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Neolithic settlements and houses in north-western Turkey and northern Greece

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I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

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Abstract

The present dissertation was written as part of the MA in the Black Sea and Eastern Mediterranean Studies at the International Hellenic University.

At the beginning of the Neolithic period, the first permanent settlements were formed and new relations were developed between the communities and the landscape. The new Neolithic way of life must have affected indigenous foragers who interacted with early farmers that settled in the Northwestern Anatolia. It seems that from the middle of the 7th millennium onwards, a mixture of newcomers and existing local population resulted in a gradual transition from 'Mesolithic' to 'Neolithic' societies that led to the decline of the hunter-gatherer lifestyle that had been previously a characteristic factor of the region.

The new way of life was followed by social changes in Neolithic societies. Aspects of the social organization of the Neolithic communities and the relationships between their members are considered to be inscribed in the intra-site organization of the settlements and the architectural form of the houses. The aim of this dissertation is to explore and present the development of the Neolithic house from the subterranean structures (pit-houses) to the above the ground buildings, as evidenced in the archaeological record.

The study focuses on the area of the Marmara region, especially on the area of Northwest Anatolia, where long lasting settlements were discovered that show the existence of subterranean and above-ground houses. In addition, Neolithic settlements in the regions of Aegean Thrace, Eastern, and Central Macedonia are examined. The emphasis of the analysis is put on the settlements, their intra-site organization, and the architecture.

For the purpose of this study English, Turkish and Greek bibliography was used, as well as information from the internet.

Keywords: Neolithic settlements, Architecture, Marmara region, Pit-houses, Above-ground houses.

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This dissertation would not have been completed without the constant support and patience shown by my husband, our children and the rest of my family.

Through it all ... Your yoke is easy and Your burden is light..

St Matthew 11:30

Preface

At the beginning of the Neolithic period, the first permanent settlements were formed and new relations were developed between the communities and the landscape. The new Neolithic way of life must have affected indigenous foragers who interacted with early farmers that settled in the Northwestern Anatolia.

The new way of life was followed by social changes in Neolithic societies. Aspects of the social organization of Neolithic communities and the relationships between their members are considered to be inscribed in the intra-site organization of the settlements and the form of the houses. The aim of this dissertation is to explore and present the development of the Neolithic house from the subterranean structures (pit-houses) to the above the ground buildings, as evidenced in the archaeological record.

The study focuses on the area of the Sea of Marmara and the settlements in both the eastern part of Northwestern Anatolia ('Fikirtepe Group'), and the Eastern Thrace (Hoca Çeşme, Aşağı Pınar, and Toptepe). In addition, Neolithic settlements in the regions of Aegean Thrace, Eastern and Central Macedonia will be examined. The emphasis will be on the settlements, their intra-site organization and the architecture.

The research focuses on a number of questions related to the following elements:

- The preferences to specific landscapes for establishing the settlements.
- The two main types of settlements that have been identified and recorded in the studied area, tell and the flat-extended sites.
- The chronological appearance of pit-houses along with the above-ground ones in the area under study during the Neolithic period and the changes through time regarding the preferences in the type of buildings.
- The coexistence of subterranean and above-ground structures.

- The forms of the buildings and their correlation to the type of settlements in order to explore the possible interrelationship.

The first chapter defines the area under study, the chronological issues, environmental setting, the opinions related to the Neolithisation of the area of Northwestern Anatolia. The evidence on the interaction of farmers with the mesolithic populations in the area is briefly presented, followed by the occurrence of different settlement and houses types, the organization and the use of space and burial practices.

In the second chapter representative settlements from Northwestern Anatolia and the Eastern Thrace are individually presented with an emphasis on the data related to the settlement organization and the architecture.

In third chapter, selected settlements from northern Greece (Aegean Thrace, East, and Central Macedonia) that represent the whole range of the settlements' and architecture types were discussed. The settlements from northern Greece are presented following the geographical order (from east to west).

By examining the above issues, the dissertation thesis reaches some preliminary conclusions about the development of the Neolithic communities in the Marmara region and North Greece, underlining the similarities and the differences between the regions in order to put forward the issue of the social organization of Neolithic communities in the area under study, as evidenced from the architectural remains.

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Introduction

Over the last two decades, the excavations carried out in the Marmara region have provided wealth of information for the Neolithic period in the area for which until recently little was known (Fig. 1, 2).¹ For many scholars, this area was of great importance for understanding the process of Neolithisation and the spread of farming into Europe as it was regarded “*a critical contact zone in Balkan-Anatolian relations*”.² The finds disproved this theory, and in fact showed that the region was a stumbling area for the spread of the Neolithic way of life to the Balkans.³ More specifically, the Neolithic settlements that were established in the territory of Bosphorus, following the route of the river Sakarya until the Küçük Çekmece lagoon was not found further North (Fig. 1-3).⁴ For unknown reasons the wave of migrant farmers that settled in the area for almost 500 years abandon their villages about 6000-5900 BC and moved in sites that are still not found.⁵ The group of the settlements in the territory of Bosphorus (Fikirtepe, Pendik, and Yenikapi), along with the settlements located south of Marmara Sea in the territory of Bursa (Aktopraklık, Barcin Höyük, Menteşe, and Ilipinar) were named ‘Fikirtepe Culture settlements’ because of the similarities in their material culture. In Eastern Thrace, on the contrary, only three settlements, (Hoca Çeşme, Aşağı Pınar, and Toptepe) were found, which seems to have developed local somewhat different from the ‘Fikirtepe Culture’ group.

The excavations in Marmara Region brought to light rich evidence for the spatial organization of the settlements and the architecture allowing the study of intra-communal social organization and the relations between the communities.⁶ The excavations have also provided information for the sequence of habitation of the settlements in different periods and encouraged further research of the relations between Northwest Anatolia and the Balkans.⁷

¹ Thissen 1999, 29; Lichter 2005, 59; Özdoğan E. 2005, 15.

² Thissen 1999, 29; Özdoğan E. 2005, 15.

³ Thissen 1999, 29; Özdoğan M. 2005, 15; Yakar 2017, 4.

⁴ Thissen 1999, 29; Özdoğan M. 2005, 15; Krauß, 2011, 3; Yakar 2017, 4.

⁵ Krauß, 2011, 3; Özdoğan E. 2016, 267.

⁶ Karul 2011b, 63.

⁷ Lichter 2005, 59.

This study will focus on the Neolithic settlements in the area of the Sea of Marmara and the Eastern Thrace. In addition, Neolithic settlements in the regions of Aegean Thrace, Eastern and Central Macedonia will be examined. The emphasis will be on the settlements, their intra-site organization and the architecture.

In this geographical area one may note a differentiation of chronological periodisation and the definitions of the phases of the Neolithic period. For reasons of clarification this study follows the absolute dating wherever it is possible for the cases of both Northern Greece and the regions of North-western Turkey. In addition, there are difficulties in synchronizing the phases of the settlements. These differentiations are presented in greater detail on the Tables 1, 4, 6. The chronological system that this study follows is the one that is adopted by the excavators of each particular settlement, which is presented on the Tables 1, 2, 6 and 7.

Chapter 1: Defining the region under study

1.1 The chronology

Due to the different definitions that are used when defining the same chronological periods of the Neolithic and Chalcolithic Period, in order to avoid any confusion in this study the following system is accepted (Tables 1, 2, 6):

North-western Turkey:

- a) Initial Neolithic for sites earlier than 6500 BC,
- b) Middle-Late Neolithic (M-LN): 6500–6200 BC,
- c) Late Neolithic (LN): 6200–5900 BC,
- d) Early Chalcolithic (ECH): 5900-5600 BC,
- e) Early – Middle Chalcolithic transition (E-MCH):5600-5400 BC,
- f) Middle Chalcolithic (MCH): 5400-4900 BC.

In the case of the Greek settlements this study follows the sequences as illustrated in Table 2 and 7:

- a) Early Neolithic (EN) 6700/ 6500 - 5800/ 5600 BC,
- b) Middle Neolithic (MN) 5800/ 5600 - 5400/ 5300 BC,
- c) Late Neolithic (LN) 5400/ 5300 - 4700/ 4500 BC,
- d) Final Neolithic (FN) 4700/ 4500 - 3300/ 3100 BC.

1.2 Environmental Setting

Northwestern Turkey encompasses two different geographic units, Eastern Thrace and Northwestern Anatolia, separated by the Sea of Marmara and the two long but narrow water channels, the Dardanelles and Bosphorus.⁸ Among these, Eastern Thrace, an extension of Southeastern Europe, is a peninsula where the Aegean and the Black Sea come close to each other. In other words, it is the point where Europe, Asia, the Mediterranean and the Black Sea meet. In terms of human history, the region represents the crossroads of four cultures Anatolian, Aegean, Balkan, and Black Sea/Pontic cultures.

By the end of Pleistocene climatic conditions and paleoenvironment changed dramatically. The end of ice age caused the rise of the sea level and many rivers and lakes were formed. During the Neolithic period, the Marmara Sea was just a big lake and the water level was much lower than nowadays. The water from the side of Black Sea started to intrude into the Sea of Marmara around the late 8th or early 7th millennium.⁹ The intrusion of the sea water into the Marmara through Dardanelles took time but eventually happened around 5500 BC.¹⁰ In the Aegean Thrace, coastline have changed significantly with sea water covering large areas, while rivers brought alluvial deposits, which altogether has affected the visibility of archaeological sites.¹¹ A large gulf was formed in the deltaic plain of Meriç/Maritsa/Evros river.¹²

In Eastern Thrace, the Istranca Mountains (Fig. 1, 2) extend parallel to the Black Sea coastline and they became a natural and a cultural barrier between the marine environment and the endemic steppe of inner Thrace. The mountain range was rich in various rocks and minerals including copper, gold, and iron.¹³ The Anatolian side of the Marmara is rich in all sorts of rocks and minerals, including flint, metamorphic and igneous rocks, and copper.¹⁴ Various depressions on the eastern part of the region become lakes, such as Sapanca and İznik that remain as such until today. Others

⁸ Erdogu 2001, 26.

⁹ Özdoğan M. 2013, 168-169.

¹⁰ Erdogu 2001, 26; Düring 2011, 18; Özdoğan M. 2013, 169; Efstratiou 2016, 112-113; Reigruber 2016, 93.

¹¹ Ασλάνης 1992, 67; Ammerman *et al.* 2008, 141; Efstratiou 2016, 112-113.

¹² Erdogu 2001, 21; Düring 2011, 18; Özdoğan M. 2013, 169; Efstratiou 2016, 112-113.

¹³ Erdogu 2001, 19; Özdoğan M. 2013, 169; Reigruber 2016, 93.

