Domestic economy and social organization in New Halos
Haagsma, Margriet Janine

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Chapter 5. Artefact distribution and analysis

5.1 Introduction
This chapter will focus on the distribution of the artefacts found in the houses at New Halos. An analysis of artefact distribution with the aim of gaining insight in the social and economic organisation of households is not a straightforward process. In order to make reliable conclusions, first the archaeological record we are working with needed to be evaluated in terms of stratigraphy and depositional and post depositional processes, which we have done in Chapter 4.

In this chapter we find ourselves in the next stage, the analysis of the distribution of artefacts over the six excavated houses. Analyses of activity areas can be divided up into two processes; first, the basic analysis in which artefacts are categorised on the base of form and function and secondly, the determination of activity areas in which relationships between artefacts, context and activities need to be reviewed with care. But these two aspects are not to be seen as separate processes. They exist in a dialectic and in order to avoid the outcomes of analyses to become self-fulfilling prophecies, we should not rely on form and location of artefacts alone, but will have to look for other sources of information which can shed light on role and meanings of artefacts in domestic contexts and beyond. Were bowls always used for drinking? Were figurines ‘decorative’ artefacts or do they have a ritual or religious significance? Were all amphorae used for long term storage? Classification of archaeological material both stands at the basis of archaeological interpretation and is, on the other hand, a result of it. It would be ignorant to argue that one particular use or activity is linked to one particular category of artefact. In order to determine whether groups of artefacts reflect the performance of past domestic activities we need to evaluate the ‘tool kits’ as well as define them. This I will do in the next chapter. This particular chapter deals with the method and the immediate results of the analysis itself.

5.2 Activity areas: theoretical and practical considerations
The study of ‘activity areas’ began to gain focus during the rise of the New Archaeology in the 1960s and 70s. One of its most fervent advocates was Lewis Binford, who realised while studying the nature and distribution of artefacts on Upper Paleolithic Mousterien sites, that in order to make any reliable statements concerning the past, external datasets were necessary to be used as a referential framework. Binford’s initiatives led to his now famous ethnoarchaeological studies of the Nunamiut eskimo’s in Alaska. These studies served partially to gain better insight in the formation of the archaeological record: what activities leave behind what patterns? They also aimed to bridge the gap between the archaeological data and interpretation: how can the data and its patterning observed in the ethnoarchaeological record, ‘a systemic context’, help us in interpreting the ‘archaeological context’. In later years, Binford introduced the notion of Middle Range Theory, which consisted of relatively small ethnoarchaeological case studies aiding in this process. The overall aim was to

1 See Nevett 1999, 39ff, who uses iconographical sources to interpret artefact assemblages found in the archaeological record.
formulate cross-cultural laws which would form a base in ‘reconstructing’ the social, symbolic and economic systems of particular ancient societies in which inferences were used from analogies in order to interpret the archaeological record. Binford and others were not interested in detecting individual activities.\(^3\) Not only because they are usually difficult to distinguish, but the more so because they deemed the identification of \textit{patterning} of activities more crucial. Not the individual household, not even a particular settlement was the focus of their attention, but the broader picture, the \textit{activity systems}\(^4\) which strongly relate to the \textit{activity settings} of societies in a diachronic perspective.\(^5\)

It was not the New Archaeologists’ aim to construe a static perspective of past societies. On the contrary; especially from the 1970s onward one of their major foci was change. Their tendency to emphasize the role of the environment or other external factors in processes of change in ancient societies and to view change as a matter of cause and effect, became bones of contention with the rise of post-processualism during the 1980s. In addition, the post-processualists considered human agency a factor in processes of change. Symbolic meanings, developing in the dynamic relationship between people and the material world, became recognised as a force in the way people shape, perceive and change their environment.

These developments in archaeological theory had an impact on the study of the domestic environment. Architecture had never been a major focus in the New Archaeology, but the post-processualists increasingly viewed the built environment as both an expression and a reflection of social interaction.\(^6\) These changing views also influenced the study of artefact assemblages. Instead of viewing archaeological deposits as reflections of past behaviour, the focus now was on space as a dynamic setting for activities which both stimulated and reflected forms of social practice. Archaeologists increasingly realised that the artefacts themselves played an active role in the flexibility, maintenance and potential change of social roles, and that this needed to be considered in the interpretation of the archaeological record. In my study, I follow this post-processual perspective, but, as we have seen in the previous chapter, on a more practical level I frequently use methodologies developed by the ‘New Archaeology’.

In Chapter 1 I stated that Greek houses of the Classical and Hellenistic period served as a setting of potential negotiation of power relations between the individual oikoi of a polis and that an important focus in my research is to study expressions of social inequalities in the domestic context. In Chapter 3, we concluded that in terms of architectural articulation we do not clearly detect these expressions, although house size may be a factor. But does this hold true for the household assemblages? In order to research this notion, we will turn to the contents of the houses and their spatial distribution.


\(^4\) This is a term introduced by Amos Rappoport in his article ‘Systems of activities and systems of settings’ in Kent 1990, 9-20.

\(^5\) Kent 1990, 3

Ceramics make up the largest component of the overall artefact assemblage excavated at New Halos. In general, modern Greek archaeologists use clear concepts to label and categorise Greek earthenware; recognising form and function of Greek pottery, i.e. kylix, skyphos, krater, is one of the basic elements in the education of the archaeology of Greece. This concerns especially naming, recognising and dating painted pottery, predominantly table ware produced in Athens and Corinth or local imitations thereof. But excavations of domestic contexts normally yield a limited amount of decorated pottery. In New Halos the percentage of decorated pots only makes up a small percentage of the total diagnostic assemblage of pottery and the majority of the ceramics consists of undecorated household pottery in various wares and forms. The problems with household assemblages are that the typologies and sequences have often not been thoroughly studied and, especially, published. The problem is even greater for pottery of the Hellenistic period, and especially for that of local origin. The domestic pottery of Halos, however, has been thoroughly studied and published. With regard to this polis, we assume that at least part of the household pottery was locally produced. The point that I am trying to make is that we do not have many external sources concerning the usages and roles of these artefacts.

