What is in a House?

An investigation on the differentiation of Chalcolithic architecture in Cyprus

B.K.H. Schubert

Interior of reconstructed building 1 at the Lemba experimental village.

https://androulaskitchen.wordpress.com/2011/10/15/lemba-craft-ancient-and-modern/

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1. Introduction

The Chalcolithic is one of the most dynamic periods of prehistoric Cyprus and is marked by major developments and innovations (Steel 2004, 118). According to Peltenburg (2013) these major developments and innovations consist of the intensification of ritual activity, the development of inequalities, economic intensification, the institution of an island-wide symbolic system and the first attempts at copper metallurgy. Since these are all very broad and complex topics, they will not be presented here, but are discussed later in this thesis. The Chalcolithic is subsequent to the Ceramic Neolithic and can be divided into three phases: Early Chalcolithic (*c.* 3900 – 3600/3400 cal BC), Middle Chalcolithic (*c.* 3600/3400 – 2700 cal BC) and the Late Chalcolithic (*c.* 2700 – 2500/2400 cal BC) (Knapp 2013, 27).

Although the Chalcolithic period is well investigated, several aspects of these communities still need to be examined more closely. One of these aspects is Chalcolithic architecture. Chalcolithic houses and settlement structure have been generally presented as fairly homogenous and standardized (Steel 2004, 87-89). Supposedly, little differentiation would be present among the house types and settlement structure. This can also be directly associated with burial practices. By taking a closer look at Chalcolithic houses, and re-examining them, it would be possible to see to what the degree variability is present. This can help us to gain a fuller understanding of the period, and the differentiation between settlements.

Also, the subsequent phases of the Chalcolithic show differences in terms of architecture and settlement organization. During the Early Chalcolithic there is a lack of standing architectural remains (Steel 2004, 83). Possibly, buildings were timberframed, rather than built out of stones and mud (Peltenburg 1993, 12). There are however little archaeological remains for this period. The Middle Chalcolithic period is characterized by the introduction of curvilinear architecture and increasing standardisation of the interior spatial layout (Knapp 2013, 204). The basic architectural form and interior spatial layout of the Middle Chalcolithic continued in the Late Chalcolithic. However, the precise division of space of the interior of the house became less formal, which can be well recognized in Kissonerga-*Mosphillia* (Papaconstantinou 2013, 133).

The aim of this research is to investigate the degree of differentiation that is present among Chalcolithic buildings, by examining the different features that are present (e.g. hearth, floor, walls, etc.). This research will be carried out in the light of the Chlorakas-

Palloures excavations, that are currently ongoing. This site will not be used as a case study, but the data of this excavation will be examined along with the data provided by the excavations of the Lemba Archaeological Project.

1.1. Earlier research

Although a large amount of data is available for architecture during the Chalcolithic period, only little research has been dedicated to diversity in Chalcolithic architecture. The majority of the data is provided by several key sites of the Chalcolitic, which are also examined in this study: Lemba-*Lakkous*, Kissonerga-*Mylouthkia*, and Kissonerga-*Mosphillia*. The data provided by the excavations at Chlorakas-*Palloures* have not been incorporated in any research until now. In every excavation report of these sites, a section or chapter is dedicated to the architectural features that were encountered. A catalogue of description of the buildings and individual features is provided, and extra attention is given to the "special" structures of features. However, only little attention is given to the interpretation of the architectural features, and often only a description or catalogue is provided, but extra attention is given to the "special" structures or features. For example, the Late Chalcolithic Pithos house at Kissonerga-*Mosphillia* is described in great detail, with sections dedicated to the architectural features, internal phasing and the activities that took place within this structure (Peltenburg *et al*. 1998, 37-43). Furthermore, several activity zones are distinguished within the site, which can be related to the structures, of which the most well-known is the "Ceremonial Area" (Peltenburg *et al.* 1998, 30).

A study carried out by Thomas (2003), focusses mainly on the development of architectural forms and patterns of buildings throughout the Chalcolithic. By examining the key structures and features of the earlier mentioned sites, he argues that these patterns differ from site to site. Papaconstantinou (2013) carried out a study in which several architectural features of different sites are described. Furthermore, a second and thorough study was carried by Thomas (2005b), in which experimental work was carried out at the Lemba Archaeological village. This study deals with the technical side of architecture, and focusses on the building materials that were used and the construction processes involved. Since this aspect of Chalcolithic architecture has been well studied, this will not be the focus of this research. Nevertheless, the findings of study will be incorporated in this research.

1.2. Research problem

In archaeology, architecture and other physical features are generally recorded in great detail. They are however often examined in a rather descriptive manner, without interpreting the architecture and investigating the social space (Parker Pearson and Richards 1994, xi). Architecture is a defined context in which particular activities are undertaken at particular places (Parker Pearson and Richards 1994, 40). Chalcolithic buildings generally have a central hearth, and different areas were defined for reception and sleeping, cooking and storage, and work and tool storage (Peltenburg 2013, 256). One could ask however how this differentiation between these spatially defined activities could be explained. And can we explain the differences in size and building material within building? Can these aspects be related to one another, and can we detect a difference in function in larger buildings in comparison with smaller buildings? Furthermore, the orientation of the buildings and their individual features should also be taken into consideration.

In all earlier mentioned studies, scholars tend to focus on the more elaborate structures and key and features, such as the Burnt Building at *Kissonerga*-Mylouthkia and the Pithos House at Kissonerga-*Mosphilia*, rather than studying all buildings in a similar way. Furthermore, little or no attention is given to the comparison and analysis of the structures at different sites. Thus, most buildings have been only presented in isolation, in a descriptive manner, and have not been studied thoroughly. Furthermore, the architectural data of the several sites have not been examined together, and therefore it seems that the Chalcolithic house is always presented as a homogenous structure, in which there is almost no place for differentiation or diversity within these structures (Peltenburg 2013, 257-258; Steel 2004, 87-89). Therefore, it is important to re-examine these Chalcolithic buildings, in order to tell something about the possible meaning or function of these buildings, their orientation and the spatial layout.

1.3. Research question

As has been mentioned earlier, this research will focus on the degree of differentiation among Chalcolithic buildings. The aim of this research is to find answers to the following questions:

Main research question:

- What is the degree of differentiation between Chalcolithic buildings, and how can this be explained?

Sub questions:

- Can we see a change in Chalcolithic houses between the Middle and Late Chalcolithic periods?
- Can the quality of building materials be related to the size or the function of the buildings? E.g. are monumental buildings built with a better quality of stone?
- What is the size distribution of the buildings?
- Are larger, monumental buildings primarily present in larger settlements? How can this be explained?
- Do we see a clear orientation of the buildings, and to what degree are household activities spatially defined?
- To what degree is a differentiation of the layout of Chalcolithic buildings visible?

1.4. Methodology

These research question will be investigated by looking at the excavation reports of several key sites in the southwest of Cyprus, namely Kissonerga-*Mosphilia*, Kissonerga-*Mylouthkia*, Lemba-*Lakkous* and Chlorakas-*Palloures* (Düring 2016; Peltenburg ed. 1985; 1991; 1998; 2003; 2006). Due to the fact that almost all sites are located in a small region and are contemporary to one another, one can easily recognize the differences between these settlements. This can be seen in settlement size, organization and the characteristics of the individual houses.

All the individual houses will be re-examined and a database will be generated in which all the features of these houses can be recorded. Every house will be studied individually, which will make it possible to easily compare these buildings to one another and to recognize patterns. The database will incorporate the key features of Chalcolithic buildings for each site. The presence of different features (e.g. hearth, postholes, floor), their location in and/or outside the house, and the orientation of these features will be recorded when possible. These features can be subdivided into different categories. For instance, four different types of floors can be distinguished (earth floor, clay floor, plastered floor and lime-plastered floor). Also, the diameter of the house, the width of the walls, the

building material and the presence and orientation of the entrance will be incorporated in the database. Finally, burials and other structures that can be directly associated to the buildings are incorporated into the database as well.

First a general overview of the Chalcolithic house will be given, after which the different phases of architecture during the Chalcolithic will be closer examined. The individual features of Chalcolithic buildings, and the variety that is present within them will be discussed. Also, the settlement size and structure will be discussed in relation to the buildings. The generated database and these excavation reports will be the basis for this research.

1.5. Structure

In order to answer the research question of this thesis, different aspects will be discussed. In the first chapter the Chalcolithic period of Cyprus will be examined, in which a closer look will be taken into the Cypriot landscape and a general overview of the sites that are incorporated in this research will be discussed. The second chapter will be dedicated to the theoretical framework of this research. In the third chapter, the Chalcolithic buildings and their components of the previously mentioned sites will be looked into. The elements that are examined in the previous chapter will be further analysed and discussed in chapter four. In the conclusion, the research questions will be addressed.

2. The Chalcolithic period of Cyprus

The Chalcolithic period of Cyprus (*c.* 3900 – 2500/2400 cal BC) has been thoroughly investigated over the past few decades (Knapp 2013, 27). The first Chalcolithic site to be excavated was Erimi-*Pamboula*, directed by P. Dikaios. This site was investigated between 1933 and 1935, and became the type-site for this period (Knapp 2013, 25). More recent research was carried out by the Lemba Archaeological Research Project, directed by E. Peltenburg. This extensive research project consisted of both surveys and excavations with the aim to investigate the prehistory of Cyprus (Peltenburg 1998a, lxiii). Excavations were carried out at several key sites, including Kissonerga-*Mosphilia* (1979-1992), Lemba-*Lakkous* (1976-1983) and Kissonerga-*Mylouthkia* (1976-1996), of which the last was investigated in four interrupted phases. Chlorakas-*Palloures* is yet another site in the region which was excavated between 2015 and 2017 (see fig. 1.). The excavated plot will probably be released for construction, but excavations will possibly continue in a different area of the site. We therefore have a great amount of knowledge of the subsistence, burial practices, settlement organisation, and the material culture of Chalcolithic Cyprus.

In this chapter the Cypriot landscape will be discussed after which an introduction to the Chalcolithic period of Cyprus will be provided. A general overview will be given of the Chalcolithic sites that are incorporated in this research and in the end, the context of the archaeology of Cyprus will be discussed.

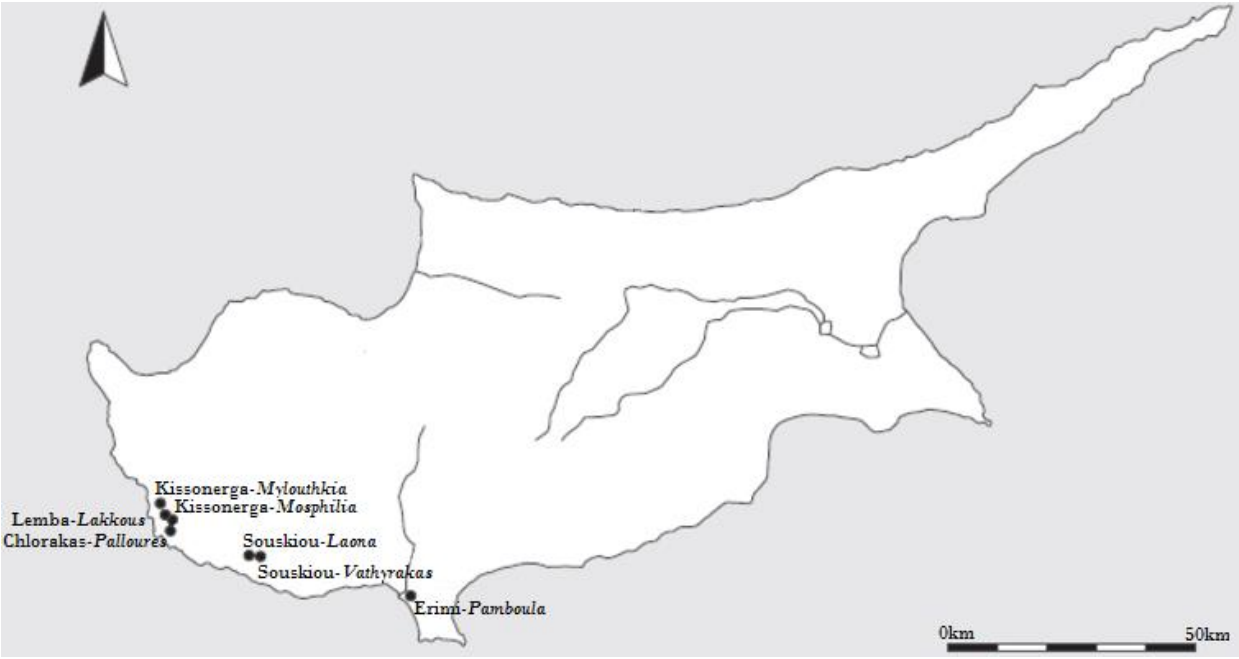


Figure 1: Map of Cyprus showing the Chalcolithic sites that are mentioned in the text (After Peltenburg 2013, 253).

2.1. Landscape and ecology of Cyprus

The geographic location and physical landscape of Cyprus have had a distinct influence on the development of human societies that occupied the island (Steel 2004, 2). As an island, Cyprus has not been connected by a land-bridge to the mainland since the Pliocene (Held 1989, 69). This does however not mean that Cyprus was completely isolated during the prehistoric periods. The location of Cyprus is a strategic one, and ongoing connections have existed between the island and the adjacent mainland from at least the Middle PPNB onwards (Manning *et al*. 2010, 703-704).

Cyprus is the third largest island in the Mediterranean and can be divided into four major geographical zones: The Troodos massif in the southwest, the Kyrenia mountains in the north, in between these the Mesaoria plain, and in the south the coastal belt (Steel 2004, 2) (see fig. 2). The Paphos plateau is a smaller regional zone, which lies in the west of the island. The Troodos massif has a height of up to 2100 meters, and covers an area of 3200 km². It is surrounded by a ring of pillow lavas, which are very infertile but do contain the richest copper sources on the island (Peltenburg *et al*. 2013a, 6). Also, the Troodos massif is one of the main sources of serpentinite, the green picrolite that was used in both the

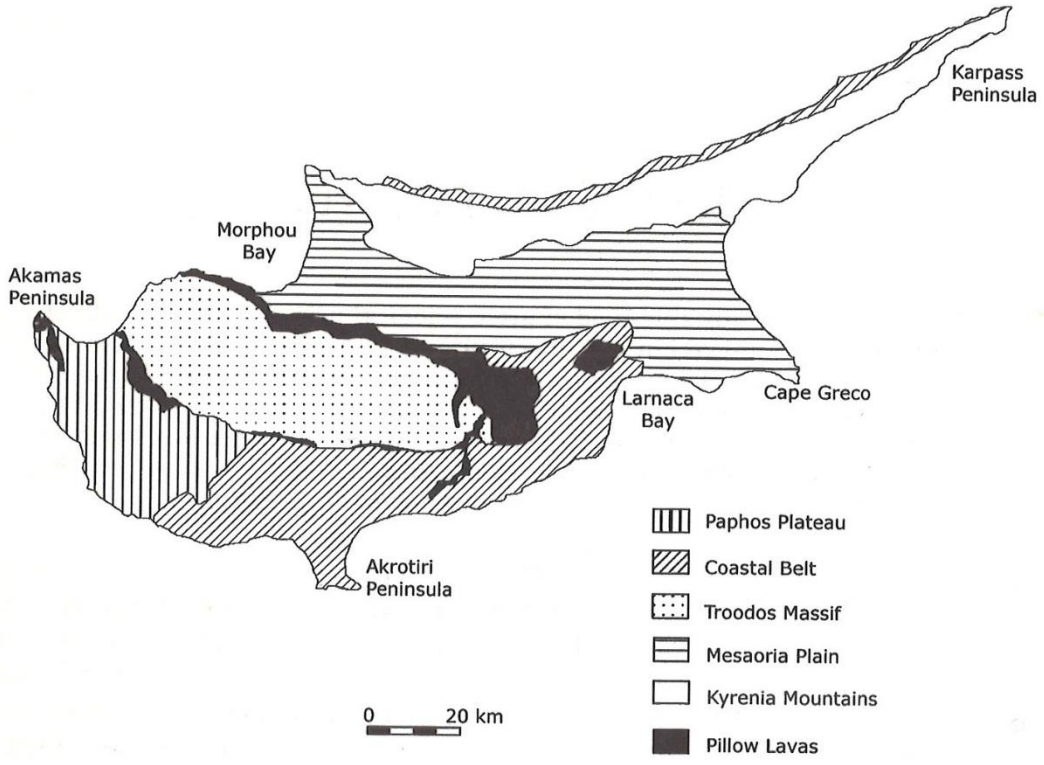


Figure 2: Geological map of Cyprus (Steel 2003, 2).

Neolithic and the Chalcolithic for figurines, pendants and other small artefacts (Steel 2004, 3). The Troodos massif is visible from the adjacent mainland of both Turkey and Syria (Bar-Yosef Mayer *et al*. 2015, 420). The Kyrenia mountains are located to the north and are separated by the Mesaoria plains. Through the Kyrenia mountains, three main passes were present that made communication and exchange between the north of the mountains and the Mesaoria plains possible (Knapp 2014, 5). The coastal belt is a low-lying area and is characterized by large limestone plateaus (Steel 2003, 3). The Paphos region can be defined by both the narrow coastal plains and outliers of the Troodos massif that extend into the sea (Knapp 2013, 5).

The origins of Cypriot flora and fauna is a topic of ongoing debate. According to archaeological evidence, it seems that both crops and animals were imported to the island from the adjacent mainland. The first evidence for human occupation on Cyprus can be dated to the Late Epipaleolithic period (eleventh millennium BP), indicated by the site of Akrotiri-*Aetokremnos*. Since there is no evidence for earlier human occupation on the island it is generally accepted that the people who occupied this site were hunter-gatherers that originated from the mainland. During the Pleisotocene dwarf forms of elephant and hippo were present on the island and were also encountered ant Akrotiri-*Aetokremnos*. Its excavator states that these animals were hunted to extinction by hunter-gatherers that occupied the site, but this statement is highly debated (Simmons 1999, 321-323). According to Croft (2002, 172), this left the island without any herbivore larger than the mouse. There is however no evidence that these people took up permanent residence on the island.

It therefore seems that the majority of animal and plant taxa that are generally found from the Neolithic period onwards have no apparent ancestors on the island (Peltenburg *et al*. 2001, 37). All three founder crops – emmer wheat, barley and einkorn wheat – were present in Neolithic Cyprus. The wild ancestor of barley was present on the island, wild emmer and einkorn wheat were however not endemic to Cyprus (Knapp 2013, 16). Domesticated einkorn and emmer wheat and barley were found at Kissonerga-*Mylouthkia*, and were dated to the 10^{th} and 9^{th} millennia BP (Knapp 2013, 101). Around *c.* 10 500 cal BP fallow deer, cattle, sheep, goat, fox, domestic dog and cat were introduced to the island (Knapp 2013, 9). The animals that were introduced are mainly manageable animals, with exception of fox and deer. Deer were probably introduced to the island in order to be hunted. In contrast to Croft (2002), Vigne *et al.* (2009, 16137) state that pigs were still present on the island between the Late Epipaleolithic and the introduction of domesticated

animals, indicated by the recent discovery of pig bones at the PPNA site of Agia Varvara-*Asprokremnos* and the large amount of pig bones in the earliest phases at *Shillourokambos* (*c.* 10 400 cal BP). Therefore, the presence of pig could have been one of the reasons that people eventually settled Cyprus. It could be argued that other animals were still present on the island as well, such as fox and deer, but this needs to be further investigated.

Many scholars agree now, that these plants and animals were imported from the mainland (Fuller *et al.* 2011; Peltenburg *et al* 2001; Zeder 2011), and some even speak of a colonization of the island rather than a migration or adaptation (Peltenburg *et al.* 2001).

2.2. Introduction to the Chalcolithic

The transition from the Ceramic Neolithic to the Early Chalcolithic seems to have been a fairly rapid process. Around *c.* 4000 Cal BC widespread settlement abandonment, dislocation or fissioning of settlements occurred among Late Neolithic communities, leaving an apparent gap in occupation of around 600 years before the establishment of the Chalcolithic period (Peltenburg 1993, 17). Peltenburg (2014, 253) has stated that a demographic shift to the west of the island took place, but this observation can also be caused due to the bias of the archaeological evidence (see 2.4.). The apparent gap in occupation could be explained by some kind of catastrophe, that caused the abandonment of settlements. However, a more gradual transition could have been taken place as well, in which traditions from the Ceramic Neolithic and the Chalcolithic existed together (Peltenburg 2013, 253-254). E.g. clear continuities from the Late Neolithic into the Chalcolithic are visible in Red-on-White pottery styles (Knapp 2013, 195). Unfortunately, this transition is still poorly understood due to a limited series of radiocarbon dates and a relatively poor knowledge of the Early Chalcolithic period (Steel 2004, 83). It is however generally accepted that the island was continuously occupied during this transitional period (Knapp *et al*. 1994, 408; Peltenburg 2013, 254; Thomas 2005, 119).

One of the new features that is characteristic for the Chalcolithic is curvilinear architecture, in contrast to the rectangular architecture of the Neolithic (Knapp 2013, 195). Buildings are usually free-standing and single-roomed, of which the internal space is divided in several segments (Thomas 2005, 119) (see fig. 3). The Early Chalcolithic (*c.* 3900 – 3600/3400 Cal BC) is marked by timber-framed architecture, in which the remains

comprise of earth floors, postholes, hollows and pits (Thomas 2005, 120). Stone-based structures appear during the Middle Chalcolithic (*c.* 3600/3400 – 2700 Cal BC), and were present during the Late Chalcolithic as well (Peltenburg 2013, 260). Furthermore, during the Middle Chalcolithic, we see the emergence of social inequalities and status differences, which can be distinguished by differentiation between sites, houses and burial practices. This is marked by size differences of both houses and burials/tombs, access to key foods, provision of feasts, ritual, and controlled access of spaces within the settlement (Crewe *et al.* 2005, 16; Peltenburg 2013, 260-261). Mainly based on the evidence at Kissonerga-*Mosphilia,* Peltenburg (1998b, 244-48; 2014, 261) argues these social inequalities and differentiation resulted from ritual control. The site was divided both spatially and socially, in which a small group had control of feasting and birthing figurines. According to Peltenburg (1998b, 247-248), this resulted in an hierarchically divided community due to the control of ritual, in which a small group exercised authority over the rest of the community, and possibly controlled communal labour as well.

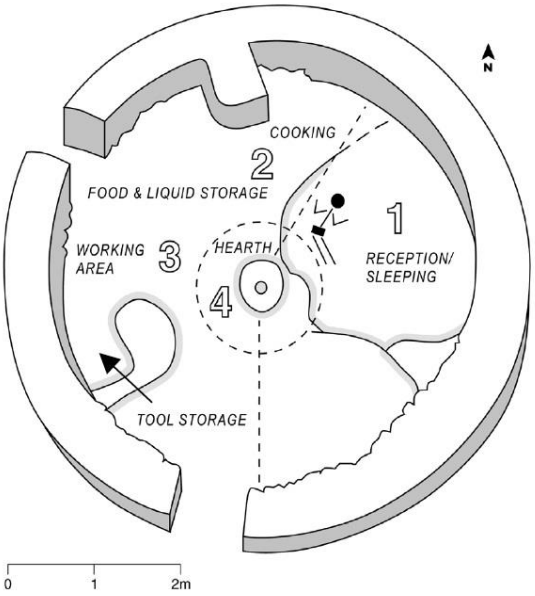


Figure 3: Building 200 at Kissonerga-*Myltouthkia* with a standard house division: 1. Living/sleeping area; 2. Cooking area/food storage; 3. Work area/tool storage; and 4. Central hearth (Peltenburg 2013, 269).

Unfortunately, only little evidence for the Late Chalcolithic is present (*c.* 2800 – 2400 cal BC). Furthermore, the transition between the Middle and Late Chalcolithic periods is poorly understood, and not well known from the key sites of Kissonerga-*Mosphilla* and Lemba-*Lakkous* (Düring 2016, 3). According to Peltenburg (2013, 261) the occupational hiatus at Kissonerga-*Mosphillia,* and possibly also at Lemba-*Lakkous,* indicate a negative reaction to the increased centralisation of power at the site which can be recognised during the end of the Middle Chalcolithic. In this scenario, the Chalcolithic people shifted to a more mobile way of life, possibly indicated by the hunting site of Politiko-*Kokkinorotsos*. However, in contrast to Peltenburg (2013), Webb *et al*. (2009, 233) argue that periodically used hunting villages could have been common during both the Middle and Late Chalcolithic periods.

Due to the recent excavations at Chlorakas-*Palloures*, which dates mainly to the Late Chalcolithic, our knowledge of this period has grown considerably. Therefore, some interpretations and conclusions that were made earlier, need to be revised. According to Knapp (2013, 247) and Peltenburg (2013, 261) the Late Chalcolithic period is marked by a decrease in building size, the disappearance of cruciform figurines, a decline in the use of picrolite, metal and faience, the introduction of intra-settlement chamber tombs, and the introduction of Red-and-Black Stroke Burnished ware and new pottery forms. Also, an intensification is visible in agricultural production, marked by heavier food-processing tools and storage facilities, and an increase in livestock. This will be further discussed in section 2.2.1. Subsistence Practices. At *Palloures* a cluster of large and well-built buildings have been recorded, of which Building 1 is the largest Chalcolithic structure that has been excavated until now. Furthermore, several picrolite figurines and other artefacts have been encountered, as well as an astonishing amount of metal artefacts (Düring *et al*. 2018, 19 Whereas the community is supposedly divided due to ritual authority during the Middle Chalcolithic (see above), Peltenburg (2014, 262) argues that during the Late Chalcolithic period at Kissonerga-*Mosphilia* the community was divided economically. In this interpretation, the Pithos House (see 2.3.4. Kissonerga-*Mosphilia*) is interpreted as an elite household, in which large amounts of resources were accumulated, to economically manage people, surpluses and labour.

Although the Chalcolithic is seen as a period in which the island is somewhat isolated from surrounding cultures in the Eastern Mediterranean, an increase in foreign interactions, especially with Anatolia, can be recognized during the Late Chalcolithic (Bolger 2013, 2; Peltenburg 2007, 147; Peltenburg 2013, 262-263). According to Peltenburg (2007, 154), there are no direct imports during this period, but the changes in material culture can be explained as appropriations or adaptations of foreign traits, initiated by the inhabitants of Cyprus. It is generally believed that the increase in foreign contacts and the adaptation of Anatolian traits played a key-role in the transition from the Late Chalcolithic to the Early Bronze Age (Peltenburg 2007, 144). This eventually led to the postulated migration of Anatolian groups to Cyprus during this transitional period, which was accompanied by the introduction of new technologies and material innovations such as innovations in ceramics (new pottery forms), metallurgy, the introduction of rectilinear architecture, and new burial customs with the introduction of chamber tombs (Bolger 2007, 164; 166). According to Bolger (2007, 183), the transition from the Late Chalcolithic to the

Bronze age involves a long-term graduated change, in which several stages of cultural interaction can be recognized.

2.2.1. Subsistence practices

The subsistence strategies of the Chalcolithic consisted of both hunting and agropastoralism, and people relied heavily on deer, pigs and caprines. Pigs and caprines were probably introduced during the Neolithic as domestic stock, while deer were introduced as a hunted animal (Croft 1991, 65-66). During the Ceramic Neolithic, deer were heavily exploited, and this continued and increased during the Chalcolithic. For example, at Kissonerga-*Mylouthkia* deer constituted 70% of the total meat supply. However, from the Middle Chalcolithic onwards a rise in the consumption of pig is visible, and therefore, the relative importance and consumption of deer and caprines drops. During the Late Chalcolithic the contribution of deer to the meat supply at Kissonerga-*Mosphilia* has dropped to 47,5% while pig rose to 46,7%. Caprines consisted of 5,8% of the meat supply (Croft 1991, 71) (see tab. 1). Croft (1991, 73) suggested that this shift could have been a result of population increase, which may have led to overhunting and reducing deer populations. Keswani (1994, 265) suggested that increased consumption of domestic stock can be related to ritual consumption. This would have been related to population increase as well, as communities would have relied more on ceremonial rituals in order to mediate conflict and facilitate social reproduction. It should however be stated that the theories of Croft and Keswani do not necessarily exclude on another. Furthermore, an increase is visible over time in the culling of pigs prior to subadulthood (Croft 1991, 73). This may be caused by the increase of ritual activities and therefore the consumption of domestic animals (Keswani 1994, 265; Knapp 2013, 216). Croft (1991, 73) however stated that this simply indicated an increase in pig exploitation, which could be a combination of both domestic and feral pigs.

As for the archaeobotanical record, both domesticated and wild plant resources were exploited. A wide variety of plant species was used consisting of domesticated cereals such as emmer wheat, breadwheat, einkorn wheat, and hulled barley, and legumes such as lentils, peas and chick peas (Murray 1998a, 217; Murray 2003, 63). Wild legumes are usually used as animal fodder, but were possibly used as human food as well (Murray 2003,

65). Furthermore, the wild fruits and nuts of fig, grape, olive, pistachio, linseed, hackberry and possibly caper were collected for human consumption (Murray 1998a, 222).

Table 1: Relative importance of deer, pig and caprines during the Chalcolithic period (Croft 1991, 71).