¹⁴ Özdoğan M. 2013, 170.

including Yenişehir have sealed through time, turning into alluvial plains. The area to the south of the Sea of Marmara, where the Neolithic settlements of Ilipinar, Mentese, Burcin Hoyuk and Aktopraklik are located, is characterized by the large plain of Bandırma, two lakes [Ulubat (Apoloyont) and Manyas] and two mountains (Uludağ and the Kazdağları).¹⁵

1.3 The spread of the Neolithic way of life

According to archaeological finds the Neolithic way of life was established in the areas of the Middle East and Central Anatolia by the ninth millennium BC. These were the areas of 'Primary' Neolithisation where the Neolithic emerged and is regarded the core area.¹⁶ It took two millennia that through the migration of population from the core area the Neolithic settlements appeared in 'Secondary' Neolithisation areas of Pisidian, Lake District, Aegean Turkey, and the Marmara Region, around 6500 BC.¹⁷ The spread of the Neolithic way of life was not a simple process. It was a combination of simultaneous immigration, infiltration, acculturation etc.¹⁸

The main characteristics of the Neolithic way of life is the introduction of farming and the sedentary life testified by cultivated plants, domesticated animals, ground stone artifacts, pottery, including figurines and prestige or cult objects as well as architecture, the arrangement of settlements.¹⁹ Early farmers with their way of life left characteristic traces in the landscape that is significantly different from the "settlements" that preceded them.²⁰

According to M. Özdoğan, there were two Neolithic groups that have followed two different paths (Fig. 4).²¹ The first, that he named the 'Eastern Group', took the land route through the valley of the Sakarya River and settled around 6500 BC in the north-eastern part of the Sea of Marmara where Fikirtepe culture developed. The other, labeled as 'Western Group', was according to M. Özdoğan more dynamic from

¹⁵ Özdoğan M. 2013, 170.

¹⁶ Özdoğan M. 2005, 17; Özdoğan M. 2011a, 415; Brami 2014b, 14; Özdoğan E. 2015, 33.

¹⁷ Düring 2011, 125; Brami 2014b, 14; Özdoğan E. 2015, 33; Özdoğan M. 2015, 143.

¹⁸ Özdoğan M. 2005, 26.

¹⁹ Özdoğan M. 2005, 23; Özdoğan M. 2011a, 419; Özdoğan M. 2013, 190; Brami 2014b, 14-15; Orfanidou 2016, 5.

²⁰ Kotsakis 1999, 67; Boric 2008, 109.

²¹ Özdoğan M. 2011a, 422-426; Özdoğan M. 2013, 193-194; Özdoğan M. 2014, 36.

the previous group, headed to the west along the coastline of Aegean and around 6400 BC spread in Western Turkey, Eastern Thrace, Greece and the Balkan.²² These two groups were farmers but show differences in cultural aspects.²³ Paleogenetic studies confirm that farmers in western Turkey, Aegean including north Greece have interacted with one another as they are similar in genetic term.²⁴

1.4 Neolithic settlements in Northwest Anatolia

The landscape and the environment must have been of major importance for early farmers for settling down and according to the available data, they have established their settlements exclusively on alluvial deposits, either close to the sea and lakes or rivers. Such places rich in water were particularly suitable for agriculture. Springs were found near most of the sites.²⁵

The Neolithic settlements have been concentrated in two areas, in the coastal areas on either side of Bosphorus (Marmara Sea), and the plain sites in the hinterland near the lakes Iznik and Ulubat and the ancient Yenişehir Lake.²⁶

1.5 Epipalaeolithic and Mesolithic background

The evidence for the Mesolithic population is still extremely scarce. They must have lived mainly between valleys and mountains.²⁷ Their traces were found in caves, but mostly in open-air sites, while in rare cases their dwellings have also been found. Such is the case of Mesolithic open-air settlements in the area of Danube Gorges where subterranean structures were found. Pit-houses have also been attested in other areas (Pınarbaşı).²⁸

²² Özdoğan M. 2013, 195-197.

²³ Özdoğan M. 2013, 194; Özdoğan M. 2015, 143.

²⁴ Hofmanová 2016, 124-125; Hofmanová *et al.* 2016; Orfanidou 2016, 4.

²⁵ Erdogu 2002, 92; Παπαδόπουλος 2002, 96; Yakar 2017, 3.

²⁶ Karul 2011b, 58; Düring 2011, 180; Weninger *et al.* 2014, 21.

²⁷ Guilane, Manen 2007, 23; Boric 2008, 114-119; Düring 2011, 31-38.

²⁸ Boric 2008, 114; Düring 2011, 43.

During the Epipalaeolithic period, the Black Sea and the Sea of Marmara were lakes and Dardanelles and Bosphorus were blocked.²⁹ In this area, Mesolithic hunters and gatherers were present when the first Neolithic settlers arrived, which is not a surprise, given the richness of the environment in food sources (Fig. 1). Their presence is documented mainly by the lithic assemblages such as microlithic chipped stone tools found in some locations in the Marmara region, although none of them has been excavated.³⁰ A group of such Mesolithic camps, known as the 'Ağaçlı group', is located in the vicinity of Constantinople, nearby the Sea of Marmara.³¹ Other local hunter-gatherers groups were located near other lakes of the region and took on the farming way of life.³² According to the evidence from the Middle-Late Neolithic villages like Aktopraklık C, local foragers must have merged with the Neolithic groups (Fig.1, 2).³³

The archaeological evidence from the region of Bosphorus shows that the Neolithic culture was formed from local Epipaleolithic tradition and that brought by early farmers. Different populations, especially at the beginning, with their different cultural characteristics while merging, have formed a new culture.³⁴

Neolithic communities of Bosphorus region formed a group with distinct characteristics, which M. Özdoğan named 'Fikirtepe Culture' from the eponymous archeological site, located in the Kadıköy district of İstanbul.³⁵ Various phases of Fikirtepe culture are defined, mostly on the basis of pottery attributes and other finds discovered at sites uncovered in this area, such as Pendik, Ilıpınar, Yarımburgaz and Menteşe Höyük.³⁶ The Fikirtepe culture was established in the Marmara Region, probably by immigrating populations passing through the valley of the river Sakarya.³⁷ Fikirtepe settlements occupy the territory in eastern and southern part of the Marmara and Bosphorus up to the Küçük Çekmece lagoon but not further north (Fig. 2, 3).³⁸ The earliest Neolithic farmers of the 'Eastern' group in this area were found at

²⁹ Erdogu 2001, 30.

³⁰ Düring 2011, 40-42; Özdoğan M. 2013, 192; Çakırlar 2013, 60. Karul 2011b, 58; Krauß, 2011, 5.

³¹ Gastov, Özdoğan M. 1994, 100; Özdoğan, M. 1997, 17; Düring 2011, 40; Özdoğan M. 2011c, 30.

³² Karul 2011a, 36; Karul 2011b, 57.

³³ Karul 2011a, 36; Özdoğan E. 2016, 268-269.

³⁴ Karul 2011b, 63.

³⁵ Çilingiroğlu 2009, 355; Karul, 2011b, 57.

³⁶ Çilingiroğlu 2009, 355; Düring 2011, 183; Çakırlar 2013, 60.

³⁷ Özdoğan M. 2013, 194.

³⁸ Özdoğan M. 2013, 194; Özdoğan E. 2017, 19; Özdoğan M. 2014, 36-37.

Barcin, dated between 6600 and 6500 cal BC,³⁹ at Menteşe and Aktopraklik C, between 6400-6300 cal BC.⁴⁰

1.6 Types of Settlements

In the area of South-East Europe two types of settlements, flat extended and tells, have been identified, which are also encountered in the regions of Near East.⁴¹ In some regions of the Balkans tell settlements are more often encountered, while in others flat-extended settlements are more frequent.⁴²

The main characteristic of the extended settlements is their large extend and the low thickness of the deposits. On the contrary, tell settlement have small extend and thick deposits.⁴³ These two types of settlements show a differentiation in terms of intra-site organization and the use of space. Tell settlements are the result of constant habitation in one place, for a long period of time, while constantly rebuilding on top of the previous habitation phases. Tell settlements were usually inhabited for longer period of time than the flat-extended ones.⁴⁴ In flat-extended sites, conversely, the houses were not built one above the others but on different spots and thus the settlement was shifted horizontally.⁴⁵ Tells being visible in the landscape are more easily located than the flat-extended settlements (Fig. 5).⁴⁶

In the region of Northwest Turkey, in the coastal area, the settlements were flat-extended. They were discovered accidentally, due to some major work projects, like the railway projects at Fikirtepe and Pendik (Fig. 1, 2). Additionally, the work projects that were taking place during the Marmaray Project, which was an effort to connect the east and the west sides of Bosphorus via an underwater tunnel, brought to light the settlement of Yenikapi.⁴⁷ During the construction of such projects, submerged Fikirtepe settlements and burials were revealed. Similar endeavors,

³⁹ Özdoğan M. 2013, 193; Özdoğan E. 2015, 36.

⁴⁰ Karul 2011b, 57; Karul 2017, 8.

⁴¹ Kotsakis 1999, 67-70; Rosenstock 2006, 115.

⁴² Stevanovic 1997, 343; Rosenstock 2006, 115.

⁴³ Erdogu 2001, 87-88; Τζεβελεκίδη 2002, 26; Παππά 2008, 25; Αρβανιτάκη 2012, 90-91.

⁴⁴ Rosenstock 2006, 119.

⁴⁵ Kotsakis 1999, 67-68. Orfanidou 2016, 9; Ούρεμ-Κώτσου, Κώτσος χ.χ., 1.

⁴⁶ Rosenstock 2006, 117.

⁴⁷ Karul 2011b, 57-58; Brami 2014b, 101.

combined with an underwater investigation in the region of Sinop in the Black Sea, provided evidence of a possible coastal Neolithic sites that were covered by water after the rise of the sea level around 7500 BP. In addition, a good number of sites might be buried bellow thick alluvial deposits⁴⁸ caused by the fluctuation of the sea level. All the above-mentioned sites were found accidentally, which allows to be assumed that similar settlements may exist in the area, covered by either water or alluvial deposits.⁴⁹ In the plain area, however, known settlements belong mainly to the tell type of site.⁵⁰

There are differences in architecture between the settlements in the plain, which are situated around the İznik Lake, such as Ilıpınar and Menteşe, and the coastal settlements that are near the Bosphorus, like Fikirtepe, Pendik, and Yenikapı (Fig. 1, 2).The architecture in the coastal settlements is characterized by pit-huts of circular plan with sunken floors, while their residents were dependent on marine resources for living.⁵¹ The settlements that were found in the areas of the inland plains are characterized by rectilinear above-ground buildings, although they also appear to have initially round subterranean structures (e.g., Barcin).⁵²

Aktopraklik settlement, for example, that belong to the group of settlements located in the plain, in its initial phase (Aktopraklik C) has the characteristic architecture of round, wattle and daub pit-huts (Fig. 14-16).⁵³ It has been suggested that the first occupation in Aktopraklik C consisted of local groups which have adopted farming and stock breeding.⁵⁴ The Aktopraklik B settlement that was established later, has adopted the rectangular architecture with houses built with mudbricks, showing that different architectural traditions could replace one another within the same settlement.⁵⁵

The co-existence of the semi-subterranean round buildings along with the rectangular houses in the Barcin Phase VI d1 settlement (Fig. 20) and especially the

⁴⁸ Erdogu 2001, 26-27; Lichter 2005, 60.

⁴⁹ Lichter 2005, 60; Düring 2011, 18.

⁵⁰ Karul 2011b, 58; Karul 2017, 10.

⁵¹ Çilingiroğlu 2009, 355-356; Çakırlar 2013, 62; Weninger *et al.* 2014, 21; Özdoğan E. 2015, 40; Gerritsen, Özbal 2016, 206; Özdoğan E. 2016, 268; Rosch 2017, 4.