In several studies on Greek housing which appeared over the past ten years, scholars have been performing a variety of analyses on the distribution of finds, often based on scrutiny of a variety of ancient sources: iconographical, epigraphical and historical, in order to create meaningful categories. Nevett, in her study of the houses at Olynthus and Himera, analysed the occurrence of household objects in iconographical sources in order to obtain a better idea of the use of an object or vessel and to assess with what kind of social categories these artefacts are associated. Her study, though admittedly largely based on Athenian examples, provided valuable information on the association...
of particular types of artefacts with particular household members.\textsuperscript{12} The household members Nevett focused on mostly were men and women: the κύριος and the γυνή of the household, whose social roles we have discussed in chapter 1 and which I will further discuss in chapter 7. Several objects, such as the mirror, the kalathos (wool basket), chest, alabastron, plemochoe, lekythos, and lebes were associated with female activities. The couch, kylix, oinochoe, kotyle, drinking horn and kantharos seem to have been associated with male-dominated drinking parties.\textsuperscript{13} The strigil and aryballos had strict male connotations. But some of these artefacts appeared in wider, less gender specific contexts such as the louterion, chair, table, krater, oinochoe, pelike and (table) amphora; they seemed to have had 'gender neutral' roles in Greek households.

Some of the artefacts mentioned above have been found in New Halos, be it that they are undecorated and the precise form of the vessels is different from the abovementioned Classical ones since their forms have evolved in the Early Hellenistic period. Lekythoi, a lebes, drinking wares, kantharoi, cups, aryballoi, a louterion, krateres, a pelike and Amphorae are part of the household assemblages in New Halos. We even have a lead impression of a possible kalathos, caught in the fire in room 5 in the House of Agathon.\textsuperscript{14}

We do not have such rich iconographical evidence for this period as for the preceding Classical one, but the strong concept of vessel form in Ancient Greece is both a product and a stimulant of cultural conventions. These cultural conventions may change over time, but they remained rooted in tradition. Overall, pot forms, such as amphorae, pithoi and tableware in ancient Greece are strikingly consistent over a long period of time.

But a main problem of this approach is that cultural conventions have a strong regional dimension; we do not know whether Classical Athenian cultural conventions were valid in early Hellenistic Halos. Particular vase forms may have had different connotations. In our case, the alabastron, for instance, could have been used as an aryballos and strigils are known to have been found in female graves. Instead of entering this analysis with preconceived ideas on the use of objects and their social connotations, I rather prefer to determine which objects are most frequently found together and in what context before reaching any conclusions on their usage and social categorisation. Yet, we do have to classify our artefacts and in order to do this I have adopted the conventional nomenclature used in the publication of New Halos thus far based on form, not on use, which again is based on conventions in the field of ceramic studies.\textsuperscript{15}

Before we move on to the analyses and the results, we should dwell on the methodology used and on the artefacts themselves, especially the ceramics. Given that

\textsuperscript{12} Nevett 1999, 45f.
\textsuperscript{13} Nevett,1999. 45f
\textsuperscript{14} Hijmans in: Reinders and Prummel 2003, 319. (M615). The impression does not necessarily have to be from a wool basket, but could have derived from another form of basket or a mat. The object is on display in the archaeological Museum in Almiros.
the archaeological context at New Halos has been affected by variety of site formation processes, what then constitutes a pot?

5.4. *A cow and a calf and a whole horse half*: sherds, pots, artefacts and counts.

In the previous chapter I discussed the effects and consequences of site formation processes in New Halos. The most influential post depositional process on site has been the harrowing, which partially affected the condition of the archaeological strata and the artefacts below the surface. In order to assess the condition of the archaeological strata, we assembled all sherd material per room in order to find ‘fits’. We assumed that pots with a complete profile, or with a large part of rim, body, handles and bases present represented pots that were left behind when the houses were abandoned. After this was done, we compared the weight of all the pots we regarded as ‘complete’ or ‘diagnostic’ with the rest of the sherds found in the room, excluding the rooftiles. In most cases the sum of the weight of the ‘diagnostic’ pots distributed over the different wares was larger than the rest material. We therefore assumed that the ‘diagnostic’ pots represented individual pots.

Thus, in the statistical analyses below, the pots are counted as individual wholes. This consistent strategy made it possible to compare the occurrence and location of different forms and wares distributed over all houses excavated. Other artefacts, even those which were clearly part of another item, such as nails, were categorised according to form, type and were counted individually, as no evidence could be found to what object exactly they originally belonged.

5.5 Statistical analyses.

In order to aid me in finding patterns in the distribution of material in the houses of New Halos, I have carried out an array of statistical analyses. When looking for ‘patterning’, I hypothesize that artefacts with a particular role or function would be found in spaces which were similar in terms of depth, size and location over all the houses. I assume that some artefacts would relatively consistently be found ‘together’ as a consequence of a particular activity or set of activities, thus having been part of so-called ‘toolkits’ located in the same room or near the same feature, such as cooking pots in a room with a hearth. This consistency could be interpreted as an indication that the rooms of the houses at Halos had a certain degree of specialization in terms of their usage. It would also be interesting to see how the houses would differ in their degrees of specializations, which would tell us something about differences in household organization.

I found initially that tabulation alone, together with a descriptive analysis was a method too intuitive for these kinds of data, which have been, at least partially, assembled with great care. The danger would be that certain patternings of artefacts observed in a house could be meaningless, since the number of units (houses) to which they could be compared was so limited.

I chose to use two statistical methods of comparing the contents of rooms within each house, and then comparing the houses themselves. The first one I used was seriation,

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16 This sentence derives from a Dutch children’s rhyme about ‘Holle bolle Gijs’. Fat Gijs was a big eater who could devour: ‘een koe en een kalf en een heel paard half’. The pun of this rhyme is the way of counting half a horse as a whole entity.