	Deer		*Pigs*[a]		*Caprines*		
Site/Period	*no.*	*%*	*no.*	*%*	*no.*	*%*	*Total*
Early Chalcolithic							
Kalavasos-Ayious	545	78.1	48	6.9	105	15.0	698
Meat supply fraction		86.2		8.9		4.9	
Kissonerga-Mylouthkia	723	63.7	211.5	18.6	200	17.6	1134.5
Meat supply fraction		70.2		24.1		5.7	
Early-Middle Chalcolithic							
Lemba-Lakkous Period 1	47	63.9	12.5	17.0	14	19.0	73.5
Meat supply fraction		71.4		22.3		6.3	
Middle Chalcolithic							
Lemba-Lakkous, Period 2	99	47.6	42	20.2	67	32.3	208
Meat supply fraction		58.9		29.4		11.7	
Kissonerga-Mosphilia, Period 3	97	51.3	65	34.4	27	14.3	189
Meat supply fraction		53.5		42.2		4.4	
Late Chalcolithic							
Kissonerga-Mosphilia, Period 4	1272	44.4	1063	37.1	528	18.4	2863
Meat supply fraction		47.5		46.7		5.8	
Lemba-Lakkous, Period 3	127	35.9	129	36.4	98	27.7	354
Meat supply fraction		41.3		49.1		9.4	

2.2.2. Material Culture

The material culture of Chalcolithic Cyprus is marked by both new traditions and continuing developments from the Ceramic Neolithic. The chipped stone industry is characterized by unsophisticated knapping techniques and a limited tool repertoire, and is largely flake based. This is however a general trend throughout Cypriot prehistory (Betts 2004, 180). Red-on-White Pottery, that first appeared during the Neolithic, continued to develop. Close connections between sites can be recognized regarding both decorative elements as their morphology during the Early Chalcolithic period. This style is characterized by new morphological types, such as platters and flasks, a high frequency of platters which have a monochromatic exterior and were decorated on the interior, the introduction of a positive style with thin-lined lattice motives and the incorporation of

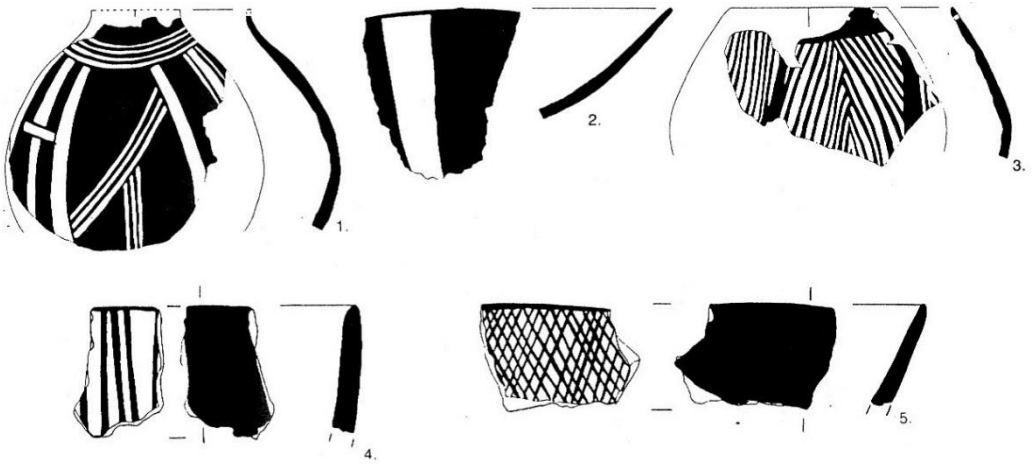


Figure 4: Early Chalcolithic potery from Kalavasiou-*Ayious* (1-3), and Kissonerga-*Mosphilia* (4-5) (after Bolger 1991, 84).

curvilinear elements, which resulted in the emergence of an island-wide style (see fig. 4). It can therefore be stated that there was high-level of contact between different sites (Bolger 1991, 85). During the Middle Chalcolithic a greater diversity is visible in vessel types. The platter decreases in popularity, while the use of flasks increases, and, as in the Early Chalcolithic, new types emerge such as deep bowls with spouts and storage jars (see fig. 5). The number and diversity of pottery figurines increased as well (Goring 1991, 155). As for the decorative elements, the positive style that was introduced during the Early Chalcolithic has become the norm, the designs have become more complex, and open vessels are more and more decorated on the exterior as well. (Bolger 1991, 85-86). The island-wide style that was present during the Early Chalcolithic does not seem to continue to the Middle Chalcolithic, but it seems that communities composed their own styles. Therefore, Bolger (1991, 92) has stated that this could have been the result of an increase in craft specialization. During the Late Chalcolithic, new shapes are introduced, Red-on-White pottery disappears completely, and is replaced by a monochrome pottery type known as Red and Black Stroke-Burnished ware (RB/B). Long and elaborate pouring vessels are typical for this period, as well as a new standard of thin-walled vessels, while during the Middle Chalcolithic period, vessel walls were much thicker (Peltenburg 2007, 145).

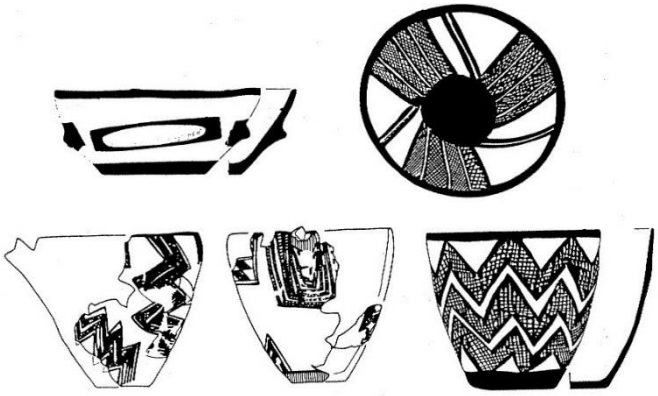


Figure 5: Red-on-white pottery from Kissonerga-*Mosphilia*, dating to the Middle Chalcolithic (after Bolger 1991, 87).

These new shapes and styles reflect influences from the mainland, especially from Anatolia but some traits from the Levant can be recognized as well (Bolger 2007, 182; Bolger 2013, 4). One of the clearest examples for connections with Cyprus and the Anatolian mainland, is the discovery of a face pot at Lemba-*Lakkous*, which has strong parallels in Anatolia. According to Peltenburg (2007, 150), this vessel represents the adoption of both Anatolian decorative elements, and concepts and symbolism (see fig. 6).

The ground stone industry is comprised of tools, vessels and other finds, such as figurines, pendants and beads (Elliott 1985, 75). During the Chalcolithic the stone tools become more elaborate, but there are generally few changes from the Ceramic Neolithic (Peltenburg 1982a, 86). Ground stone artefacts have been found within a large amount of contexts, and vary considerably in type and function. Tools can be grouped according to their general function: cutting, scraping, hammering, grinding, pounding, rubbing and polishing. Furthermore, some tools had multiple functions or have been re-used (Elliott-Xenophontos 1998, 168)**.**

The Chalcolithic is also characterized by the more extensive exploitation of picrolite, that was used to make a wide variety of ornaments of which the most well-known are figurines. A dramatic increase in figurines in visible during the Early and Middle Chalcolithic, with a greater variety in morphology and the initial use of figurines in burials (see 2.2.3. Mortuary Practices) (Peltenburg 1991d, 113). Figurines were made of several materials, consisting of various stone types, such as picrolite and clay, and they vary highly in size (Steel 2004, 99) (see fig. 7). Figurines are primarily anthropomorphic, but several

Figure 6: Several West Anatolian face pots from 1. Troy (Blegen 1963, Pl. 31), 2. Aphrodisias (Joukowsky 1986, 396) and Karataş (Warner 1994, Pl. 166a), and 4. Late Chalcolithic Lemba-*Lakkous* (Peltenburg 1985a, Pl. 33.10) (Peltenburg 2007, 150).

zoomorphic examples have been retrieved from Kissonerga-*Mylouthkia* and Chlorakas-*Palloures* (Goring 2003, 169; Düring 2016, 18) It seems, however, that the choice of material is related to the depiction. Picrolite is used for standardized cruciform figurines with elongated arms, while other types of stones depict females, with short arms, often do not have legs, and have a greater variety of anatomical detail (Peltenburg 1985e, 279). Clay figurines are very fragile, and often only fragments of the original figurine can be recovered. However, from a ritual deposit in the so-called "Ceremonial Area" at Kissonerga-*Mosphilia*, eight almost intact pottery figurines were retrieved (Goring 1991, 156). These eight figurines show a large variety in different fabrics and different types, and according to Goring (1991, 160) all had some association with childbirth. These clay figurines were however all heavily damaged, which makes interpretation difficult.

Figurines have been mainly found in grave contexts but are also known from settlement contexts. The smaller, picrolite figurines were probably used as pendants, while the larger figurines that were made, seem unlikely to have been worn (Peltenburg 1985e, 279). Therefore, Steel (2003, 102) has stated that these large figurines might have been the focus of Chalcolithic ideology, while the smaller figurines depict portable representations

Figure 7: Left: Clay figurine. According to Goring (1991, 156) the moment of giving birth is depicted. Right: Cruciform, picrolite figurine from Souskiou-*Vathyrkakas* (Peltenburg 2013, 259)

of these figures. The disappearance of cruciform figurines occurs however during the Late Chalcolithic period which, according to Peltenburg (2013, 261), marks the disappearance of the shared ideology of Middle Chalcolithic society, that is related to a negative reaction to centralized powers (see 2.2.). However, at Chlorakas-*Palloures* a large number of figurines has been encountered dating to the Late Chalcolithic period, which does not fit with Peltenburg's interpretation. Therefore, this statement should be re-evaluated, incorporating the *Palloures* data.

According to Peltenburg (2011a, 8) the first attempts for copper metallurgy were made during the Middle Chalcolithic period, which is illustrated by a chisel from Erimi layer IX. This chisel is supposedly the earliest secure evidence for metalwork on the island. It should however be stated that this chisel does not necessarily represent early metallurgy on the island, since these artefacts could have been imported as well. Other early artefacts include the hook and plaque from Kissonerga-*Mylouthkia* and the spiral ornament from Souskiou-*Vathyrkakas* (Crewe *et al*. 2005, 51; Croft and Peltenburg 2003, 191). Furthermore, needles, chisels, beads, blades, an awl, and several ore fragments were uncovered as well (see fig. 8). Until recently, less than 20 metal artefacts could be dated to the Chalcolithic period (Peltenburg 2011a, 4). Fortunately, during the recent excavations at Chlorakas-*Palloures*, several other artefacts have been retrieved that drastically increase the number of metal artefacts dating to the Chalcolithic, including the first Chalcolithic axe/adze (see 2.3.5. Chlorakas-*Palloures*), and can contribute to our knowledge.

Peltenburg has suggested a link between the early exploitation and working of copper, and the more extensive exploitation of picrolite during the Middle Chalcolithic

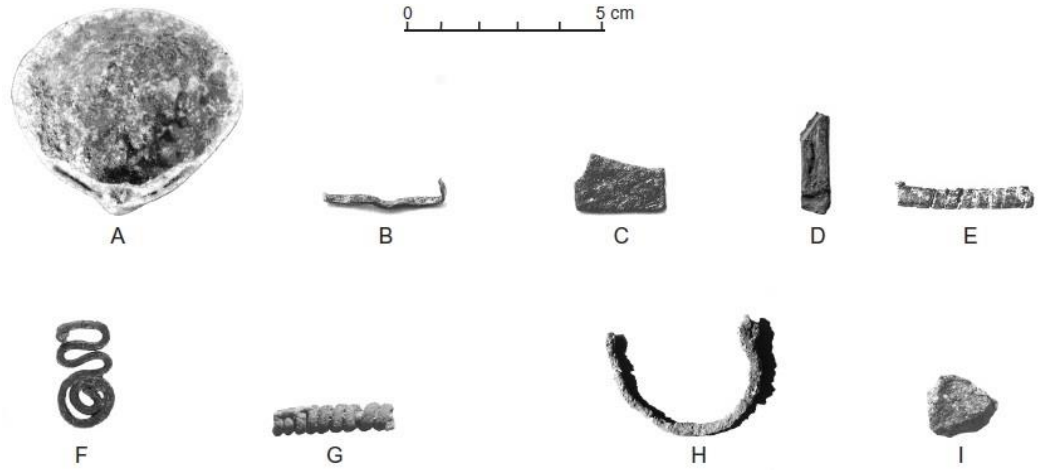


Figure 8: Middle Chalcolithic metal artefacts from Cyprus: Kissonerga-*Mosphilia*: A. Mineral that was mined for copper extraction; Erimi-*Pamboula*: B. Narrow band; C. Blade D. Chisel from; E. Souskiou-*Vathyrkakas:* E. Sprial bead; Souskiou-*Laona*: F. *Spiral*/snake pendant; G. Spiral Bead; H. Possible pendant; I. Blade (after Peltenburg 2011a, 5).

(Peltenburg 2011a, 6). He states that the distribution of the native picrolite sources overlapped with the distribution of native copper sources, and therefore these two materials would have been collected together (Peltenburg 1982b, 54-56). However, only 20 copper artefacts have been retrieved in contrast to at least 445 picrolite artefacts (Peltenburg 1991d, 114). Therefore, Knapp (2013, 232) has argued that if Peltenburg's statements is true, there was a predominant focus on the collection of picrolite. Steel (2003, 95), however, argued that the small amount of copper artefacts is a reflection of the nature of its early use, making utilitarian tools that were used within the settlement. Furthermore, she suggested that copper was recycled and reused.

2.2.3. Mortuary practices

Only little evidence is available for mortuary practices during the Early Chalcolithic. However, at Kissonerga-*Mylouthkia* at least ten individuals were recovered dating to this period. Unfortunately, the remains were largely incomplete and three individuals are represented by a single bone (Fox *et al.* 2003, 221). The remains were mainly recovered from pits, and only one individual was found inside a structure (Building 152) (Fox *et al*. 2003, 223). There is little evidence that burials in the Early Chalcolithic were already associated with buildings, and there is no indication of a preference for location, as we see from the Middle Chalcolithic onwards. Furthermore, some evidence for funerary ritual is illustrated by two disarticulated skeletons, which were encountered in pit 1, together with faunal remains, ceramics, and fragments of figurines. Since almost no material was weathered, Peltenburg (1982, 59) has stated that it is unlikely that these were washed in. It is however possible that the human remains were thrown into the pit, together with the other artefacts. This is further emphasized by animal marks on the bones and the fact that some human bones were used to make tools. In this case, these burials would have been designated as "trash burials" (Peltenburg 2003, 263).

Starting in the Middle Chalcolithic, burials become more formalised and differential burial practices become evident (Knapp 2013, 218; Steel 2004, 96). The majority of our knowledge of mortuary practices comes from settlement sites, such as Kissonerga-*Mosphilia*, where 73 graves and tombs were excavated (Lunt *et* al. 1998, 65). This site yielded the largest set of mortuary data from the Chalcolithic period. Graves and tombs have been mainly encountered within the settlement, often intra-mural, with the exception of the Souskiou-*Laona* settlement. Around this site, at least four cemeteries are identified, of which the *Laona* and *Vathyrkakas* 1 cemeteries have been excavated (Crewe

et al. 2005, 1). Using the evidence at *Mosphilia*, Peltenburg has distinguished five grave types: 1. pit graves, 2. pit graves with capstone, 3. chamber tombs, 4. pot burials and 5. scoop graves (Lunt *et al.* 1998, 68-73) (see fig. 9). During the Middle Chalcolithic period however, only pit graves and pit graves with capstones were used for intra-settlement burials, while tomb graves were reserved for extra-settlement burials. Infant and child burials are predominant within these settlement sites, and were mainly recovered from pit graves, with or without capstone. Adults however, have mainly been recovered from tomb burials, primarily at cemeteries such as *Vathyrkakas* and Laona (Crewe *et al*. 2005, 16). However, of the four burials that were encountered at Erimi, three contained remains of adults, of which at least two were recovered from pit graves (Niklasson 1991, 119-121). Only a few grave goods were encountered at both Lemba-*Lakkous* and Kissonerga-*Mosphillia* (Lunt *et al*. 1998, 90; Niklasson 1985, 52). These consisted of Red-on-White and Black Stroke-Burnished pottery, dentalium necklaces, querns, a basalt axe, shells and several picrolite figurines pendants and beads. Both child and adult burials were accompanied with grave goods, and at *Mosphilia* the highest amount of grave goods was found during period 3B, which contained only child burials. (Lunt *et al.* 1998, 90). This does however not necessarily mean that elaborate grave goods were primarily placed within child burials, but that the data is slightly biased since the related cemeteries have not yet been encountered and therefore, more child burials have been excavated.

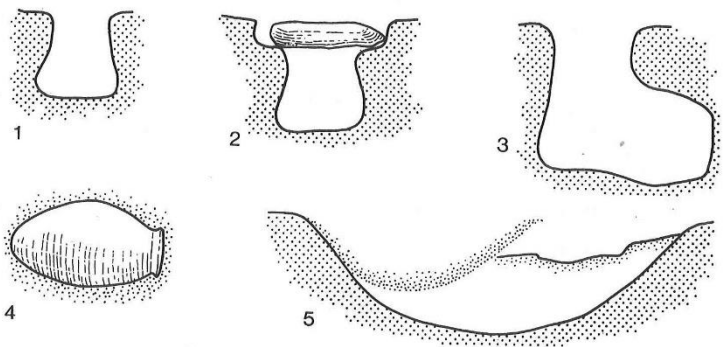


Figure 9: Grave and tomb types encountered at Kissonerga-*Mosphilia* (Lunt *el al.* 1998, 68).

Luckily, we have information of extra-settlement burials from the cemeteries at Souskiou. The settlement is located on a narrow ridge, overlooking the Dhiarizos River valley and the Troodos Mountains to the northeast, and the Mediterranean to the south (Peltenburg *et al.* 2006, 2). Souskiou lies on major routes at the eastern extent of the Chalcolithic sites of western Cyprus, and therefore, could be regarded as a regional centre in the southwest of the island (Knapp 2013, 213). The site complex consists of the settlement and cemetery at Soukiou-*Laona*, and three Cemeteries at *Vathyrkakas* (see fig. 10). However, several more tombs have been recently encountered between *Vathyrkakas*

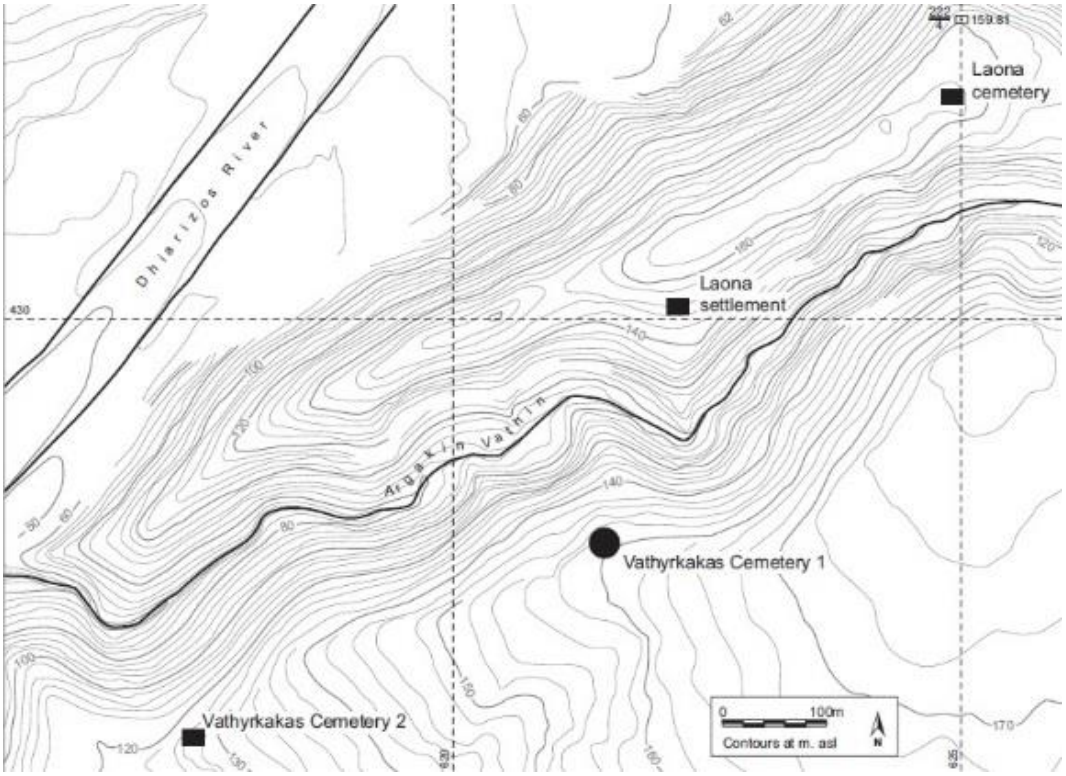


Figure 10: Topographic plan of the Souskiou complex. *Vathyrkakas* Cemetery 3 is not indicated on the map (Peltenburg 2005, Pl. I)

cemeteries 2 and 3, and therefore there might have not been a distinction between these two, and more tombs were situated there (Peltenburg 2011b, 684). Unfortunately, a large amount of the tombs has been looted, but several tombs remained intact (Crewe *et al*. 2005, 2). Due to the large amount and wealth of the objects, especially the cruciform figurines, that have been retrieved from these tombs, the site complex became very well-known (Peltenburg 2011b, 681).

At *Vathyrkakas* 1, around 100 tombs were situated, consisting mainly of rock-cut-pits, shaft-, bell-shaped- and square-pit-and-shaft tombs dating to the Middle Chalcolithic (Peltenburg *et al*. 2006, 77) (see fig. 11). Both bell-shaped and square pit-and-shaft tombs were previously unknown from the archaeological record during the Neolithic and Chalcolithic periods. Pit-and-shaft tombs were the most elaborate and contained a high amount of grave goods, and therefore, Peltenburg (2011b, 684) has suggested that some people within the society achieved a special status, which is illustrated by these tombs, and especially by tomb 73 which is the largest and most elaborate mortuary structure on the island (Peltenburg (2011b, 684). Primarily adults were buried in the tombs at *Vathyrkakas*, but several tombs contained child burials as well. Both adult and child remains were

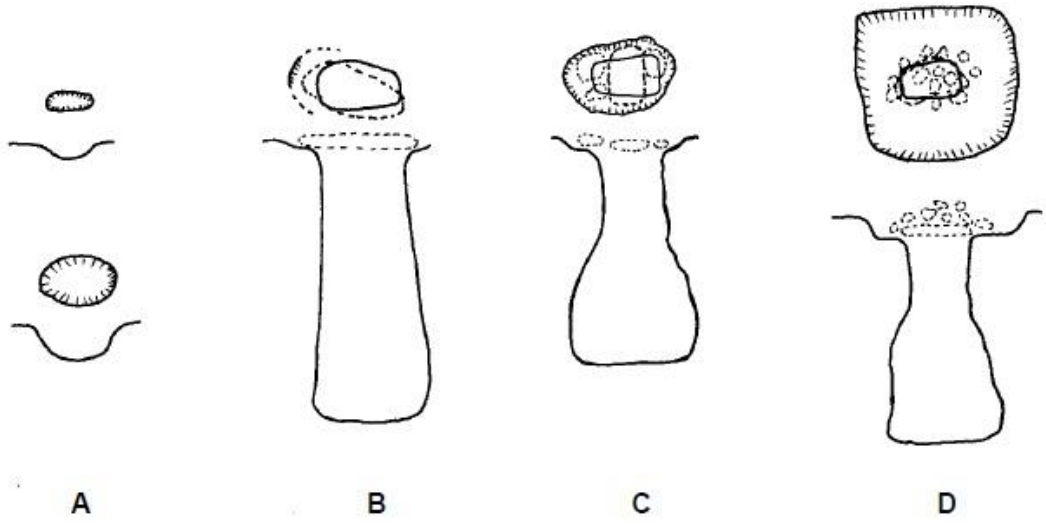


Figure 11: The four tomb times that were encountered at Souskiou-*Vathyrkakas*: A. pit; B shaft tomb; C. bell-shaped shaft tomb; D. square pit-and-shaft tomb (Peltenburg 2005, 158).

accompanied by grave goods, and possible some distinction can be recognized between the type of burial goods and materials, and the age and/or sex of the individual (Peltenburg 2006, 162 in Knapp 2013). This can be recognized at Kissonerga-*Mosphillia* as well, where adult burials are mainly accompanied by ceramic objects, and ornaments are tied to child burials (Niklasson 1991, 148). 137 Tombs were documented at Soukiou-*Laona*, of which the majority was looted or partially looted, but fortunately, fifteen tombs remained intact (Crewe *et al*. 2005, 4). The burial goods were large in number, and the assemblages were similar to those encountered at *Vathyrkakas*. At both sites, both single and multiple, and primary and secondary burials were encountered. Thus, the Souskiou cemeteries give us unique information concerning extra-mural burials. The innovations that were present at the Souskiou, including differentiation in tomb/grave size, the enlargement of tombs for multiple burials, secondary treatments of burial remains, and an increase and variability in grave goods (Crew *et al*. 2005, 16).

During the Late Chalcolithic period, several changes in the mortuary practices can be recognized. Most evidently is the introduction of new grave types, including pot burials and scoop graves. Chamber tombs are now used in settlements as well (Lunt *et al.* 1998, 70-73). Chamber tombs comprised of a circular shaft with one or two chambers positioned slightly away from the base of the shaft, which became the standard throughout the Bronze Age (Peltenburg 2013, 262). According to Peltenburg (Lunt *et al.*, 71-72) these chamber tombs were mainly introduced to facilitate adult and multiple burials, although some child burials and single inhumations are present at Kissonerga. Children were mainly buried in simple pit or scoop graves. Thus, in contrast to the Middle Chalcolithic period, adults were

buried within the settlement again, which can be recognized at both Lemba-*Lakkous* and Kissonerga-*Mosphillia* (Bolger 2003, 155). Furthermore, a decrease in elaborate grave goods can be recognized, as well as an increase in multiple or group burials including men, women and children, which is possibly connected to the introduction of chamber tombs (Knapp 2013, 258). According to Peltenburg (Lunt *et al.* 1998, 84) these developments signify a "major ideological shift" between the Middle and Late Chalcolithic periods at Kissonerga. Although no chamber tombs were present at Lemba-*Lakkous*, adult burials are now interred in special structural features, which were used for child burials during the Middle Chalcolithic period. Therefore, Bolger (2003, 155) has stated that at both Lemba and Kissonerga we see a shift in ideology towards adults and children within communities, which could suggest a focus on the family during the Late Chalcolithic.

2.3. Overview of the Chalcolithic sites

All sites that are incorporated in this research project – Lemba-*Lakkou*s, Kissonerga-*Mylouthkia*, Kissonerga-*Moshpillia* and Chlorakas-*Palloures* – are situated in the Ktima-lowlands, and are part of the same settlement cluster (Peltenburg 1982a, 2). Two other Chalcolithic settlement sites that have been mentioned in this study, namely Soukiou-*Laona* and Erimi-*Pamboula*, will however not be incorporated in this study. Unfortunately, the results of the Souskiou-*Laona* excavations will only be published in the second half of 2018 and were therefore not available during the execution of this research project. Although the results of Erimi-*Pamboula* have been published (Dikaios 1936; 1962; Bolger 1985), it will not be part of this study since it is almost impossible to determine to which periods the different stratigraphic layers belong to.

Dikaios excavated in 20cm artificial spits, to a depth of 5,4 m, which he later divided into thirteen stratigraphic levels (Bolger 1985, 51). Dikaios divided these layers into two periods: Erimi I (layers I – VIII) and Erimi II (IX – XIII) (Dikaios 1962, 113), and introduced the term Chalcolithic to distinguish the upper layers of the site, in which metalwork was found, from the lower layers that were thought to be Neolithic. By doing so, he made the development and interpretation of the other archaeological remains, such as the pottery and architecture, subordinate to the appearance of metalwork. However, in a later report he dated the upper layers using radio carbon analysis, and revised his initial chronology, placing Erimi completely in the Chalcolithic period (Peltenburg *et al.* 2013a, 8). Unfortunately, some confusion about the radio carbon samples and their contexts remains, and it is not certain from which stratigraphic levels the samples were taken.

However, it is generally accepted that the samples belong to the Erimi II period, and date to the Middle Chalcolithic (Peltenburg *et al*. 2013b, 320).

Unfortunately, it cannot be determined which stratigraphic layers belong to the Early, Middle or Late Chalcolithic from the radio carbon analysis alone. Due to the exceptional depth of the excavation, one would assume that a single-period occupation is highly unlikely. Furthermore, the current ceramic and architectural evidence is insufficient and should be re-examined to start a discussion regarding the periodization of the site. This falls out of the scope of this current examination but should be investigated in future research.

In this chapter, all sites will be briefly discussed, in order to gain a better understanding of the sites, and of their relationships between them. Information on the buildings and settlement organization will be touched upon as well, but this will be further examined in chapter 4 (the Chalcolithic house).

2.3.1. Lemba-*Lakkous*

Lemba-*Lakkous* is located in the Ktima Lowlands and is part of a cluster of Chalcolithic sites of which Kissonerga-*Mylouthkia*, Kissonerga-*Mosphillia* and Chlorakas-*Palloures* are part as well (see fig. 12). Lemba can be dated to the Middle/Late Chalcolithic period (Frankel *et al*. 2013, 16). The site was situated on a slope next to a stream which provided a permanent supply of water (Peltenburg and Xenophontos 1985, 8-9). The site was first reported in 1975, and trial excavations were carried out in 1976 by the Lemba Archaeological research project, directed by Peltenburg (Stanley Price 1979, 145; Peltenburg 1985c, 3). The site was very compact and not evidently disturbed by agricultural activities. After the trial excavations, six further seasons of excavation were carried out at Lemba. Unfortunately,

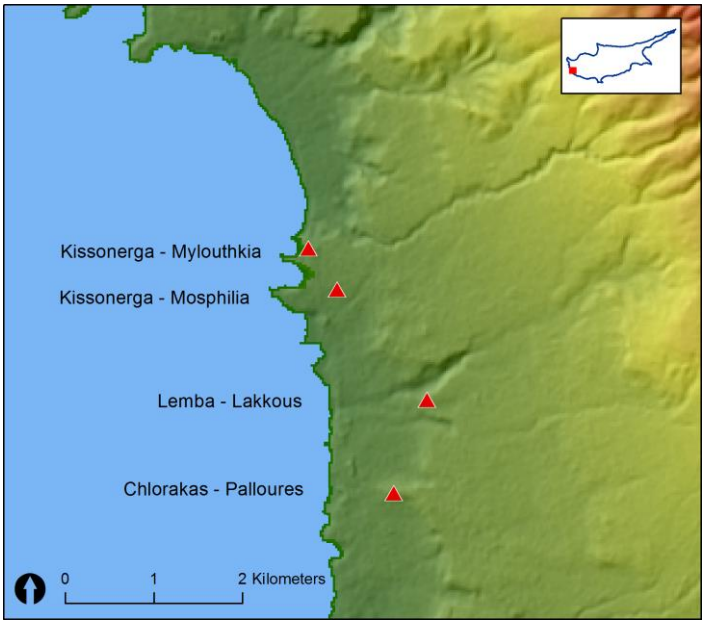


Figure 12: Cluster of excavated Chalcolithic sites located in the Ktima Lowlands (Düring *et al*. 2018, 12).

several problems were encountered when reconstructing the chronology of the site that were caused by several stratigraphic factors, of which the most significant ones are the shallowness of the deposits, slope erosion, and modern plough disturbances. Furthermore, the sequence has also been disturbed to a lesser degree by irregular bedrock outcrops interrupting the deposits, later pits and graves cutting the earlier levels and the lack of a clear destruction or erosion horizon which could aid in the division of stratigraphic layers. As a result, there are only few instances of a vertical stratigraphy or relationships between components (Peltenburg 1985c, 11). Based on radiocarbon dating, ceramic assemblages and vertically stratified deposits it became clear that Lemba-*Lakkous* could be divided into three periods: Period 1: *c.* 3500 – 3000 BC, Period 2: *c.* 3400 – 2800 BC and period 3: *c.* 2700 – 2400 BC (Frankel *et al*. 2013, 25). Peltenburg (1985, 18) suggested that it is likely that there is a break in site occupation between these three periods. Thus, it is more likely that Lemba-*Lakkous* is a multi-period site, rather than a site with continuous occupation. Furthermore, it should be stated that the radiocarbon dates from Period 1 are problematic, since they contradict with the ceramic phasing of the site. Therefore, more dates are required for this period, as well as for Period 2 (*c.* 3400 – 2800 BC) for which only one sample has been dated (Peltenburg 1985c, 16-17).