⁵² Çilingiroğlu 2009, 355.

⁵³ Karul 2011b, 59-60; Özdoğan E. 2015, 40; Karul 2017, 10; Rosch 2017, 4.

⁵⁴ Karul 2011a, 36.

⁵⁵ Gerritsen, Özbal 2016, 206.

rectangular semi-subterranean structure (Fig. 24, 25) from the phase VI d2 of the same settlement indicate that divergent architectural traditions were practiced at the same time in the same settlement. Therefore, the settlement of Barcin Höyük shows that this mixing of traditions had already begun from the earliest stages of farming communities in the Eastern Marmara Region.⁵⁶ Meaning that even between the settlements of the Fikirtepe culture there is no absolute rectilinear house development.⁵⁷ Semi-subterranean (pit-huts) and above ground structures, coexisted in Northwest Anatolia throughout 6600-5900 BC.

1.7 Houses and Household

The house is an inseparable part of the Neolithic way of life, characterized by permanent habitation that shape both, the physical and the social aspects of settlements' organization. The houses form settlements and transform space into place.⁵⁸ They could be constructed as solid and enduring,⁵⁹ but could also be more flimsy and built with less firm materials. Except for providing the shelter to small groups or individuals and ensuring more practical aspects of their life (e.g., eating, drinking or sleeping), houses are also places where many aspects of social life are taking place and thus has the potential to provide information about the way the communities were structured.⁶⁰ In that way, a house is more than a building, it becomes a household that includes many things together as Souvatzi pointed out⁶¹: *“a social group; the network of tasks, roles, responsibilities, and relationships (internal and external) that this group encompasses; and the materiality, spatiality, and temporality through which it exists and is defined. It is a pattern of social, economic, and ritual activity, and a system of social relations, economic arrangements, cultural meanings, and moral and emotional patterns”*.

⁵⁶ Gerritsen, Özbal 2016, 206.

⁵⁷ Παππά 2008, 317.

⁵⁸ Stevanovic 1997, 341; Brami 2014a, 161; Naumov 2013, 65.

⁵⁹ Bailey 1990, 28; Stevanovic 1997, 341.

⁶⁰ Stevanovic 1997, 335; Bailey 1990, 28; Halstead 1999, 79; Brami 2014 a, 162-163.

⁶¹ Souvatzi 2008, 1.

According to Boric, the 'house society' remained the core of social organization throughout European prehistory.⁶² It was associated with a physical building in the Neolithic and had a part in shaping the moral standing of households and allowed the social reproduction, with households consisting of non-biologically related members with possibly different cultures. The house becomes a symbol of the Neolithic 'way of life'.⁶³ According to Bailey,⁶⁴ the house is a living entity "*which lives, dies, are buried or cremated and its spirit is remembered after its death*".

1.8 The Neolithic Architecture

Architecture is shaped by people and thus it mirrors the social organization, the perception of space prevailing within their society and include the elements of their environment.⁶⁵ Though it cannot provide us with a whole picture of the above-mentioned issues, the architecture of the settlement can indicate the cultural identity, the social structure, based on the organization of the buildings and other features within the settlement. The organization of space, through the way the common spaces are composed, can provide hints to the way the settlement worked.⁶⁶ On the basis the structures were arranged within the occupation, of their size and the way they were constructed, a better understanding of the relationships in the community could be achieved.⁶⁷

In the early Neolithic settlements, pit-houses are usually encountered, which consist of a shallow pit dug in the ground that forms the underground part. The upper part may have been constructed of organic materials such as branches and reeds or straw and covered with hides.⁶⁸ Due to their simple construction and usually small size, they are often considered as temporary or less permanent houses or seasonal residencies.⁶⁹ They usually preceded the above-ground rectangular structures. According to the archaeological record from many geographical regions, these small

⁶² Boric 2008, 133.

⁶³ Stevanovic 1997, 335; Boric 2008, 122.

⁶⁴ Bailey 1990, 28.

⁶⁵ Boric 2008, 111.

⁶⁶ Boric 2008, 113.

⁶⁷ Boric 2008, 113; Αρβανιτάκη 2012, 91.

⁶⁸ Παππά 2008, 323; Urem- Kotsou, Kotsos 2018, 226.

⁶⁹ Bailey 2000, 41-42; Παππά 2008, 26, 314-316, 378; Halstead 1999, 80.

rural communities of pit-dwelling people, developed into long-lasting villages of more substantial and larger built structures built on top of the ground surface.⁷⁰ Pit-dwellings are found mainly in flat-extended type of settlements, which are encountered in northern Greece and the Balkans, but also in the region of Marmara.

Period between 6500-6000 BC

Archaeological evidence from recently excavated settlement of Barcin show that during the 6500-6200 BC, the architecture evolved from pit-house buildings to the rectangular above-ground (Tab. 1). On the contrary, the Menteşe settlement, dated approximately to the same period (6400-6000), as well as the later settlement of Ilipinar (6000-5675 BC) contained only remains of rectangular above-ground buildings (Tab. 1, 3, 5)⁷¹.

Other settlements in the coastal area of Northwest Anatolia, such as Fikirtepe, Pendik and recently uncovered Yenikapi have only pit-hut structures. As they were inhabited for almost 500 years it appears that they were permanent settlements. According to Erdoglu, E. Ozdogan and other researchers, these settlements were of local Epipaleolithic communities that have adopted the Neolithic way of life.⁷²

Taking into consideration that there is no evidence of such type of building in any settlement found in the core zone or the other areas of the Northwest Anatolia during that period, in combination with the common chipped stone technology attested both in pre-Fikirtepe culture sites (Barcin VIe), and all Fikirtepe-Culture sites, one tend to accept the suggestion that this kind of settlements might be the result of cultural interaction between the earliest farming societies coming into the region and the local communities.⁷³

The simple pit-huts that were found in Fikirtepe, Pendik, and Aktopraklık C, were of various sizes, ranging from 1-1.5 m to 3-6 m in diameter, the latter being more common.⁷⁴ These huts were usually constructed in wattle and daub, with the use of post holes along the edge of the pit.⁷⁵ They had an earthen floor that was occasionally

⁷⁰ Παππά 2008, 314-316.

⁷¹ Rosch 2017, 4.

⁷² Erdogun 2001, 222; Lichter 2005, 66; Karul 2011a, 36; Özdoğan E. 2017, 20.

⁷³ Özdoğan M. 2007, 21; Karul 2011b, 58; Çakırlar 2013, 61; Özdoğan E. 2015, 43; Gerritsen, Özbal 2016, 206.

⁷⁴ Roodenberg 1987, 204; Çilingiroğlu 2009, 356; Karul Avci 2011, 2.

⁷⁵ Düring 2011, 180.

plastered with a thin layer of clay and sometimes contained an oven or a hearth.⁷⁶ Hearths and ovens were situated in open spaces as well.⁷⁷ Pit-huts were usually arranged in clusters around the courtyards with paved floors. Among them, there was enough space for moving around. As the buildings were usually lacking domestic structural elements the daily activities, including food preparation, storage and workplaces must have taken place in the courtyards between them.⁷⁸ According to their dimensions, it could be assumed that the smaller ones could have hosted just two or up to three people, while the larger ones a small group of the family size.⁷⁹ Some scholars suggest that these dwellings were used as a shelter rather than a fully equipped house (Fig. 17).⁸⁰

In the region of Marmara, from the beginning of the 6th millennium the rectangular house was adopted in all uncovered settlements.⁸¹ It is interesting to note that both the Fikirtepe and the Pendik settlements were abandoned at the beginning of the 6th millennia (6000-5900 Cal BC). This leads some scholars to conclude that settlements which did not evolve their architecture, by implementing the rectangular shape for their construction, did not last long.⁸² Thissen L. underlined *“that the Neolithic, ‘Fikirtepe,’ sites on the coast were soon abandoned after an initial phase of settlement involving some form of farming”*.⁸³ Wattle and daub technique, however, prevailed in both coastal and plain sites together with other trends.⁸⁴

Period between 5600-5400 BC

Period of change in architecture is observed again in later phases of the sites Ilipinar VB, Aktopraklik and Aşağı Pınar, dating approximately in 5600-5400 BC, when circular or oval hut-like structures were built, instead of rectangular above-ground ones (Fig. 24, 41).⁸⁵ This change some scholars have related to the arrival of new

⁷⁶ Özdoğan E. 2015, 43.

⁷⁷ Karul 2011b, 60.

⁷⁸ Düring 2011, 180; Karul 2011a, 36; Özdoğan M. 2013, 175.

⁷⁹ Halstead 1999, 80; Τζεβελεκίδη 2002, 44.

⁸⁰ Özdoğan E. 2015, 43.

⁸¹ Brami 2014b, 146.

⁸² Gerritsen, Özbal 2016, 206; Özdoğan E. 2016, 276.

⁸³ Thissen 1999, 29.

⁸⁴ Karul 2011b, 60; Karul 2017, 10.

⁸⁵ Παππά 2008, 316; Özdoğan E. 2011, 221; Gerritsen, Özbal 2016, 206.

residents after a short abandonment of the site.⁸⁶ Somehow these changes reflect, according to the excavators, the emergence of a new social system somewhat similar to the transition from the Starčevo to Vinča Culture in the western Balkans, which is contemporary with the Karanovo II-III period.⁸⁷

1.9 Rectangular-shaped Buildings

Generally, it is observed that during the Neolithic period, the rectangular above-ground buildings replaced pit-houses.⁸⁸ Rectangular buildings are more spacious internally,⁸⁹ while also saving space externally, by allowing the structures to be built next to one another even to share common walls.⁹⁰ Such dwellings required more materials for their construction, and their roof was more difficult to build. The houses were larger, while various activities related to them were carried out both indoors and outdoors.⁹¹

Rectangular houses are associated with the appearance of the Neolithic period in Western Anatolia and Southeast Europe, though usually not with its initial phase.⁹² They were the main Neolithic house type in the Middle East, long before the Neolithic populations spread to the west.⁹³ They were built with materials such as wattle and daub, mud-bricks or stone.⁹⁴ It has been suggested that the variety of the materials and building techniques used, is related to what was available in the new area the different immigration groups occupied.⁹⁵ Perishable materials such as wood, thatch, twigs or reeds, were usually combined with mud or clay.⁹⁶ It has also been proposed that the use of rectangular shaped buildings in the Neolithic settlements in Northwest

⁸⁶ Παππά 2008, 316.

⁸⁷ Özdoğan E. 2011, 221.

⁸⁸ Urem-Kotsou, Kotsos 2018, 224-225.

⁸⁹ Halstead 1999, 81.

⁹⁰ Chontrgianni-Metoki, 2015; Özbal, Gerritsen 2015, 28.

⁹¹ Chontrgianni-Metoki, 2015.

⁹² Παππά 2008, 314; Brami 2014b, 166.

⁹³ Karul 2011b, 63; Brami 2014b, 166.

⁹⁴ Eres, Özdoğan 2011, 2.

⁹⁵ Rosenstock 2006, 119-121.

⁹⁶ Rosenstock 2006, 119-121; Özdoğan E. 2015, 43.