17 In the analysis of the wares, we must –however- keep in mind the underrepresentation of ‘diagnostic’ pots in MCO ware (see previous chapter), but this is a bias that is valid in all houses.

18 With regard to the nails, a clear distinction could be made between ‘doornails’ and other nail forms. They have been categorised separately.
in which I focused on the distribution of artefact types, based on presence absence data. Seriation is often used in comparing closed assemblages, such as hoards or graves, in order to find patterning in the occurrence of artefact types over time. But it can also be used in identifying patterning in terms of social status or gender.\textsuperscript{19} In my case, I compared the assemblages found in each room in terms of the occurrence of artefact types in order to identify levels of specialisation of usage of a room. In this analysis I assume that fewer artefact types (not frequencies) suggest a higher level of specialised usage of that room. In comparing the occurrence of artefact types per room type (side room, large room, large sideroom, corridor, courtyard), I wanted to examine whether we see a consistent pattern of specialised and multifunctional rooms and areas emerging within the houses.

The other statistical method is a multivariate technique which has become increasingly popular among archaeologists: correspondence analysis (CA).\textsuperscript{20} Correspondence analysis is an algorithm which can be compared to principal component analysis, be it that it is for nominal data. This means that it can be directly used on the data matrices of values of types in relation to units of the houses, without having to convert the data in similarities and distances, as would have been the case in an alternative form of analysis: cluster analysis. Cluster analysis also does not indicate which assemblage or set of objects is responsible for similarity or difference between the clusters, which had to be overcome with additional probability testing. In a way, CA analysis combines these two principles; it tests similarities and differences between units and types (rooms and objects) and indicates which unit or which set of objects is responsible for the similarities or differences. The test is thus not a probabilistic one. It is merely used as indicating patterns of similarities and differences amongst artefact types and the units or rooms where they have been found.

The statistical program I used was WINBASP, or the Bonn Archaeological Software Package for Windows, a very basic but useful package which carries out various algorithms and was developed under supervision of Irwin Scollar.\textsuperscript{21} CA analysis tends to take into account not only the values of objects but also their proportions.\textsuperscript{22} This is indicated as ‘mass’. This means that we can single out the assemblage of a room or a set of objects which contributes most or least to the CA. This and other diagnostic output, such as ‘quality’ and the ‘weighted distances of the average’ of each assemblage or set of objects helps us very much in interpreting the scattergrams, produced by WINBASP. In this chapter I have only included the scattergrams, but the data necessary for interpreting them, such as mass and quality, can be found in appendix C.

In the analysis I have made a selection of artefact types which occur with a certain frequency in all the houses (for the complete list of all artefacts per house and room, see appendix B). This was done, because WINBASP automatically throws out those units and types with zero or one frequencies (see below). The objects which are in many respects ‘unique’, such as the pot with the two metal snakes in room 8/11 of the

\textsuperscript{21} Scollar, I., \textit{The Bonn Archaeological Software Package for Windows 5.0}, (Remagen: The Unkelbach Valley Software Works, 1994).
\textsuperscript{22} Shennan 1997, 308 and 327.
House of the Snakes, would not have played a consistent role in the analysis of all the houses and therefore it has been left out of the statistics, although the presence of these artefacts will certainly be considered in the interpretation of the results.

Three warnings need to be given before we move on to the interpretation of the results of the analyses. The analyses are (partially) based on the presence and counts of a selected range of artefacts that originally formed part of the household assemblage. Firstly, many artefacts which have had fulfilled a role in their original context have simply disappeared (due to preservation issues, such as wood, or abandonment processes (see chapter 4)). These artefacts play, of course, not a role in the analysis, which naturally problematizes the interpretation of our results. Secondly, the CA analysis emphasizes ‘presence’ of artefacts, not ‘absence’. A room with very few or no diagnostic finds would be either thrown out of the analysis or be labelled as contributing weakly to the results. In reality, a room with very few artefacts can be very significant in our search of activity areas and specialisation, especially when contrasting with neighbouring rooms with a multitude of artefacts, such as in the case of rooms 4 and 5 of the House of Agathon, for instance.23 This is why I added seriation as a second form of analysis, which shows more clearly the distribution of finds in terms of ‘types’ over the various rooms of the houses. Thirdly, an area with many artefacts contributing strongly to the results does not necessarily need to indicate areas of activity to which the individual objects refer. We need to take into account that certain types of artefacts forming part of the analysis, ceramics as well as organic remains, reached the archaeological record as primary discard. As we will see below, areas 12 and 13 in the House of the Snakes contain a multitude of objects, but the archaeological context in which these objects are found suggests a different role for this area then the objects themselves signify.

In the process of interpretation of the distribution of finds we should therefore be strongly aware of the archaeological contexts in which the objects were found and we should realise that a statistical analysis as used here is merely a tool to discriminate patterning. It is thus a start; not an end in itself. The statistics serve as a support in substantiating and explaining patterns already identified, not as some kind of proof that those patterns automatically have meaning in terms of explaining the spatial organisation of households. There are many different variables to be taken into account in the explanation of patterning, whether they concern aspects of human behaviour or post depositional formation processes which may have had an influence on the distribution of finds and their preservation. In our next chapter, we should therefore always take a step back and look at find context as well as activity settings, before making up our minds regarding particular activities and activity areas these artefacts may refer to.24

5.6.1 The House of the Snakes

The scattergram of the House of the Snakes shows that the artefacts found are not equally distributed over the rooms. (If that were the case then all dots would be found there where the two axes cross each other). The largest contrasts in the spaces within the house are represented by room 8/11 vs. the courtyard and the siderooms 1, 2, 5 and 6. The corridor areas (areas 7 and 9), cluster relatively well together, while room