Two parts of the site have been excavated, namely Area I in the west and Area II *c.* 100 m to the east, which were occupied during different phases (see fig. 13). The phases

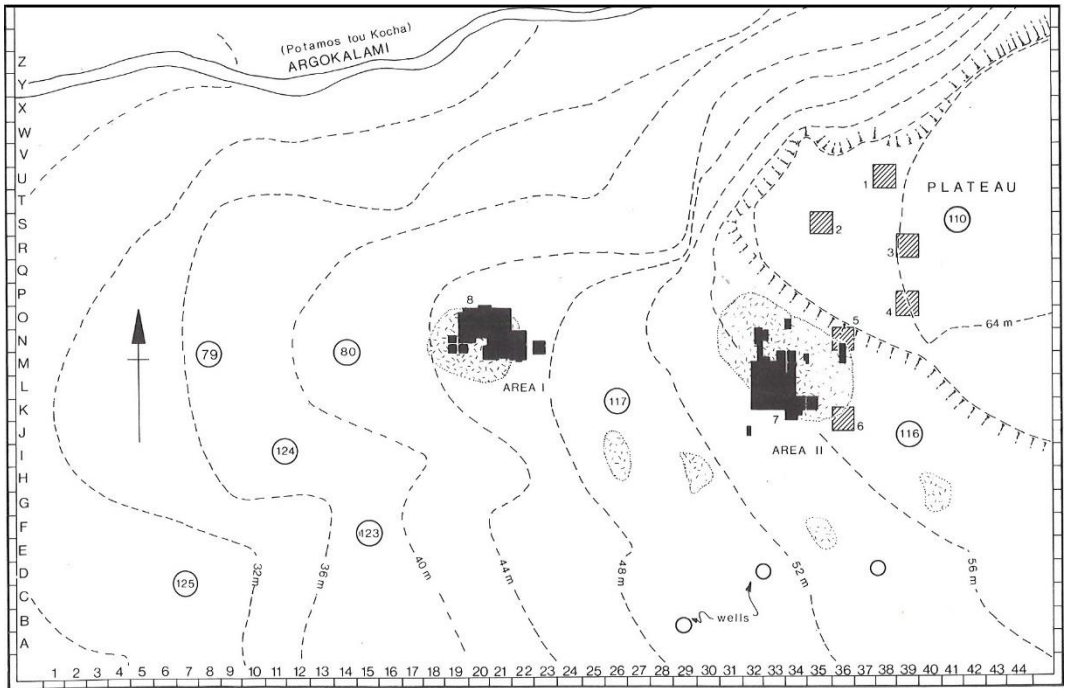


Figure 13: General plan of Lemba-*Lakkous*, in which both excavation areas are indicated (Peltenburg 1985a, 333).

of these two areas can only be associated to one another based on the ceramic assemblages (Baird 1985, 19). It should however be stated that the occupational periods of Lemba not only consisted of buildings, but also of extra-mural activity zones. Area I can be divided in an Upper and Lower Terrace, while Area II can be divided in a northern and a southern sector.

Area I was mainly occupied during the earlier mentioned Period 1, while most of the remains of Area II belonged to Period 3 (Peltenburg 1985c, 18). A total of nine buildings were encountered at Area I, of which eight belong to Period I and one to Period 2. Buildings of Period I were all circular or semi-circular in shape, of which some seem to have been rebuilt. According to Knapp (2013, 211), these buildings were constructed very close to one another, and the settlement seems to have been densely built up. However, this conclusion is based on the assumption that all buildings were contemporarily occupied, which needs to be further investigated. Furthermore, several buildings or elements of buildings have been rebuilt, such as the floor of buildings 6 (Baird 1985, 24-25). The most prominent building of Period 2 was situated in Area I as well, in which the so-called *'Lemba-Lady'* was found: a limestone, female figurine, that has many features in common with picrolite figurines (see fig. 14). Peltenburg (1977, 141) interpreted this figurine as a cult-figure, and the building in which it was found a sacred place (Peltenburg 1977, 141).

The stratigraphy at Area II was much deeper, and all three periods that were identified at Lemba are present in this area. More importantly, the stratigraphy was much better preserved, and could be more easily linked to associated deposits and buildings. Only one buildings can be associated to Period 1, whereas five buildings could be assigned to Period II, and one building to either one of these periods (Peltenburg 1985d, 107-114). According to Peltenburg (1985f, 326), it seems that during this period, activities within the buildings become more spatially defined (Peltenburg 1985f, 326). This statement will however be further discussed in chapter 5. The architectural features of Period 3 consist of seven circular buildings, of which five were terraced into the slope in this

Figure 14: Cruciform figurine that was named the Lemba-Lady by its excavators. It is made of Limestone and is *c.* 36 cm tall (Peltenburg 1977, 139).

area, and probably marks a clear re-organisation of the site (Peltenburg 1985f, 318). This row of buildings was interpreted by Knapp (2013, 247) as a family compound, in which different buildings were related to different special activities.

2.3.2. Kissonerga-*Mylouthkia*

Kissonerga-*Mylouthkia* is a highly eroded coastal site that is situated one km NW from Kissonerga-*Mosphilia* and is located in the Ktima Lowlands as well (Peltenburg 2003, xxxiii). The site was first reported in 1975, after which the first excavations were carried out by the Lemba Archaeological Research project, in 1977 (Stanley Price 1979, 143). Unfortunately, urban developments have been taken place at the majority of the site during the last few decades, seriously destroying the archaeology (Peltenburg 2003, xxxiv). It was initially thought that *Myltouhkia* was an Early Chalcolithic, single period site. However, based on radiocarbon dating, the stratigraphy on the site and the chipped stone and ceramic assemblage, Neolithic, Chalcolithic and Medieval levels were all identified, which were divided by hiatuses. *Mylouthkia* is therefore an important multi-period site, of which the Chalcolithic levels can be divided into two periods (see tab. 2). Period 2 dates to the Early Chalcolithic (*c.* 3600 Cal BC) and Period 3 to the Middle Chalcolithic (*c.* 3500 Cal BC). Unfortunately, neither the surveys nor the excavations yielded Late Chalcolithic evidence (Peltenburg 2003, xxxv).

The Chalcolithic component of the site covers a relatively small area of 200 x 250 m (Knapp 2013, 200) (see fig. 15). The architectural remains of the site are represented by four circular structures, of which two date to period 3. Building 200 is the largest and best preserved structure at the site, and four phases of construction, occupation and site

Table 2: Occupation periods at Kissonerga-*Mylouthkia* (after Peltenburg 2003, xxxv).

Stratigraphic period	Cypriot Period	Approximate dates BP	Calibrated dates
Period 1A	Cypro-EPPNB	*c.* 9100 – 9300 BP	*c.* 8200 – 8600 Cal BC
Period 1B	Cypro-LPPNB	*c.* 8000 – 8200 BP	*c.* 6800 – 7200 Cal BC
Hiatus			
Period 2	Early Chalcolithic	*c.* 4600 – 4800 BP	*c.* 3600 Cal BC
Period 3	Middle Chalcolithic	*c.* 4600 – 4700 BP	*c.* 3500 Cal BC
Hiatus			
Late	Bronze Age/Medieval		*c.* 1600 BC - AD 1600

formation can be associated with this building (Peltenburg 2003, 119). Building 200 shows the development from a pit, to a post-frame structure, and finally to a Chalcolithic round house (Knapp 2013, 201). Interestingly, there is also clear evidence for building alterations during this last phase, such as the moving of a doorway (Croft and Thomas 2003, 126). Peltenburg (200 3, 271-2) has suggested two possible interpretations for this building. Building 200 might have been the main room of an extended household, or the building represents a structure that symbolised the prestige of an important village-leader. The destruction of abandonment of this structure is however still debated. While Thomas states that it is not possible to identify the exact form of destruction, and a gradual abandonment could not be rules out, Croft states that the evidence clearly suggest a single destruction event, caused by fire (Croft and Thomas 2003, 126-129). However, after the abandonment or destruction of Building 200, the site was abandoned as well, and was not re-occupied for several millennia.

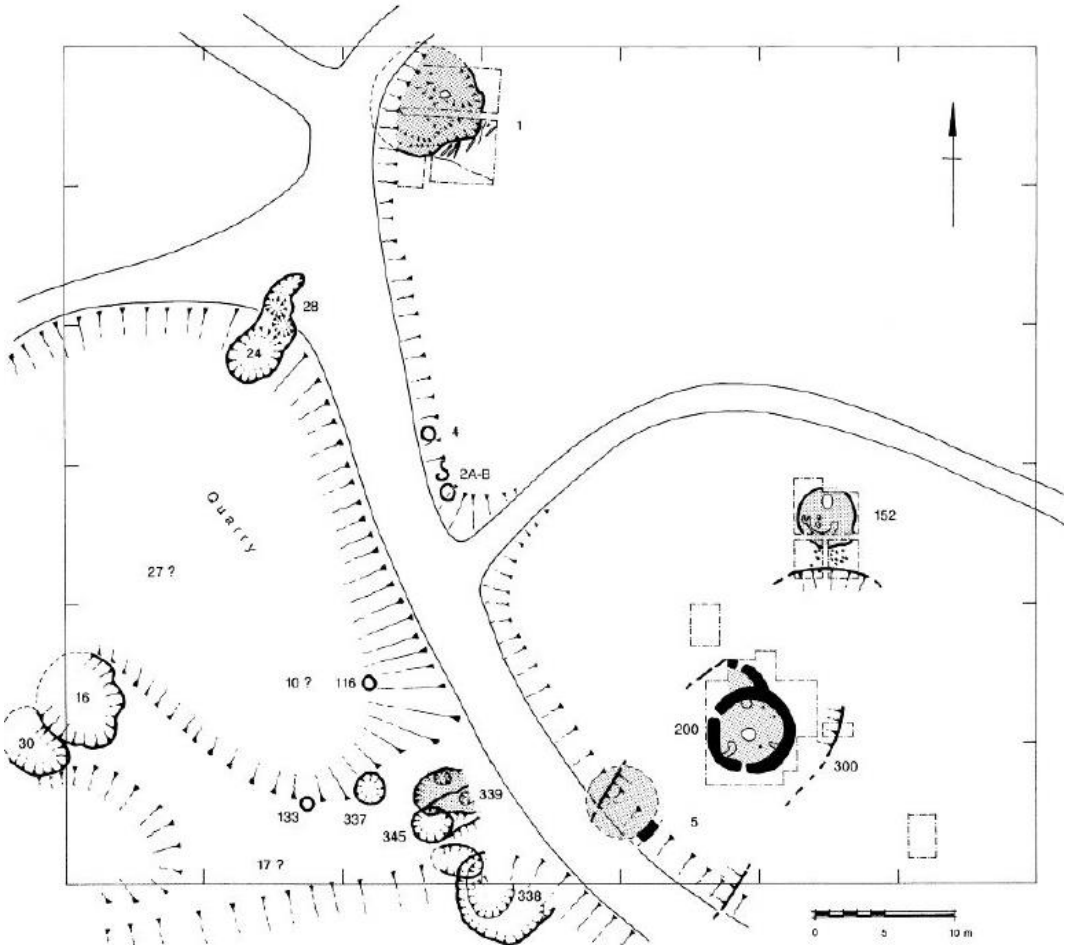


Figure 15: General plan of the excavation area in the north at Kissonerga-*Mylouthkia*. Features 116, 133, 337-9 and 345 belong to the Cypro-PPNB. The rest of the features belong to the Chalcolithic period (Peltenburg 2003, 324.

2.3.4. Kissonerga-*Mosphilia*

Kissonerga-*Mosphillia* is located in the Ktima lowlands, *c.* 6 km north of Paphos and situated on a gentle slope. It the largest known Chalcolithic site (12 ha) within the cluster of sites within this region and was exceptionally long lived (Knapp 2013, 208). It was first reported by G. Eliades in 1951, and further surveyed in the 1970's (Stanley Price 1979, 143). Large-scale excavations were carried out between 1979 and 1992 by the Lemba Archaeological Project, directed by E. Peltenburg (Peltenburg 1998a, lxii). The site was severely disturbed by agricultural practices, including terracing. Further agricultural practices were carried out – including deep terracing – during the excavation, but the Department of Antiquities had fenced off the central area of the site (*c.* 4000 m²) for archaeological research (Peltenburg 1998b, 3). There are no apparent reasons or features that can account for the large size or the long occupation period of the site. The site was not strategically located for intra-regional exchange, nor was it located near rich sources of raw materials, as was the case with Erimi (see 2.2.1).

Both radiocarbon dates and artefactual evidence indicate that the site was occupied from the Late Neolithic period to the Early Bronze Age and can be divided into seven periods: Period 1A-B (Neolithic), Period 2 (Early Chalcolithic), Period 3A-B (Middle Chalcolithic), Period 4 (Late Chalcolithic) and Period 5 (Philia) (Peltenburg 1991c, 19-20; 1998, 8) (see tab. 3). Due to the poor stratigraphy of the site, no site-wide terms like stratum or levels were used, and individual units were assigned to one of the mentioned periods based mainly on the context and assemblages. Furthermore, a number of local stratigraphic sequences and its associated finds have been identified as well, after which radiocarbon dating was to assign the units to one of the seven periods (Bolger *et al*. 1998a, 4).

Two main occupation areas are distinguished within the Kissonerga-*Mosphillia* excavation, namely the Upper Terrace and the Main Area (Bolger *et al*. 1998a, 4). During period 3A (mid/late 4th millennium BC) buildings were constructed in both areas.

Table 3: Occupation periods at Kissonerga-*Mosphilia.*

Cypriot Period	Approximate age BC	Main Area	Upper Terrace
Neolithic	Late 7th millenium BC	1A	1A-B
Neolithic	7000/6800 – 5200 BC	1B	2
Early Chalcolithic	Early/mid-4th millennium BC	2	2
Middle Chalcolithic	Mid/late 4th millennium BC	3A	3A
Middle Chalcolithic	*c.* 3200 – 2900 BC	3B	3B
Late Chalcolithic	*c.* 2700 – 2400 BC	4	-
Philia	*c.* 2400 BC	5	-

Interestingly, the buildings on the Upper Terrace consisted of well-built circular buildings, while several rectilinear buildings were encountered in the Main Area (Peltenburg 1991c, 22). These buildings were poorly constructed and did not have any spatial organization. It is unclear wat the function of these buildings were, but are mainly interpreted as storage facilities (Peltenburg *et al*. 1998, 29-30). The buildings of the Upper Terrace, differed highly in size, but were very similar in spatial layout, all containing a central hearth, well defined living areas, and in some instances a burial to its northeast wall. Therefore, Peltenburg (1998b, 242) interpreted these buildings as houses belonging to high-status individuals, rather than buildings or houses that differ in function. However, due to the high quantity of buildings, they will not be discussed individually in this section, but will be further debated and examined in chapter 5.

During period 3B (*c.* 3200 – 2900 BC), an even more interesting development takes place, during which the Upper Terrace was abandoned, and the settlement organization shifted to the Main Area. There is an apparent expansion in settlement size, which is visible in the increase of buildings and the establishment of separate activity zones (Knapp 2013, 209). Furthermore, calcarenite stones were transported to the site for the construction of a cluster of four houses (buildings 2, 4, 206 and 1000), grouped around the so-called 'Ceremonial Area' (see fig. 16) (Peltenburg and Thomas 1991, 1). In all other instances, field stones were used for construction purposes (Peltenburg 1998c, 244). According to Peltenburg *et al*. (1998, 30, they were

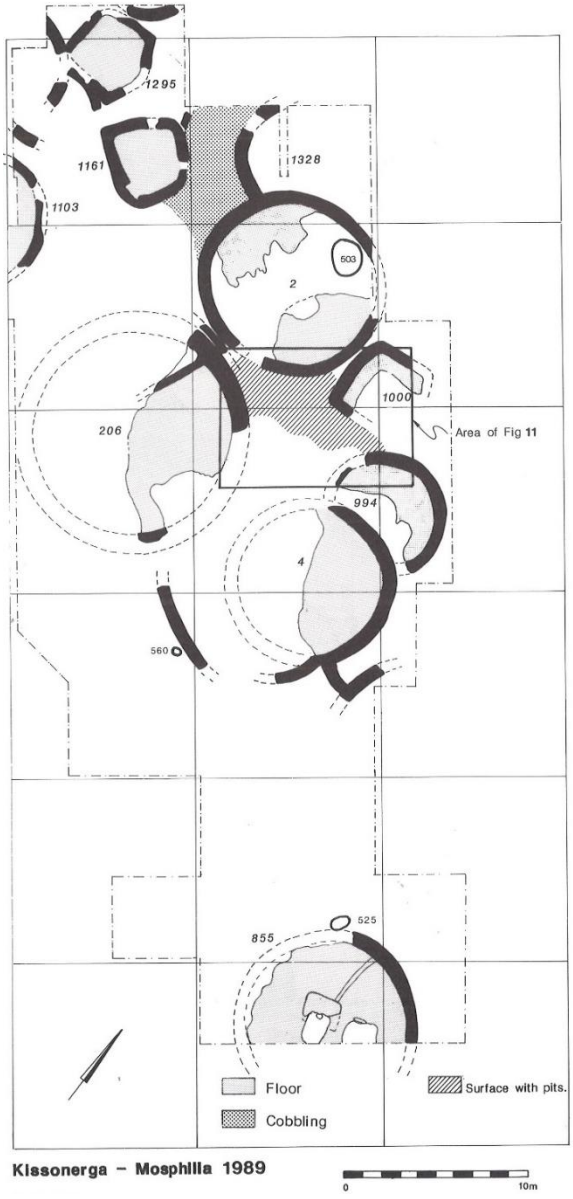


Figure 16: General plan of Kissonerga period 3, in which the location of the Ceremonial Area is indicated/boxed (Peltenburg 1991a, 118).

exceptionally well-built, including the inside, and among the largest examples of Chalcolithic buildings. However, this assessment needs to be re-evaluated. Furthermore, these four buildings were situated on a higher sector, separated from the other buildings by a wall and a ditch, which were built on a lower sector. Also, several small rectilinear buildings were situated here, interpreted as specialized building units in which, for example, cooking took place. This confined open area, at which a number of ovens were uncovered, was interpreted by its excavators as an area for communal feasting and ritual activities (Peltenburg 1991b, 88-89). In particular, one of the four buildings which is known as the 'Red Building' (Building 206) yielded large amounts of serving vessels, which made Peltenburg (199 8b, 248) believe that its occupants were closely tied to the ritual activities that took place in the open area. Even more interestingly is the deposit that was found in Building 206, which consisted of a Red-on-White Bowl shaped as a Middle Chalcolithic building, in which a large number of special finds were placed, including a number of eighteen pottery figurines (Peltenburg 1991c, 14) (see fig. 17). This bowl was named the "Building Model" and provided important clues on what Chalcolithic buildings actually looked like. The Building Model had a circular shape, and contained an entrance and door pivot, wall decorations, a rectilinear heart and radial floor division (Bolger and Peltenburg 1991, 16-22).

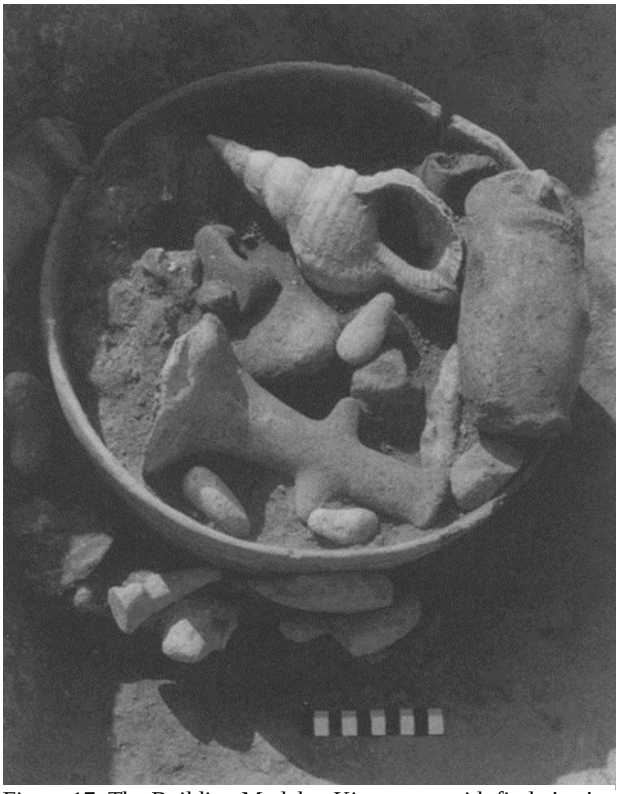


Figure 17: The Building Model at Kissonerga with finds *in situ* (Goring 1991, 154).

In sum, Peltenburg (1998b, 244-248) came to the conclusion that during this period the community was divided both spatially and socially, and that the group living in the high sector of the site consisted of a small group, which had control of birthing figurines and feasting. According to Peltenburg (1991a; 2013, 263) this group has laid claim to ritual authority, and it is therefore stated that during this period, an apparent ritual differentiation existed.

A total of nineteen definite buildings and four possibly belonging to Period 4 (*c.* 2700 – 2400) BC) were uncovered in the Main Area. Since the Upper Terrace was abandoned, no Period 4 remains were encountered in this area (Peltenburg 1998 *et al*., 36). There is no evidence for a continuous occupation from Period 3B to Period 4, and Peltenburg (1998c, 249) has stated that it is probable that this newly founded settlement was built on top of the earlier settlement, which was probably abandoned for several centuries. Interestingly, the rectangular structures which were encountered in period 3B disappeared, and the internal space of houses was no longer divided. This new settlement was founded during the earlier phase of Period 4: Period 4A (*c.* 2700 – 2500 BC). This period consisted of two definite buildings and two buildings belonging to either Period 4A or –B (Peltenburg 1998c, 249). Other architectural changes and innovations will be further discussed in chapter 4.

The most significant building of period 4A is Building 3, coined the "Pithos House". The Pithos House is one of the largest building of the Late Chalcolithic and was destroyed by a fire, preserving an astonishing rich and unique assemblage (see fig. 18). The Pithos House contained amongst other things an infant burial, a possible olive oil press, imported faience beads, large amounts of conical stones (possibly used as tokens), a stamp seal, evidence for copper working and most importantly an exceptional large amount of *c.* 58 storage vessels (Peltenburg *et al.* 1998, 37; Peltenburg 2013, 263). These vessels were probably used for storage of liquids and could store *c.* 4000 litres of fluid (Bolger *et al.* 1998b, 127; Peltenburg 1998c, 252). Combining this evidence with a possible olive oil press, botanic remains of olives, and the conflagration of the Pithous House, Peltenburg (1998b, 42) argues it is possibly due to the presence of large quantities of olive

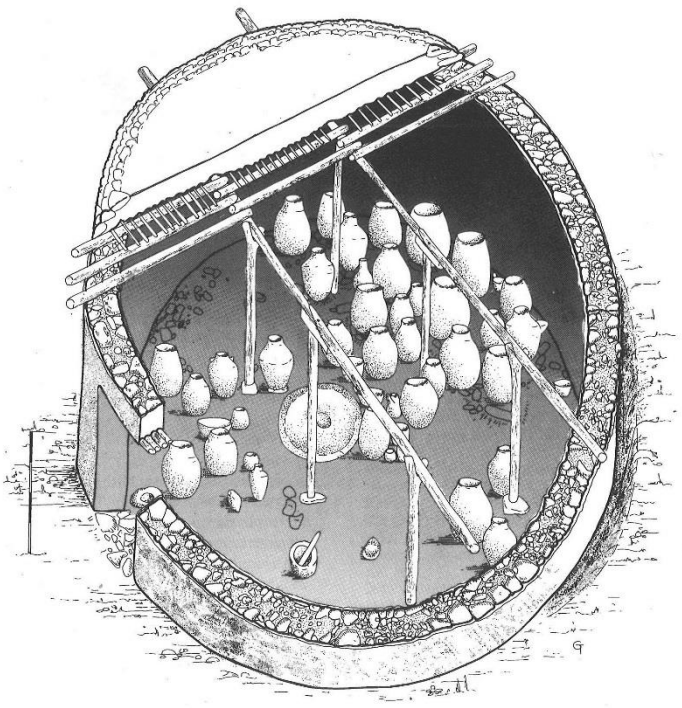


Figure 18: Reconstruction of the Pithos House (Building 3), at Kissonerga-*Mosphilia* (Peltenburg *et al*. 1998, 41).

oil. Therefore, it is suggested that the building was linked to the processing and production of olive oil. By looking at evidence of oil production in the Aegean, Steel (2003, 112) stated that the processing and production of olive oil was too labour-intensive for the household level and is therefore often associated with the elite. Furthermore, an unusually high amount of deer bones was found in the Pithos House, while pig was the main meat supply at Kissonerga during this period (see 2.2.1. Subsistence practices). Peltenburg (1998, 253) suggested that deer hunting became more prestigious, since the deer population dropped during this period and became less common on the island. Knapp argues that (2013, 249) it is also possible that the high amount of deer remains could be associated with storage and redistribution. This statement is however questionable, since raw meat cannot be stored over a longer period of time, and it is not implied that the meat was being smoked or cured for preservation. Although the main purpose of this building was probably storage and food processing, several features that are typical for the Chalcolithic house were also encountered here, such as a central heart and a plastered floor (Peltenburg *et al.* 1998, 38-39). Therefore, Peltenburg (2013, 263) concluded that the Pithos House was probably an elite household, of which its inhabitants were able to control people, labour and resources, and the society was divided economically.

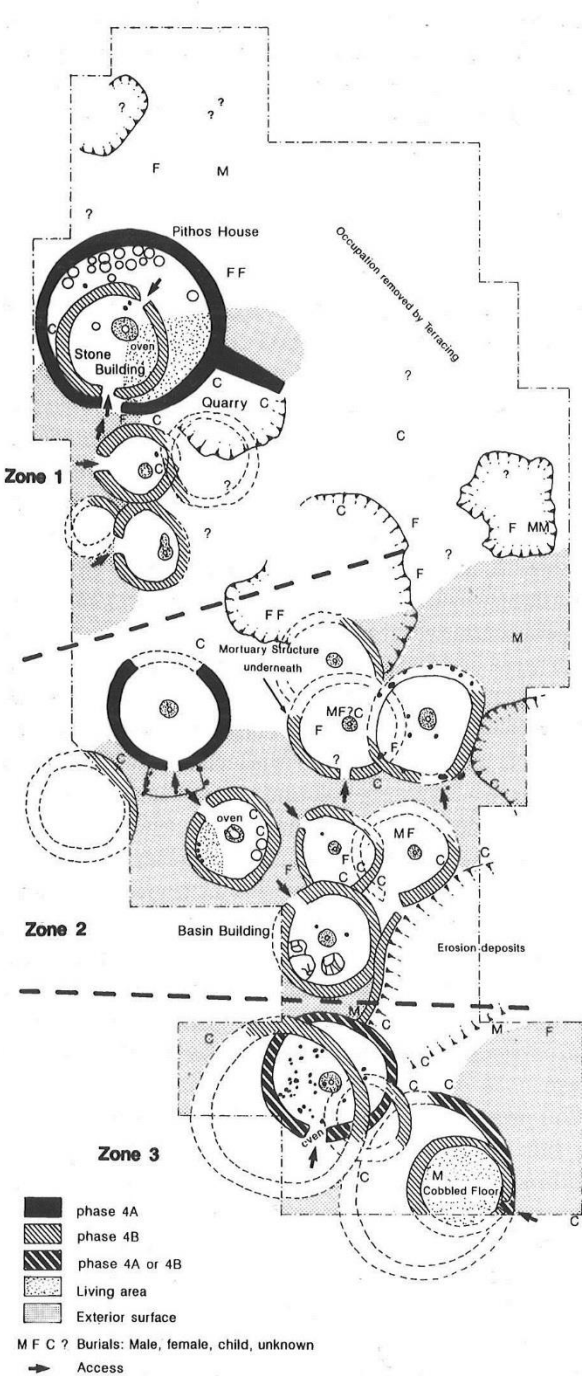


Figure 19: General site plan showing the two phases of the settlement during period 4. The site can be divided into three zones during period 4B (Peltenburg 1998c, 250).

During the following Period 4b (*c.* 2500 – 2400 BC), the Pithos House was destroyed and the settlement continued to expand, possibly due to population increase. During this period, the site can be divided into three zones, which were all founded in Period 4A (Peltenburg 1998c, 249-51) (see fig. 19). According to Peltenburg (2013, 263) the destruction of the Pithos House was probably deliberate, since the 4B society was more egalitarian, and the destruction of the Pithos House shows a rejection of the concentration of economic power. Furthermore, this period is marked by an increased economic intensification, as well as an increase in Southwest Anatolian influences, which continued during the Philia period. However, no direct imports were encountered (Peltenburg 1998c, 254). Since the site was highly disturbed by agricultural practices, the upper layers were poorly preserved, and therefore only little information is available for the final Period 5 (*c.* 2400 BC). There is no evidence for a wide-spread destruction during period 4B, and therefore it seems that there was a transitional period from the Late Chalcolithic into the Early Bronze age, in which there was a continuation of settlement location as well (Peltenburg *et al.* 1998, 53).

2.3.5. Chlorakas-*Palloures*

Chlorakas-*Palloures* is a Late Chalcolithic site, which is the most recently excavated site belonging to the cluster of Chalcolithic site in the Ktima Lowlands. This site has been badly preserved due to banana cultivation and urbanization from the 1970s onwards. Since new urban developments will take place on the site in the near future, rescue excavations were wanted by Department of Antiquities of the Republic of Cyprus. Three campaigns have been carried out between 2015 and 2017 by Leiden University, which were directed by Dr. B. Düring. The plot that has been excavated until now will probably be released for construction, but it is likely that excavations will continue at another area of the site. The site was first identified in 1951, and the first studies were carried during the Paphos District Survey during the '70's (Stanley Price 1979, 143). More recently, the site was extensively surveyed by the Lemba Archaeological Project, which provided the earlier mentioned dates of the site, and also established that the site was very rich in archaeological deposits (Peltenburg 1979, 79).