Turkey, Greece and the Balkan was influenced by the similar once from the Middle East.⁹⁷

1.10 Inner space

The houses in Marmara Region were single-room structures during the Neolithic and the Early Chalcolithic period (6400-5350 BC), but many different uses can be distinguished inside the buildings. The free-standing houses in this region have common features that define the interior space. Although daily activities such as storage of grain, grinding and parching⁹⁸ appear to have taken place both indoors and outdoors, there was a strict spatial separation where they took place.⁹⁹ In later phases of habitation, the separation of different activities was enhanced by niches and pillars.¹⁰⁰

Facilities that usually equipped the internal part of the rectangular houses were hearths, ovens, grinding installations, pits, benches, bins, basins and platforms. However, similar facilities were often found also outside of the houses. Clay was a basic raw material used for the constructions of the house.¹⁰¹ Ovens were used for cooking purposes including parching of grains on the oven's roof, but presumably also for firing pottery.¹⁰² Thermal installations include also hearths, which were renewed time and again in the same spot during the lifetime of the houses indicating that the residents were bound with a specific orientation and the organization of the inner space of their houses. They also chose to maintain and reproduce this spatial configuration through time.¹⁰³ Two-storey houses are not unknown¹⁰⁴ (Fig. 34) as the settlements of Asagi Pinar in Eastern Thrace and Ilipinar, and probably Aktopraklik B in the plain area of Northwest Anatolia (Bursa) show.¹⁰⁵

⁹⁷ Özdoğan E. 2016, 269.

⁹⁸ Bailey 2000, 73.

⁹⁹ Brami 2014b, 166.

¹⁰⁰ Karul 2007, 69; Karul, Avci 2013, 49.

¹⁰¹ Stevanovic 1997, 342.

¹⁰² Çilingiroğlu 2009, 362; Düring 2011, 193; Αρβανιτάκη 2012, 93; Brami 2014b, 167.

¹⁰³ Brami 2014b, 167.

¹⁰⁴ Brami 2014b, 181.

¹⁰⁵ Düring 2011, 192; Brami 2014b, 172.

1.11 The exterior

In the plain sites the free-standing houses of small camp-like settlements were initially built in clusters around one yard or a spring. As the population increased, a more organized layout has been observed and the camp-like settlements evolved to a village.¹⁰⁶ The houses were built one next to the other, with the same orientation or clustered around a courtyard, where ovens, hearths, storage facilities and working areas were found.¹⁰⁷

In Barcin, for example, the houses were organised in a lines, sharing a common wall with each other.¹⁰⁸ A small wall was built in front of the entrance into the house creating a private space (annex).¹⁰⁹ Paved floors in these courtyards and other places that were covered as a porch or shade indicate the use of the space.¹¹⁰

In Menteşe there were no finds inside the rectangular single-room houses. Nevertheless, a great number of materials were found in the courtyard area outside the houses, like ovens and storage units, ceramic vessels, baskets and mud boxes.¹¹¹

In Ilipinar during 6000-5700 BC, the settlement was arranged around a spring (Tab.4).¹¹² Small shelters were attached to the exteriors of some buildings and ovens were found in the courtyards (Fig. 28, 31, 32).¹¹³ In Ilipinar VI (5675-5625 BC), the layout pattern of free standing rectangular houses was replaced by joined two-storey mudbrick houses arranged in row and forming a curve (Fig. 31, 33, 34).¹¹⁴ A veranda was built in front of the house entrance that was actually the extension of the house.¹¹⁵ However, in the Ilipinar V (5600-5525 BC, Tab.4) this type of settlement pattern as will be presented in more details below, but¹¹⁶ verandas with fire structures and clusters of plastered baskets were built in front of the entrance in the following time period.¹¹⁷

¹⁰⁶ Bailey 2000, 264-267; Παππά 2008, 324; Karul 2011b, 59;

¹⁰⁷ Karul 2017, 10.

¹⁰⁸ Gerritsen *et al.* 2015, 11-13; Gerritsen, Özbal 2016, 202; Karul 2017, 10.

¹⁰⁹ Özba, Gerritsen 2015, 37; Gerritsen, Özbal 2016, 203.

¹¹⁰ Gerritsen, Özbal 2009, 460; Gerritsen, Özbal 2016, 203.

¹¹¹ Çilingiroğlu 2009, 373; Düring 2011, 185; Karul 2011b, 59.

¹¹² Roodenberg-Alpaslan 1999, 1; Karul 2011b 59.

¹¹³ Bailey 2000, 73; Roodenberg, Roodenberg-Alpaslan 1999, 1.

¹¹⁴ Thissen 1999, 30.

¹¹⁵ Düring 2011, 192.

¹¹⁶ Çilingiroğlu 2009, 362; Düring 2011, 193.

¹¹⁷ Çilingiroğlu 2009, 362; Düring 2011, 193; Ozdoğan E. 2015, 50.

In Aktopraklik B, a row of houses with niches is also encountered in this period (5700-5600 BC)¹¹⁸ and coexisted with scattered,¹¹⁹ free-standing houses¹²⁰ and a cluster of houses and in the center of the settlement where graveyard was located (Fig. 17a-19b).¹²¹ In front of every building there was a courtyard with the same layout and size containing similar features¹²² including stone platforms. Evidence of the daily activities in courtyards is affluent.¹²³ It is believed that this kind of settlements was influenced by the architecture of the seventh millennium BC settlements in the Lake District area.¹²⁴

1.12 Ditches, embankments, boundary' settlements

Various enclosures such as ditches, embankments and walls were regularly found surrounding the settlements.¹²⁵ The common feature that is encountered from the early phase of the Neolithic in this area, is the existence of a ditch surrounding the settlement (Barcin VIe 6600-6500),¹²⁶ or an enclosure of walls or palisade with stone foundations or a raised embankment, that must have served as means of protection from an outside factors for both the residents and their livestock, and a boundary that marked the extend of the settlement.¹²⁷

In the later phases of the settlements, a new practice was adopted - the houses were built in a continuous row, running parallel to ditch in a straight or semi-circular line, with doors facing towards the same direction. This row of houses served as an additional boundary. This practice initiated a new architectural pattern that served as a form of an early "fortification", since the houses themselves would provide a 'wall' that would act as a kind of barrier towards any potential invader.¹²⁸ In some cases

¹¹⁸ Karul 2012, 42; Karul, Avci 2013, 50.

¹¹⁹ Karul, Avci 2013, 48.

¹²⁰ Karul, Avci 2013, 50.

¹²¹ Karul 2012, 47.

¹²² Karul 2012, 48.

¹²³ Karul 2012, 48.

¹²⁴ Ozdoğan E. 2015, 50.

¹²⁵ Rosch 2017, 5.

¹²⁶ Karul 2012, 48; Gerritsen, Özbal 2016, 201.

¹²⁷ Brami 2014b, 204, 233.

¹²⁸ Karul 2012, 48; Brami 2014b, 201-203.

there is a combination of ditches (sometimes more than one), embankments and row houses that co-existed at the same time.

1.13 Burial customs

The Eastern Marmara region provides the largest assemblage of Neolithic burial outside the Central Anatolia (Fig. 6).¹²⁹ Intra-mural burials are present in all the settlements during the 7th millennium BC, while extra-mural cemetery is also found.¹³⁰ In the settlements with pit-huts, located in coastal area including Aktopraklık C, some of the deceased were buried under the semi-sunken floors of the dwellings and in the open spaces between them (Fig. 8, 10, 13, 34).¹³¹ In the graves, both children and adults are represented. Most of them are single burials. Only few collective graves have been found.¹³² The deceased were placed in shallow pits in the contracted or flexed position (Fig. 34). Cult tables, sheep horns and scapulas were left as burial offerings.¹³³ In the settlement of Barcın burials were located either between the houses or in the fill of abandoned houses (Fig. 34). According to Brami (2014b, 146), “the fact that the dead remained ubiquitous in the built environment, although they were no longer associated with active households, suggests a continuity of practice in this region”.¹³⁴

At the turn of the 6th millennium cal BC burials were found in communal burial grounds as evidenced at Aktopraklık, Ilıpınar and Upper Menteşe.¹³⁵ Aktopraklık C after its abandonment (Fig. 14-16) was used as a graveyard during the Early Chalcolithic.¹³⁶ This is a unique example of burial ground situated outside of the habitation area. A great number of burial offerings were in these specific burial grounds.¹³⁷

At Aktopraklık B, in the center of the settlement, where many individual burials were revealed, an interesting burial practice is attested. Along with ordinary burials,

¹²⁹ Brami 2014b, 138; Özdoğan M. 2014, 42-43.

¹³⁰ Karul 2011b, 62; Brami 2014a, 169-170; Özdoğan E. 2015, 41-42; Özdoğan E. 2016, 275; Karul 2017, 8.

¹³¹ Brami 2014b, 138; Özdoğan E. 2016, 275.

¹³² Karul 2011b, 62; Brami 2014b, 147; Özdoğan E. 2016, 275.

¹³³ Karul 2011b, 62.

¹³⁴ Souvatzi 2008, 201.

¹³⁵ Brami 2014b, 146; Özdoğan E. 2016, 275.

¹³⁶ Brami 2014b, 147.

¹³⁷ Brami 2014b, 147-148.

some unusual ones including a human skull surrounded with small stones has been found.¹³⁸ Also, two adult skeletons, a male and a female, were unearthed close to each other, almost in a sitting position, with their hands joined behind them. In the arms of each skeleton was a child skeleton. At some distance from these, the grave of a third child was found.¹³⁹ An infant was also buried with legs and hands folded to its back.¹⁴⁰ At Ilipinar, the open space between houses was used as communal burial ground, while the grave offerings were limited to a few pots, perforated shells and one bead.¹⁴¹ Some newborns were buried in post-holes while at Menteşe children were buried in rubbish pits.¹⁴²

New evidence for burial practices with six inhumations and seven cremation in urns was uncovered during the Marmara Project in Istanbul-Yenikapı. It is interesting that some of the burial pits contained both inhumations and cremations.¹⁴³ Additional cremation burials¹⁴⁴ were found at Fikirtepe and the Cave of Yarımburgaz 4 (Fig. 1, 2).¹⁴⁵ The occasional findings of cremation burials in the Eastern Marmara region, which is presently unique in the Anatolian context, would suggest that Northwest Anatolia amalgamated among different traditions and cultures.¹⁴⁶

1.14 House Burning

Burning of the house or houses was a frequent phenomenon in the Balkans and especially in the settlements of the Late Neolithic Vinča culture in the central Balkans,¹⁴⁷ of Karanovo culture (Bulgaria), and in some parts of Anatolia .¹⁴⁸ Some scholars argue that it was a deliberate act signifying the end of the household cycle.¹⁴⁹

¹³⁸ Karul, Avci 2013, 50.

¹³⁹ Karul 2011a, 39; Karul 2012, 48.

¹⁴⁰ Karul, 2012,48; Karul, Avci 2013, 50.

¹⁴¹ Düring 2011, 189; Karul 2011b, 62; Roodenberg 2011, 960; Brami 2014b, 148.

¹⁴² Brami 2014b, 148.

¹⁴³ Brami 2014b, 139.

¹⁴⁴ Özdoğan M. 2011a, S423; Brami 2014b, 138.

¹⁴⁵ The Cave of Yarımburgaz is located 22 km to the west of İstanbul near the lagoon of Küçük Çekmece. There were no architectural remains. Along with its assemblages of the Neolithic and Chalcolithic periods, the well-stratified deposits of the basal Paleolithic period, the cave provided ample evidence of environmental conditions from the Middle Pleistocene to the Late Holocene. Özdoğan M. 2013, 176.