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23 The seriation analysis partially corrects the ‘absence of absence data’ in the CA analysis, but rooms or artefacts types without any frequencies were thrown out, but will be considered in the results.
24 For me personally, the main value of going through the various statistical analyses is rooted in the additional scrutiny of the relationship between the results of the analyses and the data. It aided me in gaining better knowledge and understanding of both the data and the context in which they were found.
3, is an outsider and sharply contrasts with siderooms 2, 5 and 6. When taking out the courtyard in the analysis and just analysing the covered spaces of the house, this contrast becomes even sharper. Especially the contrast between room 8/11 and the siderooms 1, 2, 5 and 6 is even more pronounced along axis 1, which counts most heavily towards the results, representing 28.8% of the inertia. When looking at the types, especially with having taken out the material found in the courtyard, we see that most of the items functionally linked to cooking, pouring, food processing and to a limited amount, weaving (loomweights) can be found on the left side of axis 1, related to room 8/11, while items related to storage, personal hygiene, water storage, and discard such as marine molluscs and bone fragments to the siderooms. The large sideroom, 3, stands out on its own, but is a huge contributor to the analysis overall, together with room 8/11 and the courtyard. When taking out the large room 8/11, and just comparing the siderooms and corridor with each other, we see a contrast emerge between rooms 3, 5 and 6. Room, 3, the outsider overall, is associated with rather luxurious ceramics, such as two lekanides, a krater and an askos. Room 6 is more associated with bathtub, unguentarium and pyxis, while in the comparison between axis 1 and 3 the rooms 5 and 6 are both associated with the pithoi and domestic mammals. In conclusion, the analysis of the House of the Snakes confirms that particular objects can be related to other objects in particular rooms, and that the uneven distribution over the house overall suggests particular activities restricted to those rooms. The large room, 8/11, is associated with grinding stones, rubber, cooking pots, chytrae, jugs and hearth and perhaps loomweights (although the number found was small and they do not strongly contribute to the results), side rooms 5 and 6 with pithoi and to a lesser extent amphorae (especially in room 5), and in the case of room 5, also the deposition of bone fragments). In addition, room 6 has, apart from being associated with pithoi, been in use as an area for personal hygiene (bathtub, pyxis and unguentarium). The large side area next to the entrance, room 3, is associated with the more luxurious pottery, an askos, two lekanides and a krater (all three large contributors to the CA analysis), but also with the chytrae. The scattergram of the siderooms, 1 and 2, and the corridor, as well as the CA diagnostics suggest a less distinctive use for these rooms, at least not those activities that we can initially easily recognize. The artefacts these rooms are associated with do not carry much weight in the CA diagnostics, and, therefore, the rooms themselves do not contribute strongly to the results. We might therefore conclude that these rooms and area may have had a multitude of usages but cannot be strongly labelled in relation to the presence of artefacts. The courtyard of the House of the Snakes is a different story. As we can see in the scattergram, the area is closely associated with domestic mammal fragments and marine molluscs. The high numbers of these items found here cause the area as well as the items to contribute strongly to the results of the CA analysis. In addition, the area is associated with ‘lagynos’ and ‘lekane’. When looking at the tabulation of the different areas of the courtyard we can see that these finds are almost solely concentrated in areas 12, 13 and to a lesser extent, 15. In the tables in which ‘diagnostic finds’ were compared with ‘rest material’ (see appendix A), we see that these areas contribute most to the total weight of ceramics found in the courtyard overall. The ‘course’ fragments found in area 12 were initially interpreted as a pithos and a pithos lid, but after a well was discovered in area 13/15, were designated ‘well head’ and ‘well lid’. The well itself was filled up with material ranging from potsherds (some of them designated as ‘diagnostic’) to bones and much material was
also scattered around the well. The well was excavated in 1997,\textsuperscript{25} but not all of its contents have been taken into account in this analysis. Only the material that has been excavated to the depth of the surrounding areas has been part of it, this in order to avoid a skewed result. In conclusion, the multitude of artefacts found in areas 12, 13 and 15 does not refer to activities strongly related to their form (storage to amphora and food processing/serving to lekane), but refers to a space used as a rubbish dump. The well must have gone out of use at some point in the period after the houses were built (ca 302 BCE) and was filled up with broken household material and organic matter before the houses were abandoned (265 BCE). The rest of the courtyard is relatively empty of artefacts. Part of the pastas (area 12) was used as a dump area, especially for marine molluscs, whereas its western part only contained few items. Only areas 4 and 10 refer to some activities but they do not strongly correlate with any particular artefact.

In conclusion, we can say that the House of the Snakes has five areas which show particular specialization in terms of activity areas, based on the presence of artefacts: rooms 3, 5, 6, 8/11 and the courtyard. The rooms in which no particular activity areas could be identified (areas 7 and 9, and rooms 1 and 2) were not empty of material, signifying them as areas distinct from the others.

Fig. 5.1. Scattergram of CA analysis: House of the Snakes. Rooms and objects plotted in a symmetric space along axes 1 and 2

\textsuperscript{25} The well and its contents are described in chapter 2.
Fig. 5.2. Scattergram of CA analysis: House of the Snakes without the courtyard: ‘Covered’ rooms and objects plotted in a symmetric space along axes 1 and 4.

Fig. 5.3. Scattergram of CA analysis: House of the Snakes without the courtyard and room 8/11: Side rooms, corridor and objects plotted in a symmetric space along axes 1 and 2.
5.6.2 The House of the Amphorae

To analyze the distribution of diagnostic artefacts in this house is particularly tricky since the preservation of the house is rather poor. Yet, as we have seen in the previous chapter, certain areas of the house are in a reasonable good state, given the relatively large amount of diagnostic pottery related to the weight of all pottery found in particular rooms. This concerns especially rooms 1, 2, 4 unit 1, 4 unit 2 and 5. The other areas, such as room 6, unit 1 and 2 and area 7, only contain diagnostic material in particular wares (such as BG and Burnt) whereas the high weight labelled ‘undiagnostic’ in other wares (especially MCO) strongly suggest that we may have missed quite a few vessels belonging to this ware category.26 As discussed in Chapter 4, MCO is a kind of ‘bulk ware’. It was defined for the convenience of initial analysis, and it certainly is a ware which desires further scrutiny. It consists of a large range of forms having been produced in it, and we cannot possibly predict which forms of vessels we are missing.27