The site can be divided into two areas, of which one is situated in the north and the other in the south (see fig. 20). In both areas architectural features and circular buildings were encountered, which have been built up against the bedrock. In the north, the buildings are large and very well-built, of which Building 1 has an estimated diameter of around 14

meters (Düring 2016). It is the largest building of Late Chalcolithic Cyprus, and very monumental. It contained several extra-ordinary features, such as a large hearth platform (*c.* 2,5 m in diameter) a large press installation, and several complete deer antlers. In the southern area, the encountered buildings were higher in number, relatively smaller than those in the north, and less-well built. Although the chronology of the site is still unclear, it seems that the site mainly dates to the Late Chalcolithic period, but some Middle Chalcolithic layers were encountered as well.

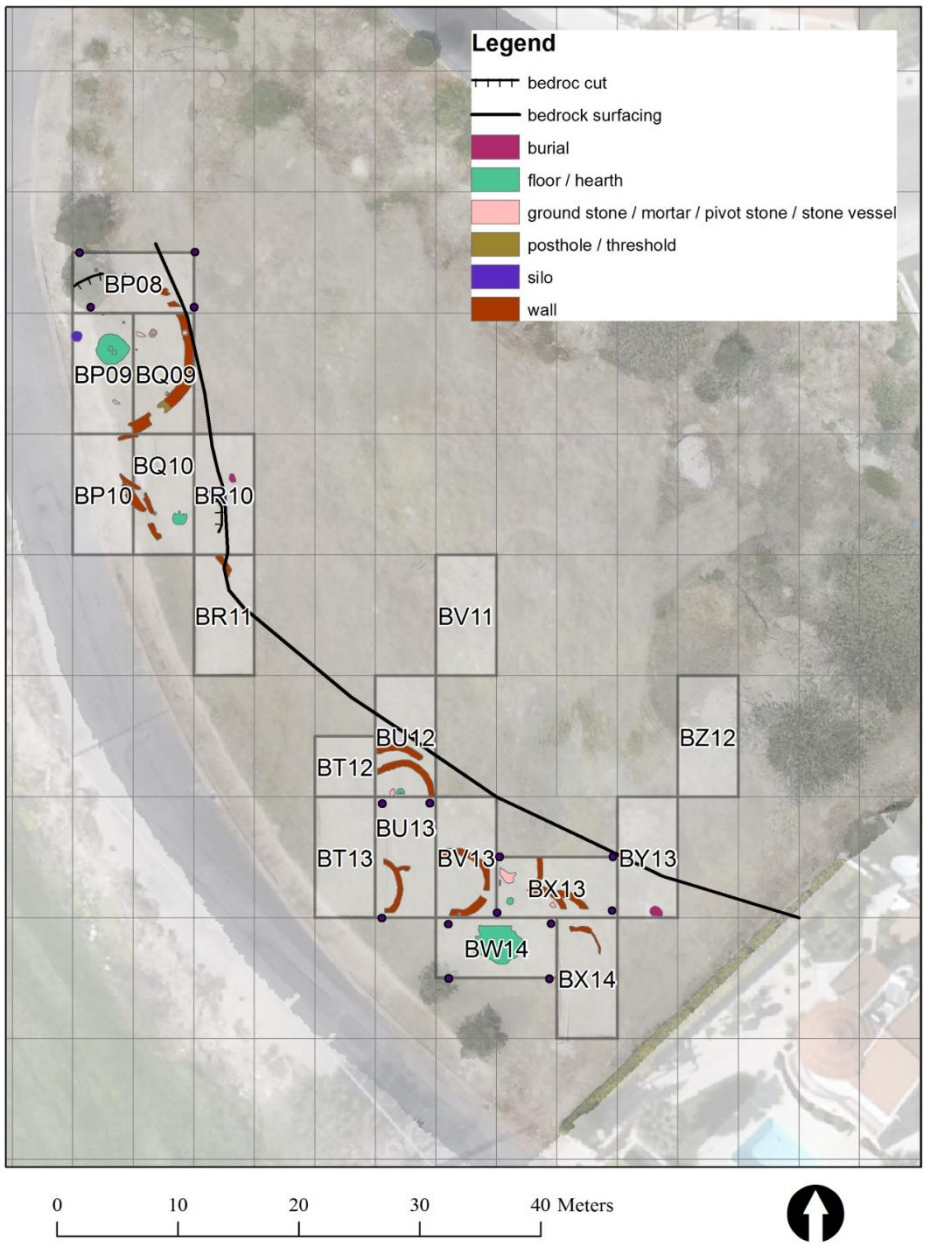


Figure 20: Plan of the main architectural features at Chlorakas-*Palloures* (Düring 2017, 4)

The three excavation campaigns in 2015 and 2016 have further demonstrated the importance of the site. Several copper artefacts were encountered, such as spiral and a snake pendant, which have clear parallels to Souskiou-*Laona.* As stated by Düring *et al*. (2018, 19), these parallels suggest that, as with picrolite, specialized workshops existed that produced these artefacts, after which communities exchanged them. Another important aspect of the site is a midden deposit on the southern extent of the site. This deposit contained a transition of Middle Chalcolithic to Late Chalcolithic material, which is currently still poorly understood (Düring 2015).

As was encountered in the north, one of the southern buildings also yielded several complete deer antlers. In the same building, the earlier mentioned snake pendant was uncovered, as well as a large cache of groundstone tools However, the most extraordinary find was encountered in trench BT12, where a sequence of two buildings was encountered. A special deposit was encountered, that most likely belonged to the later building (Building 6), which consisted of an almost complete jar containing four pig tusk hooks, a flat stone axe or adze, and a metal axe or adze (see fig. 21). By using radiocarbon dates, the fill of the jar was dated to *c*. 2600 BC, which is also the only radiocarbon date of the site (Düring *et al*. 2018, 17). This find is of high importance, since it is the only copper axe/adze found in Chalcolithic Cyprus, and the origins of metallurgy on the island is still poorly understood. However, when examining the composition of the artefact, it became clear that a part of the material of which it was made, did not originate from Cyprus. This indicates that it was either made from imported material, or the artefact was imported as a finished object (Düring *et al*. 2018, 19).

Figure 21: The artefacts that were deposited in the jar in Building 6 of Chlorakas-*Palloures:* A groundstone axe/adze, a metal axe adze and four pig tusk hooks (Düring *et al*. 2018, 15).

2.4. The archaeology of Cyprus in context

Archaeological fieldwork on Cyprus has been executed from the nineteenth century onwards. During this period, archaeology was highly affected by antiquarianism, and was therefore concerned with the collection of antiquities (Goring 1988, in Knapp and Antoniadou 1998, 29). Large amounts of antiquities, primarily from tombs, such as pottery, sculptures and metalwork were collected and exported to museums in London, Cambridge, New York, Stockholm and many others (Knapp 2013, 20). However, from 1887 onwards it was only possible for professional archaeologists to conduct excavations on the island, which decreased the export of antiquities from the island (Knapp and Antoniadou 1998, 30). In 1935, the Department of Antiquities of Cyprus was created. This led to an increase in archaeological excavations and research, which were primarily executed by foreign archaeologists. Nevertheless, there was an increase in contributions from Cypriot scholars from the 1950's onwards, and P. Dikaios became the first Cypriot director in 1960, when Cyprus gained its independence (Knapp *et al*. 1994, 398). Shortly after, a new law was implemented which stated that all antiquities that were encountered during excavations needed to be stored in the Cyprus Museum (Karageorghis 1985, 7).

In 1974, the Turkish invasion and subsequent occupation of the northern part of the island (37,2%) took place. All sites became inaccessible and no one (with exception of Turkish-Cypriotes) was allowed to conduct fieldwork on the northern part of the island (Knapp 2013, 31). It became difficult for archaeologists to gain access to material that was stored in the north, and sometimes materials were destroyed (Knapp *et al*. 1994, 433). This led to a new focus to the southern part of the island, and today almost all fieldwork is conducted here (Knapp and Antoniadou 1998, 32). As a result, our knowledge of Cypriot archaeology, and therefore the Chaclolithic period of Cyprus, is mainly based on archaeological fieldwork which is carried out in a small region of the island. Therefore, it is difficult to study island-wide phenomena since most of the well-studied sites are part of the same cluster in the Ktima Lowlands, with the exception of the Souskiou complex, and Erimi-*Pamboula*. These sites are however, still fairly close to one another, and therefore our archaeological record has become quite biased.

3. Theoretical framework

The built environment of both prehistoric and historic societies has had a lot of attention of scholars during the last decades and even centuries from different fields of study, including architects, archaeologists and anthropologists. It is often tried to explain why building differentiation within communities exists, how this came into being, and which factors have contributed to this variability (Lock and Low 1990, 453). This is the main question that is tried to answer in this thesis as well. It should however be stated that the built environment does not only comprise of buildings or enclosed spaces, but also the courtyards and spaces in between buildings, in which activities took place as well. Different scholars use different methodologies to study architecture and space. In this chapter the main approaches that have been used to study the built environment will be discussed, and critically evaluated. Furthermore, the origins of and the criticism on these methodologies will be evaluated, after which it will be explained which approaches will be applied to this study.

3.1. Technology and building function

One of the main approaches of studying architecture is concerned with the functional aspects of buildings. It is concerned with the process of constructing a building, which materials are used, why buildings are built in a certain way, and what this implies. Functionalism, behaviourism and experimental archaeology all deal with these questions, and will be discussed below.

Functionalism is based on both ethnographic and architectural studies. Architects started to study indigenous architecture and were mainly concerned with examining building differentiation, construction methods and materials, and spatial organization (Lawerence and Low 1990, 458). Thus, it is heavily based on explaining how a building is constructed in a certain manner, and how this can be explained according to its function. One of the most influential architectural researchers is Amos Rapoport. His ideas were first published in the book *House Form and Culture* (1969), which led to the establishment of the field of Environment-Behaviour Studies. Rapoport examines how the built environment, and especially houses, are affected by culture, behaviour and changes in the environment. Rather than just describing differentiation among houses, he is concerned with the question to which factors this variability can be assigned, being it social organization, territoriality, functionality, or settlement organization (Rapoport 1969, 17).

Thus, Rapoport argues for the importance of cultural factors over ecological factors in the study of the built environment. Furthermore, he also argues that activities are shaped by architecture as well, in which the built environment can be seen as a "behaviour setting" or a setting for human activities (Rapoport 1976, 9; 1990, 11). According to Rapoport, a behaviour setting can act as a catalyst for certain behaviour, and can make certain behaviours more difficult as well, but architecture cannot determine behaviour (Rapoport 1976, 9). Since people and environments interact with one another, it should also be possible to examine the mechanisms that link them, such as a symbol system, perception and cognition which are closely connected to culture (Rapoport 1977, 4). Furthermore, it is stated that although people do behave appropriate in specific settings, activities can change in the same architecturally setting. Therefore, the meaning of activities should be examined, rather than the activities themselves, as meaning can be "read" from the built environment (Rapoport 1976, 10; 1990, 18). Although this study is not necessarily designed for archaeological investigations, the arguments made can be easily applied to archaeological studies. It should however be stated that activities are only partially shaped by architecture, as activities also take place in outdoor areas and outside of the settlement, which was recognized by Rapoport as well (1990).

Sanders was heavily influenced by the ideas of Rapoport, and wrote a very influential study concerning the relationship between architecture and behaviour (1990). He states that one of the most important aspects of archaeological research is to understand how people lived their lives, that behaviour is reflected in the built environment, and therefore architecture is the most important artefact for the study of human behaviour (Sanders 1990, 43). Although Sanders is a proponent of archaeological semiotics as well (see 3.2. structuralism and the symbolic meaning of buildings), he is mainly a proponent of the earlier mentioned environmental-behaviour studies. Within these studies, he argues for the interactive model, in which people and the built environment interact with one another. Thus, human behaviour is shaped by the built environment and vice versa (Sanders 1990, 44). He argues that cultural conventions, which relate to domestic space and its organization, is made up of four distinct categories, namely personal space, territoriality, privacy and boundaries. These categories can overlap spatially, are shaped by human behaviour and can therefore change as well. Furthermore, they are all shaped by both invisible and physical boundaries, in which a certain behaviour or cultural convention is expected, and therefore can be intruded as well (Sanders 1990, 47-51).

In Sanders study, House B is examined, which is situated in the Early Bronze Age site of Mirtos, Crete (Sanders 1990, 51). The house could be divided in seven spatial areas or rooms. Sanders argues that the house is divided or controlled using sensory markers, such as hearing, seeing and smelling. Furthermore, the house is also somewhat separated from the settlement, since smells and noises from outside can only penetrate the first half of the house. According to Sanders (1990, 59-61) the house itself can be divided into two sectors based on smell-zones, sight-lines are obstructed by the construction of physical boundaries, noises could have been heard throughout the house, and the rooms within the house are not only divided spatially, but differences in elevation, and floor and wall paving were recognized as well. Furthermore, the consecutive rooms in this house could only be reached using a single path, and therefore it can be argued that a higher level of privacy was present in the more secluded rooms. In sum, this study shows how space can be controlled by human behaviour and architecture, using markers to indicate that the house is a different space from the settlement with different cultural conventions, which are controlled within the house as well.

One study that is of great interest for this study, is the experimental work that was carried out at the Lemba Archaeological village, which deals with the construction processes involved in Chalcolithic architecture on Cyprus, and is a combination of a building materials study and experimental archaeology (Thomas 2005b, iii). This research projects was carried out in order to gain more knowledge on buildings, the context of finds and deposits, and site formation processes (Thomas 2005b, 1-2). It should however be stated that not one single outcome needs to be correct or the only possible outcome. Buildings were constructed by different individuals, with a range of building materials and applied techniques, and therefore a certain degree of differentiation exists among these buildings. The houses that were reconstructed at the Lemba Experimental Village are thus examples of how these buildings could have been constructed and looked like, rather than the only possible outcome.

3.2. Structuralism and the symbolic meaning of buildings

Starting in the 1920s in Britain, several ethnographers began to include descriptions of the form, use and meaning of indigenous architecture in their studies (Lawrence and Low 1990, 457). Some of the earliest scholars and ethnographers who integrated questions regarding spatial organization in their work were Durkheim and Mauss. Durkheim and Mauss (1963, xi) were concerned with symbolic and social classification, in which they argue that the

built environment is shaped by society itself, since human minds are not capable to recognize the complex classifications present in societies. Thus, spatial order is both a product and a model for the organization of societies and is based on social structures that shape society as a whole. E.g. in Chinese society, the organization of space is mainly based on division according to the four cardinal directions (Durkheim and Mauss 1963, 68). Their ideas are closely related to those of the structuralist approach (see 3.2. Structuralism) and seem to step away from a more functional point of view. Furthermore, the society or settlement is seen as a whole, in which almost no descriptions or plans of settlements are integrated, and the study of single buildings as part of society as a whole is completely neglected.

Although ethnographic research can often be very helpful in the study of the built environment, these studies are often highly descriptive and do not incorporate building differentiation in their work. Nonetheless, they can give insightful information on building materials and methods, the organization of a household and descriptions of how buildings were used and how they were spatially organized, which is often difficult to study in archaeological contexts. However, as shown by the study of Susanne Blier (1987) based on the architecture of communities in Togo, ethnographic studies can contribute to the understanding of architecture as an integral part of society. One of the main advantages of ethnographic studies is that the societies, which are examined are still alive, which makes it possible to study them in great detail, including interviews with individuals, and the analysis of the role of architecture in both every-day-life and rituals (Blier 1987, 10). According to Thomas (2005a, 118), Blier recognizes the importance of the role of architecture as a medium of how society views itself, as well as it views spatial and/or world order, as architecture is inevitably concerned with human activity. Furthermore, she argues that architecture can be read as a text, which directly reflects their cultural values, traditions, economic structure and social values (Blier 1987, 8-9). This research shows that architecture should not be studied in a descriptive manner, and are an important artefact in archaeology to understand societies and the environment they lived in.

Structualism is a symbolic approach, in which the built environment is shaped by culturally shared ideas, and therefore, proponents of this approach are often concerned with explaining how this environment came into being, and what it means (Lawrence and Low 1990, 466). Claude Lévi-Strauss (1963) wrote one of the earliest works concerning these matters. Lévi-Strauss was a major proponent of the structualist approach and was heavily influenced by linguistic studies (Lawrence and Low 1990, 466-467). Lévi-Strauss argues

that societies have consciously chosen to project their institutions into space (e.g. the layout of a village, road networks etc.), and by doing so it makes it possible to study their conception of social structure. Furthermore, it is argued that a structured collective unconscious existed which allowed societies to generate collective behaviour, including space and built forms, which possibly had a symbolic and/or social meaning. Levi-Strauss states that both more complex societies and so-called primitive societies, who were supposedly less aware of space, demonstrate this behaviour (Lévi-Strauss 1963, 331-332). Levi-Strauss uses these approaches in order to study spatial organization in societies with a dual organization and suggests that a complex system of oppositions should have existed, between the sacred and profane, raw and cooked, celibacy and marriage, male and female, and centre and periphery (Lévi-Strauss 1963, 137). Thus, structuralism is based on binary oppositions (Donley-Reid 1990, 116). In the majority of structualist approaches, the form of the built environment is determined by cosmology. This means that the built environment is a reproduction or metaphor of the universe, and that the individual components of the built environment have cosmological meaning (Lawrence and Low 1990, 469). This theory that the built environment is, in fact, a micro-cosmos has been further elaborated by scholars in the following decades and will be further discussed below.

Nevertheless, structuralism has been widely criticized by many scholars, such as Pierre Bourdieu (1977) and Anthony Giddens (1976, 1979), which led to the introduction of the structuration theory. Both argue that space should be incorporated in the study of social theory, and focus on the role of practical activity in the production of social space. Bourdieu's work *Outline of a Theory of Practice* (1977) was a response to the structualist approach. Bourdieu (1977, 4) argues that the structualist approach ignores functions which are not static, such as political and economic functions, and excludes practical knowledge, focussing mainly on the cognitive processes. Additionally, it is stated that anthropologists often forget the differences between the reconstruction of the native worlds, and the actual organization (Bourdieu 1977, 18). Bourdieu also argues that in the structualist approach the cultural norms, secondary arguments and rationalizations are ignored in favour of unconscious structures.

Bourdieu's "theory of practice" is based on the *habitus*. In his theory, the *habitus* is produced by the structures which are capable of establishing a particular type of environment (Bourdieu 1977, 72). The *habitus* is both structured by collective strategies and social practices, which is used in order to reproduce existing structures, without being a product of imposed rules. Thus, the native is not necessarily aware of their end goal when

constructing their social space, or already masters the practices that are necessary to attain this goal, but he is always trying to reproduce these structures, of which they are a product themselves. Thus, the *habitus* is determined by the past environment or past environment which gave rise to its initial production (Bourdieu 1977, 72-73). The key concept of the *habitus* is then applied in order to understand the spatial organization of inhabited space, and moreover the house.

Bourdieu uses the Kabyle house as a case study, which was earlier studied with the structualist approach, and further investigates the both the physical and symbolic oppositions (e.g. male and female, fire and water, cooked and raw, etc.) which were identified, in order to see how the spatial organization governs actions and representations (Bourdieu 1977, 89-90). The study is based on gender differences, and the complementary and opposed actions of these two, in which the *centrifugal* male orientation and the *centripedal* female orientation is seen as the principle of the spatial organization within the house. (Bourdieu 1977, 92). Through movements and displacements, the social space within the house is made, and these movements and displacements were in turn also made by the house (Bourdieu 1977, 70). Thus, the body space of the individual is integrated within the cosmic space through actions. Lawrence and Low explain the value and the application of Bourdieu's theory of practice (1990, 470) as follows:

"*By focussing on the spatial dimension of action, Bourdieu makes his most significant theoretical contribution to the understanding of human interactions with the built environment; he reconnects social theory not only with space, but also with time".*

Parker Pearson and Richards (1994, 10) further elaborate on this theory, stating that "through classification, order is imposed upon the world, including an order of morality, social relations, space time and the cosmos". In their view the human body is seen as the most important generator of ordering principles, since it is a very complex structure that allows us to experience social space. Furthermore, the human body can also be classified in physical and symbolic oppositions, such as future and past, and left and right. By structuring or classifying these oppositions, humans create order, which could also be seen as creating a cosmos, in which the house can be seen as a microcosm of the world (Parker Pearson and Richards 1994, 13). This structuring can be recognized in the creation of boundaries within the house, the orientation of specific features or activity areas, and the division between man and woman. Although the structuring of space is hard to recover

from the archaeological record, the main point made by Parker Pearson and Richards (1994, 38) is that space has meaning, which is shaped by cosmological and symbolic principles.

Another research area that can be associated to structuralism is the study of semiotics, and in particular architectural semiotics. In semiotic approaches, the built environment can be studied like a language. Both comprise of sign systems and/or codes to communicate information and can only be understood when both the transmitter and the receiver can understand this language (Lawrence and Low 1990, 471). Furthermore, it can only be understood when studied in context (Preziosi 1979, 47). Although, semiotics is not a symbolic approach, it is similar to structuralism as it tries to understand how the built environment is shaped, and in both research areas it is generally accepted that the built environment is an outcome or projection of culturally shared ideas of the communities inhabiting it.

A rather controversial theory concerning the symbolism of the house was proposed by Hodder. *The Domestication of Europe* (1990) discusses the transition from hunter-gathering to farming communities in Europe, between the 7th and 3rd millennia BC. Whereas this change has mainly been interpreted in terms of environmental pressure, population growth and social competition, Hodder puts the symbolic role of the house, settlement and burials in this debate central. For example, it is argued that the process of the domestication of plants in Natufian communities, is based on an emphasis on the house, since plants are processed and prepared next to the hearth, the central place of the house. Furthermore, it is stated that in larger settlements, a higher level of social control should have existed, which Hodder links to the control of resources among the differences houses. And, since burials were situated within the settlement, these are also interpreted as domesticated (Hodder 1990, 33).

Hodder coined three concepts that are in his view central to the domestication of Europe. The first, and most important concept, is the *domus*. The *domus* involves the practical activities which are carried out within the house, but the *domus* is also a place of nurturing and caring, social roles, creativity, and a shelter or separation from the wild, which are all linked to one another (Hodder 1990, 44-45). Hodder sees the woman as the "transformer" of wild into domestic, in which she is both the domesticator and the domesticated (Hodder 1990, 68). The second concept is *agrios*, the outside or wild, which is less visible than the *domus*, and is also an opposition of the *domus* (Hodder 1990, 86-87). *Agrios* is related to the male, death, weaponry and hunting (Hodder 1990, 90). Although the *domus* and *agrios* are contrasts of one another, they are also linked to one

another through the entrances of the houses. The last concept which was coined by Hodder is the *foris*, the doorway that connects the *domus* to the *agrios* (Hodder 1990, 130). In conclusion, Hodder states that the *domus* is the result of a joint investment in labour and organization. And, therefore, the *domus* is shaped by a shared idea, which is then executed (Hodder 1990, 137). Thus, the spatial layout of the house (or *domus*) can inform us on how people thought, and subsequently put these thoughts into praxis.

As stated earlier, the theory of the *Domestication of Europe* is very controversial and has been highly critiqued. This is possibly due to the fact that this was the first major work in post-processual archaeology. The majority of the critique argues that Hodder's interpretation of the data is rather inductive, and it is therefore impossible for archaeologists to use this in their own research, or change their view on the issue (Bogucki 1992, 736). O'Shea (1992, 753) even states that it is impossible for the reader to form their own opinion on the data, that Hodder has been carried away by his own train of thought, that his interpretation on the data is just one of many possibilities, and, therefore, this book should be treated as fiction. However, the concept of the *domus* can be seen as an archaeological translation or application of Bourdieu's *habitus* concept, and influenced archaeologists, including Peltenburg.

Peltenburg used several concepts that were introduced in the *Domestication of Europe* (Hodder 1990) for the interpretation of the Building Model (see 2.3.4. Kissonerga-*Mosphilia*). Although several parallels exist for building models, no other examples have been found on Cyprus dating to the Chalcolithic period. Bolger and Peltenburg (1991, 24) argue that the interpretation of building models is problematic, since there is no agreed framework for inference, and therefore rather focus on the contents of the Kissonerga Building Model. The Building Model contained domestic stone tools, triton shell, bone needles and a number of eighteen anthropomorphic figurines (Goring 2011, 153). According to Goring (1991, 160), at least eight of these figurines can be directly associated to childbirth. As stated earlier, the *domus* is related to the woman, and Hodder argues (1990, 65) that a strong link occurs to the woman, the house, the oven area and pottery, which is affirmed by female figurines as well. Peltenburg (1991, 102) adopts this idea, and states that an explicit birth-female-house linkage can be recognized in the Kissonerga Building Model, and its assemblage belongs to a major *rite de passage* around childbirth. Although, this is largely based on the interpretation of the figurines that are supposedly giving birth, the pottery, groundstone artefacts and needle are associated to childbirth, and therefore the woman, as well (Eliott 1991, 67; Peltenburg 1999, 99). This interpretation is highly

influenced by Hodder's *domus* concept, as in his view pottery, grinding tools and pottery are linked to the woman (1990, 64). Although this interpretation will not be directly adopted for this study, it is important to keep in mind how Peltenburg came to this conclusion, which probably influenced his later work as well.

3.3. Household studies and house societies

Household studies and the concept of house societies are both concerned with the social aspects of buildings and houses. Although these two approaches are somewhat different, they both focus on the domestic space in which activities take place and tend to explain differentiation among buildings as a metaphor for identity. Both approaches will be discussed below.

The archaeology of household has its origins in the 1970's and 1980's, and was a response to historic-cultural archaeology, and has been strongly influenced by both ethnographical studies and the structualist approach, in particular the work by Bourdieu (see 3.1. Structuralism) (Briz I Godino and Madella 2013, 1). In order to move away from grand theories about cultural change and evolution, a gradual shift became apparent in which the focus shifted to the settlement level to answer questions about economic and ecological processes (Allison 1999, 2; Briz i Godino and Madella 2013, 1). After this shift, the importance of houses and households in the study of past societies was recognized, since at this level, social groups are influenced by economic and ecological processes, and vice versa (Wilk and Rathje, 1982, 617). The household was then recognized as the most important and abundant social group, and the house or living domain, the place where activities took place, which was used for economic, social, educational, political and religious purposes (Laslett 1969, 223). These activities can be recognized over large periods of time and are therefore of key importance in archaeological research, since these large-scale and long-term phenomena could not have taken place without small scale agency (Souvatzi 2012, 16-7). In sum, the household is composed of three elements, which are defined by Wilk and Rathje (1982, 618) as follows:

"*(1) social: the demographic unit. Including the number and relationships of the members; (2) material: the dwelling, activity areas, and possessions; (3) behavioural: the activities it performs.*"

Since it is important to grasp the concept of the household and the house as used in household studies, they will be further elaborated below. Scholars often use their own definitions of houses and households and one could argue that this is favourable, since scholars use different approaches and levels of investigation, in which certain definitions are more well suited for the examination. However, two general definitions of houses and households, as proposed by Parker and Foster (2012, 4-5), will be presented here, in order to give clarity on the concept:

"A house is a physical structure that can serve myriad functions, including basic shelter, location of daily activities, a boundary between public and private spheres of society, and focal point for family life […]. Houses are not static entities but dynamic extensions of people that both serve as the primary socializing agent (in the Bourdieu sense of the habitus) and share similar cycles of birth, aging and dying (Carsten and Hugh Jones 1995, 39). Households on the other hand are ethnographic phenomenon (Allisson 1999, 2) embodying people, who live as distinct social units, and the relationships among and between such groups. These relationships are conceptualized through kinship, economy, ritual or any other aspect of human engagement that ties these groups together."

It is of key importance to understand that houses and households are not static units, although they are often studied as such. If one wants to study the processes and activities that take place in a house or household, it should be recognized that these are dynamic entities, which undergo continual developments (Souvatzi 2012, 17). Although a large amount of differentiation is present between households of different communities, a household can still be easily recognized and analysed. However, in some communities the function of a dwelling can be ambiguous, which makes the identification of a household less straightforward (Arnould *et al*. 1984, xxii). Furthermore, it should be stated that several households could inhabit one building, and one household could occupy several buildings. It is crucial to realize this, as the idea that a household is equal to a nuclear family all living in one house is based on a modern and western point of view (Briz I Godino and Madella, 2013, 2). This makes the identification of a household more complicated and its organization almost impossible. However, archaeologists deal with the material culture and context in which they were used, which are inevitably linked with household demography, organization and activities (Wilk and Rathje 1982, 637). Therefore, it is crucial for archaeologists to identify these artefacts and link them to the activities that took place, since

these artefacts are always the product of activity, which is carried out by agents (Parker and Foster 2012, 2).

In sum, the relationship between agents and objects are established by activity, thus in order to study the social units of a dwelling, an archaeologist needs to be able to associate the artefacts to the right sphere of activity (Castro-Martínez 2013 *et al*., 87). According to Düring (2006, 42), household can be recognized in archaeological studies in two ways: The first one can be applied when buildings are built separately. It should be examined whether a building is large enough to house a household and if domestic features can be recognized, and thus the building could have functioned as an autonomous household. Secondly, when the functions of different rooms is the house cannot be recognized, the main living rooms of the building should be identified.

It is often thought that households are units which share a certain universal function, or in which certain activities take place, such as production, distribution, transmission and reproduction (Wilk and Rathje 1982, 621-631). However, differentiation in activities can take place as well, but these social groups would still be part of a certain household as well. In household archaeology, the focus lies of the dwelling or domestic space in which activities take place (Briz i Godino and Madella 2013, 2). It should however, not be neglected that not all activities take place within a dwelling or the settlement, as activities are also carried out outdoors and outside of the settlement (Rapoport, 1990, 17-18). According to Souvatzi (2012, 17), a serious problem within household archaeology is the view that societies develop from simple to complex, which involves several phenomena, such as the emergence of hierarchy and craft specialization. She states that this view has many limitations. Firstly, it neglects historical context. Secondly, the complexity of households are completely explained on the basis of several phenomena. And thirdly, these ideas do not take into account the complexity of households in non-hierarchical societies, or in societies in which hierarchy cannot be easily recognized (Souvatzi 2012, 18). Furthermore, an aspect that is neglected in this approach is that not every settlement is organized on the household level. Dwellings or houses in different parts of the settlement could have served a central role in communities, in which individuals or households could be connected to these houses, as a sort of kin-group or lineage. Still, activities would take place in households and can be connected to the individuals, but it should not be seen as the only focus-point when studying settlement organization and architecture.