¹⁴⁶ Brami 2014b, 140.

¹⁴⁷ Stevanovic 1997, 337; Chapman 1999, 115.

¹⁴⁸ Souvatzi 2008, 201; Χονδρογιάννη-Μετόκη 2009, 28-34; Brami 2014a, 164.

¹⁴⁹ Chapman 1999, 115; Souvatzi 2008, 201.

Rebuilding over the ruins of the old house according to Stevanovic (1997, 338) “was a strategic action with an aim to incorporate symbolically and structurally the old house in to the new one.”¹⁵⁰ Chapman, who also considers the act of burning the houses as deliberate, has pointed out that “the formal placement of objects in a house prior to deliberate burning” was intentional.¹⁵¹

There’s no indications of this custom in Northwest Anatolia before 5800 cal BC. Single houses burned in Ilipınar X, Menteşe and Barcın – were most likely buildings that at the end of their lives were either pulled down or left to collapse by themselves.¹⁵² Later, at Ilipınar VI, at least 16 mud-brick houses in a semi-circular row were burned in a manner that required the continuous adding of fuel, which points to deliberate burning (Fig. 31, 33). At Aşağı Pınar 6 (Fig. 45, 46) a similar case is encountered and the excavators concluded that it was done deliberately by the residents.¹⁵³

1.15 Differences between the settlements

It has been suggested that the differences observed among the Fikirtepe-culture sites in many aspects could be a result of interaction between different cultures, such as the local Mesolithic communities or other communities that were possibly located in the Aegean, central Anatolia and Lake District region. The impact of such interaction is expressed in their material culture.¹⁵⁴

The main difference is the location that they choose to live, followed by the architectural pattern. The settlements in the coastal area of Bosphorus, consisting of either an integration of immigrant groups into the local communities, or indigenous groups adopting the Neolithic way of life,¹⁵⁵ are characterized by rounded huts with sunken floors and burials below the floor. They have been associated with the Mesolithic period. The association is not based on evidence of the Mesolithic building

¹⁵⁰ Tringham 2005, 105.

¹⁵¹ Chapman 1999, 123.

¹⁵² Karul 2011b, 62; Brami 2014b, 147; Brami 2014a, 166.

¹⁵³ Özdoğan E. 2011, 220; Özdoğan M. 2013, 197; Brami 2014a, 166.

¹⁵⁴ Özdoğan, M. 1997, 23; Karul 2017, 10.

¹⁵⁵ Özdoğan M. 2013, 195; Gerritsen, Özbek 2016, 206.

practices in the area but rather on the absence of similar structures in Neolithic Anatolia.¹⁵⁶ In contrast to the coastal sites, the settlements of the plain site possessed clearly agrarian economies and rectangular building traditions and were inhabited mostly by farmers that were descendants of immigrant farming groups, as some scholars have argued.¹⁵⁷ These settlements interacted with others located in areas of the Aegean, the Lake District and central Anatolia.¹⁵⁸

Coastal and plain settlements are supposed to have been further differentiated by their respective choice of diet and the culture associated with it.¹⁵⁹ The coastal areas had a fish-food and farming based diet while the plain areas had diet based exclusively on farming products. Çakırlar argues¹⁶⁰, however, that there is no sufficient evidence that would indicate such connection to their diet, but the scholars assume so due to the assumption that being a coastal settlement the residents are only expected to rely on the sea resources as a means to provide for themselves.

In the coastal area flat-extended settlements are encountered, which didn't last as long as the settlements in the plain that belong to tell type of sites.¹⁶¹ For example, flat-extended sites such as Fikirtepe, Aktopraklik and Pendik present only one major phase of occupation, in contrast to the evidence of the plain sites, like Ilipinar and Menteşe, where during the early phases, rebuilding on the same spot was regularly attested causing the deposit thickness to be 5 and 4 m respectively.¹⁶² It has been suggested that the short-lived, rounded, wattle and daub pit-huts with sunken floors architecture, in comparison to the rectilinear structures of inland sites, is an indicator of differences in the characteristics of village life, between the two types of settlements.¹⁶³

¹⁵⁶ Özdoğan M.2007, 21; Karul 2011b, 58; Çakırlar 2013, 60; Özdoğan M. 2013, 195; Özdoğan E. 2015, 43; Gerritsen, Özbal 2016, 206; Reingruber 2016, 97-98.

¹⁵⁷ Özdoğan M. 2011c, 31; Gerritsen, Özbal 2016, 206;

¹⁵⁸ Karul 2017, 10.

¹⁵⁹ Karul 2017, 10.

¹⁶⁰ Çakırlar 2013, 60-61.

¹⁶¹ Thissen 1999, 29.

¹⁶² Karul 2011b, 57-58; Brami 2014b, 115-116.

¹⁶³ Gerritsen, Özbal 2016, 206.

Chapter 2: Analysis of the architectural setting of the under study region

2.1 Coastal sites

2.1.1 Fikirtepe

Fikirtepe is situated 1.5 km from the north coast of the Sea of Marmara, on the Asian side, near Kadikoy (the old Chalcedon), not far from Constantinople (Fig. 7-8).¹⁶⁴ The settlement lay on a gently sloping hill, close to a spring.¹⁶⁵ According to paleotopography research, a lagoon was at the edge of the settlement during the Neolithic period.¹⁶⁶ The settlement was discovered in 1908 during the construction of Istanbul-Baghdad railroad.¹⁶⁷ The 1952-1954 excavations, carried out by K. Bittel and H. Cambel, exposed some 480 m² without providing the evidence for the total extent of the settlement. M. Özdoğan implies that the settlement must have covered an area of 200 x 80 m (Fig. 7). Fikirtepe is a flat-extended type of site with one major occupational layer, showing variations in the depth of archaeological deposit from 1m to 1.5 m.¹⁶⁸

The architecture of the site is characterized by circular or oval shaped, wattle-and-daub pit-huts, with slightly sunken floors; at least five huts were discovered, but none of them has yet been totally excavated. The approximate width of the huts appears to be around 5 m.¹⁶⁹ Post-holes were not identified leading Bittel to assume that the wall posts had not been dug in but instead had rested on stone supports.¹⁷⁰ Six burials with deceased in flexed position were uncovered, four of them beneath the huts floor (Fig. 8), and two in the open spaces. In some of them square vessels and bone spoons were placed as grave goods.¹⁷¹

¹⁶⁴ Roodenberg 1987, 203.

¹⁶⁵ Roodenberg 1987, 203.

¹⁶⁶ Özdoğan M. 2013, 173.

¹⁶⁷ Çilingiroğlu 2009, 356.

¹⁶⁸ Özdoğan M. 2013, 173.

¹⁶⁹ Roodenberg 1987, 204; Çilingiroğlu 2009, 356.

¹⁷⁰ Roodenberg 1987, 204.

¹⁷¹ Düring 2011, 181; Özdoğan M. 2013, 173.

In the absence of the radiocarbon dates the chronology of the site is based solely on the typology of the finds.¹⁷² Judging from the available C14 dates from Yenikapı, Ilıpınar, Menteşe, and Barcin which have similar characteristics of material culture, the settlement must have been inhabited in the period between 6400 and 5800 BC (Tab. 1, 8, 9).¹⁷³ Cattle, sheep and goat were of some importance for the residents, according to zooarchaeological remains, while fishing and hunting contributed significantly to their diet.¹⁷⁴

2.1.2 Pendik

The settlement is located on the flat terrace near the Pendik Höyük village (Istanbul Province), in northern coastal strip of Marmara Sea. The site was uncovered during the construction of the Baghdad railway in 1907,¹⁷⁵ and was initially excavated in 1960 under the direction of S. A. Kansu, then again in 1981 and finally in 1992 under the direction of the Istanbul Archaeological Museums.¹⁷⁶

Pendik Höyük was situated close to the coast, in the immediate vicinity of springs. The settlement covered an extend of 170x280 m. The 1981 campaign uncovered remains of Classical and Byzantine period, and of the Late Neolithic ascribed to the Fikirtepe tradition, divided in 6 habitation phases (Tab. 1, 3, 8, 9).¹⁷⁷ According to the excavators,¹⁷⁸ the settlement shifted its location through time, at least partially suggesting that it belonged to the flat-extended type of sites.

The architectural remains dated to the Neolithic period are similar to those uncovered at Fikirtepe, consisting of irregular ovoid pit-huts ranging between 3m and 6m in diameter that belong to the remains of wattle and daub pit-huts with sunken floors. During the 1981 excavations, burned remains of four huts were uncovered (Figs. 9, 11).¹⁷⁹ These huts were constructed in wattle and daub with posts, as the post-

¹⁷² Düring 2011, 183.

¹⁷³ Özdoğan 2013, 173.

¹⁷⁴ Çilingiroğlu 2009, 358; Düring 2011, 181.

¹⁷⁵ Özdoğan M. 2013, 175.

¹⁷⁶ Düring 2011, 180.

¹⁷⁷ Roodenberg 1987, 205.

¹⁷⁸ Özdoğan M. 2013, 175.

¹⁷⁹ Özdoğan M. 2013, 175.

holes identified along the edge of the pits indicate.¹⁸⁰ The huts were built in rather close proximity to each other, although it is not clear whether they were contemporary. In one of the huts, two fireplaces dug into the soil, were preserved and several floor renewals were documented, indicating that the structures were in use over extended periods of time.¹⁸¹ The open areas between the huts were used as courtyards and work places. Two of the huts had tightly contracted burials below their floors with no apparent burial goods (Fig. 10). Burials were also found in open areas. Some of these had grave offerings such as necklaces or vessels.¹⁸²

Furthermore, in 2013, more than 40 burials and a structure with stone pavements were revealed.¹⁸³ This structure was very different in form, from what had been discovered so far. Rectangular buildings with mud-brick walls reflecting the Anatolian tradition were revealed as well (Fig. 12).¹⁸⁴ It seems that there was a ditch encircling the site, though it has been located only on the westernmost section of the excavated area.¹⁸⁵ The settlement dates between 6500-6000 BC.¹⁸⁶

2.1.3 Yenikapi

The settlement at Yenikapi is located in the present port, in the historical center of Constantinople, on the European side of Bosphorus. A small stream Bayrampaşa Deresi (ancient Lykos) was passing through the area until 1950 when it was filled during the construction of the road. The settlement was discovered on the occasion of the construction of a Marmaray Tube Tunnel connecting the European and the Asian part. Following the discovery of the remnants of the ancient Theodosian Harbor, a rescue-excavation started by the Istanbul Archaeology Museum (IAM). These investigations provided new insight concerning the environmental conditions in the area of the Sea of Marmara during the Holocene along with information on how the changes of the sea level affected coastal pre-existing settlements. Although the

¹⁸⁰ Düring 2011, 180.

¹⁸¹ Düring 2011, 180; Özdoğan M. 2013, 175.

¹⁸² Düring 2011, 180; Özdoğan M. 2013, 175.

¹⁸³ Özdoğan M. 42, 43. Istanbul'un Yeniden Yazılan Tarihi. Accessed from: https://www.academia.edu/32093863/Pendik_Neden_O_nemli_.pdf

¹⁸⁴ Özdoğan M. 2014, 40; Özdoğan E. 2015, 44; Gerritsen, Özbal 2016, 206.