In the first scattergram of the CA analysis it becomes clear that we find the largest contrasts between rooms 4 unit 1, room 4 unit 2 and room 5. Rooms 1 and 2 are closer to the average. Rooms 1, 4 unit 1 and 4 unit 2 contribute most to the CA analysis overall (considering their mass and quality), and they also contribute most to the inertia of axis 1 (with 15.4, 14.6 and 36.4 %). This contrast becomes even sharper defined when leaving out those areas in the analysis with very little or no diagnostic finds, due to the harrowing that has taken place in this house. All rooms contribute rather evenly to the total inertia, 18.4, 14.5, 23, 28.5 and 15.6% respectively, yet they are distinct when looking at their contributions to the inertia of the various axes. Rooms 4 unit 2, and room 2 are strongly disassociated along axis 1, with ‘kantharos’ and ‘krater’ as diagnostic types in room 4, unit 2 contributing mostly to this difference. Room 2 on the other hand, differs from all others except room 5 through the presence of ‘domestic mammals’. Room 4 unit 1’s difference from all others is caused by its strong association with ‘pithos’. When we look at types, we can see that lagynos, hydria, cup/bowl and olpe, all items relating to pouring and consumption or drinking are all strongly associated with each other linking them with room 5, while lekane, lekanis, rubber, strainer, pyxis, cooking pot and lid associate and can be linked to room 1, together with chytra, loomweights and juglet.

The above results mean that despite the low number of incidences overall in this house, we can distinguish areas of particular specialised activities in the House of the Amphorae: room 4 unit 1 is a distinct storage area, with little to no other usage. Room 1 appears to have been a room associated with food preparation. Room 5 is strongly associated with pouring items, while its association with amphorae is present but less distinct (despite the 26.8 kg of amphorae fragments found there!) since amphorae are present in both room 5 and room 2. Room 5 could perhaps be interpreted as a storage

26 Especially since we found no additional features which would designate these areas as rubbish dumps, such as in areas 12, 13 and 15 in the house of the Snakes.
27 Looking at the –deemed undiagnostic- rim- and base fragments might give some clues about vessel forms, but since the area (and others) was affected by harrowing, many vessel fragments have become worn, making it impossible to distinguish them from rim- and base fragments which may have formed part of the floor. The number of undiagnostic rimfragments was rather high, but especially the high weight (1.13 kg in total) among which 0.805 kg in MCO leaves us with the impression that we have just a fraction of the original total assemblage in area 6 unit 1.
area for liquids or for items associated with drinking. Room 4, unit 2 appears be distinct by its presence of ‘krater’ and ‘kantharos’, designating it at first glance as an area where items associated with drinking were kept. But here we have to return to the archaeological context and look at the architecture and the other finds in this unit which have not been included in the CA analysis due to their infrequent occurrence. Room 4, unit 2 is a small area, which can be interpreted as a kind of front hall to room 4, unit 1. The two rooms together form some sort of megaron-like configuration which can be entered from the east. Apart from the two kantharoi and the krater (the latter one also a unique find), a substantial amount of lead was found. These leaden objects ranged from a loomweight, and pot repairs to amorphous pieces which seemed to have melted in a fire at some point before, during or after the abandonment of the house. The combination of architecture and the finds designate room 4, unit 2 more as a stock area then an area where any particular activity was carried out.

The CA analysis regarding the rest of the areas in the House of the Amphorae is less reliable, since the largest percentage of the pottery weight belongs the undiagnostic category (see chapter 4), due to the harrowing that has taken place. The only significant fact is that the total amount of pottery from the central area is very low, indicating that this might have been the location of the original courtyard.
Fig. 5.5. Scattergram of CA analysis: House of the Amphorae all rooms and areas with a majority of diagnostic items, and objects plotted in a symmetric space along axes 1 and 2.

The combination of artefacts which is associated with room 2 is rather diverse. The domestic mammals and other organic items, small bowls, the amphorae, grinding stones and jugs refer to a wider range of activities than in the other rooms. When we take the finds into account which were not included in the analysis: chisel, saw, play stones, astragalia, we may perhaps conclude that this area may have functioned as a space for a variety of activities, ranging from food processing to consumption and leisure.

In conclusion, then, we can state that even in a house with damage, such as the House of the Amphorae, we can distinguish between spaces with a relative high rate of specialization: the storage area (room 4, unit 1), a storage area for liquids (room 5), a food preparation and weaving area (room 1) and areas which must have facilitated more varied human activities, such as room 2.

5.6.3 The House of the Ptolemaic Coins
The House of the Ptolemaic Coins was incompletely excavated. The missing foundation stones, which originally demarcated the courtyard (area 6) area strongly suggested that this part of the house had been harrowed, which was confirmed by a partial excavation of this area of the house. Area 6 showed a stratigraphy with worn sherds, a floor level which could not be clearly distinguished from the fill, with large boulders in the virgin soil between which worn sherd material had sunk. The
disturbed context combined with the time constraints which we experienced made us decide to not further excavate this area.\(^{28}\)

The House of the Ptolemaic Coins yielded the smallest number of diagnostic finds of all the excavated houses in Halos. Yet, as the seriation shows, a large range of artefact types was found, about as large as in all other houses, but in much smaller numbers. Given the similarities in plan between this House and the House of Agathon and the fact that these houses were built together, especially the difference in artefact numbers is quite striking. Most artefacts, in fact, were not found in multiple rooms, but were restricted to one particular room or area. This is also shown in the CA analysis which shows a large number of artefacts unique to particular areas, especially room 3.

The pithoi and the pithos lid are confined to room 4. The architectural features in room 4, the demarcated platforms, are strongly reminiscent of the one found in room 4, unit 1 of the House of the Amphorae. The combination of platforms and pithoi in these two houses strongly suggests a use of the room as storage area. Other finds in the room, a lamp, a cooking pot, a lekythos, six coins, an arrowhead, a ferrule and a spade are less specifically related to a particular activity, but could be interpreted as items in storage. The eleven loomweights found in the room further strengthens the interpretation of room 4 as storage area: the weights were not found in a row, which would indicate the original presence of a loom, but were found grouped together in between the broken pottery.