During the late 1970ss, a new concept was proposed by Lévi-Strauss, which was coined "the house-concept" (Gillespie 2000a, 6). Lévi-Strauss (1982, 174) defined the house as follows:

"(…) *a corporate body holding an estate made up of both material and immaterial wealth, which perpetuates itself through the transmission of its name, its goods and its titles down a real imaginary line, considered legitimate as long as this continuity can express itself in the language of kinship and affinity and most often, both.*"

Waterson (1995, 49-50) divided Lévi-Strauss' house concept into three key features: 1. the ideal of continuity; 2. the transmission of both material and immaterial goods; 3. And the strategic exploitation of the language of kinship or affinity. Initially, this concept was only adopted by anthropologists, and received a lot of critique as well (Carsten and Hugh-Jones 1995; Waterson 1995) Archaeological interest sparked when Gillepsie and Joyce (2000) published a volume in which the concept of the house, its relevance and applicability, was debated as posed by Lévi-Strauss. This volume contained both anthropological and archaeological studies, and it was the first extensive publication in which archaeological perspectives of the house-model were debated (Samson 2010, 40). According to Düring (2007, 132), since archaeologists entered the debate somewhat late, the definitions that were used for the house-concept were coined by anthropologists (see above, Waterson 1995), and were therefore mainly applicable for anthropological studies. Thus, archaeologists often applied anthropological definitions on archaeological studies.

The definition, as coined by Waterson (1995, 49-50), is problematic as it sees the house as a static unit that is autonomous, in which no or little differentiation can be recognized (Düring 2006, 44). Over time, concentrations of wealth and unequal access to property can accumulate in specific houses, and buildings that do not have the specific properties of a house, could still have been used as such. Furthermore, the people that inhabited these high-status houses, probably had political, religious, or economic authority over the inhabitants of the low status houses, and low status housed could be attached to high-status houses (Gillespie 200b, 49). This is a phenomenon which only be examined with a diachronic perspective, in which different phases of the house should be studied, one should investigate whether a house transforms over time into a high-status building. It should however be stated that not all buildings which demonstrate continuity can be seen as high-status houses, important structures for the community, or as a house *per se* (Düring

2007, 132-133). This is especially of importance in archaeology, since it is often possible to study settlements and houses over a long course of time, and it is therefore possible to study how differentiation of buildings came into being and how this can be explained (Hodder and Pels 1990). The problematic definition as coined by Waterson (1995, 49-50) has been modified by Gerritsen (2007, 157-58):

"These [features] are (1) the identification of people with the house they inhabit and vice versa (the phenomenon here referred to as the social house), (2) the social house and the idea of continuity, and (3) the social house as a unit that holds and passes on material and immaterial property."

Gerritsen recognized the same issues that were observed by Düring (2006; 2007) which are discussed above, and adapted the definition accordingly, making it better applicable for archaeological investigations. Furthermore, Gerritsen (2007, 158) also argues for a diachronic perspective, as houses develop or change due to the internal dynamics of its occupants and vice versa.

The site of Çatalhöyük and its architecture has been extensively studied by many scholars (Düring 2001; 2006; 2007; Hodder 1987; 1990; 2006; 2014; Hodder and Pels 2014; Mellaart 1967; Ritchey 1996). At Çatalhöyük, buildings were initially distinguished in terms of building elaboration, and a distinction was made between shrines and non-shrines by its first excavator (Mellaart 1967, 23). Buildings were distinguished as a shrine when a large amount of wall-painting or plaster reliefs were encountered, and were often the largest buildings in a living quarter, although they do not differ from houses in terms of plan and construction (Mellaart 1967, 71). This interpretation is very problematic since it is based on the concept of a shrine, which is a modern concept which implies that ritual and domestic activities were separated, although shrines had domestic features as well (Düring 2001, 10; Hodder 1987, 44). All building were however later interpreted as domestic buildings by Hodder, which does not explain why some buildings were more elaborate than other or why they had more features indicative of ritual (Düring 2001, 1).

Several systematic studies on the architecture of Çatalhöyük have been carried out by Düring (2001; 2006; 2007), in which the distribution of buildings features, and building continuity, variability and location are taken into account as well. In these studies, it is argued that a diachronic perspective is needed in order to examine the development of buildings, which makes it possible to demonstrate how buildings can develop over time

from a “simple” domestic building into a ritually elaborate building (Düring 2006, 218). Buildings in which no building continuity can be recognized contain fewer ritual features. Furthermore, a clear relationship could be recognized in the continuous buildings concerning building quality and the number of burials in a building. Therefore, it is argued that an increase in building status can be recognized overtime, in which buildings are not equal to one another but might have developed symbolic and political dependencies on each other (Hodder and Pels 2010, 164). The inhabitants of the community were however also dependent on these high status buildings, in which neighbourhoods were probably centred on high status buildings or “lineage houses”, of which households or individuals could become a member (Düring 2006, 226). Through this process over the course of time, such a lineage house could attain more status which explains the increase in ritual features, the quality of the building and the presence of domestic features.

3.5. Approaches used in this study

The approaches discussed above are applicable to different aspects of the investigation of houses, and therefore, not all approaches will be used in this study. The functional aspects of Chalcolithic architecture, have already been investigated by Thomas (2005), and will not be further investigated here. The research that has been carried out by Thomas (2005) is of great interest for this study, as it gives us a good understanding of the construction processes involved, which materials were used and how houses were affected by erosion and other disturbances. Unfortunately, the investigation of the building configurations of Chalcolithic houses, which seem to be highly standardized, do not fit into the scope of this particular research. In future research, it should be investigated how standardized Chalcolithic houses configurations are and whether this has symbolic meaning. Furthermore, this study only focuses on the buildings and features therein. Due to time constraints, the finds and therefore, the activity patterns, are not included in this specific research project.

The main aim of this study is to investigate to what degree we can recognize building differentiation in Chalcolithic houses, and how this can be explained. Chalcolithic houses differ highly in size, construction materials and special features. Apart from curvilinear houses, several rectilinear buildings have been encountered as well, which have been interpreted as special function building or storage facilities (Peltenburg 1998c, 243). As discussed earlier, Peltenburg (2014, 260-261) first identified the emergence of building differentiation during the Middle Chalcolithic. He argued from the ‘Ceremonial Area’ data,

which were larger and built of different materials, that this variability resulted from ritual control. For the Late Chalcolithic, the evidence for building differentiation is mainly illustrated by the 'Pithos House', which is exceptionally large and well built (Peltenburg *et al*. 1998, 37). Peltenburg argues that this differentiation took the form of economic centralisation. Interestingly, both the buildings of the 'Ceremonial Area' and the 'Pithos House' conform to the internal spatial arrangements and domestic facilities of the standard Chalcolithic house.

As argued by Peltenburg, building variability could be associated with social competition. To scrutinize this hypothesis, the concept of house societies will be applied. However, Chalcolithic sites do not have a deep stratigraphy and many building sequences. Therefore, it is not possible to investigate buildings in a diachronic perspective in order to demonstrate how building develop over time, as argued by Düring (2001; 2006; 2007). Whether settlements were hierarchically arranged can be inferred from the archaeological record through differences in food choices, access to craft-produced items, burial practices, house size and building elaboration (Samson 2010, 49-50). Therefore, it should be investigated whether we can recognize a qualitative difference in both activities and building elaboration, whether these can be associated to each other, and how this came into being. By doing so, we might be able to identify these high-status buildings. Arguably, high-status houses were important structures in society, and the people that inhabited them had political, religious, or economic authority over inhabitants of the low-status houses. In turn, these low-status houses could be attached to high-status houses (Gillespie 2000, 49).

4. The Chalcolithic house

As mentioned earlier (see 2.2. Introduction to the Chalcolithic), the Chalcolithic period is marked by curvilinear architecture, which changes from the Early to Late Chalcolithic as well (Knapp 2013, 195). Since the only architectural evidence for the Early Chalcolithic on Cyprus is represented by only two buildings at the site of Kissonerga-*Mylouthkia*, this period will not be further examined in this study (Croft and Thomas 2003, 117-118). From the Middle Chalcolithic period onwards, stone based structures start to appear, whereas in the Early Chalcolithic timber-framed architecture was the norm (Peltenburg 2013, 260; Thomas 2005, 120).

In this chapter, the Chalcolithic house and associated architecture will be further investigated. First, a general overview of the Chalcolithic house will be provided, as well as a discussion of earlier interpretations. Secondly, the structural components of buildings will be discussed, after which the building materials that were used to construct these components will be examined. Lastly, a more in-depth discussion will be provided on the settlement organisation, as this was only briefly touched upon in chapter 2.

4.1. General overview of the Chalcolithic house

The typical Chalcolithic house is a circular, free-standing and single-roomed structure. Although it is often stated that Chalcolithic houses are fairly homogenous, a certain degree of differentiation can be recognized between houses and even sites (Thomas 2005a, 119). In many instances traces of repair or alteration can be detected, such as the re-plastering of a floor or moving the entrance of the house. Burials are often placed next to the wall, on the outside of the house, or underneath the floor. Furthermore, both in the Middle and Late Chalcolithic a more formalized internal spacing can be recognized which is generally divided into three segments. These three segments are often interpreted as three different spheres of activity in which segment 1 is used for living and sleeping, segment 2 for cooking and storage, and segment 3 for tool storage and working. According to Peltenburg (1998, 237-238) segment 1 was situated to the right of the entrance, segment 2 opposite the entrance and segment 3 to the left of the entrance. Furthermore, a fourth segment or activity area was situated in the centre of the house, in which a central platform or hearth was situated (see fig. 22). Peltenburg (1998, 237-239) tried to validate this four-zone spatial division, in which he studied the distribution of internal features of several buildings and assigned these to one of the four segments. He concluded that this division was largely

correct, but some mixture between segments 2 and 3 occurred, and that therefore, the spatial division was less formalized between these areas. There are however several problems with this investigation. First, Peltenburg's "Chalcolithic house model" relies heavily on several parade ground examples, such as the Pithos House and the Kissonerga Building Model, and buildings that do not fit in this model, have not been considered. Secondly, in all these buildings partition ridges were present, separating segment 1 from the other segments. However, partition ridges are not present in all buildings and since the partition ridges separated this segment from the rest of the internal space, no confusion can exist to which segment a feature belongs to. This could, however, occur when investigating segments 2 and 3, which could explain the apparent mixture between these two segments. Thirdly, it is neglected that the house could have had a different spatial division than the proposed four-zone division. Peltenburg assumed, rather than demonstrated that a four-zone division was present since all features were assigned to one of four segments. Lastly, no recti-linear buildings were taken into account in this investigation, which brings us to the next point of discussion.

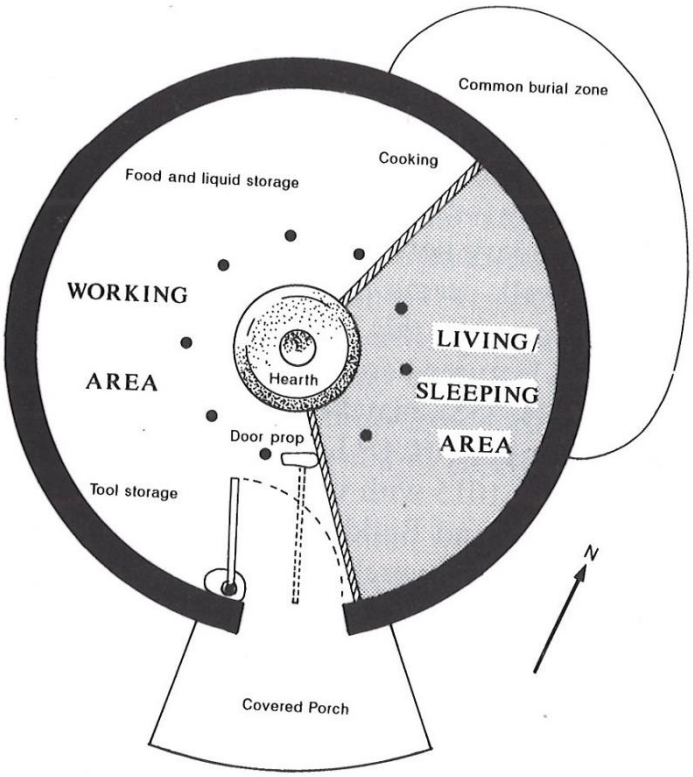


Figure 22: Middle and Late Chalcolithic house model with internal spacing (Peltenburg 1998c, 239).

While circular or semi-circular buildings are generally interpreted as houses, recti-linear buildings are somewhat ambiguous and often interpreted as special-function buildings or storage facilities (Peltenburg 1998, 243). However, in several recti-linear buildings, such as Building 1295 at Kissonerga-*Mosphilia*, a central hearth is located, which is often seen as indicative of a house or household (see fig. 23) (Düring 2006, 42;

Peltenburg *et al*. 1998, 58; Pfälzner 2015, 39). It should therefore be further investigated whether recti-linear buildings could have served as houses as well, and if so, why they differ from circular buildings.

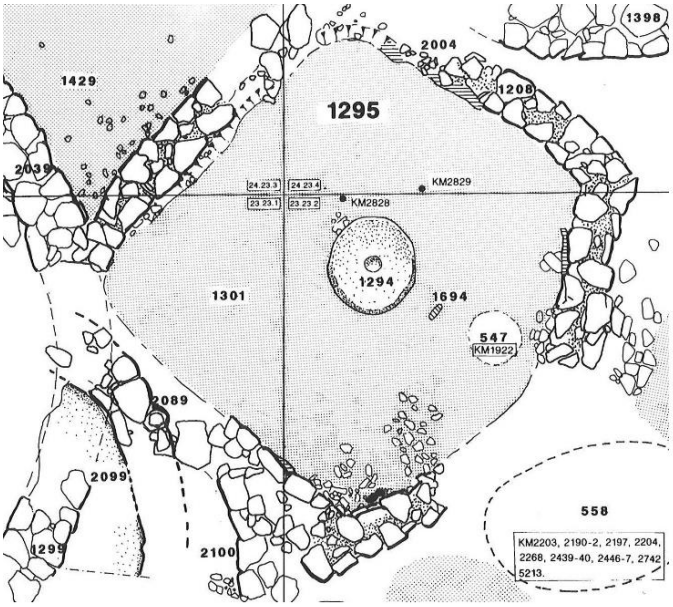


Figure 23: Recti-linear building 1295 in which a central hearth is situated at Kissonerga-*Mosphilia* (Peltenburg 1998a, fig. 30).

Furthermore, a certain degree of differentiation can be recognized in both the size of houses and the variety of building materials that were used. As stated earlier (see 2.3.4. Kissonerga-*Mosphilia*), for the construction of the buildings of the Ceremonial Area, calcarenite stones were used, while for the surrounding buildings field stones were sufficient (Peltenburg 1998c, 244). At both Kissonerga-*Mosphilia* and Chlorakas-*Palloures* we have examples of exceptionally large and well-constructed buildings dating to the Late Chalcolithic, in which domestic features, such as a central hearth, are situated as well (Düring 2016, Peltenburg *et al*. 1998, 37).

Although it is possible to generate a "typical" Chalcolithic house, the examples and problems that are discussed above show that there is a great amount of variability between these houses, of which the nature is still unknown.

4.2. Structural components of buildings and building materials

The excavations of the Lemba Archaeological Research Project, but in particular the excavations at Kissonerga-*Mosphilia*, generated a lot of information on Chalcolithic architecture, which gave us a better understanding of the individual structural components, or features, of buildings as well. Both Peltenburg *et al.* (1998, 54-64) and Thomas (2005, 39-61) developed a typology of building components based on this information that will be used in this study as well. These features, as discussed in Thomas (2005, 39-61) typology, will not be analysed in such high detail, and therefore, will only be presented briefly here.

When needed, additions to the existing typology will be made based on the recently generated data of Chlorakas-*Palloures*.

4.2.1. Walls

Thomas (2005, 39-43) distinguishes seven wall types, based by evidence of the LAP-sites. One extra category for wall types will be added in this thesis, based on the evidence of Chlorakas-*Palloures*. Furthermore, based on the experimental work that was carried out at the Lemba Archaeological Village, it was argued that the term *pisé* was incorrectly used and should be abandoned. Rather, it is preferred to use the terms mud-wall and soil-constructed (Peltenburg *et al. 1998*, 54; Thomas 2005, 39).

The eight wall-types that can now be distinguished are mudwall, mudwall and timber, mudwall on stone footing, stonewall, rubble, timber frame, mud and rubble and stonewall associated to a dug-in-building (Peltenburg *et al*. 1998, 54-55; Thomas 2005, 39-43). Mudwalls only survive as a low earth bank, to which in several instances a ring of post-holes is added on the exterior side of the wall (see fig. 24). These are classified as mudwall and timber (Peltenburg *et al.* 1998, 55). The addition of post-holes to mudwalls is not common, although mudwalls are well represented at Area I of *Lemba*-Lakkous (Thomas 2005, 40; Peltenburg 1985e, 218)

Mudwall on a stone footing is the most common type of walling and is mainly encountered during the Middle Chalcolithic. This type is very similar to stonewalls, which can be distinguished because they are constructed entirely of stones (Peltenburg *et al*. 1998, 55). Thomas (2005, 39-40), however argues that structural mud was encountered in some stonewalls, which could have been used for the construction of the upper half of the walls and, therefore, argues that entirely stone-built walls possibly did not exist. However, at Chlorakas-*Palloures* a stonewall building was encountered, with a wall as high as eight courses. This case should be considered as evidence that stone walls were in use during the Chalcolithic period. Furthermore, the amounts of wall collapse that has been encountered should be considered in these cases as well.

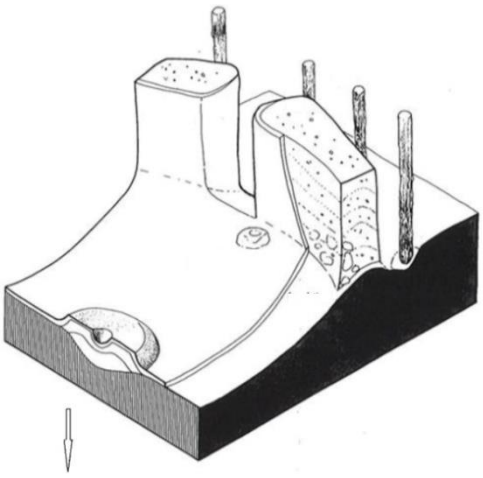


Figure 24: Mudwall with an addition of post-holes on the exterior side (after Peltenburg *et al*. 1998, 54).

Rubble, timber frame and mud and rubble walls are very uncommon and have only been encountered in several instances. Rubble walls are very similar to stone walls, but consist of much smaller, irregular stones (Thomas 2005, 42), Timber frame walls consist of timber walls, that were supported by postholes (Peltenburg *et al* 1998, 55), and mud and rubble walls were completely built up of mud and stones, which is only recorded once at Kissonerga-*Mylouthkia* (Thomas 2005, 43).

During the most recent excavations at Chlorakas-*Palloures*, a new building or wall-type was encountered. A large amount of building collapse was encountered, under which several floor layers were situated, with no associated walls. By closely examining the stratigraphy in the section, it was argued that we are dealing with a dug-in-building or house, in which the floor level was dug in, and the walls were situated next to it. This explains why no associated walls were encountered, since they were situated on a higher level. Furthermore, at least in one instance at Lemba-*Lakkous* (Building 3), a similar situation was encountered, but has not been recorded as a dug-in building (Peltenburg 1985d, 118). Hopefully, by re-evaluating these buildings and their associated stratigraphy it is possible to designate several buildings as dug-in-buildings.

4.2.2. Foundations

Foundations are the initial preparation of the ground in order to create a uniform surface, on which the walls are erected. The typology is mainly based on evidence of Kissonerga-*Mosphilia*, due to the high amount of recorded buildings, and building variety (Peltenburg *et al.* 1998, 55). It should however be stated that it is not always possible to properly study the foundations, since the buildings are often left *in situ*, and thus cover the foundations. Typically, the ground was prepared by making a shallow hollow or cut, in which the walls were set at its edge or inside the edge of the cut (Thomas 2005, 44). In one instance at Kissonerga-*Mosphilia*, a large stone platform was encountered, which followed the shape of the building and was also recorded *c.* 2,0 m inwards. This stone platform served as the foundation of the building (Peltenburg *et al*. 1998, 56). It is however unclear why this building required such an elaborate foundation, and this should be further investigated.

4.2.3. Entrances

Although the largest amount of entrances have been recorded at Kissonerga-*Mosphilia*, evidence from Erimi-*Pamboula* and Lemba-*Lakkous* contributed to this typology as well

(Peltenburg *et al.* 1998, 56). Most of the recorded entrances date to the Late Chalcolithic, but the so-called "Building Model", found in the Ceremonial Area at Kissonerga-*Mosphilia*, luckily yielded evidence for Middle Chalcolithic entrances (Thomas 2005, 45). In this model, an elevated pivot stone was situated directly next to the wall, to the west. Thus, according to this model, the door would open inwards to the left while entering, which is consistent with the available evidence from Kissonerga-*Mosphilia* and Lemba-*Lakkous* (Bolger and Peltenburg 1991, 17; Miles *et al.* 1998, 37). Often only a gap in the wall is preserved, which are generally interpreted as entrances also (Peltenburg *et al*. 1998, 56).

Alongside pivot stones, a large amount of features has been associated with entrances, consisting of thresholds, stakeholes and edge-set stones. Thresholds are generally made of compacted earth, but in several instances, they are constructed out of stone (Peltenburg *et al.* 1998, 56). Stakeholes have been associated with doorways at Lemba-*Lakkous* and Erimi-*Pamboula*, possibly serving as an arrangement to secure the door. Edge-set stones have been mainly recorded at Late Chalcolithic buildings at Kissonerga-*Mosphilia* and Lemba-*Lakkous.* According to Miles *et al.* (1998, 39) and Thomas (2005, 46-47) edge-set stones were part of the doorway arrangements as well. A broken saddle quern was re-used and placed directly between the entrance and the central hearth (see fig. 25). This should however be further investigated, since in many instances, this feature was not encountered, and hopefully the new data from Chlorakas-*Palloures* can aid to understand this doorway arrangement. At two buildings at Kissonerga-*Mosphilia*, two small, upright stones were detected to the east of the entrance, which were interpreted as doorstops (Thomas 2005, 47). This interpretation should, however, be questioned. In B1547 this upright stone is embedded in the wall and a radial partition ridge. It seems more plausible that this upright stone was part of the wall or doorjamb, rather than functioning as a doorstop. Furthermore, in B3 the upright stone is grouped

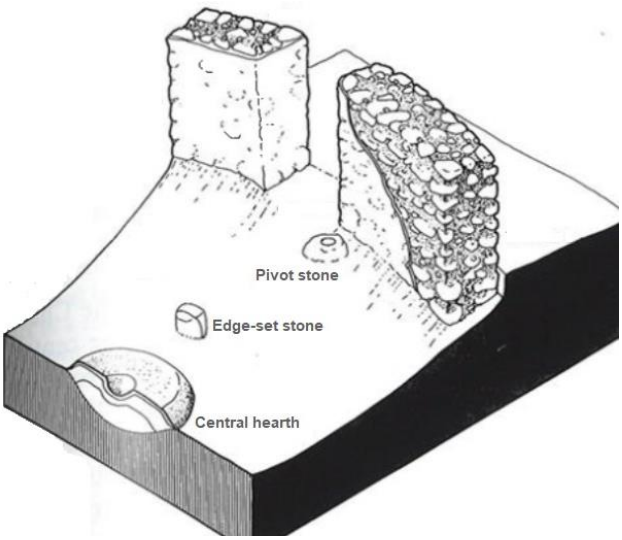


Figure 25: Entranceway with the pivot stone directly to the west while entering and an edge-set stone set in between it and the central hearth (after Peltenburg *et al* 1998, 57).

together with several other socketed stones and are highly disturbed. Therefore, it should be argued that there is not enough evidence to suggest the use of doorstops in entranceways.

According to Miles *et al*. (1998, 38) and Thomas (2005, 45), an apparent shift in the orientation of entrances can be recognized over time. During the Middle Chalcolithic, entrances seems to be oriented to the southeast at Lemba-*Lakkous*. During a slightly later period at Kissonerga-*Mosphilia* they are oriented to the southwest (Miles *et al*. 38). At Kissonerga-*Mylouthkia* and Erimi-*Pamboula* building were uncovered with an entrance oriented to the southwest as well (Thomas *et al*. 2005, 45). Furthermore, the Building Model was found with its entrance facing the southwest as well. It should be considered that it was positioned deliberately in this way (Peltenburg and Thomas 1991, 5). During the Late Chalcolithic, the majority of the entrances are situated to the south or southeast, but there is a large amount of buildings which differ from this orientation, with entrances facing west, northwest and possibly northeast as well (Miles *et al*. 1998, 38). According to Miles *et al*. (1998, 38) and Thomas (2005, 45) this is related to a more elaborate settlement organisation, in which the buildings reflect households which are arranged around an open courtyard (Thomas 2005, 45). Supposedly, this can be recognized at both Kissonerga-*Mosphilia* and Lemba-*Lakkous*, but at Lemba all buildings are oriented to the southeast, rather that facing a central courtyard (Peltenburg 1991f, 326-327). Therefore, this assessment should be re-evaluated.

Another point of interest is the phenomenon of blocking or re-placing entrances, which can be recognized at Lemba-Lakkous, Kissonerga-*Mosphilia* and Kissonerga-*Mylouthkia* (Croft and Thomas 2003, 120; Peltenburg 1985d, 118, Thomas 2005, 47). It was argued by Croft and Thomas (2003, 120) that the doorway arrangements were changed, but no further explanation is provided. It would be interesting to investigate whether this replacement was purely functional or could be associated to the broader shifts in entrance orientation as argued by Miles *et al*. (1998, 38) and Thomas (2005, 45).

4.2.4. Floors

Floors can often be the only feature of a building that is preserved, but are also very fragile. A number of five floor types have been documented: earth floor, clay floor, plastered, lime-plaster floor, cobbled surface. Earth floors consist of a compacted earth layer which come into being by trampling or beating. They have only been recorded in several instances since they are hard to identify. Furthermore, Thomas (2005, 48) argues that earth floors could also have functioned as an underlying surface on which the actual floor was deposited. Clay

floors consist of clay that is applied to the surface and are common during the Middle Chalcolithic at Area I of Lemba-*Lakkous*. As has been recorded in the Building Model, clay floors may have been painted with red ochre, as has been recorded at both Erimi-*Pamboula* and Chlorkas-*Palloures* (Dikaios 1936, 4). It should however be investigated whether the red colour of the floor is a result of the used clay or red ochre.

From the Middle Chalcolithic period onwards, the production and use of lime plaster occurred on a large scale, which was extensively used in building construction, especially in floors and walls (Peltenburg *et al*. 1998, 57). The plaster was directly applied on an earth floor or cobbled surface, creating a smooth plaster surface (Thomas 2005, 49). Furthermore, in several instances at Kissonerga-*Mosphilia* a cobbled surface has been recorded, which consisted entirely out of closely packed stones (Thomas 2005, 50)

4.2.5. Wall finish

The majority of our understanding of wall finish in Chalcolithic architecture results from the experimental work that was carried out at the Lemba Experimental Village. It became clear that the term plaster has been used to describe a variety of materials, and therefore in many instances the wall finish has been incorrectly recorded as being made up of lime plaster, and the explicit information concerning this matter has been lost (Thomas 2005, 50). This is mainly due to the confusion of a whitish clay with lime plaster. Thus, Peltenburg *et al*. (1998, 57) and Thomas (2005, 50) argue that the term plaster should only be used when true lime plaster is incorporated, while plastering describes the activity involved, in which a variety of materials could have been used.

For the plastering of a wall, a variety of materials were used, such as mud render, a combination of mud render and lime plaster and white clay render. Furthermore, at building 5 at Lemba-*Lakkous*, fragments of lime plaster wall finish have been recorded that have been painted, which can be recognized in the Kissonerga Building Model as well (Baird 1998, 21; Bolger and Peltenburg 1991, 14).

4.2.6. Hearth

The hearth has been interpreted as being indicative of a household, and as one of the most distinguishing features of a (Chalcolithic) house (Düring 2006, 42; Peltenburg *et al*. 1998, Pfälzner 2015, 39). They are often located in the centre of a building, but can also be situated outside, in close association to a building. These installations were suitable for

both cooking and heating, but could have had other functions as well (Thomas 2005, 51-2).

The most common type of hearth is the circular platform hearth and is typical for Chalcolithic architecture (see fig. 26). Often, the hearth is finished with a thin layer of lime plaster (Thomas 2005, 52-53). Furthermore, at Chlorakas-*Palloures* an exceptionally large circular platform hearth has been encountered, in which two firebowls were situated, which were probably successively in use (2018, 13). The other hearth types have only been occasionally recorded. In several instances, rectilinear platform hearths have been recorded as well. Furthermore, small fireplaces have been encountered, as well as ovens. Two of these ovens were located outside of buildings.

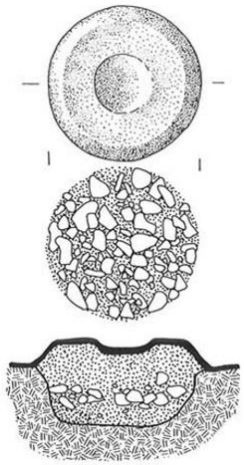


Figure 26: Central platform hearth (after Peltenburg 1985e, 228).