¹⁸⁵ Özdoğan M. 2013, 175.

¹⁸⁶ Özdoğan E. 2015, 49.

excavations were finished some years prior to this study, the results of the investigations and the study of the material are expected to continue for some time.

As the other Neolithic settlements of the region, the site was located in the vicinity of fresh water sources and a fertile land, where the stream Lykos was passing by, flowing through a marshy area to the Sea of Marmara that was at that time just a lake. The Neolithic settlement was situated 6 m below the present sea level.¹⁸⁷

The architectural remains, although poorly preserved, indicate that the settlement consisted of round or elliptical pit-huts built in wattle and daub. There is evidence that stones were used to support the walls. Some kind of a palisade probably surrounded the settlement. Although the size of the Neolithic village can't be determined with certainty, the excavators think that it was at least as large as the settlement of Pednik, reaching approximately 300X200 m in size. There is no information yet concerning other structures inside or outside the pit-houses and the space in between. The site dates in the period between 6600-5530 BC and belongs to the Archaic and Classical Fikirtepe Culture according to the material culture such as pottery, stone and bone tools (Tab. 1).¹⁸⁸

What characterizes the site is the presence of cremations together with inhumations (Fig. 13). There are no such parallels found from that period in the surrounding area or the Anatolian area except for rare examples in Bulgaria and Greece. The coexistence of the cremation and inhumation leads to the suggestion that two different communities, with different beliefs might have been living together.¹⁸⁹

¹⁸⁷ Algan *et al.* 2011, 31; Karul 2011b, 58.

¹⁸⁸ Algan *et al.* 2011, 31.

¹⁸⁹ Algan *et al.* 2011, 31.

2.2 Inland sites

2.2.1 Aktopraklik

Aktopraklik lays in the area south of the Marmara Sea, 25 km west of the city of Bursa. It stretches on one of the eastern terraces of Lake Ulubat, at the foothills of Uludag, at an altitude of 110 m (Fig. 1, 2).¹⁹⁰ The location was discovered in 2002 and has been excavated since 2004 by the Prehistory Department of the Istanbul University.¹⁹¹ The mound, which is barely visible from the distance, is assumed that was closer to the lake in prehistoric times.¹⁹² The site itself consists of three different settlements named Aktopraklik A, B, and C that are approximately 50 - 100 m apart.¹⁹³ All settlements contain strata belonging to the prehistoric periods (6400-5600 cal BC),¹⁹⁴ apart from a large structure dated to Late Roman-Early Byzantium, next to Site C.¹⁹⁵

Aktopraklik C is the earliest settlement dated to the 6400-6000 BC¹⁹⁶ and can be divided into at least two sub-cultural phases (Tab. 1, 3, 8, 9).¹⁹⁷ The earliest one was found in the southern section with the structures mostly under the ruins of the Byzantine buildings and as a result, its size and plan remain uncertain.¹⁹⁸ The architectural remains of this phase have been uncovered only in a very limited area and consisted mostly of some stone concentrations and round-based stone constructions of circular or irregular plan (Fig. 14, 17).¹⁹⁹ Two of them were about 1 m apart from each other, and both were 1m in diameter. The third one was the southernmost structure with diameter 1.5m.²⁰⁰

¹⁹⁰ Karul 2008, 65.

¹⁹¹ Karul, Avci 2011, 2.

¹⁹² Karul 2010, 1; Karul, Avci, 2013, 45.

¹⁹³ Karul, Avci 2011, 2; Karul, Avci 2013, 45-46.

¹⁹⁴ Karul 2010, 1; Karul 2012, 42; Baysal 2016, 51-52.

¹⁹⁵ Karul 2010, 1; Baysal 2016, 5-52.

¹⁹⁶ Karul 2012, 41.

¹⁹⁷ Karul, Avci 2011, 2-3.

¹⁹⁸ Karul, Avci 2011, 2.

¹⁹⁹ Karul, Avci 2013, 46.

²⁰⁰ Karul, Avci 2011, 2.

The second phase was found above the first one. The settlement in this phase had round wattle and daub pit-huts with semi-sunken floors approximately 40 cm below the ground level and with a diameter of about 4 m wide.²⁰¹ From the five structures uncovered, three had walls with stone sockles in their lower part, which according to the excavators were usually constructed along half of the diameter of the structure supporting one of the side walls (Fig. 15). There were no post holes for supporting the walls.²⁰²

The remaining two structures didn't have stone foundation. Their concave floors were dug directly into the soil. One of these structures has better preserved floor which was renewed several times. Another structure has floor dug into the bedrock that was paved with small stones (Fig. 16). Ovens are found in three structures. These are domed ovens about 60 cm wide, built close to the wall.²⁰³ As door openings were not identified, the orientation of these structures cannot be determined with certainty.²⁰⁴

All the data indicates a settlement of simple circular huts which were placed rather close to each other, surrounded by open spaces as courtyards, which must have been paved with small stones (Fig.17). Courtyards were areas of common use where daily activities were performed including the production of tools.²⁰⁵ Large rubbish pits were also found in these courtyards near the huts reaching 1.5 m in diameter. A great number of horns from cattle and deer were found in their deposits and the large number of bones. In some of the pits the bones belong to the same animal. Since the amount of meat must have exceeded the daily consumption of a single family unit the excavators assumed that these are remains of collective consumption or butchering.²⁰⁶ In their final stage, the pits were covered with stones.²⁰⁷

²⁰¹ Karul, Avci 2013, 46.

²⁰² Karul, Avci 2011, 3.

²⁰³ Karul, Avci 2011, 3.

²⁰⁴ Karul, Avci 2011, 3-4.

²⁰⁵ Karul 2012, 41.

²⁰⁶ Karul, Avci 2013, 47.

²⁰⁷ Karul, Avci 2011, 3.

²⁰⁷ Karul, Avci 2013, 47.

Another characteristic of this phase is burials found under the floors of the huts. The skeletons were deposited in flexed position, under the floor of the stone structures with whole vessels at the head and the feet of the deceased along with ornaments and bone tools left as burial gifts.²⁰⁸

Aktopraklik C settlement was abandoned, but the space continued to be used as a cemetery of the Aktopraklik B settlement which was shifted to the south at the beginning of the 6th millennium BC. Twenty-five burials are found in this cemetery belonging to the Late Neolithic and Early Chalcolithic periods.²⁰⁹ As they were close to the surface, they were damaged by medieval constructions and modern agricultural activities. They consisted of individual burials but a few cases of double burials have been also attested (Fig. 14, 15). Some of them were pit burials dug mostly into the bedrock.

The existence of extra-mural cemetery is taken by the excavators as the main indication that the burial customs had changed radically in the later phases of the Neolithic. The deceased were no longer buried under the house floors but taken to a special place reserved for them outside the settlement. In the cemetery, the deceased were also placed in the flexed position within the pits. The increase of the burial goods, such as pottery, stone axes, bone tools and jewelry (stone beads) is notable.²¹⁰

The settlement, as previously mentioned, at the beginning of the 6th millennium BC moved a hundred meters to the South. Site B was dated to the Early Chalcolithic Period, 6000-5600 BC.²¹¹ At least 6 layers were discovered on top of each other in this new area.²¹² Rectangular dwellings in asymmetric order with niches and mud-brick walls, plastered with clay, are the main features of the Aktopraklik B settlement. Sometimes they were supported by a row of stones on the side of the

²⁰⁸ Karul, Avci 2011, 3-4; Karul Avci 2013, 47; Budd *et al.* 2013, 862.

²⁰⁹ Karul, Avci 2011, 5.

²¹⁰ Karul, Avci 2013, 47.

²¹¹ Karul 2012, 42.

²¹² Karul 2010, 2; Karul 2011a, 37.

inclination of the mount. Wood was used largely in the wall structure, for floors and benches (Fig. 20).²¹³

One group of houses on the top of Site B dating to c. 5700-5600 BC²¹⁴ was surrounded by three ditches.²¹⁵ The best-explored ditch has approximately 130 m in diameter and a width of 11-13 m, with its initial depth about 4 m.²¹⁶ The ditch was plastered with limestone and green clay and was renewed at least three times.²¹⁷ In the final stage, two parallel walls were built inside the ditch. There is no evidence that the ditch was used for habitation. In the later period, the ditch was filled and the place had a different use.²¹⁸ Few burials found in the ditch show that it must have had more than one functions.²¹⁹

Inside the encircled area by the ditch, buildings were constructed parallel to the ditch (row houses), adjacent to each other (Fig. 18, 19, 21, 22). They slightly curve, following the contour of the ditch and are highly standardized in both size (35-40 m²) and plan giving the impression of a well organized community. The walls were plastered on both sides with limestone (green clay) and painted in few cases with red clay.²²⁰ Every wall that extends toward the inner space of the buildings had buttresses, which have supported the roof or possibly second floor, and have also divided the internal space into functional room-like areas. A round oven built on a platform is a standard element in these houses, always built in a corner in an area delimited by the buttresses.²²¹

Entrances of buildings were open into small courtyards (1-3 m²) facing the centre of the village.²²² The post-holes in front of these houses show that this area was covered by a light roof, like a porch. Stone platforms and perhaps grinding stones are

²¹³ Karul, Avci 2013, 48.

²¹⁴ Karul 2012, 42.

²¹⁵ Karul 2010, 2; Karul, Avci 2010, 37; Karul 2011a, 37; Karul 2012, 42; Karul, Avci 2013, 49.

²¹⁶ Karul, Avci 2013, 49.

²¹⁷ Karul 2010, 2; Karul 2012, 42.

²¹⁸ Karul, Avci 2013, 49.

²¹⁹ Karul, Avci 2013, 49.

²²⁰ Karul 2012, 43; Karul, Avci 2013, 48.

²²¹ Karul 2011a, 38; Karul 2012, 43.

²²² Karul 2012, 48.

encountered regularly in the courtyards including other finds which suggest that they were used as small work areas.²²³ A space with similar features exists in front of every building, indicating that every one of those has a courtyard of its own. Large ovens are located in front of these yards, and they too have a circular pattern, like the arrangement of houses and yards. These ovens have many renewed layers, showing that they were rebuilt many times. Since those large ovens lies beyond the yards of houses and their numbers are less than the houses led the excavators to suggest that these ovens were for common use (Fig. 22).²²⁴

A group of buildings with the same characteristics as the other described above was revealed in the center of the settlement. They, however, were not built in row but form a cluster. The buildings are facing a small courtyard of 10-15 m in diameter at the very center of the settlement, where a large number of graves containing one or more individuals were found. A human skull surrounded by small stones was also found in this part.²²⁵ Two adult skeletons, a male and a female, unearthed close to each other, represent unusual burial custom. They were in an almost sitting position, with their hands joined behind them. In the arms of each skeleton, was a child skeleton. A short distance from these, the grave of a third child was found.²²⁶ Another unusual burial represents an infant buried with its legs and hands folded to its back.²²⁷

Bellow this habitation layer the same type of dwellings and settlement pattern has been revealed.²²⁸ This indicates that the settlement organization and the architecture had longer tradition than believed (Fig. 20).²²⁹ Later the settlement was most likely abandoned but was inhabited once again in 5500- 5400 cal BC²³⁰ by another group of people. The settlement of this period was small, with round structures in adjacent order, built in wattle and daub.²³¹ These dwellings were about

²²³ Karul, Avci 2010, 37; Karul 2012, 46; Karul, Avci 2013, 51.