\(^{28}\) The House of the Ptolemaic Coins and the courtyard area plus room 7 of the House of Agathon were excavated in one season; 1989.
The area with the largest number and largest variation of diagnostic items is room 3, the large central room of the house. Many items related to food preparation were found here, ranging from remnants of a fireplace to cooking pottery, a fork, a brazier and grinding stones, indicating this room as an area where food preparation and cooking took place. But other items, the unguentarium, remains of a bathtub, bomiskos, pyxis, saw, bolsals, kantharoi and miniature bowl point to other activities carried out in this room as well (personal hygiene), defining it more as a multifunctional space, where also religious activities could be carried out (the bomiskos). The area also stood out in due to the presence of organic remains. Domestic mammals, but especially marine molluscs caused room 3 to be an ‘outlier’ in the analysis.

The other areas contained fewer unique artefacts and most of the objects found are those in categories with a wide distribution, such as organic material and ‘lost items’ such as some of the coins. But the actual number of items found can be telling as well. Room 1 contained a very small number of artefacts. Only a few loomweights, two squat lekythoi and a coin were found here, combined with some metal fragments. This limited number of artefacts, combined with a very small presence of organic

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29 Although most coins found were distributed relatively evenly over the houses, signifying that they were likely ‘lost’ and lodged into the clay floors, not all coins found can be designated ‘lost items’. As will be shown, some houses display a very specific distribution of coins, pointing to the fact that they may have been kept in storage. The newly excavated House of the Tub not only contained a very large number of coins, it also displays a very specific distribution of the various provenances and denominations (Reinders pers. comm.).
remains (meaning that the room was kept clean) may indicate that the room was restricted to the role of sleeping area.

There is less to say about rooms 5 and 2. Overall, the artefacts found in the rooms belong to the group with a wide distribution, similar to those found in room 1, with the exception of a play stone found in room 2 and the association of room 5 with ‘amphora’. This is not enough to connect these rooms with any particular domestic activity.

The contents of room 7 are distinct from those of other rooms by the presence of the hydria, lekane and jug, items which are multifunctional in character. No particular features could be associated with these finds and they therefore cannot shed light on specific domestic activities performed here.

Summarising, the House of the Ptolemaic Coins contains three areas which point to particular domestic activities: room 4 (storage), room 3 (cooking, food processing, personal hygiene and religious activities) and room 1 (sleeping area). The other rooms and areas of the house provided information that could not be easily interpreted. The unexcavated courtyard of the house might have fulfilled a similar role to those of the other houses: a multifunctional space, which could be used for food preparation, drinking, a discard area etc. The knife and chisel found in the partially excavated ‘pastas area’ may point to the storage craft items or performance of craft activities. The very small number of artefacts, especially as compared to the neighbouring House of Agathon, may be indicative of a smaller household size.

5.6.4 The House of Agathon

The House of Agathon, excavated in 1987, was overall very well preserved. There are no clear disturbances with regard to the wall foundations, indicating that not one particular area of the house was badly affected by harrowing.\(^{30}\)

As already noted in Chapter 2, the house plans of the houses of Agathon and the Ptolemaic Coins are very similar in layout and surface area. Yet, if we subtract the number of artefacts found in the courtyard and in room 7 from the total number of artefacts found in the House of Agathon, the number of artefacts in the latter house is substantially larger than that in the House of the Ptolemaic Coins.\(^{31}\) But this may have only partially been a consequence of the difference in site formation processes; in addition, the variety in the House of Agathon is also substantially larger and distributed over a larger number of categories, suggesting a more varied use of the house overall.

The seriation of artefacts over the various spaces in the House of Agathon, shows a very large difference in both number and variety of artefacts in terms of distribution. Room 5 contributes most strongly to these variations; it yielded both the largest number and variety of artefacts, with many specimens unique to the house overall. The correspondence analysis scattergram does also clearly show this ‘uniqueness’ of room 5. The many items on the right hand side of axis a shows a complete list of items that were just found in room 5. An unusual large part of these artefacts were made out of metal, ranging from iron agricultural equipment, kitchen utensils, bronze and molten pieces of lead. Another category of objects that is closely associated with room 5 are the loomweights. Hundred loomweights were found scattered over the floor in the centre of

\(^{30}\) Exceptions are the SE wall foundations where a disturbance can be noted in the prothyron doorway.

\(^{31}\) See Appendix A. These numbers amount to: House of Agathon: 707; House of the Ptolemaic Coins: 278.
room 5 and partially along the walls. They were obviously in storage here as were the other artefacts, like the six amphorae, the other twenty nine vessels, the twenty seven astragalia, and the many other faunal pieces. Room 5 can therefore be labelled a storage area of household goods, agricultural implements and, probably, food. The room also contained a significant number of marine molluscs. Since fresh molluscs cannot be preserved for a prolonged period of time they are likely the remnants of consumption\textsuperscript{32} although it is not clear why there is such an abundance of them in this room in comparison to the other areas of the house.

On the opposite side of the spectrum of artefact distribution we find room 4, which was almost void of finds. The only artefacts found here consisted of nails (5), an iron fitting, a pot repair and a bone fragment. The nail and iron fitting could have derived from furniture and the lack of organic fragments (especially shells) indicated that the room was kept clean. Room 4 could therefore have been a sleeping area, just as room 1 in the neighbouring house of the Ptolemaic Coins.

The scattergram indicates that a variety of artefacts cluster around room 3. These artefacts consist of cooking pots, grinding stones and a knife. These finds correlates quite well with the remains of the fireplace found in the centre of this room and point to various forms of food preparation. The ten loomweights, were not found together and do therefore not point directly too a combination of food preparation and weaving performed in this room.