4.2.7. Radial floor division

Due to the discovery of the Kissonerga Building Model, the formal segmentation of the floor using radial floor division was recognised in Chalcolithic architecture as well (Bolger and Peltenburg 1991, 20-1). The most common type of floor division, that can be recognized in the Kissonerga Building Model as well, are mud ridges, which consist of cobbles or stones positioned in a linear fashion on the floor, covered with white plaster or clay render. Two low ridges divided the floor spatially, radiating from the central hearth outwards (see fig. 28). At Kissonerga-*Mosphilia*, the space located to the right when entering, was divided by ridges (Peltenburg *et al*. 1998, 59). However, at Lemba-*Lakkous* and Erimi-*Pamboula*, the formally divided area was situated at other parts of the building as well. The other types of

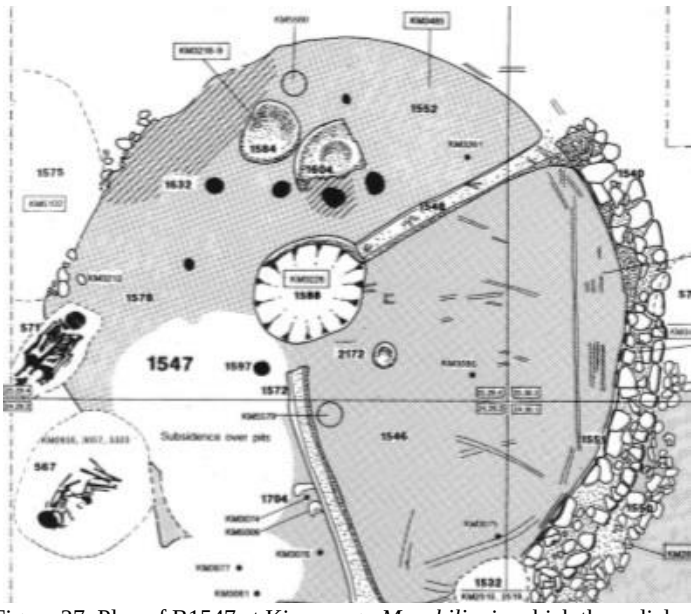


Figure 27: Plan of B1547 at Kissonerga-*Mosphilia*, in which the radial floor division can be clearly recognized, dividing the floor east of the entrance (Peltenburg 1998a, fig. 28).

radial floor division have been rarely recorded, and either consist of a shallow groove or stonewalls that served as partition ridges (Peltenburg *et al*. 1998, 59-60).

4.2.8. Basins

Basins are an arbitrary group of features which slightly differ in mode of construction and form. Basins are all set in a shallow pit that is plastered with either lime plaster of white clay render, and sometimes a rim is preserved also. Although they possibly differed in function as well, it is argued that they probably were used for storage (Thomas 2005, 55).

4.2.9. Stone settings

The group stone settings is a term to define features which were badly preserved or heavily eroded, and therefore had an unclear function. However, most of the features within this group consist of a pit around which stones are laid. These pits have been interpreted by Thomas (2005, 57) as potstands, due to the absence of ash and the presence of pottery. Furthermore, flat and socketed have been used as pivot stones for the entrance of a building but have also been found frequently lying on the floor. Of the latter, it is unclear what their function is. Lastly, edge-set stones have also been associated to entrances (see 4.2.3. Entrances), but their function cannot be securely determined also.

4.2.10. Pier/bench/platform

Due to their bad preservation, these features are often overlooked and interpreted as wall collapse or disturbed features. However, due to the excavations at Kissonerga-*Mosphilia* it became possible to define these features more properly. Unfortunately, it has not become clear whether we are dealing with piers, benches or platforms, but three types can be distinguished based on their relationship to the wall and other features. They either project at a right angle to the wall, follow the curve of the exterior side of the wall or are free standing. (Peltenburg *et al*. 1998, 61). The examples that follow the curve of the exterior side of the walls have been interpreted as benches Miles *et* al. 1998, 46).

4.2.11. Posthole/post setting and stakeholes

With the exception of several clear examples, postholes have generally not been recorded in clear patterns or as evident structural elements (Peltenburg *et al*. 1998, 61). Postholes that have been recorded at the excavated sites were situated both in- and outside of

buildings and occur fairly randomly. Therefore, Tomas (2005, 60) argues that probably not all had a structural function, although others could have functioned to support large structural elements such as a roof.

Stakeholes have been found throughout the Chalcolithic at the sites that are under investigation in this study. Often, dense concentrations of stakeholes have been encountered. This is however also due to the fact that they often represent several successive phases, and some stakeholes possibly came into being by natural processes, rather than being man-made. In some instances, clear patterns have been documented, such as circular rows around pits, but their function often remains unclear (Tomas 2005, 61).

5. Results and discussion

In this chapter, the results will be presented after which they will be further discussed to answer the research questions. First, the dataset will be presented briefly, after which he size distribution of the buildings and the use of building materials will be examined. Furthermore, it will be scrutinized whether the buildings have a clear orientation, and if household activities are spatially defined. And, in relation to this, the degree of differentiation of the layout of Chalcolithic buildings will be investigated. Lastly, it will be investigated how Chalcolithic buildings changed from the Middle to the Late Chalcolithic period.

5.1. The dataset

The dataset consists of the of the architectural remains of the Chalcolithic sites Kissonerga-*Mosphilia*, Kissonerga-*Mylouthkia*, Lemba-*Lakkous* and Chlorakas-*Palloures* (Düring 2016; Peltenburg ed. 1985; 1991; 1998; 2003; 2006). Since the Early Chalcolithic fraction is made up of only two houses from the site of Kissonerga-*Mylouthkia*, this period will not be investigated in this study. The dataset consists of a total of 79 structures dating to the Middle and Late Chalcolithic (see tab. 4). It consists of all the data concerning the structures, including all the features therein, and external features that can be directly associated to a building, such as a porch. For each building, the following elements have been documented: the building number, its diameter and surface area, the period it dates to as documented on the site, the building phase (when possible), whether an entrance could be recognized and its orientation, whether a hearth is present and if it is located centrally in the building, the area of the site it is located in (e.g. for Lemba-*Lakkous* this is either area I or area II), and if the building is rectilinear or not.

For each unit, the following elements have been documented: the original unit number, the unit type, the subtype (e.g. wall, hearth, fill, etc.), whether the feature is *in situ* or not, the mode of preservation, the period (as documented on the site), whether it is a post-occupational feature or not, whether a unit is situated internally or externally, its cardinal orientation, and, when possible, the orientation of the unit relative to the entrance

Table 4: Number of structures during the Middle and Late Chalcolithic at the various sites.

	Kissonerga-*Mylouthkia*	Kissonerga-*Mosphilia*	Lemba-*Lakkous*	Chlorakas-*Palloures*
Middle Chalcolithic	2	19	17	0
Late Chalcolithic	0	21	6	14
Total	2	40	23	14

and the segment the unit is located in. Furthermore, it has been recorded whether a unit is contained by a platform, if it is directly in front or adjacent to the entrance, and if it is close to the hearth. This makes it easier to see from the data where a unit is located. For all features several types have been distinguished as well, as has been discussed in section 4.2. Structural components of buildings (e.g. a total of five floor types have been recorded). Furthermore, walls are recorded in more detail. In addition to their type, the diameter, the material type and the size of the stones that are used are documented as well.

5.2. Size distribution

In order to determine the size distribution of Chalcolithic buildings, both their diameter and internal surface area will be examined. Unfortunately, not all buildings of the complete dataset were preserved in such a manner that their diameter and/or internal surface area could be determined. However, a total of 59 buildings could be examined for the diameter, and a total of 60 buildings for the internal surface area. Furthermore, a distinction has been made between the Middle and Late Chalcolithic.

During the Middle Chalcolithic, it seems that buildings are somewhat larger than during the Late Chalcolithic. Their diameter ranges between the 3,2 and 14,5 meters, with an average diameter of 6,8 m and an average surface area of 27,7 m². In addition to this, we can see strong differences between the sites of Kissonerga-*Mosphilia* and Lemba-*Lakkous* (see tab. 5). At Kissonerga, building sizes vary immensely, ranging from 4,4 to 14,5 meters, while at Lemba the building size is more consistent, and ranges from 3,2 to 7,5 meters. The surface areas of these buildings vary accordingly, ranging between 9,1 and 132,7 m² and 3,1 and 38,5 m². At Kissonerga-*Mylouthkia*, one single Middle Chalcolithic building has been completely preserved with a diameter of 6 m. Additionally, we can see a

Table 5: Size distribution of buildings during the Middle Chalcolithic.

		Kissonerga-Mylouthkia	Kissonerga-*Mosphilia*	Lemba-*Lakkous*	Combined
Diameter (m)	**Mean**	**6**	**8**	**5**	**6,8**
	Min.	**6**	**4,4**	**3,2**	**3,2**
	Max.	**6**	**14,5**	**7,5**	**14,5**
Surface area (m²)	**Mean**	**28,3**	**39,9**	**15**	**29,7**
	Min.	**28,3**	**9,1**	**3,1**	**3,1**
	Max.	**28,3**	**132,7**	**38,5**	**132,7**

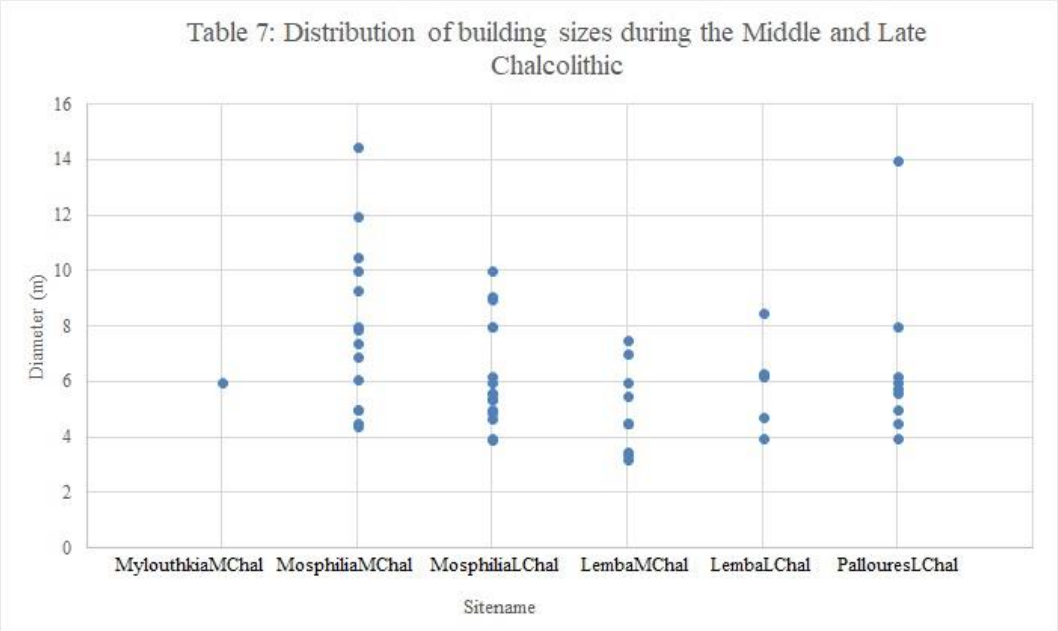
Table 6: Size distribution of buildings during the Late Chalcolithic.

		Kissonerga-*Mosphilia*	Lemba-*Lakkous*	Chlorakas-*Palloures*	Combined
Diameter (m)	**Mean**	**6,1**	**6**	**6,6**	**6,1**
	Min.	**3,9**	**4**	**4**	**3,9**
	Max.	**10**	**8,5**	**14**	**14**
Surface area (m²)	**Mean**	**21,85**	**24,3**	**24,4**	**22,7**
	Min.	**6,8**	**9,6**	**7**	**6,8**
	Max.	**50**	**63,6**	**113**	**113**

strong difference between curvilinear and rectilinear buildings, of which the latter only occur in the Middle Chalcolithic. In comparison to curvilinear architecture, rectilinear buildings are much smaller. While curvilinear buildings range in diameter from 3,4 to 14,5 meters, rectilinear buildings range from 3,2 to 5 meters (see Appendix I for complete overview).

During the Late Chalcolithic, building size ranges from 3 to 14 meters, with an average of 6,1 meter. The internal surface area of these buildings ranged from 6,8 to 113 m², with an average of 22,7 m². During this period, the differences in building size between the various sites are not as apparent as during the Middle Chalcolithic, as the buildings at the sites of Kissonerga-*Mosphilia*, Lemba-*Lakkous* and Chlorakas-*Palloures* all have an average size around 6 meters (see tab. 6). However, at one instance at Chlorakas-*Palloures*, an exceptionally large building has been encountered, estimated at 14 meters in diameter, with a surface area of 113 m². Although buildings of similar size have been encountered during the Middle Chalcolithic, the maximum size of buildings at Kissonerga and Lemba during this period is 9,1 and 8,5 meters, respectively. Furthermore, rectilinear architecture became out of use during the Late Chalcolithic.

In addition to the size distribution of the buildings, it will also be investigated whether larger buildings were mainly located in larger settlements. Apart from Kissonerga-*Mosphilia*, measuring about 12 ha in total, the sizes of the Chalcolithic settlements do not vary hugely (Peltenburg 1998b, 3). Lemba-*Lakkous* measures about 3 ha in total, Chlorakas-*Palloures* 4 ha, and Kissonerga-*Mylouthkia* 6 ha (Düring 2015, 2; Peltenburg and Xenophonthos 1985, 9; 2003, xxxvii). During the Middle Chalcolithic at Kissonerga-*Mosphilia* several buildings stand out due to their size and monumentality. These buildings were mainly located in close vicinity to one another, of which three were situated in the Ceremonial Area. As discussed earlier, such buildings have not been encountered at Middle Chalcolithic Lemba-*Lakkous* or Kissonerga-*Mylouthkia*. Again, during the Late Chalcolithic, most evidence for large, monumental buildings derives from Kissonerga-



Mosphilia, and one relatively larger building was encountered at Lemba-*Lakkous*. However, the most astonishing building derives from Chlorakas-*Palloures*. This building measured about 14 meters in diameter and is therefore comparable in size to the larger Middle Chalcolithic buildings. Since building size decreases during the Late Chalcolithic, this building is even larger in comparison to other buildings (see tab. 7). Furthermore, one heavily damaged building has been encountered at Chlorakas-*Palloures*, which seem to measure to a similar size (see fig. 29). Although this evidence is suggestive, the quality of the construction of the walls in combination with their width, indicate that these likely belong to a large, monumental structure, and is estimated to a size of 17 meters (Düring 2015, 10). It should, therefore, be

Figure 28: Outline of the wall of B3 at Chlorakas-*Palloures* (Courtesy of M.V. Klinkenberg).

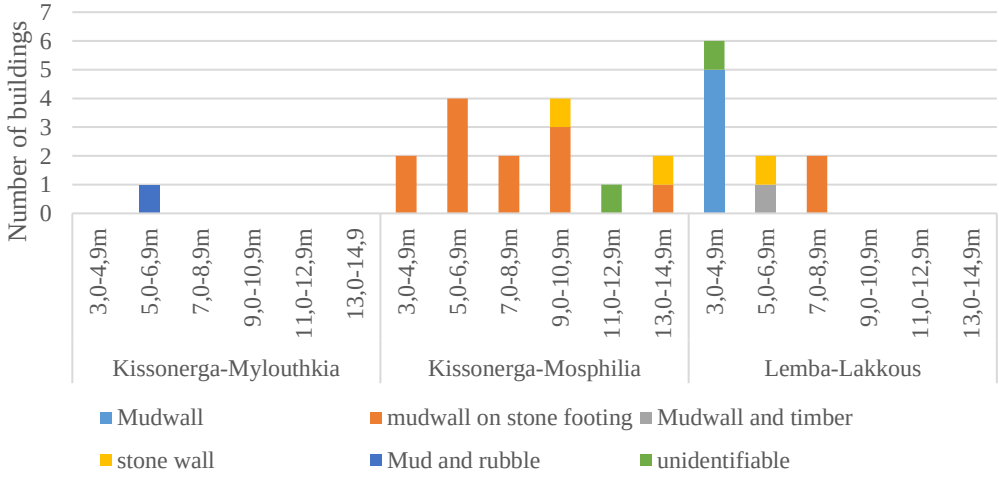
argued that large buildings are not necessarily located in larger settlements. It should be further investigated how these larger buildings differ from other buildings, and what function these have within the settlement. Furthermore, it should be noted naturally, relatively small portions of these sites have been excavated, and thus evidence for monumentality has possibly not been encountered at Kissonerga-*Mylouthkia* and Lemba-*Lakkous* as these can be located in unexcavated areas of the sites.

5.3. Building materials

Initially, the aim of this section was to examine whether the quality of building materials (E.g. for walls the stone type and size) can be related to the size of function of building. Unfortunately, the collected data is for the material size and type is insufficient, as this information is not available for the majority of the buildings. Therefore, more fieldwork and research needs to be carried out to be able to address this question properly. Instead, I will focus primarily on the wall and floor types, since different types are often constructed with different materials also. Thus, it will be scrutinized whether particular wall and floor types can be related to the size or the function of buildings. Naturally, only buildings of which the building size could be determined will be taken into account. Furthermore, it will be investigated if any differences exist between circular and rectilinear buildings, as well as Middle Chalcolithic and Late Chalcolithic buildings.

It is generally accepted that during the Middle Chalcolithic, mudwalls on stone footing are most common (see 4.2.1. Walls). At Kissonerga-*Mosphilia* mudwalls on stone

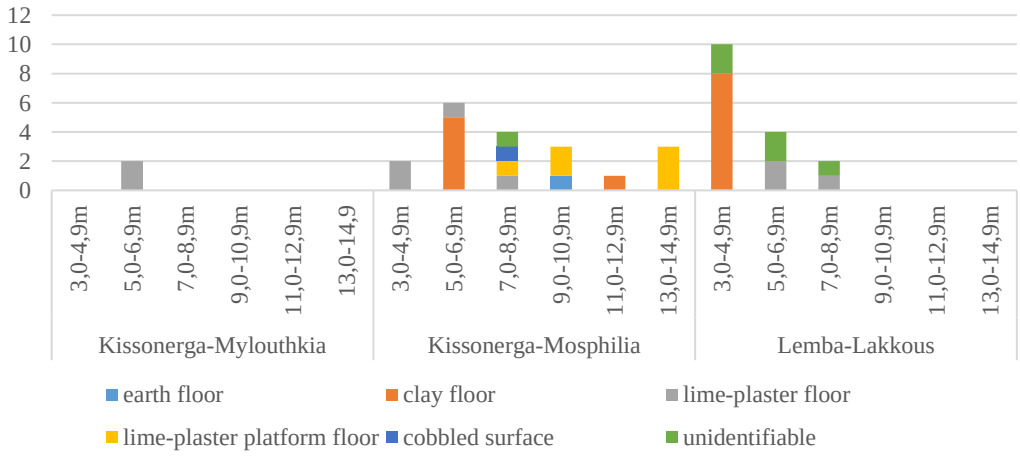
Table 8: Building size associated to wall type during the Middle Chalcolithic



footing are indeed most common for all building sizes, while at Lemba-*Lakkous* mudwalls are the norm (see tab. 8). At Lemba-*Lakkous*, mudwalls are exclusively used for the smaller buildings. For one building, postholes have been added to the mudwall on the exterior side of the building (Mudwall and timber). Interestingly, the larger buildings are either constructed with a mudwall on a stone footing or a stonewall. Unfortunately, all buildings are too badly preserved to make an interpretation concerning their function. A similar observation can be made for Kissonerga-*Mosphilia*, where two of the larger buildings, buildings 206 and 494 have been constructed differently, and both have stonewalls. Building 206 is situated in the Ceremonial Area and is the largest known and most elaborate building of the Middle Chalcolithic. Its walls have been constructed in a unique manner, as it consists of a mudwall on a stone footing on its interior, which is surrounded by a stonewall. Furthermore, its walls have been plastered on the interior side, on which traces of red paint have been encountered. Although little evidence is available for the types of material used to construct these walls, at *Mosphilia* this often has been documented. According to Peltenburg (1998, 244) the buildings of the Ceremonial Area (buildings 2, 4, 206 and 100) are extremely well-built, and it is stated that calcarenites have been imported for them while for the surrounding buildings fieldstones were sufficient.

When looking at the Middle Chalcolithic floor types, a difference between Kissonerga-*Mosphilia* and Lemba-*Lakkous* can be recognized as well (see tab. 9). At Kissonerga-*Mopshilia* a large variety of floors are in use, while at Lemba-*Lakkous* clay floors are most common. Clay floors are used for the smaller buildings at Lemba, of which several buildings have evidence for refurbishments and have likely been in use for a longer

Table 9: Building size associated to floor type during the Middle Chalcolithic



period. The larger buildings (buildings 1, 10 and 21), constructed with either a mudwall on stone footing or a stonewall, have a lime-plaster floor. Of these buildings, building 1 is the only example in which clear partition ridges can be recognized, since buildings 10 and 21 are heavily disturbed. However, mud ridges have also been documented in the smaller buildings.

At Kissonerga-*Mosphilia*, there does not seem to be a clear correlation between the building size and used floor type. With the exception of highly disturbed building 1103, clear partition ridges can be recognized in every curvilinear structure, while rectilinear buildings did not have a clear division of space. Furthermore, there does not seem to be clear evidence for refurbishments. We can, however, recognize differences in building elaboration in the manner in which the space was divided internally. The partition ridges of the buildings at the Ceremonial Area consist of stone walls, dividing the internal space into rooms with different floors as well (see fig. 30). When entering the building, a lime-plaster platform floor was situated to the right, while a lime-plaster floor was situated to the left and opposite the entrance. Furthermore, this lime-plaster platform floor was painted red in Building 206.

In sum, we can see clear differences in used building materials during the Middle Chalcolithic. It is generally accepted that mudwalls on a stone footing are most common during the Middle Chalcolithic. This conclusion has probably been made based on the total number of buildings excavated. However, the vast majority of these buildings have been encountered at Kissonerga-*Mosphilia*, and when comparing the Middle Chalcolithic sites, a clear difference can be seen between Kissonerga-*Mosphilia* and Lemba-*Lakkous*, and a unique building type has been encountered at Kissonerga-*Mylouthkia* (see tab. 8). Therefore, it should be argued that mudwalls on stone footing are not most common

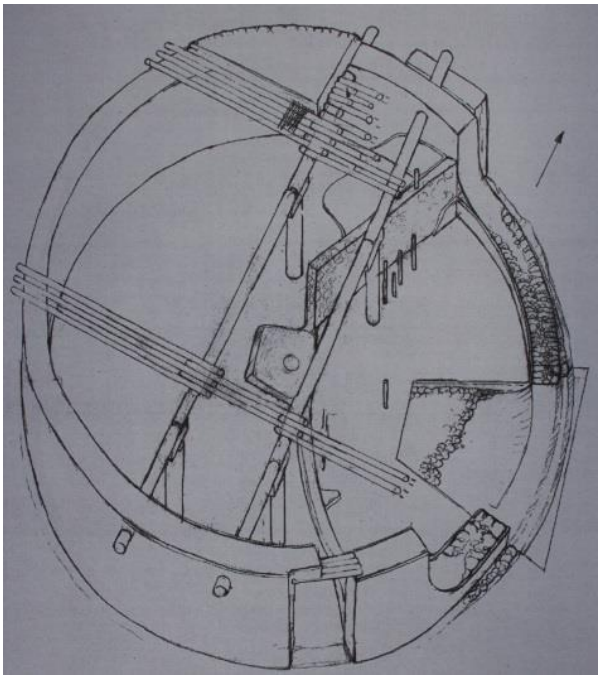


Figure 29: Axonometric drawing of B206, in which the division of space by using stonewalls can be clearly recognized (Thomas 2005, 109).

during the Middle Chacolithic, but instead that site specific differences can be recognized for the construction of walls.

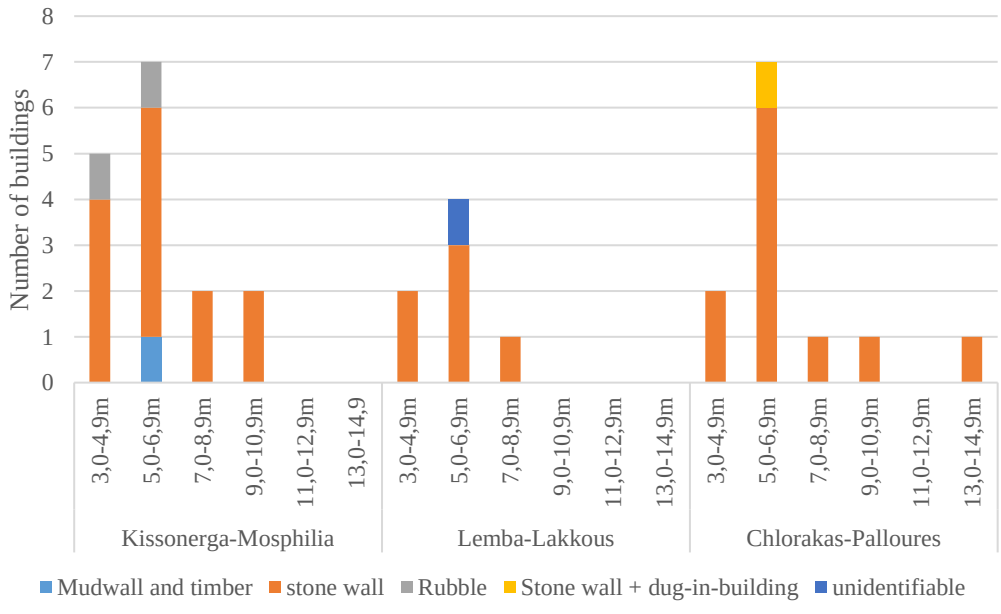
Furthermore, no apparent distinction can be made between circular and rectilinear walls, as they are all constructed in alike. It has also been stated that the walls of rectilinear buildings are always poorly constructed, but at Kissonerga-*Mosphilia* the quality of these walls seems to be equal to circular buildings as only one recti linear building (building 1295) seems to be poorly constructed. This is also the only rectilinear building on site of which the walls have been plastered. Rectilinear structures are generally interpreted as special function buildings or storage facilities (Peltenburg 1998c, 243). However, not much can be said about their function, as rectilinear structures are extremely rare in Chalcolithic Cyprus, and the majority of rectilinear structures at both Kissonerga-*Mosphilia* and Lemba-*Lakkous* are highly disturbed or have been completely cleaned out before abandoning it. However, Building 8 at Lemba-*Lakkous* has been preserved sufficiently to recognize its internal layout, including a central hearth, several basins and partition ridges. It does not seem to differ from the curvilinear buildings associated to it, and possibly functioned as a house as well. This will be further discussed below (see 5.5. Spatial organization of buildings). Furthermore, building 1161 at Kissonerga-*Mosphilia* is the only example that possibly served as a special function building, as an oven was placed inside it after its initial occupation phase. Since no other features were located in this building, Peltenburg *et al*. (1998, 29) interpreted it as a cooking centre, which was probably roofless. Probably, building 1161 was indeed primarily used for cooking, but it cannot be argued that it was a roofless structure based on the available evidence. Hopefully, future excavations at Chlorakas-*Palloures* can give us a better understanding of these structures.

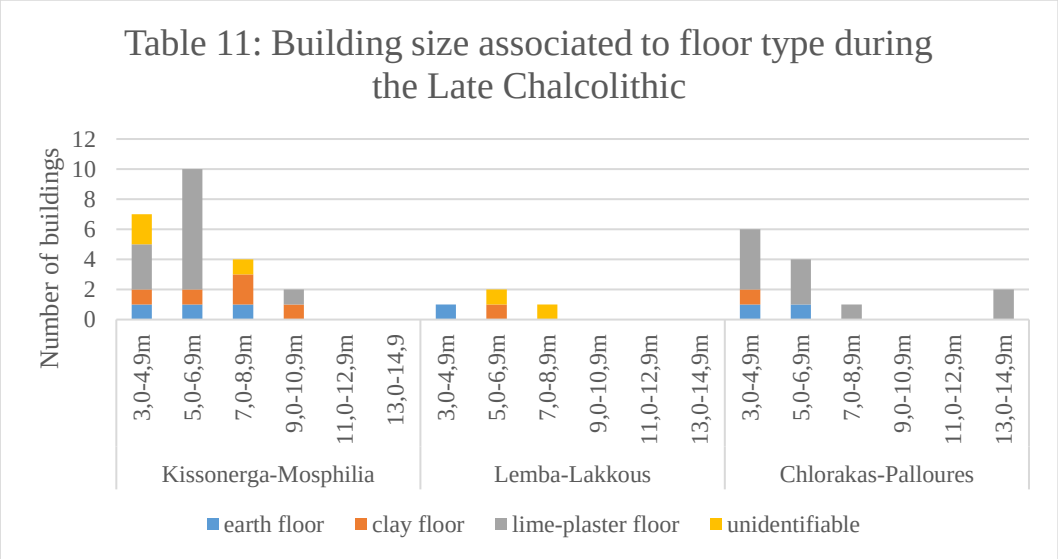
A clear correlation can be recognized between building size and building materials during the Middle Chalcolithic. As stated earlier, different floor and wall types have been used for larger structures at both Kissonerga-*Mosphilia* and Lemba-*Lakkous*, and a clear difference in building elaboration can be recognized in the buildings surrounding the Ceremonial Area (buildings 2, 4, 206 and 1000), as they are constructed with different materials, stone walls were placed to divide the internal space into rooms, and in at least one occasion both the walls and floors were painted. The imported stones consisted of calcernistes. Interestingly, the fieldstones used for the surrounding buildings consisted mainly of calcarenites as well. Probably, these stones were imported for their size, as they are exceptionally larger that the fieldstones. Unfortunately, it has not been investigated whether stones have been imported to other sites as well. Possibly, buildings 1, 2 and 3 at

Late Chalcolithic Chlorakas-*Palloures* have been constructed with imported calcarenites as well, as their size seems to be similar to those at Kissonerga-*Mosphilia.* This will hopefully be examined in further research. Based on their layout, buildings 2, 4 and 206 have been primarily used as houses. Furthermore, as argued by Peltenburg (1998, 242) the inhabitants had access to figurines, and the buildings were separated from the settlement by a wall and a ditch. Thus, differences can be recognized in building elaboration, building size and access to craft-produced items, which indicates that Kissonerga-*Mosphilia* was hierarchically arranged during the Middle Chalcolithic.

Stone walls are used almost exclusively during the Late Chalcolithic (see tab. 10). Only four buildings differ from the common stone walls. Building 376 and 96 at Kissonerga-*Mosphilia* both have a rubble wall, made up of small irregular stones, which are badly disturbed. Building 1 has a mudwall with additional postholes that has been plastered with a clay render on its internal side and has been highly disturbed also. There does not seem to be a difference in the size of the stones used to construct the walls at Kissonerga-*Mosphilia*. Furthermore, a dug-in-buildings has been recorded at Chlorakas-*Palloures*, which will be discussed below. Wall plaster becomes more common during this period at Kissonerga-*Mosphilia*. Of a total number of six buildings, varying in size, the walls have been plastered on its interior face. Only the walls of building 3, which is the largest building at Late Chalcolithic Kissonerga-*Mosphilia*, have been plastered on its

Table 10: Building size associated to wall type during the Late Chalcolithic





exterior side also, which is not very common during the Chalcolithic. A similar observation can be made at Lemba-*Lakkous*, where wall plaster has been recorded on the interior side of the wall in three instances, at buildings of varying sizes. Furthermore, at Chlorakas-*Palloures*, wall plaster has been recorded in two instances. Building 6, which is relatively small, has been plastered on its interior side, while at Building 1, measuring an astonishing 14 m in diameter, wall plaster has been recorded on both its interior and exterior side. There does not seem to be any correlation between used floor types and building size (see tab. 11). A wider variability of floor types is being used for buildings of different sizes and partition ridges are almost completely out of use, with one exception at Lemba-*Lakkous*.

