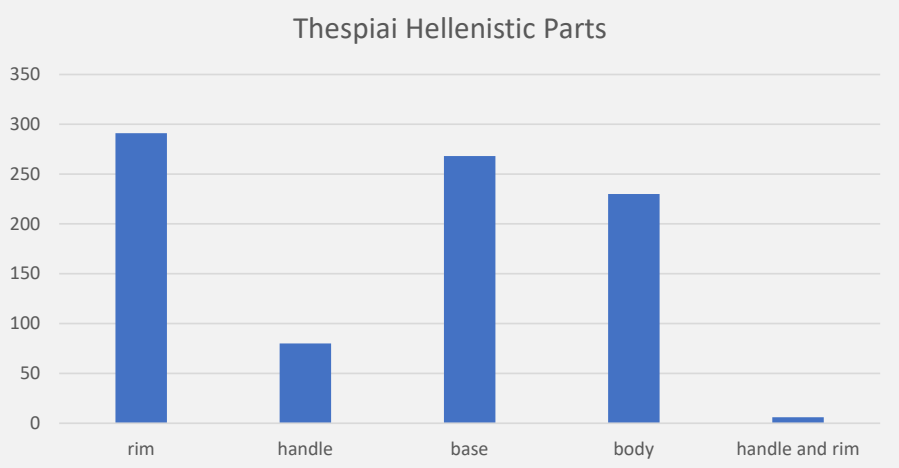


Figure 8: Boeotia Survey: the relative numbers of rims, handles, bases and bodysherds from the city of Thespiai in different periods (figure by Vladimir Stissi).





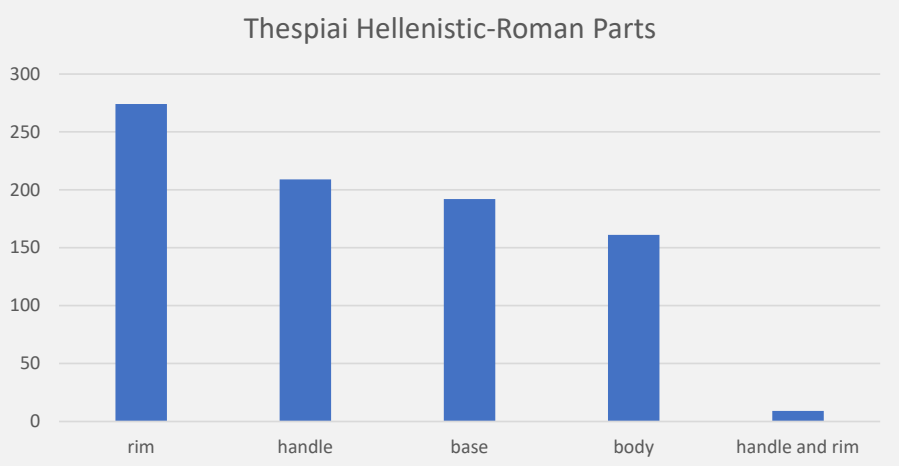


Figure 8: continued.

diagnostic by shape are lower, but still substantial and fairly consistent at 30-40%, usually mostly overlapping with dated material. Such figures seem a good starting point for research, even on collections which do not reach tens of thousands of sherds.

Nevertheless, I hope that my case studies have also shown that statistics using our classification attributes like dates and (frequency of) pottery shapes or features (body parts) are not just mathematical and 'objective'. Many figures are clearly at least partly results of our strategies of collecting, processing and classification – in other words, fitting our finds in categories does not only inevitably produce artificial borders, as most of us are probably aware of already, but also really affects our interpretations in a less obvious and more hidden way. Part of this seems the result of classification issues, but as the Thespiai example I offered indicates our data also clearly show that large proportions of assemblages – both plain and fine wares and both generic and specific shapes and wares – simply remain out of sight.

On the positive side, comparisons between collections and projects also show that potential pitfalls can be noted and included in our interpretations in a positive way and that many phenomena and patterns are consistently visible over large areas. We can apparently spot typical domestic assemblages, for example, even in difficult minimal collections around Halos. Moreover, also when our assemblages are clearly incomplete, they do usually make some functional sense, and many chronological developments seen in survey assemblages, like changes in popularity of shapes, fit what we know from excavations and typochronological studies. Whatever noise we see or miss, it does not seem strong enough to invalidate the inclusion of large numbers of medium diagnostic finds in our studies of survey assemblages, or more generally to discourage precise study of our often despised surface sherds. In studying survey assemblages spending more time on more sherds, by going to the database rather than to just the catalogue, pays off.

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