The correspondence analysis indicated that room 1 differed significantly in its artefact content from the other rooms and areas. This is especially due to the five kraters that

\textsuperscript{32} See Prummel in Reinders and Prummel 2003, 219f.
were found here. One krater was especially large and was found relatively intact in the centre of the room and based on its size it functioned more as a tub. Other finds consist of plates, a kantharos, a lekythos and a bowl, which are all made of relatively fine black glazed ware. A pithos with lid was also found here. The combination of kraters and fine consumption ware initially points to an area used for drinking. But the pithos indicates that the room was meant for storage as well. It may have been the case that the eating and drinking equipment was stored here and brought out for the occasion. The room itself is relatively small and does not have daylight, which makes the identification of the room as a possible andron unlikely.

Room 2 contains a modest variety of artefacts, many of which belong to the category of so-called ‘lost items’, such as nails, coins and loomweights. In the correspondence analysis these items are well represented in the analysis overall, having far above average quality (849 and 889 respectively, with an average of 766), but since they are distributed relatively evenly over the house (with the exception of room 5) there is not much that can be said in relation to them. The number of loomweights found in this room may, however, indicate the original presence of a loom.

The inhabitants of the House of Agathon must have kept their house relatively clean (i.e. discard such as molluscs and bone fragments is limited in the roofed area of the house) as the majority of these finds come from the courtyard. Even though these items were not found in a particular spot, such as in the House of the Snakes, they may indicate that the courtyard was partially used as an area for discard. Other items with which area 6 is associated are the bolsal, cups and plates. The exact find spot of these items has not been recorded in detail, but personal observation indicates that part of these fine ware items were found in the area in between room 5 and room 7 which makes the easternmost part of the possible pastas. It may well be that these items were stored here and that the pastas was a place where consumption took place. The pithos was found outside of the NW corner of room 7, right at the boundary of the pastas and the open area of the courtyard. It is almost without a doubt that this vessel was used to collect rainwater from the roof of the house. Other items, such as the knife and the shears correspond but weakly with area 6. They may have been stored there or been used as utensils in craft.

Room 7 has no items that strongly point to particular activities. It contained a unique item: the psimithion which contributes only weakly to the correspondence analysis. This also counts for the two amphorae and the lekanai found. The combination of finds does not give strong clues about the activities performed here, but the krater, the relatively large number of bone fragments and molluscs may point to consumption and drinking. The form and location of the room are reminiscent of that of an andron, but important features are missing. Unfortunately, the foundation walls of room 7 were damaged at the entrance and as a consequence it is impossible to determine whether the room had an off centered entrance. Also platforms for klinae could not be detected.

In summary we can state that the House of Agathon yielded an exceptional large number and variety of artefacts. There are three areas in the house with strong indications for particular activities: food preparation took place in room 3, storage of food in room 1, storage of a large variety of household goods, implements and

33 The correspondence analysis designated loomweights and nails as inertia outliers. In the same sense, room 1 was an outlier as well and differed significantly from the other rooms and areas of the house in terms of its content.
34 The lid was inscribed with a name in genitive: Agathonos. The genitive case points to the inscription as a marker of property and it may refer to the name of the owner of the pithos and of the house.
probably food and drink in room 5. Room 4 may have been a sleeping area. The *pastas* was a multifunctional space associated with items of consumption.

5.6.5 The House of the Geometric Krater
Since the house of the Geometric Krater was only excavated partially an analysis of the distribution of its contents can only yield partial results. Not only did the house yield a limited number of finds in total (161), the finds were also represented in a limited number of categories. The largest number of finds and types were recorded in side room 2 and central large room 3. In the correspondence analysis, both rooms were considered outliers in the analysis, both adding largely to the inertia and mass, with a high quality value associated with them. Again, these values might not be representative since the house was only partially preserved, but they still are of relevance when comparing the known assemblages of completely excavated rooms. Unusual was the large number of coins (22) found in room 2. They were not all found together, although a number of coins of the same provenance were found in combination in the northern part of the room. Associated with room 2 is a number of unique artefacts: lopas, a weight, (play) stones, a lagynos, lamps and a plate. In addition drinking ware such as cups and kantharoi, *astragalia* and a number of metal items were found as well as a relative large number of bones. The association of consumption ware, food remains with the playstones and astragalia gives the impression that the room was associated with drinking, eating and playing. But the location and form of the room does not add to the assumption that these activities took place at this very location. Considering the number of coins and the indication that part of the coins were kept together calls more for a room where the items were kept in storage.

Room 1, located north of room 2, yielded a variety of finds and is closest associated with the two sickles found there, the loomweights and chytra. But in the correspondence analysis these items have either a limited weight in the analysis or do not contribute strongly to the overall inertia. The relative small number, the nature of the remaining artefacts combined with the relative large number of finds in the ‘lost and found’ category makes it difficult to assign particular activities to this room. Room 3 was the so-called large room of the House of the Geometric Krater. At some point during the occupation of the house the north-western section of the room was separated from the remaining part by two walls and added to room 5. It was also in this room that the Early Iron Age items were uncovered, slightly below the Hellenistic floor level. These finds are, of course, not included in this analysis. The finds belonging to the Hellenistic floor level proved limited in number as well as

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35 The house was excavated in 1984 and not all pottery sherds discovered were counted and kept, resulting in much lower number and weight of ceramics (see chapter 4). This also limited the possibility for reconstructing pots during cataloguing and we therefore need to factor in the likelihood that finds were ‘missed’ in the excavation process.

36 Coins ns. H21 B6, B37, B29, and B31 all came from Larisa Cremaste, while nrs H21 B26, B63, B64 and B65 all were minted in Chalcis.

37 The room is not square with an off-centered entrance; the hallmarks of an andron.

38 The finds in room 3 and 3a were recorded together and no separation could be made in the analysis between rooms 3 and 3a. The finds at room 3a could therefore not be added to room 4 of which it originally formed a part.