²²⁴ Karul 2012, 46.

²²⁵ Karul, Avci 2013, 50.

²²⁶ Karul 2011a, 39; Karul 2012, 48.

²²⁷ Karul, Avci 2013, 50.

²²⁸ Karul, Avci 2013, 50.

²²⁹ Karul, Avci 2013, 50.

²³⁰ Karul 2008, 71.

²³¹ Karul 2010, 2.

10 m² in size with slightly sunken floors and had a raised domed oven each (Fig. 23-24).

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²³² Karul 2010, 2; Karul, Avcı 2013, 48.

2.2.2 Mentеше

The prehistoric settlement of Mentеше is located on the northern part of Yenişehir Plain, at a distance of 25 km from Ilipinar and 10 km from Barcin Höyük (Fig. 1). During the prehistoric times the settlement was very close to the shore of the Lake Yenişehir.²³³ It belongs to the tell type of sites. The mound is 4 m high and 100 m wide, with the archaeological deposit 1.5 m thick.²³⁴ The site was disturbed by agricultural activities but the larger extend of damage was caused by the construction of the modern road.²³⁵ The settlement was excavated during 1996-2000 by the Museum of İznik in collaboration with the Netherlands Institute of Archaeology in İstanbul.²³⁶ The excavations revealed three layers of habitation. The third layer (Stratum 3) is divided into three sub-layers (upper, middle and lower) dating to 6400-5900 cal BC (Tab. 1, 3).²³⁷ The two earlier layers didn't yield architectural remains which lead the excavators to interpret the space as courtyard.²³⁸

Three buildings were unearthed from the third layer. They were single-room houses built with pisé technique (referred as mud-slab). Only the lower part of the walls has been preserved, approximately 30 cm high and 25-30 cm thick. The excavators suggested that the upper part of the walls were made with the wattle-and-daub technique.²³⁹ Little is known about the interior arrangements of the houses as there were no finds. However, in the courtyard area outside the houses, a great number of materials were found including ovens and storage facilities, ceramic vessels, baskets and mud boxes.²⁴⁰ A part from another dwelling with mud-brick walls was revealed close to these dwellings indicating that different building techniques were used simultaneously in this phase of the settlement, such as mud-slab (pisé), wattle-and-daub and mud-bricks.²⁴¹

Another burned, almost square house was revealed, with size approximately 5x5 m, built with the wattle-and-daub technique. The walls were 25-30 cm thick and were made with mud-slabs filled in the middle with a line of thin branches in them and

²³³ Çilingiroğlu 2009, 372; Düring 2011, 184.

²³⁴ Çilingiroğlu 2009, 372; Düring 2011, 184.

²³⁵ Çilingiroğlu 2009, 372.

²³⁶ Çilingiroğlu 2009, 372.

²³⁷ Çilingiroğlu 2009, 372-273; Düring 2011, 184.

²³⁸ Roodenberg, Roodenberg-Alpaslan 2008, 12; Çilingiroğlu 2009, 372-273

²³⁹ Çilingiroğlu 2009, 373; Düring 2011, 184.

²⁴⁰ Çilingiroğlu 2009, 373; Düring 2011, 185.

²⁴¹ Roodenberg, Roodenberg-Alpaslan 2008, 12; Çilingiroğlu 2009, 373.

were plastered with mud. The floor was plastered with mud too. Under the floor of the burnt house four burial inhumations were found.²⁴²

Burials are found usually in the courtyard, and to lesser extent beneath the house's floor. Both adults and children were buried in contracted position on the left or right side in oval pits.²⁴³ They were rarely accompanied with the grave offerings. For example, in one child grave two vessels and the remains of a necklace were found.²⁴⁴ Beneath the body of a woman's grave traces of wooden planks were attested.²⁴⁵ Judging from the similar case from the Ilipinar Phase X-IX this is not an exception. From a total of 20 burials that were found, only one was a double burial of a woman and an infant. This double grave was found beneath the building and according to the excavators, it was dug while the structure was still in use.²⁴⁶ A rectangular ceramic box with engraving decoration along with a handle and four feet was revealed next to their bodies as a grave gift (Fig. 25).²⁴⁷ According to the data, the residents relied on farming economy. The most common among the domesticated animals was cattle followed by sheep.²⁴⁸

2.2.3 Barcın Höyük

The archaeological site of Barcın Höyük, initially named Yenişehir II, is a small tell located in the Yenişehir Valley in Bursa.²⁴⁹ The site was known from 1960, but the excavations didn't start before 2005 and are still ongoing in collaboration of Netherlands Institute in Turkey and the İznik Museum. The excavations have uncovered a number of occupation phases dating between the seventh millennium BC and the Byzantine period.²⁵⁰ However, there were long periods of time with no evidence for habitation or other activities for unknown reasons but the excavators suspect it's due to the high water level.²⁵¹ The occupation at Barcın Höyük started

²⁴² Çilingiroğlu 2009, 373.

²⁴³ Düring 2011, 185; Roodenberg 2011, 960.

²⁴⁴ Yakar 2017, 8.

²⁴⁵ Yakar 2017, 8.

²⁴⁶ Düring 2011, 185; Roodenberg 2011, 960.

²⁴⁷ Roodenberg, Roodenberg-Alpaslan 2008, Fig.5.

²⁴⁸ Düring 2011, 185.

²⁴⁹ Gerritsen, Özbal 2016, 199.

²⁵⁰ Roodenberg *et al.* 2008, 53; Gerritsen *et al.* 2013, 55.

²⁵¹ Gerritsen, Özbal 2013, 55; Hofmanová 2016, 21.

earlier than the other known sites in the Marmara Region, and is thus the oldest known Neolithic settlement in Northwest Anatolia.²⁵² The two lowest layers (VIe) are known as Pro-Fikirtepe Culture.²⁵³

The settlement was established in a wet marshy environment, similar to the earlier Neolithic inhabitations in central Anatolia, that leads the excavators to believe that the settlers were actually seeking similar living conditions.²⁵⁴ The site stretch across two twin mounds (Fig. 26a).²⁵⁵ The settlement was occupied from the end of the Initial Neolithic and throughout the Middle and Late Neolithic, between 6600-6000 cal BC according to the recent evidence provided by stratigraphy, pottery typology, and 14C dates.²⁵⁶ The maximum thickness of the Neolithic deposits is close to 5 meters.²⁵⁷ The Neolithic phase has been divided into sub-phases VIe, VIId1-VIId3, VIc, VIb and VIa (Tab. 1, 5).²⁵⁸

The earliest evidence of Phase VIe (6600–6500 cal BC) come from the south side near the southern edge of the east mound (Fig. 26a-26b).²⁵⁹ The archeological finds from this phase are unclear and are limited to postholes in line and small installations as basins and fragments of ovens.²⁶⁰ According to the excavators, a number of circular features with a 1 to 2.5 m diameter and a depth of 30-50 cm were discovered in different parts of the site, but it is not clear whether they were dwellings.

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A ditch that was found running East-West possibly belongs to this phase (Fig. 26b northern part). It was about 60 cm deep, 2.7 m wide, and dug into the virgin soil. Its fill contained limited quantities of fragmented bone, chipped stone tools, and very few pottery sherds belonging to Phases VIe and VIId1. There are no indications that the ditch was renovated. It appears it was filled up and went out of use rather quickly.

²⁵² Gerritsen, Özbal 2016, 200-201.

²⁵³ Erdalkiran, 2015, 26; Özdoğan E. 2015, 36; Hofmanová 2016, 21.

²⁵⁴ Groenhuijzen *et al.* 2014, 9.

²⁵⁵ Roodenberg, *et al.* 2008, 54.

²⁵⁶ Gerritsen *et al.* 2013, 57; Weninger *et al.* 2014, 19; Erdalkiran, 2015, 26; Özdoğan E. 2015, 36, 47; Hofmanová 2016, 21.

²⁵⁷ Gerritsen, Özbal 2013, 57; Erdalkiran, 2015, 26.

²⁵⁸ Gerritsen, Özbal 2016, 200.

²⁵⁹ Gerritsen *et al.* 2013, 71; Özdoğan E. 2015, 36.

²⁶⁰ Gerritsen *et al.* 2013, 58; Gerritsen, Özbal 2016, 201.

²⁶¹ Özbal, Gerritsen 2015, 28.

There is no evidence that the place was used for habitation at the time and according to the excavators, the ditch functioned as a boundary of the settlement.²⁶²

The best-preserved architectural remains come from phases VI d – VI c, where a row of houses was found, surrounded by an open space that served as a courtyard (Fig. 27).²⁶³ The settlement was repeatedly rebuilt over the years without many changes in the layout.²⁶⁴

The following description is of the VI d1 phase, which is the most documented according to the excavators. A characteristic architecture defining phase VI d1 are two walls and clusters of dwellings in line. Contemporary to them is a semi-subterranean rounded structure (Fig. 28). An earthen wall was created by a band of soil, 30 cm wide, which was orientated east-west and dated in the beginning of the VI d period in the area of a natural depression (Fig. 26b, 27).²⁶⁵ The area was filled up for it was used as rubbish disposal and later, on the same spot, nine small fire-pits were dug. Fragments of pebble floors indicate the use of this area as an outdoor activity place. A grave with a single large posthole near the head of the burial pit may have been a kind of grave marker.²⁶⁶ Foundation trench for a wall was unearthed in the boundary ditch, about 50 cm deep and 30 cm wide made by large posts covered with mud (Fig. 27 northern part). This wall surrounded an open space where only a few finds were uncovered.²⁶⁷

A cluster of 4 rectangular dwellings (21, 2B, 2A and 19) in phase VI d1 was revealed adjacent to one another, in a line stretching from east to west (Fig. 29, 30). All of them were burnt. They share a common wall with the exception of the dwelling 19.²⁶⁸ According to the excavators, the adjacent buildings 21, 2B and 2A that share common wall did not communicate internally with each other.²⁶⁹ The size of the building 21 is uncertain as it was partly exposed, but it had a well preserved plastered floor with a bin and several stone and bone artifacts found in situ.²⁷⁰ Building 2B, located between the buildings 21 and 2A, measures 5.7 x 4 m. The front entrance

²⁶² Gerritsen, Özbal 2016, 201.

²⁶³ Gerritsen, Özbal 2016, 205.

²⁶⁴ Gerritsen, Özbal 2016, 205.

²⁶⁵ Gerritsen *et al.* 2013, 59.

²⁶⁶ Gerritsen *et al.* 2013, 59.

²⁶⁷ Gerritsen, Özbal 2016, 201-202.

²⁶⁸ Gerritsen *et al.* 2015, 11-13; Gerritsen, Özbal 2016, 202.

²⁶⁹ Gerritsen *et al.* 2015, 11-13; Gerritsen, Özbal 2016, 202.