Thus, some variability can be recognized in both the building size and the construction of the walls during the Late Chalcolithic period. As stated earlier, all buildings at Lemba-*Lakkous* are constructed with a stone wall, and wall plaster has been recorded at three buildings of varying sizes. It could be argued that these buildings are related to one another, as they seem to be grouped around an open courtyard, as stated by Thomas (2005, 45-46). This can, however, not be concluded based on the available evidence, as will be discussed below (see 5.4. Building orientation). Therefore, there does not seem to be a connection between these three buildings, which possibly could explain why these buildings are more elaborate. At Kissonerga-*Mosphilia* we can recognize some variability as well. Buildings 96 and 376 are constructed with rubble walls, but unfortunately, they

have been highly disturbed and almost no features have been recorded. However, a central hearth has been encountered in both buildings, and therefore, they probably primarily functioned as houses as well. Furthermore, building 1 was recorded with a mudwall and additional postholes. Although building 1 has been documented as a circular building, its walls follow a more rectilinear shape (see fig. 30). Again, this building has been heavily disturbed, and only a central hearth has been recorded. Furthermore, a rectilinear building can be recognized at Lemba-*Lakkous*, which has been documented as a horseshoe shaped building, and Chlorakas-*Palloures* building 11 also seems to be rectilinear in shape, but unfortunately it has only been partially excavated. However, this indicates that rectilinear buildings were still in use during the Late Chalcolithic, and possibly functioned as houses as well. Furthermore, building 1, which was coined the Pithos House, was plastered on both its interior and exterior side and is the largest building at Kissonerga-*Mosphilia* during this period. It has been suggested by Peltenburg (2013, 263) that the main purpose of this building was storage and food processing, and that the Pithos House probably was an elite household (see 2.3.4. Kissonerga-*Mosphilia*. Large amounts of deer bones were found in the Pithos house, which is not common during this period, and it has been suggested that the building is linked to the processing and production of olive oil. However, although olives were collected at the site, only little olive remains were encountered at the Pithos House and it is not present in sufficient quantity to assume that they were processed and stored here (Miles *et al*. 1998, 8; Murray 1998b, 322). Based on the encountered pottery, Bolger *et al*. (1998b, 127) stated that most capacity was used for the storage of liquids. Although it cannot be determined what kind of liquid was stored in the Pithos House, it can be concluded that large amounts of liquids were stored here. Furthermore, the high amount of deer bones indicates that its residents had access to different food items. Thus, based on the

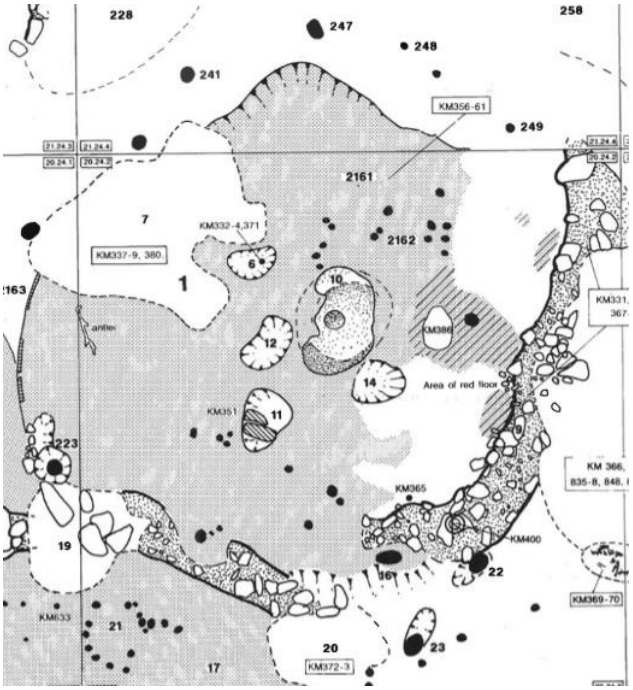


Figure 30: Building 1 at Kissonerga-*Mosphilia*. Possible rectilinear structure (after Peltenburg 1998a, fig. 40).

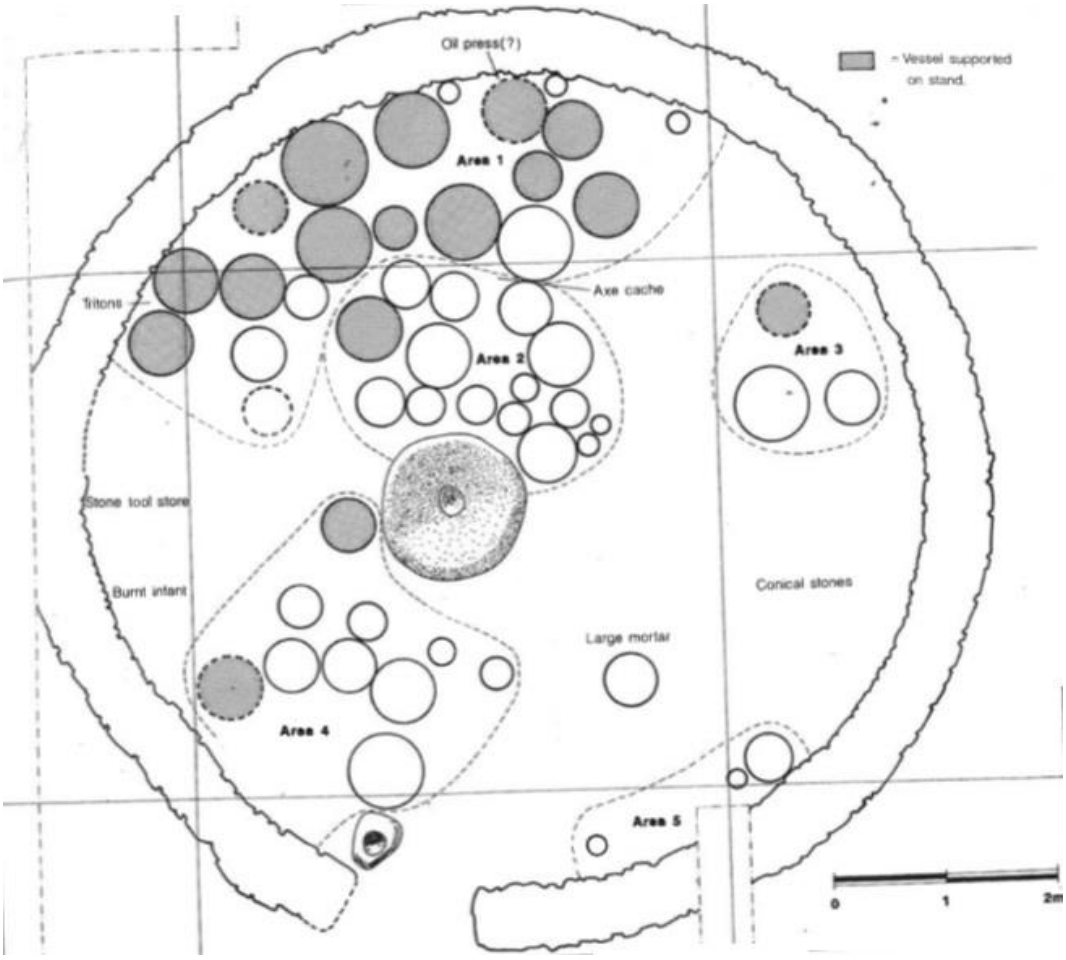


Figure 31: Floorplan of the Pithos House on which the areas for storage have been indicated (Peltenburg *et al.* 1998, 39).

building size, building elaboration and access to large amounts and uncommon food items, it can be suggested that the Pithos House is a high-status building. However, it cannot be ruled out that this building was exclusively used as a storage facility, as almost halve of the available surface area was used for storage (see fig. 31).

At Chlorakas-*Palloures*, all buildings have stone walls of varying sizes as well. However, one new wall type has been recorded, as the floor level was dug in and the walls were placed next to it. This building, building 13, was encountered at the south of the excavated area, where relatively smaller and poorly preserved buildings have been encountered. Its function is, however, unclear, as only several small features have been encountered, such as a potstand, and no central hearth or fireplace could be recognized. Furthermore, its floors have been replastered in at least two instances, and all floors were pierced with stakeholes and postholes. Furthermore, the walls of building 12 were extremely well preserved, with a wall as high as eight courses. Its wall was sloping inwards,

almost in an igloo-shape, and had a central hearth. Unfortunately, building 12 has only been partially excavated, and was only encountered during the last day of the excavation. Therefore, it is not known whether the walls were sloping inwards all around, or whether this is a result of depositional processes and/or erosion. Furthermore, no features were encountered that could be associated to this building. Although fragmentary, two buildings have been encountered which can probably related to one another that are constructed in a different manner that the surrounding buildings.

As stated earlier, several exceptionally large buildings (buildings, 1, 2 and 3) have been encountered at Chlorakas-*Palloures*. The stones used to construct the walls are larger as well and appear to be similar in size as those used to construct the buildings of the Ceremonial Area. Unfortunately, it has not been examined whether these stone have been imported, which will probably be carried out in future research. Building 1, the largest known building during the Late Chalcolithic is the only building on site of which the walls have been plastered on both its interior and exterior face. Furthermore, it has an exceptionally large platform hearth, a plastered exterior surface or porch, several large diabase stones placed on its floor, and a possible olive oil press, similar to the one encountered at the Pithos House. Unfortunately, no olive pits have been retrieved thus it cannot be concluded that olives were processed here. Furthermore, a cache of large flint tools has been encountered close to the entrance of building 1. The size and quality of these tools are exceptional, and the material needed to be imported from the site of Souskiou, *c.* 25 km away. It should be questioned why this building, and the features encountered inside, are so exceptionally large. Currently, there is no evidence for any special activities that could explain its size, or that is residents had access to different food items. However, clear differences can be recognized in access to craft-produced items, building size and building elaboration, which could indicate that building 1 is a high-status building.

5.4. Building orientation

A total of 28 entrances have been recorded at the various sites, of which 12 can be dated to the Middle Chalcolithic, and 16 to the Late Chalcolithic. Additionally, seven possible entrances have been documented, five dating to the Middle Chalcolithic and two to the Late Chalcolithic. Unfortunately, not many entrances can be added to the already existing dataset, since only one definite and one possible entrance were encountered at Chlorakas-*Palloures*. During the Middle Chalcolithic, it seems that buildings are largely oriented to

Table 12: Building orientations during the Middle and Late Chalcolithic periods.

Entrance orientation	Middle Chalcolithic		Late Chalcolithic	
	Number of Entrances	*Possible Entrances*	*Number of Entrances*	*Possible Entrances*
W	0	0	3	0
NW	1	0	0	0
N	1	0	1	0
NE	1	0	0	0
E	1	0	1	0
SE	2	2	10	0
S	5	3	0	0
SW	1	0	1	2
Total	**12**	**5**	**16**	**2**

the south, which can also be recognized in the possible entrances. During the Late Chalcolithic, however, it seems that a shift in orientation occurs to the southeast, with several exceptions to the west, northwest and southwest. (see tab. 12).

Both at Kissonerga-*Mosphilia* and Lemba-*Lakkous* we can study the orientation of groups of buildings, and therefore, examine how this shift over time occurred. First, it should be considered that the orientations of entrances are site specific. Second, it is possible that these changes are purely functional. During the Middle Chalcolithic of Kissonerga-*Mosphilia*, a number of four structures with five clear entrances have been encountered at the Main Area. Of these, three entrances are oriented to the south, northeast and east. A further three possible entrances can also be recognized, with two oriented to the south and one to the southeast. Thus, although not many entrances survived, most of them are oriented to the south. Buildings 1161 is contemporaneous to the primary phase of building 1295 and both buildings are situated in the northernmost extent of the Main Area. Both were rectilinear in shape, and in between them was a 1,50m wide corridor. Building 1161 is a multi-phased structure, of which the primary entrance was first oriented to the northeast but was probably blocked. During this secondary phase, a paved track was constructed next to it, and the entrance was moved to the south (Peltenburg *et al*. 1998, 30). The construction of this new entrance allowed to keep using it, and its orientation to the south enabled easy access to the south and southwest part of the site, including the Ceremonial Area. Furthermore, the building and its orientation seem to be equal to Building 1000, located in the Ceremonial Area, which will be further discussed below. Building 1161 has a seemingly divergent orientation to the east. It could be suggested that this can be associated to buildings in the unexcavated northern part of the site, which can be supported by a northsouth path which probably continued to the Northern part of the site

as well. Furthermore, the entrances of buildings 2 and 1000 are oriented to the south, and are, therefore, directly connected to the Ceremonial Area. The other buildings surrounding this area, do not have definite entrances, but they are highly likely oriented to the south or southeast also, based on the internal division of space. Therefore, these buildings seem to be mainly oriented towards the south, rather than being arranged around an open courtyard (see fig. 32). According to Thomas (2005, 45) and Miles *et al*. (1998, 38), however, entrances at Middle Chalcolithic Kissonerga-*Mosphilia* are oriented to the southwest rather than the south. This conclusion is made based on a the siteplan and its orientation. The excavation grid is, however, oriented to the northwest, whereas on the building plans it is seemingly oriented to the north. Therefore, a small error has been made in regard to the orientation of these buildings, as it looks as if they are oriented to the south, while in reality, they are oriented to the southwest.

At Middle Chalcolithic Lemba-*Lakkous*, a total of three definite entrances have been recorded of which two are oriented to the south also, and one is oriented to the southeast. The single possible entrance that can be associated to these buildings is also oriented to the south, and thus, these orientations show similarities to Kissonerga-*Mosphilia*. Furthermore, at contemporary Kissonerga-*Mylouthkia* one building is oriented to the north, whereas another building was initially oriented to the south, but this entrance was blocked in an early phase of its occupation after it was moved to the northwest (Croft and Thomas 2003, 119-123). Especially the blocking of this primary entrance is of interest,

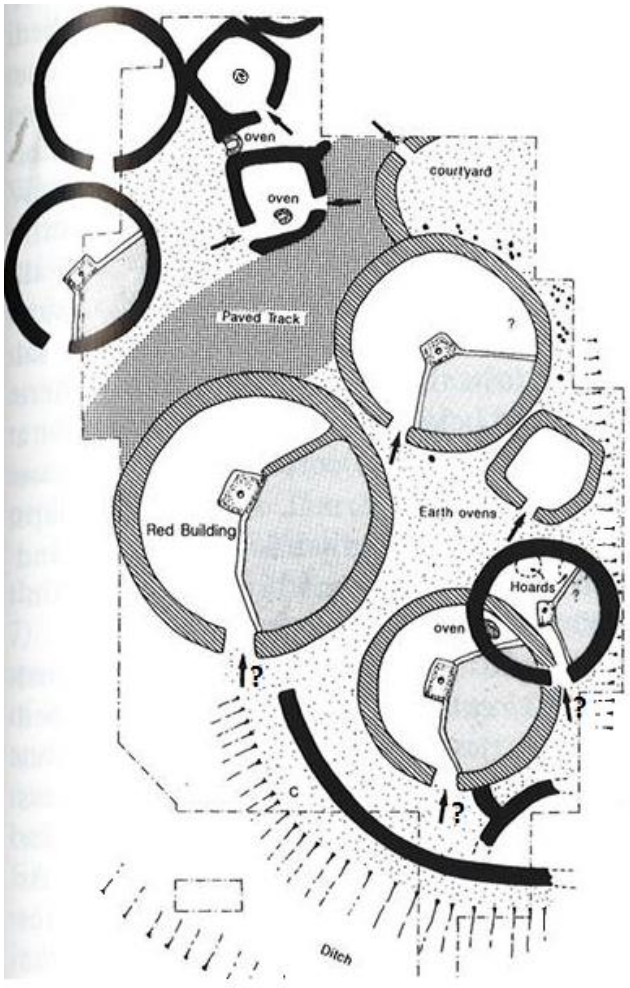


Figure 32: Plan indicating the entrances around the Ceremonial Area and of several buildings to the northeast. The question marks indicate possible entrances (after Peltenburg 1998c, 245)

since its initial orientation is in line with the preferences during the Middle Chalcolithic with a south oriented entrance. According to both Croft and Thomas (2003, 126, 130-132), this entrance was blocked due to flooding, whereas the northwest side of the building was situated on the northwest and was, therefore, not prone to flooding. The entrance of the other building in the north was possibly also placed here to avoid flooding. Therefore, it seems that throughout the Middle Chalcolithic, a preference existed for a south oriented entrance. Entrances that are facing a different orientation are often placed in this manner for more functional reasons, such as the construction of a pavement or to prevent flooding, as is discussed above.

At Late Chalcolithic Kisonerga-*Mosphilia*, the majority of the entrances are situated to the southeast, but several buildings differ from this orientation, with entrances facing southwest, west, east and north. Supposedly, buildings are now grouped around open courtyards, and therefore, are not consistently oriented to the south anymore. However, apart from buildings 86 and 204 in the north, contemporary buildings do not seem to be arranged in such a manner but are rather oriented equally. For example, buildings 1052, 1044 and 1046 have entrances facing west (see fig. 33). Almost all buildings prior and subsequent to this occupation phase are arranged with their entrance facing southeast. Buildings 86 and 204 are facing one another, but in a later phase the entrance of building 86 is blocked, and its entrance is moved to the opposite side, in the north. Unfortunately, the northern area of the site is removed due to terracing, and, therefore, it is impossible to examine whether the moving of the entrance is related to the occupation area in the north. Furthermore, at Late Chalcolithic Lemba-*Lakkous* all entrances and one possible entrance are oriented to the southeast. Although an open space can be recognized directly adjacent to these buildings,

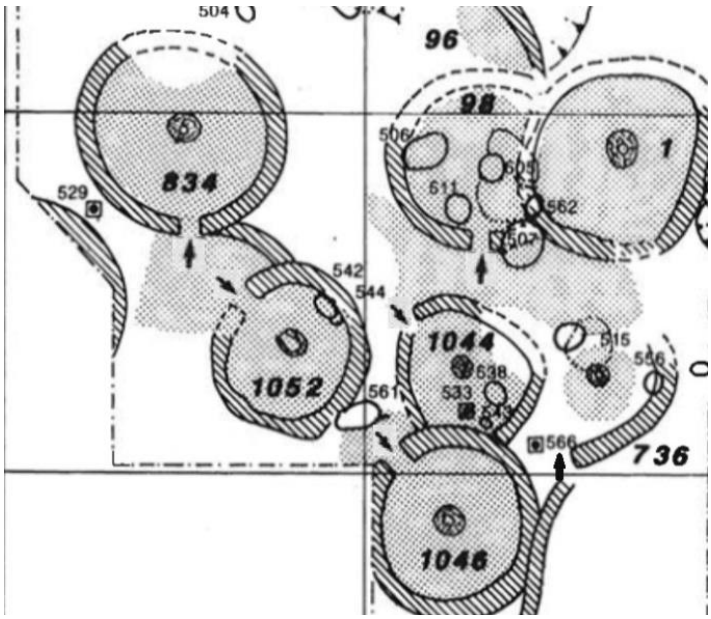


Figure 33: Entrance orientations at Late Chalcolithic Kissonerga-*Mosphilia*. Buildings 1044, 1046 and 1052 are contemporary to one another, while buildings 98 and 736 are prior, and building 834 is later (After Peltenburg 1998a, fig. 39).

they are not grouped around this courtyard (see fig. 34). Furthermore, the one definite entrance encountered at Chlorakas-*Palloures* is oriented to the southeast as well. In conclusion, it should be argued that during the Late Chalcolithic buildings are not arranged around an open courtyard, as argued by Miles *et al.* (1998, 38) and Thomas (2005, 45). Rather, there seems to be a preference for southeast oriented buildings, which is equivalent to the Middle Chalcolithic.

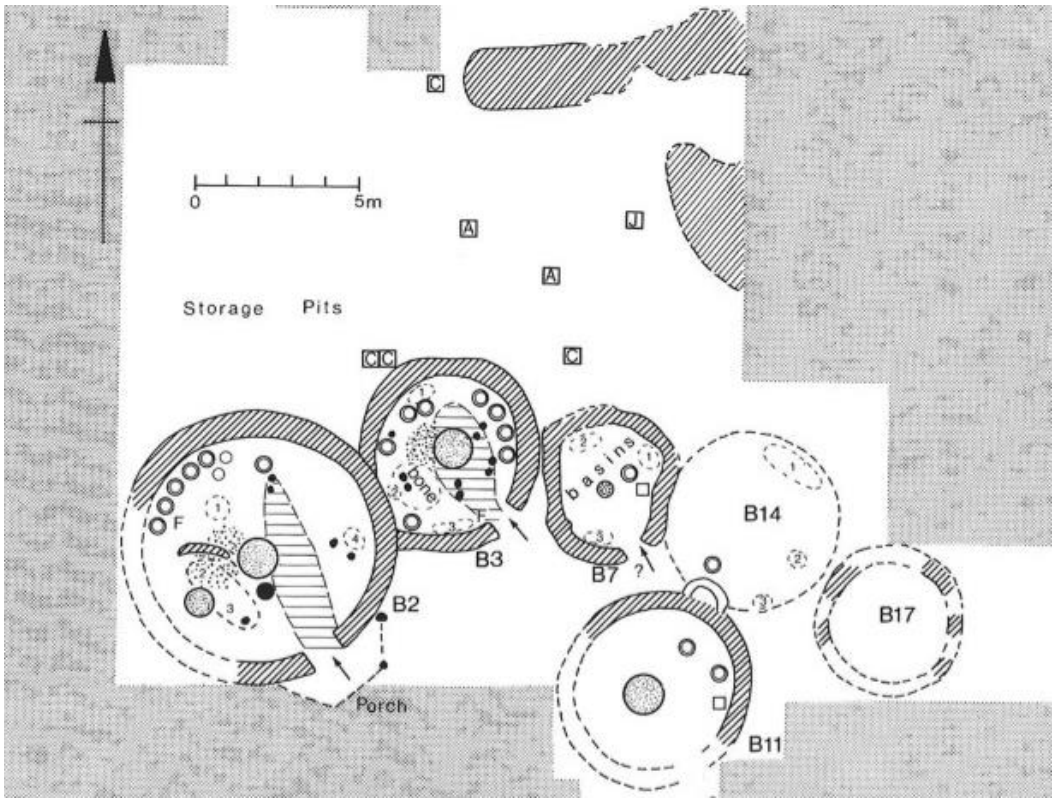


Figure 34: Building orientations at Late Chalcolithic Lemba-*Lakkous*. The question mark indicates a possible entrance (after Peltenburg 1985f, 327).

5.5. Spatial organization of buildings and differentiation in layout

In this section it will be investigated to what degree household activities are spatially defined and whether a differentiation of the internal layout of buildings can be recognized. As stated earlier, in both Middle and Late Chalcolithic buildings a formalized spacing of activities can be recognized, in which the building can be divided into three segments, of which segment 1 is used for living and sleeping, segment 2 for cooking and storage and segment 3 for tool storage and working. Furthermore, a fourth sphere of activity has been

assigned to the central hearth, and the area directly adjacent to it. The problems with this model have been discussed above (see 4.1. General overview of the Chalcolithic house).

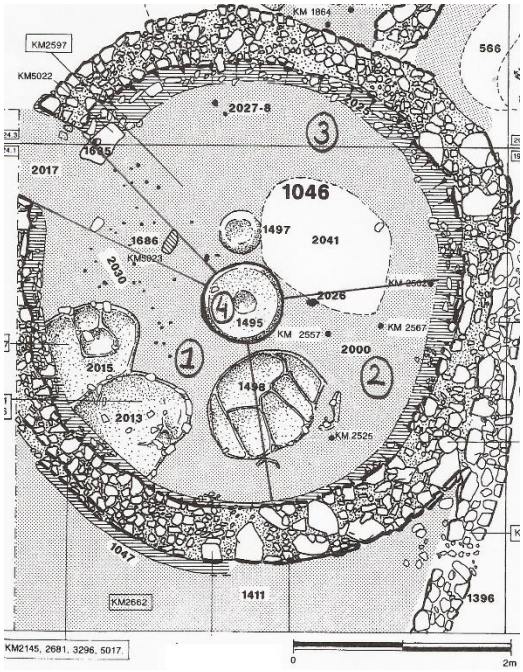


Figure 35: Spatial division into four segments in building 1046 at Kissonerga-*Mosphilia* (after Peltenburg 1998a, fig. 49).

In order to re-evaluate this model, all building in which an entrance has been recorded will be examined, including rectilinear buildings. First, each building has been divided into four segments, in which segment 1 is located to the right of the entrance, segment 2 directly opposite the entrance, and segment 3 to the left of the entrance. Segment 4 will only be used to define the centre of the building, in which often the central hearth is situated. It is, however, not entirely clear how Peltenburg (1998, 237-238) divided these segments. Especially the area that segment 2 covers is unclear, and it is not mentioned whether these segments have been systematically defined. In order to do so, the central hearth will be the basis of this spatial division around which the three segments are situated. When no central hearth is situated in a building, the centre of the building will be the basis. Segment 2 has been demarcated by defining an area with a 90° angle, directly opposite the entrance and at the back of the building. Naturally, this will define the borders between the three segments (see fig. 35). Second, each feature has been assigned to one of these four segments, or when features overlapped between segments, they would be assigned to an intermediary group (1/2 or 2/3) By doing so, it is possible to see whether a clear spacing of activities can be recognized, and if a differentiation of the layout of these buildings is visible.

During the Middle Chalcolithic, most consistency can be recognized in segments 1 and 4 (see tab. 13). In segment one, partition ridges are often placed to divide the internal space. Especially when these partition ridges are placed, only little other features have been encountered in segment 1. Segment 4 is reserved for the central hearth, and only in some instances a hearth has been encountered elsewhere. Based on the encountered features, little distinction can be made between segments 2 and 3, in which often basins, stone settings,

Table 13: Position of features in segments 1-4 during the Middle Chalcolithic. Shaded rows are buildings with possible entrances.

Site	Building	hearth/oven/fireplace	partition ridge	basin	stone setting	potstand	edge-set stone	pivot stone	post-hole	stake-hole	pit
Kissonerga-*Mylouthkia*	200.1	4		2		2, 2		1	4, 2, 2, 3		
	200.2	4				3			1, 1, 2, 3, 3,		
Kissonerga-*Mosphilia*	1295	4					1				
	1547	2, 4	1, 1	1, 2			1		2, 3	2, 3	
	1161.1			3							
	1161.2	1						3			
	1000			2							
	2	4								1	1
	994		1		1				1, 1	1	
	4	4	1, 1		1, 1					1, 2	1, 2
	206	4	1, 1						4		
Lemba-*Lakkous*	8	1, 3	3	1	2/3	2, 3			2, 2	3, 3	1, 2, 2/3 3, 3
	9.1	4		2	3						3
	9.2	4	1/2, 2/3	3	1, 3						3
	1		1	2	1	4x1				2	

potstands and pits are situated that can be associated to storage and food processing. Furthermore, there is no example in which a pivot stone and an edge-set can be related to one another, as they are associated to entrances. Post-holes and stake-holes are situated in all four segments, as they are often placed around the hearth.

There are several examples that do not conform with the standard spatial organization. This can best be recognized in the placement of the hearth, partition ridges and pivot stones. Building 1547 has two hearths, of which one is not positioned in the centre of the building. According to Peltenburg (1998c, 238), all hearths that are not positioned in segment 4 are typologically different but this is not necessarily true, as is illustrated by the circular platform in segment 2 of building 1547. This hearth, in association with a basin and a vessel have been interpreted as a working area (Miles *et al*. 1998, 32), but could also have served as a cooking station.

Furthermore, an oven is situated in rectilinear building 1161 which is, apart from a pivot stone to the left of the entrance, the only feature in this building. This building has been interpreted as a specialized cooking building (Peltenburg *et al*. 1998, 29), which seems fairly plausible as the oven is the only feature encountered in this building. However, as no other features were located here, only the actual cooking of the food items would take place in this building, while the processing and preparing of the food would take place elsewhere. Thus, it could be suggested that this was a communal cooking station, that would have been used by the inhabitant of the surrounding buildings.

Furthermore, in building 8 at Lemba-*Lakkous*, which is a rectilinear building as well, a number of two hearths have been encountered that both are not situated in segment 4. However, the two hearths situated elsewhere in the building are circular platform hearths,

and are, therefore, not typologically different as is stated by Peltenburg (1998c, 238). A partition ridge has been encountered in segment 3 also, which is uncommon. Building 8 has not been interpreted as a special function building or storage facility, and there are no clear indications that it did not function as a house. Interestingly, at another building at Lemba-*Lakkous* partition ridges have been encountered demarcating the space around segment 2, instead of the space around segment 1 which is common at Kissonerga-*Mosphilia*. In this demarcated area, a raised clay floor is situated, and no features have been encountered in this segment. A central hearth is located in this building, as well as several other features. Therefore, it seems that a clear division of space can be recognized in this building also, which probably functioned as a house, but its internal layout is oriented differently.

At building 200 at Kissonerga-*Mosphilia* a pivot stone has been encountered in segment 1, which is not common. This pivot stone is, however, not encountered in close vicinity to the entrance but was placed in a pit. Thus, this pivot stone can not be associated to the entrance and had a different function. It is however not clear what the function of these stones was, when not associated to entrances (see 4.2.9. Stone settings).

During the Late Chalcolithic, most consistency can be recognized in the placement of the hearth, edge-set stones and pivot stones (see tab. 14). Segment 4 is still reserved for the central hearth, around which often post-holes and stake-holes are placed. Interestingly, a larger number of features are situated in segment 1, and segment 2 is primarily preserved for potstands. This possibly indicates a change in the spatial layout of building from the

Table 14: Position of features in segments 1-4 during the Late Chalcolithic. Shaded rows are buildings with possible entrances.