39 These items consisted of a krater, pithos bases, a terracotta snake-like object and a two handled cup. These finds have been published in Haagsma and Dyer 1996.
range. In the correspondence analysis, the room is closely associated with its unique finds: the grinding stone, hydria, iron hook, fitting. The other rooms (4 and 5) were only partially preserved. Therefore nothing can be said with certainty about any particular activity areas associated with these rooms. In summary, the distribution of finds and the partial excavation of the House of the Geometric Krater leave us with an incomplete picture of the use of space. Room 2 seems to be associated with consumption, but also could be used as a storage area of household items, while room 3 is weakly associated with food preparation.

5.6.6 The House of the Coroplast
The House of the Coroplast was the first house excavated in New Halos. The house was complete and well preserved, but also here not all loose sherd material was recorded in detail. Despite this, the house yielded a relatively large number of items in many categories that were distributed very unevenly over the house. The house was named for the combination of terracotta moulds and matching figurines that were found here. In area 3, we find the largest concentration of artefacts overall in the house. In the scattergram of the correspondence analysis it can clearly be seen that the room is closely associated with a number of specific items, such as moulds combined with figurines, the rubber, an aryballos, the twenty large doornails, the arrowhead as well as a variety of pots, most notably a high quality bowl, the six chytrae and the two amphorae. The doornails, of course, correspond with a door, most likely with that of

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40 See footnote 35.
41 Reinders 1987, 117 ff.
the exterior door, originally located in the prothyron, and which must have been displaced in the process of abandonment and deterioration of the house. The moulds and fitting figurines, even though small in number, indicate that the inhabitant of the house was involved in the production of these items. The production should, however, not be viewed as a large scale terracotta production centre. There are ample examples of terracotta’s and moulds found in houses and it must be viewed as a relatively common household industry.

The activity of terracotta making is a specialised one and our assemblage and the context in which the items are found is being compared with tool kits found elsewhere in the Hellenic world in the next chapter.

Room 4, in comparison, presents a very different assemblage of artefacts. In the correspondence analysis, this elongated backroom of the house, with no or very little daylight, was strongly associated with amphora and pithos, loomweights (found in a row along the wall), two knives and a large number of bone fragments. Compared with other houses, the House of the Coroplast yielded but few vessels associated with storage. Yet, the only vessels associated with storage were found in this particular room and it is therefore tempting to interpret this room as a storage room, where also other domestic items, such as a loom, coins (found together) and vessels for consumption and food preparation could be kept.

Room 5 had to be entered from room 4 and contains large number of artefacts in association with that of room 4. No less than four lekanae were found in this room and, as seen in the scattergram, room 5 is also associated with traces of fire in the centre of the room, krateres, a lebes, a bead, bone ring and figurines. The particular use of lekanae is difficult to determine. They can serve various purposes, such as items for food preparation, a serving vessel, a vessel for storage of food or a vessel used in craft. Reinders presumed that room 5 was a ‘kitchen’, based on the presence of traces of fire and two chytrae and lopades, but there are no further indications in the form of immobilia that would justify such a specialised label.

The items found in room 7, the large room of the house were mostly found in the NW corner and consisted largely of organic remains. The pottery found was varied and consisted of three chytrae, a jug, a hydria and a very well preserved kantharos. In the correspondence analysis of all these object types distributed over the house, neither of these items is closely associated with this room, with the exception of the organic remains. The room also contained a square area set off by pebble stones in the centre which could be interpreted as a fireplace not in use at the time the house was abandoned. The wild mammal fragments found here consisted of hare and may have been remnants of a meal acquired by hunting. In comparison to the other houses, the large room of the House of the Coroplast does not easily reveal particular activities carried out here, but consumption and food preparation (at an earlier stage of use) can be associated with this room, based on the artefacts found.

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43 The coins were all minted during the reign of Ptolemy II (Reinders 1988, 126).

44 See the discussion on hunting and other subsistence strategies by W. Prummel in Reinders and Prummel 2003, p. 218 ff. and the next chapter.
Fig. 5.11. Scattergram of CA analysis: House of the Coroplast: all rooms and areas, and objects plotted in a symmetric space along axes 1 and 2.

Room 6 was found to be completely empty of artefacts with the exception of one bone fragment. The fact that the room was kept clean of food remains as bones and molluscs may be a reason to identify it as a bedroom. The unusual configuration of the house in terms of access, however, makes such an identification problematic. Room 6 gave both access to room 5 and room 7. In the second building phase, in which the original doorway of room 7 to the courtyard was walled up, room 6 was the only space that gave access to room 7, the large central room of the house. Given the fact that food preparation at the time of abandonment took place in room 5, while consumption was associated with room 7, we may assume that room 6 must have functioned as a connecting space between room 5 and room 7. The traffic through the room might have been intensive which would speak against the use of the room as a sleeping area.

This may be different with room 8. Not only is this the deepest (and in terms of accessibility the most ‘private’) room, it also contained very few artefacts and was only accessible through room 7. The use of this room as a sleeping area would be a possible explanation for its location and lack of artefacts.

The courtyard of the House of the Coroplast consists of two separate areas divided by a low wall. This courtyard could be entered by a wide entrance consisting of a prothyron, and it gave access to room 9. In the correspondence analysis, room 9 is closely associated with ‘coin’, (making a significant contribution in the analysis), lekanis, and to a lesser extend with astragalia. Also four coins were found in area 1, bordering room 9. Given that the House of the Coroplast had a workshop at the S end of the courtyard, transactions may have been carried out in the courtyard where some money got lost. The courtyard was also relatively clean from organic remains, indicating that this area was not used for dumping household refuse. The other
artefacts in room 9 do not weigh strongly in the analysis and a clear indication for use of this room is not possible.

5.7 Concluding remarks
We have now discussed the preliminary results of the analysis of the distribution of artefacts within the six excavated houses and connected them to possible activities that may have taken place within those rooms. But how meaningful are these categories? How do we know what artefacts were used in what kind of activities? And what do the artefacts themselves and their distributions tell us about social and economic organization of the inhabitants of New Halos? These are questions which we will address in chapters 6 and 7.