Site	Building	hearth	partition ridge	basin	stone setting	potstand	edge-set stone	pivot stone	post-hole	stake-hole	pit
Kissonerga-*Mosphilia*	3	3, 4		1, 1	1, 1, 1, 2, 2	1, 11x2, 7x3	1	3	1, 1, 2, 3	1	1, 2, 3
	98	4					4	3			
	86.1			1, 4						3	
	86.2	4			3				4		3
	204	4			1			3	3		
	1046	4		1, 1, 1/2	3			3	2	1, 3, 3	3
	1044	4		2			1	3			
	1052.1	4		1	3		3	3	1, 1, 3		
	1052.2	4		1		3	3	3	1		
	834.1	4			1		1	3	6x1, 2, 2, 2, 24x3, 4, 4		3, 3, 3
	834.2					2/3					3
	1165	4					3	3		1	3
	200				4						4
Lemba-*Lakkous*	2	4	2/3	2		2, 2, 2			5x1, 3		4x1 3, 3
	3.1	4				4x1, 2, 2, 2/3, 3, 3, 3			4x1, 3, 3		2, 3, 3
	3.2	1/2, 4				1, 1, 2		3			
	7	4		1/2, 2, 2/3, 3	1, 3						
Chlorakas-*Palloures*	1	1, 4			1, 1, 3			1	1, 1, 2, 3		
	7	4		2			1		1, 1, 2	1, 1	2

Middle to the Late Chalcolithic. The placement of both pivot stones and edge-set stones in segment 3 confirms that they are probably associated to one another, and that they both can be related to entrances.

Again, several buildings differ from the Chalcolithic house model. During the initial occupation phase of building 3 at Lemba-*Lakkous*, a circular platform is situated in the centre of the building. However, during the second occupation phase this hearth is replaced by a campfire hearth, and a second campfire hearth is placed in the back of the building, on the border of segments 1 and 2. Interestingly, in both phases of the building a large number of pot stands have been encountered as well, which probably would have been used for the storage of food items. Peltenburg (1985f, 328) interpreted this building as a communal cooking facility, which seems plausible based on the available fixtures. Possibly, building 3 primarily functioned as a house and was subsequently used for storage during its initial occupation phase, while in its second phase its primary function was cooking and storage. Interestingly, building 3 is a curvilinear structure. Thus, it can be stated that curvilinear structures served as special function buildings and storage facilities as well, rather than that rectilinear buildings only function as such.

Furthermore, at building 1 at Chlorakas-*Palloures*,a second hearth has been encountered in segment 1, but its type has not been identified and it has not been associated to any other features. The central platform hearth in this building is, however, of greater interest. It measures an astonishing 2,5 meters in diameter, and two successive fire bowls were encountered in it. This indicates that the hearth was in use for a longer period of time. It is however unclear why this hearth is so large (see 5.3. Building materials). Furthermore, a partition ridge has been encountered in building 2 at Lemba-*Lakkous*. This is the only example for the use of radial floor division for the Late Chalcolithic, and it was situated on the border of segments 2 and 3. This placement can also be recognized in Middle Chalcolithic buildings at Lemba-*Lakkous*, while at Kissonerga-*Mosphilia* partition ridges are always placed in segment 1.

In Building 3 at Kissonerga-*Mosphilia*, coined the Pithos House, two hearths were encountered as well, of which one was situated in segment 3. This hearth was either a small campfire of pit-hearth and cannot clearly be associated to any other features. As has been discussed above (see 5.3. Building materials) large quantities of storage vessels were encountered in this building, that often were placed in pot stands. These pot stands were mainly encountered in the back of the building, in segments 2 and 3. Furthermore, a large press installation was situated in segment 2 also. In sum, the layout of this building does

seem to be similar to other Late Chalcolithic buildings. A circular platform hearth was encountered in the centre of the building, segments 2 and 3 were reserved for storage and only few features have been encountered in segment 1. Although it possibly still functioned as a house, its primary function was the storage of large quantities of liquids.

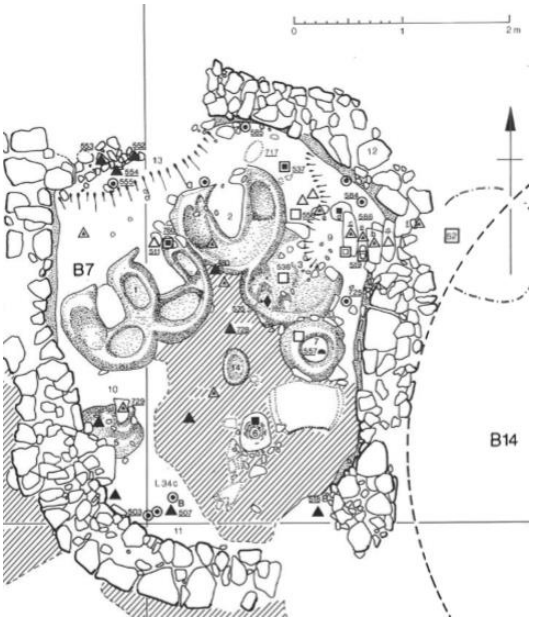


Figure 36: Building 7 at Lemba-*Lakkous* which seems to be rectilinear in shape with curved edges. A large number of basins have been encountered in the back of the building (after Peltenburg 1985a, fig. 26).

Another building of interest is building 7 at Lemba-*Lakkous*. Although documented as a curvilinear or horse shoe shaped building, its walls follow a more rectilinear shape. A large number of basins have been encountered in the back of this building, which all are divided into several compartments (see fig. 36). This type of basin has not been encountered elsewhere. Other features encountered in this building were a small central pit-hearth and two stone setting, of which one was a large mortar. Peltenburg (1985f, 328) suggested that this building could have functioned as a beer-production facility, but unfortunately no botanic remains and vessels that could contain liquids were encountered in this building. However, it internal layout and the activities therein are undoubtedly different from a Chalcolithic house. Most probable, it was used as a food processing and preparation building.

A similar building, building 1046, has been encountered at Kissonerga-*Mosphilia*, which has been coined the basin building by its excavators. Apart from a central hearth and several stone settings that can be associated to the entrance, no other features have been encountered in this building. These basins were placed in segment 1 and on the border of segments 1 and 2, while the rest of the building seems to have been empty. Although it is mentioned that this building probably is a special function building, no real interpretation has been made that could explain the large number of basins in this building. Unfortunately, no botanic remains have been collected and only a small number of grinding and cutting tools have been encountered. However, clear similarities can be recognized between Kissonerga-*Mosphilia* building 1046 and Lemba-*Lakkous* building 7. Therefore, it can be

argued that building 1046 probably served as communal food processing and preparation area as well, while in an earlier stage it possibly still functioned as a house.

Furthermore, a clear correlation can be recognized between the placement of pivot stone and edge-set stones. In almost every building the pivot stone is placed in segment 3, to the left while entering. The edge-set stone is placed between the entrance and the hearth, and has, therefore, been assigned to segment 1 in several instances. However, in building 1 at Chlorakas-*Palloures* the pivot stone seems to be placed to the right while entering. Although it is situated close to the entrance, the pivot stone is situated to far away to have functioned as such. Thus, during the Late Chalcolithic, entrances are always positioned in a similar manner.

In sum, during the Middle Chalcolithic the spatial layout of Chalcolithic seems to be quite consistent, with some examples that differ which could have functioned as special function buildings. However, based on the encountered features, no clear distinction can be made between segments 2 and 3, and the activities that were carried out here, as both segments are mainly used for storage. Segment 1 has been interpreted by Peltenburg (1998c, 237) as the living and sleeping area, as this area often is demarcated, and little features have been encountered here, which seems plausible. Furthermore, at Lemba-*Lakkous* a spatial division can be recognized also, but these seem to be oriented in a different way, as is illustrated by buildings 8 and 9 (see above). Little distinction can be made between rectilinear and curvilinear structures since only few rectilinear structures have been encountered, which are often highly disturbed. During the Late Chalcolithic, a higher variability in the layout of buildings can be recognized and several special function buildings have been identified, which were both rectilinear and curvilinear structures. However, several aspects of these buildings still conform with Peltenburg's Chalcolithic house model (1998c, 237-238), such as the central hearth and the placement of entrances. Furthermore, it seems that almost no features are located in segment 2, with the exception of buildings that function as storage or food preparation facilities, and features are more often located in building 1. Thus, it could be argued that during the Late Chalcolithic the living and sleeping area was moved to the back of the house, and the working area was located to the left and right of the entrance. However, in order to verify this hypothesis, a spatial analysis of the finds at the various sites should be carried out, which hopefully will be carried out in future research.

5.6. Changes from the Middle to the Late Chalcolithic

From the Middle to Late Chalcolithic, we can see various changes in buildings. These changes have been elaborately examined in this chapter. For clarity, the findings of the sections above will be briefly presented and discussed here as well, with a focus on the changes from the Middle to Late Chalcolithic. In terms of building size, a clear difference can be recognized between the two periods. During the Middle Chalcolithic buildings are much larger, with an average diameter of 6,8 meters, while during the Late Chalcolithic the average diameter of buildings is 6,1 meters. Furthermore, during the Middle Chalcolithic we can see strong differences in building size between the sites of Kissonerga-*Mosphilia* and Lemba-*Lakkous*, as building sizes at Kissonerga-*Mosphilia* vary immensely while at Lemba-*Lakkous* the buildings are more average sized. This difference cannot be recognized in the Late Chalcolithic period, as all buildings seem to decrease in size. Large monumental structures are, however, still in use as is illustrated by building 1 at Chlorakas-*Palloures* (see 5.2. Size distribution).

For used building materials, clear differences can be recognized also. During the Middle Chalcolithic, mudwalls and mudwalls on a stone footing are most commonly used at the sites of Lemba-*Lakkous* and Kissonerga-*Mosphilia* respectively, and wall plaster is only used in some instances. Furthermore, a large variety of floor types have been encountered in this period, of which white plaster floors were primarily reserved for the larger buildings. Partition ridges were commonly used to divide the internal space of the building, but this became largely out of use during the Late Chalcolithic. During this period stonewalls became the norm and wall plaster is used more often. Furthermore, white plaster floors are in use in buildings of varying sizes and are no longer reserved for the larger buildings (see 5.3. Building materials). Moreover, a change in the orientation of buildings is evident between the two periods. While during the Middle Chalcolithic period all buildings are oriented to the south, a shift occurs during the Late Chalcolithic in which the majority of the buildings are oriented to the southeast (see 5.4. Building orientation).

Furthermore, the spatial layout of buildings its degree of variability changes throughout the Chalcolithic as well. During the Middle Chalcolithic, a clear spatial layout can be recognized as was proposed by Peltenburg (1998c, 237-238). However, there does not seem to be a difference between the activities in segments 2 and 3, as both seem to have primarily used as storage and cooking areas. Segment 1 probably is used for living and sleeping and segment 4 is reserved for the central hearth. Only little evidence has been encountered which could suggest the use of storage facilities or specialized function

buildings. Interestingly, at Middle Chalcolithic Lemba-*Lakkous* building 9, the internal layout is oriented differently. A raised floor is placed in segment 2, in which no other features have been encountered. Probably, this area was used as the living and sleeping area, whereas the other two segments were used as a working area. During the Late Chalcolithic, a higher degree of variability in the layout of buildings is apparent. Several specialized function buildings have been encountered, which have primarily used for food preparation and storage. In these buildings, segments 2 and 3 are often used for storage, while in buildings that seem to have primarily been used as houses, segments 1 and 3 have been used as such. This can be recognized during the Middle Chalcolithic at Lemba-*Lakkous* as well, as is discussed above. Furthermore, hearths are still primarily situated in the centre of the building, and a clearer entrance arrangement is visible in a large amount of the buildings (see 5.5. Spatial organization of buildings and differentiation in layout).

6. Conclusion

The aim of this research is to investigate the degree of differentiation that is present among Chalcolithic buildings. To examine this, it has been questioned why buildings differ in size and used building materials, whether these aspects can be related to one another and if this relates to their function. Furthermore, it has been questioned to what degree spatially defined activity areas can be defined in buildings, whether a differentiation in its internal layout can be defined and if we can see clear changes from the Middle to Late Chalcolithic. To answer these questions all excavated buildings at Lemba-*Lakkous*, Kissonerga-*Mosphilia,* Kissonerga-*Mylouthkia* and Chlorakas-*Palloures* have been examined together, as in previous studies the buildings of different sites have not been compared. Therefore, the house is always presented as a homogenous structure, with little regard for differentiation of diversity within these structures. This assessment is largely based on several parade ground examples, such as the "Red Building" and the "Pithos House", while other building have not been seriously investigated. This study focusses largely on the buildings and the features therein. Chalcolithic houses differ highly in size, used building materials and special features. The emergence of building differentiation was first identified by Peltenburg (2014, 260-2610) during the Middle Chalcolithic, inferred from the buildings of the 'Ceremonial Area. Evidence for building differentiation is mainly illustrated by the 'Pithos House' for the Late Chalcolithic. To scrutinize the degree of building variability, the concept of house societies has been applied, in which differences in building elaboration, house size and activities have been investigated. By doing so, it is possible to identify high-status buildings which could have played an important role in society.

As stated earlier, this study focusses largely on the buildings and the features therein, which is arguably also the largest shortcoming of this research. Only the activities within buildings have been examined and no critical assessment of the finds has been carried out, as this is beyond the scope of this research. However, it is of key importance to scrutinize this, as the material culture of a society is inevitably linked to settlement organization and activities. Thus, a large part of the dataset has not been examined yet, which should be carried out in future research to get a better understanding of how these societies functioned and which role the house played in society. Furthermore, to properly understand the meaning of building differentiation the finds should be examined as well, as high-status buildings often are associated with craft-produced items, special food items

and unequal access to property. Additionally, no special attention has been given to the building configurations. Although the standardization of spatial configurations has been identified within Chalcolithic buildings, it has not been investigated why these buildings are arranged in such a manner and whether this had symbolic meaning. In sum, there are three main characteristics in Chalcolithic architecture that need to be further examined: activities, differentiation and building configuration. This will lead to a better understanding of Chalcolithic communities, how they were socially constituted, and which role houses played in society.

Returning to the discussed research questions previously, first the sub-questions will be answered after which the main research question of this study will be addressed.

Sub-questions:

Can we see a change in Chalcolithic houses between the Middle and Late Chalcolithic periods?

Between the Middle and the Late Chalcolithic periods clear differences can be recognized in Chalcolithic buildings. From the Middle to Late Chalcolithic the building size declines and used building materials become more standardized. Furthermore, a clear shift in building orientation can be recognized, as well as a change in the spatial organization of buildings, and more differentiation is present in the internal layout of buildings. These changes will be further discussed below

Can the quality of building materials be related to the size or the function of the buildings? E.g. are monumental buildings built with a better quality of stone?

We can see clear differences in used building materials, both on the site level and between sites. These differences can mainly be recognized during the Middle Chalcolithic. During this period, mudwalls on a stone footing are primarily used at Kissonerga-*Mosphilia*, but only the larger buildings are constructed with a stonewall, of which building 206 – the largest building of the Middle Chalcolithic – has traces of red wall plaster also. A similar differentiation can be recognized at Lemba-*Lakkous*, where mudwalls and mud or clay floors were used for the smaller building, while larger buildings were constructed with a lime plaster floor and mudwall on a stone footing or a stonewall. Furthermore, only the buildings of the 'Ceremonial Area' have been constructed with imported calcarenites. Although the other buildings have been constructed with calcarenites as well, these are much smaller in size, and, therefore, the stones used to construct the buildings of the

'Ceremonial Area' were probably imported for their large size. Unfortunately, it has not been investigated whether imported stones were used to construct buildings at other sites also. There does not seem to be a clear correlation between used floor type and the building size or function, but we can recognize a clear difference in how the space was divided internally. Again, the buildings of the 'Ceremonial Area' are more elaborate, as their partition ridges are stone walls, dividing the space internally into rooms which have different floors as well. In the surrounding buildings, the space is divided by low mud ridges, and a less clear differentiation can be made between the floor types in these demarcated areas and the rest of the floor. However, no distinction is visible between circular buildings and rectilinear building, as they are all constructed in the same manner. Thus, clear differences in building elaboration and building size can be recognized in the buildings of the 'Ceremonial Area'. Furthermore, the inhabitants had access to craft-produced items, as is illustrated by the large number of figurines that were encountered here. Therefore, these buildings can be identified as high-status buildings.

During the Late Chalcolithic, a less clear differentiation can be recognized in terms of used building materials. During this period stone walls become the norm, wall plaster is used more frequently, and lime-plaster floors are more commonly used. However, only the two largest Late Chalcolithic buildings, the 'Pithos House' at Kissonerga-*Mosphilia* and building 1 at Chlorakas-*Palloures* have been plastered on its exterior side also. High amounts of liquids were stored in the 'Pithos House' and a high amount of deer bones were encountered as well, which indicates that the inhabitants had access to different food items. Based on the building elaboration, building size and access to large amounts of food items, it can be suggested that the 'Pithos House' was a high-status building as well. Such evidence has not been encountered at building 1 at Chlorakas-*Palloures*, but several exceptionally large features were situated within it, such as a platform hearth and a double-dipped mortar. Furthermore, its walls were constructed with large stones, of a similar size of those in the 'Ceremonial Area'. Unfortunately, it cannot be explained why this building is so large, which hopefully will become clear in future research.

What is the size distribution of the buildings?

During the Middle Chalcolithic, buildings vary from 3,2 to 14,5 meters in diameter, with an average of 6,8 meter. Rectilinear buildings are much smaller in comparison to curvilinear buildings. While rectilinear buildings vary from 3,2 to 5 meters in diameter and have an average of 4,3 meters, curvilinear buildings vary from 3,4 to 14,5 meters in

diameter with an average of 7,4 meter. Furthermore, a difference can be recognized between Kissonerga-*Mosphilia* and Lemba-*Lakkous*, as buildings at Kissonerga-*Mosphilia* have a diameter ranging from 4,4 to 14,5 meters and have an average of 8,1 meter, buildings at Lemba-*Lakkous* vary from 3,2 to 7,5 meters and are 5 meters in diameter on average.

During the Late Chalcolithic the building size declines, with a range from 3 to 14 meters in diameter and an average of 6,1 meter. Although the range of building sizes is almost equal to the Middle Chalcolithic, large structures become rather scarce during the Late Chalcolithic. Furthermore, no clear difference can be recognized between the building sizes of Kissonerga-*Mosphilia* and Lemba-*Lakkous*, while at Chlorakas-*Palloures* several monumental structures have been encountered, one of which has a diameter of 14 meters.

Are larger, monumental buildings primarily present in larger settlements? How can this be explained?

With the exception of Kissonerga-*Mopshilia*, which is the largest Chalcolithic site measuring about 12 ha in total, the other sites do not vary hugely in size. Lemba-*Lakkous* measures about 3ha in total, Kissonerga-*Mylouthkia* 6 ha, and Chlorakas-*Palloures* 4 ha. Evidence for large monumental structures has only been encountered at Kissonerga-*Mosphilia* and Chlorakas-*Palloures*. Although, Kissonerga-*Mosphilia* is the largest site it cannot be argued that larger structures were encountered here due to the large settlement size, as these buildings were all situated in close vicinity to one another. Furthermore, as stated above, large monumental structures are present at Chlorakas-*Palloures* as well. Most probably, similar buildings would have been present at Kissonerga-*Mylouthkia* and Lemba-*Lakkous* as well, but these have simply not been encountered since only relative portions of the sites have been excavated. Therefore, it cannot be argued that monumental buildings are primarily present in larger settlements.

Do we see a clear orientation of the buildings, and to what degree are household activities spatially defined?

In terms of building orientation, we can see a clear preference for the orientation of entrances in both the Middle and Late Chalcolithic. During the Middle Chalcolithic buildings are primarily oriented to the south. Entrances that are facing a different orientation are often placed as such for functional reasons, as is illustrated by the buildings at Kissonerga-*Mylouthkia* which all face a different orientation to prevent flooding. During the Late Chalcolithic we can see a shift in orientation from the south to the south-east, with

several exceptions to the southwest, west, east and north. It has been suggested that this variability in orientation represents a more elaborate settlement organisation, in which buildings are grouped around an open courtyard. However, this cannot be recognized at either Kissonerga-*Mosphilia*, Lemba-*Lakkous* or Chlorakas-*Palloures*, and groups of buildings all seem to be oriented in the same direction. Therefore, it cannot be argued that buildings are grouped around an open courtyard. Rather, there seems to be a preference for a southeast orientation of the entrances, which is similar to the Middle Chalcolithic.

When looking at the spatial layout of buildings, a clear formalized internal spacing can be recognized in which different areas are used for different activities. This seems to largely correspond with Peltenburgs Chalcolithic House Model, but differences between sites can be recognized as well. Both at Kissonerga-*Mosphilia* and Kissonerga-*Mylouthkia*, almost no features have been encountered in segment 1, situated to the right while entering and often is demarcated by partition ridges. This area probably functioned as a sleeping and living area. In earlier studies a distinction has been made in terms of activities between segments 2 and 3, which are situated in the back of the building and to the left while entering respectively, no clear differences can be recognized in the activities, as both areas seem to have been used for working, cooking and storage. Furthermore, in most buildings a platform hearth was situated in the centre of the building. However, at Lemba-*Lakkous* a spatial division can be recognized also, but the internal spacing is oriented differently. Instead, the probable living space is located in the back of the building, opposite the entrance while the working and storage areas are situated to both sides of the building while entering. Little differentiation can be made between rectilinear and curvilinear buildings, as only few rectilinear buildings have been encountered which are often highly disturbed or have been completely cleared out. However, the internal space of one rectilinear building has been well preserved, in which no clear internal spacing of activities can be recognized. This building probably functioned as a communal cooking facility.

During the Late Chalcolithic, the spatial configuration of buildings is less well defined, since a higher number of buildings probably served as served as special function buildings. However, most buildings still functioned as houses in which a clear division of space can be recognized. All entrances are arranged in a similar way, in which a pivot stone is situated to the left while entering and an edge-set stone is placed in between the entrance and the hearth. Thus, the door opens to the left while entering. Almost no features have been encountered in segment 2, while a larger number of features were situated in segments 1 and 3. Partition ridges became largely out of use and a platform hearth was still situated

in the centre of the building. Therefore, it seems that during the Late Chalcolithic, the sleeping and living area is moved to the back while the working and storage area was situated on both sides of the entrance, as can be recognized in Middle Chalcolithic Lemba-*Lakkous*. Furthermore, in buildings that served as storage facilities or special function buildings, most features were situated in the back of the building, mainly in segment 2.

To what degree is a differentiation of the layout of Chalcolithic buildings visible?

Although a clear formalized spacing of activities can be recognized throughout the Chalcolithic, some degree of differentiation in the layout of Chalcolithic buildings can be recognized as well. During the Middle Chalcolithic little differentiation is present among buildings. In several buildings an additional hearth has been encountered besides the central hearth. It has been stated that these additional hearths are typologically and functionally different from central hearths, but this is untrue. Furthermore, rectilinear building 1161 is the only building that shows a clear difference in layout as this building served as a communal cooking area. Additionally, a differentiation can be recognized in the layout of buildings at Lemba-*Lakkous*, as has been stated above. Although a clear division of space can be recognized in these buildings also, the activity areas are oriented in a different manner than the buildings at Kissonerga-*Mopshilia* and Kissonerga-*Mylouthkia*. Furthermore, although one good example for a rectilinear special function building has been encountered, it cannot be argued that rectilinear buildings were only used as such as little differentiation between rectilinear and curvilinear structures is apparent.

During the Late Chalcolithic, a larger number of special function buildings can be recognized. These mainly functioned as storage facilities and food processing areas, and were both rectilinear and curvilinear in shape. Furthermore, the 'Pithos House' seems to be conform with the standard spatial arrangements, but large quantities of storage vessels were encountered here. Although this building probably functioned as a house as well, its primary function was the storage of high quantities of liquids. However, it can however not be excluded that in its final phase, the 'Pithos House' was exclusively used for storage. Lastly, a clear formalized spacing can be recognized at Chlorakas-*Palloures* building 1 as well, but its features are much larger than have been encountered in other buildings. Apart from the dimensions of the building itself, there is no clear explanation for the large size of these features.

Main research question:

What is the degree of differentiation between Chalcolithic buildings, and how can this be explained?

The typical Chalcolithic building is a circular, free standing and single-roomed structure, in which a formalized internal spacing can be recognized. This consists of three segments or activity areas which are all placed around a central hearth. Furthermore, the entrance of the majority of the entrances faces south or southeast. Although these aspects, or some of them, can be recognized in a large number of buildings, a high degree of differentiation is present as well. Chalcolithic buildings differ highly in size, building elaboration, special features and internal layout. Furthermore, in both the Middle and Late Chalcolithic, rectilinear structures have been encountered as well. Not only can differentiation among buildings be identified on the site level, but clear differences can be recognized between sites as well, as is best illustrated by the sites of Kissonerga-*Mopshilia* and Lemba-*Lakkous*. This differentiation is in part due to the function of these buildings, but several high-status buildings have been identified as well. Functional differences can be best recognized in the orientation of buildings and their internal layout. Although a strong preference is visible for entrances facing either south or southeast, a number of buildings differ from this orientation as well. In the majority of these buildings, the entrances have been placed differently for functional reasons. In one instance at Kissonerga-*Mosphilia* the primary south oriented entrance was blocked due to the construction of a paved track, and therefore moved, while at Kissonerga-*Mylouthkia* all buildings face north to prevent flooding. Furthermore, when no standardized internal layout in a building could be recognized, is most often did not function as a house. These buildings were rather used as storage facilities and/or communal food processing and preparation facilities. Both rectilinear and circular buildings functioned as such. Buildings differing in terms of building size, building elaboration and special features always seem to be conform to the spatial arrangements of the typical Chalcolithic house. Both in the Middle and Late Chalcolithic these buildings can be associated to differences in access to food items and craft-produced items. Therefore, it can be argued that these are high-status buildings within a hierarchically arranged settlement. In sum, a large degree of differentiation is visible among Chalcolithic buildings, which can best be explained by differences in status and function.

Abstract

The aim of this research is to investigate the degree of differentiation among Chalcolithic buildings. In this research project, several key sites of the Chalcolithic are under investigation, including Lemba-*Lakkous*, Kissonerga-*Mylouthkia*, Kissonerga-*Mosphilia* and Chlorakas-*Palloures*. The data provided by the excavations at Chlorakas-*Palloures* have not been incorporated in any research until now. Although the Chalcolithic period has been extensively studied and the excavated sites have been recorded in great detail, little attention is given to the architectural features, and only the "special" structures are examined in great detail.

It has been argued that Chalcolithic houses, their spatial configuration and internal activity zones are highly standardized. Also, a marked differentiation can be recognized in both house sizes and building elaboration. However, the Chalcolithic house is always presented as a homogenous structure, with little regard for differentiation or diversity in these structures. This model relies heavily on several parade ground examples, such as the 'Red Building' and the Kissonerga 'Building Model' and buildings that do not fit in this model, have not been considered. The emergence of building differentiation has first been identified during the Middle Chalcolithic, and it has been argued that this variability resulted from ritual control. For the Late Chalcolithic, the evidence for building differentiation is illustrated by the 'Pithos House' of which it has been argued that the differentiation is a result of socio-economic organisation. Interestingly, these buildings are all conform to the internal arrangements of the standard Chalcolithic house. Thus, for both periods building differentiation has been explained to be associated to social competition.

In order to scrutinize this hypothesis, the concept of house societies has been applied, in which mainly has been focussed on the buildings and the features therein. Whether settlements are hierarchically arranged can be inferred though house size, building elaboration, differences in food items, access to craft-produced items and burial practices. Therefore, it should be investigated whether we can recognize a difference in activities, building size and building elaboration, in order to identify these high-status buildings. A large dataset has been created combining all the architectural data of the four sites, in order to systematically study, compare and analyse them together.

It has been concluded that a high degree of variability is present among Chalcolithic buildings, which can be both recognized on the site level and between sites. This differentiation is due to differences in function, but several high-status buildings have

been identified also. Buildings in which a difference in the internal layout could be recognized did not function as houses but served as storage facilities and communal food processing and preparation buildings. Both curvilinear and rectilinear buildings served as such. Buildings which differed in terms of building size, building elaboration were conform to the standard spatial configuration and served primarily as houses. In these buildings evidence for access to different food items and craft-produced items has been encountered. Therefore, it can be argued that these buildings were high-status buildings.

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Appendix I: Building sizes and surface areas of the Chalcolithic buildings under investigation

Site	Period		Curvilinear		Rectilinear		Combined	
			Diameter (m)	*Surface area (m^2)*	*Diameter (m)*	*Surface area (m^2)*	*Diameter (m)*	*Surface area (m^2)*
Kissonerga-Mylouthkia	**Middle Chalcolithic**	*Mean*	6	28,3	0	0	6	28,3
		Min.	6	28,3	0	0	6	28,3
		Max.	6	28,3	0	0	6	28,3
	Late Chalcolithic	*Mean*	0	0	0	0	0	0
		Min.	0	0	0	0	0	0
		Max.	0	0	0	0	0	0
Kissonerga-Mosphilia	**Middle Chalcolithic**	*Mean*	9	49	4,6	11,3	8,1	41,5
		Min.	5	13,2	4,4	9,1	4,4	9,1
		Max.	14,5	132,7	5	12,6	14,5	132,7
	Late Chalcolithic	*Mean*	6	21,85	0	0	6	21,85
		Min.	3,9	6,8	0	0	3,9	6,8
		Max.	9,1	50	0	0	9,1	50
Lemba-Lakkous	**Middle Chalcolithic**	*Mean*	5,2	15,1	3,9	8,5	5	15
		Min.	3,4	3,1	3,2	6	3,2	3,1
		Max.	7,5	38,5	4,5	11	7,5	38,5
	Late Chalcolithic	*Mean*	6	22,4	0	0	6	22,4
		Min.	4	9,6	0	0	4	9,6
		Max.	8,5	40,7	0	0	8,5	40,7
Chlorakas-Palloures	**Middle Chalcolithic**	*Mean*	0	0	0	0	0	0
		Min.	0	0	0	0	0	0
		Max.	0	0	0	0	0	0
	Late Chalcolithic	*Mean*	6,6	24,4	0	0	6,6	24,4
		Min.	4	7	0	0	4	7
		Max.	14	113	0	0	14	113
All sites combined	**Middle Chalcolithic**	*Mean*	7,4	34	4,3	10,2	6,8	29,7
		Min.	3,4	3,1	3,2	6	3,2	3,1
		Max.	14,5	132,7	5	12,6	14,5	132,7
	Late Chalcolithic	*Mean*	6,1	22,7	0	0	6,1	22,7
		Min.	3,9	6,8	0	0	3,9	6,8
		Max.	14	113	0	0	14	113