²⁷⁰ Gerritsen, Özbal 2016, 202.

opens to the south. Although its floors were badly preserved, a few small basins and a hearth were found connected with one of the floors.²⁷¹ Structure 2A lays east of the structure 2B and shares a North-South wall. The internal space measured 12 m² and had the entrance in the southern wall. Although it was partly damaged by upper structures, a wide range of installations including storage installations (silos) and many bins was unearthed in its western part. In one of them, a cache of lentils was stored.²⁷² A bovine skull was unearthed beneath the plastered floor. According to the excavators, it was laying there intentionally as a part of the structure. A set of human footprints were found on the floor above it.²⁷³

Structure 19 is the next in the line to the east of 2A and almost a meter apart (Fig. 31). Its inner dimensions were 5.7 x 4 m and its entrance was opened probably also in the southern wall. The northern part of the floor is largely destroyed by later wall foundation trenches. Excavators report that in the walls many chunks of burnt loam were found. The floor of the building painted in red is unique and reminds the similar ones found in the settlements of southeastern and central Anatolia.²⁷⁴ Parallel to the southern walls in front the entrance of these structures there are other short post-build walls creating some space about 1-1.5 m called open annexes by the excavators (Fig. 27).²⁷⁵ The finds in the annexes indicate the intensive use of this space for craft activities and cooking.²⁷⁶

The open space, south of the houses, was used as a courtyard for certain activities. Within the courtyard, patches of flooring paved with small stones and a group of small fire pits, in the eastern part for food preparation, were found.²⁷⁷ The courtyard was also used as a graveyard, mostly for adults through the VId1, VId2, VIc Phases.²⁷⁸ Infant graves were found in the houses.²⁷⁹

In the VId2 Phase, another cluster of houses was build, on top of the houses of the previous level, keeping the same orientation and the main features of the previous

²⁷¹ Gerritsen, Özbal 2016, 202.

²⁷² Gerritsen, Özbal 2016, 202.

²⁷³ Gerritsen *et al.* 2015, 13; Gerritsen, Özbal 2016, 202.

²⁷⁴ Gerritsen *et al.* 2015, 13; Özbal, Gerritsen 2015, 34-35; Gerritsen, Özbal 2016, 203.

²⁷⁵ Özbal, Gerritsen 2015, 34-35; Gerritsen, Özbal 2016, 203.

²⁷⁶ Özbal, Gerritsen 2015,37.

²⁷⁷ Özbal, Gerritsen 2015, 34-35; Gerritsen, Özbal 2016, 203.

²⁷⁸ Özbal, Gerritsen 2015, 34-35; Gerritsen, Özbal 2016, 203.

²⁷⁹ Gerritsen, Özbal 2009, 460; Gerritsen, Özbal 2016, 203.

settlement with a courtyard to the North,²⁸⁰ while new structures and installations were built over the depression area, and were surrounded by an earthen bank. The best preserved structure 22 is a rectilinear, semi-subterranean building (Fig. 32, 33). Its floor is 50 cm lower than the ground and was plastered with yellow clay. Its walls have foundation trenches. Although cooking pots were found, the excavators are not sure whether it was used for habitation.²⁸¹

Burials, mostly single, are encountered in many locations throughout the settlement (Fig. 34).²⁸² Usually, adults were buried in the courtyards or in the fill of abandoned houses,²⁸³ while infants in the walls or around the oven within the houses, though both types of burials were discovered in the central courtyard.²⁸⁴

There is a chronological gap between the layers of the Late Neolithic and the Late Chalcolithic period (3950-3650 cal. BC),²⁸⁵

2.2.4 Ilipinar

Ilipinar is a tell of medium size situated 1.5 km west of the Iznik Lake (Fig. 35-43).²⁸⁶ The settlement contains habitation layers dating from 6000-5400 cal BC.²⁸⁷ Small stream, runs close to the site. The site was divided into seven phases (Tables 1, 3, 4, 5, 8, 9). The lower Phase X (6000-5875 cal BC) was founded on virgin soil. Three building levels were identified. The last one was destroyed by intense fire.²⁸⁸

A natural probable ditch or channel approximately 3.5 m wide and a meter deep was detected running through the main area that was called Big Square from the excavators (Fig. 38, 39).²⁸⁹ The finds from the fill of the ditch prove that it was used as

²⁸⁰ Gerritsen, Özbal 2016, 204.

²⁸¹ Gerritsen, Özbal 2016, 204.

²⁸² Hofmanová 2016, 21.

²⁸³ Brami 2014b, 146.

²⁸⁴ Weninger *et al.* 2014, 19.

²⁸⁵ Gerritsen, Özbal 2009, 461; Gerritsen *et al.* 2013, 55.

²⁸⁶ Çilingiroğlu 2009, 362.

²⁸⁷ Bottema *et al.* 2001, 346.

²⁸⁸ Thissen 1999, 30; Yakar 2017, 5.

²⁸⁹ Roodenberg 2008, 3.

a rubbish dump from the early habitats. There were traces of houses over its fill some of which belong to the early settlers.²⁹⁰

The first settlement was a camp of 12 dwellings although it soon extended.²⁹¹ The same building pattern was followed from Phase X up until Phase VII. Rectangular houses, mainly measuring 6x6 or 5x6 m, were built by the same cob-on-post/piše technique.²⁹² The houses were rebuilt on the same spot with similar dimensions and orientation in the area of the Big Square (Fig. 35, 36, 39).²⁹³ Just a small shift was attested by the excavators to avoid the remains of previous posts.²⁹⁴ In most of the cases only the post holes were found. Usually inside the houses plastered wooden floors were found, supported with cross beams. The burned house of layer X was the one that was best-preserved (Fig. 36). The house was built with mud slabs and timber frame.²⁹⁵ Two main central posts supported the gabled roof.²⁹⁶ The burned house possessed a mud floor and was built on a leveled 1 m thick terrace.²⁹⁷ The main features of the houses were the fire installations and storage utilities such as a set of coarse mud bins for cereal and grinding-stones.²⁹⁸

Inside of one of the burned structures from level X, a large elliptical bin with charred barley and a number of pots, a grinding stone, and an axe with an antler were found, in one corner, while in the opposite corner remains of a fire structure on a raised platform were found.²⁹⁹ As pottery³⁰⁰ and ovens that were located outside the houses indicated, the space between the houses was probably used for daily activities

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During the phase X and IX, single, primary burials were found near the houses. Forty-eight burials were unearthed from the Big Square. The deceased was placed in

²⁹⁰ Roodenberg 2008, 3.

²⁹¹ Roodenberg Roodenberg-Alpaslan 2008, 8.

²⁹² Bailey 2000, 72; Roodenberg 2008, 11; Düring 2011, 188.

²⁹³ Düring 2011, 186.

²⁹⁴ Thissen 1999, 30; Thissen 2001, 23-24; Düring 2011, 188; Brami 2014, 115-116.

²⁹⁵ Bailey 2000, 72-73; Düring 2011, 186.

²⁹⁶ Bailey 2000, 72; Düring 2011, 188.

²⁹⁷ Düring 2011, 188.

²⁹⁸ Bailey 2000, 72; Düring 2011, 188.

²⁹⁹ Düring 2011, 188.

³⁰⁰ Bailey 2000, 73.

³⁰¹ Roodenberg 2008, 4; Çilingiroğlu 2009, 362.

contracted position in oval pit, usually on their left side in south-north orientation.³⁰² In some graves, wooden boards were placed beneath the dead (Fig. 37). Some pottery, stone beads, and pierced shell were the only items found as burial offerings.³⁰³

In all the phases of the village dated before the middle of the sixth millennium BC, mud and timber were the main materials used for the construction of the houses. Wall-posts were placed close to one another, in foundation trenches of 40 to 60 cm depth.³⁰⁴ In Phase VII, wattle-and-daub technique was used together with cob-on-post/pişe.³⁰⁵ The former is a technique characteristic for the Balkans including northern Greece. Burials outside the house are also a common feature.³⁰⁶ According to Thissen the settlement of Ilipinar was settled by non-locals or hunter-gatherers, perhaps by farmers moving north from the Yenişehir basin,³⁰⁷ while Yakar sees that the process of acculturation may have been rather slow.³⁰⁸

During phases VI to VA, mud-brick architecture has replaced the post-wall and mud-slab constructions.³⁰⁹ The use of mud-bricks allowed the construction of larger houses with internal division. In phase VI (5675-5625 cal BC) an embankment (earthen wall) about a meter high surrounded the settlement that was then located on the mound slope.³¹⁰ Rows of joined buildings were developed on this embankment with some passageways between them (Fig. 38, 33).³¹¹ There were building entrances through the embankment which were not built for defense reasons but for keeping the livestock, as the excavators suggest.³¹² The pattern of freestanding single house units that was used from phase X-VII was in this phase was thus replaced by joined two-storey mud-brick houses forming a curve (Fig. 38, 40, 41).³¹³ According to the

³⁰² Roodenberg 2011, 960.

³⁰³ Düring 2011, 189; Roodenberg 2011, 960.

³⁰⁴ Bailey 2000, 72-73.

³⁰⁵ Thissen 1999, 31; Thissen 2001, 49.

³⁰⁶ Bailey 2000, 72; Yakar 2017, 5-6.

³⁰⁷ Thissen 1999, 38; Thissen 2001, 49.

³⁰⁸ Yakar 2017, 6.

³⁰⁹ Thissen 1999, 30; Bailey 2000, 73; Bottema et al. 2001, 347.

³¹⁰ Düring 2011, 192; Çilingiroğlu 2009, 363.

³¹¹ Düring 2011, 192.

³¹² Roodenberg, Roodenberg-Alpaslan 2008, 8-16; Düring 2011, 192; Roodenberg 2011, 955.

³¹³ Thissen 1999, 30.

excavators, with the appearance of this type of settlement organization the area the village had occupied was tripled.³¹⁴

The rectangular or somewhat trapezoidal structures of phase VI approximately 4x5 m were built next to each other without sharing walls (Fig. 40, 41).³¹⁵ The entrance was facing the center of the settlement, while some of them had niches on the opposite side. They had wooden floors covered with mud. The 14 unearthed houses were equipped with a spatially patterned flat-topped oven to the right of the entrance and storage silos to its left side. The two main posts supported the roof, along with low platforms of clay at their base whose function remains unclear.³¹⁶ The upper storey was organized in a similar way.³¹⁷ Apart from the ovens and storage bins, grinding tools, vessels, and plastered baskets were also found in the houses.³¹⁸ Some indications of the existence of verandas on raised floors in front of the entrance, with oven and grinding installations suggest that the food preparation was taking place outside as well as inside the house.³¹⁹ These buildings arranged in row also served as a boundary for the village.³²⁰ The alignment was disrupted by narrow roads that were probably sheltered.³²¹ The center of the village was greatly damaged because of regular rebuilding, burials and agricultural activities, but some house remains were preserved that were of the same type as the row-houses and had the same function.³²² A conflagration destroyed the village of level VI.³²³

The Phase VA (5600-5525 calBC) has 3 building levels.³²⁴ Rectangular (7x5.5 m) free-standing one-storey houses were found,³²⁵ with two or four inner buttresses that supported the gabled roof (Fig. 42), dividing the space into small rooms. Each room was equipped for different use.³²⁶ Storage areas were mainly located on the right of

³¹⁴ Roodenberg, Roodenberg-Alpaslan 2008, 8-16.

³¹⁵ Düring 2011, 192; Brami 2014b, 172.

³¹⁶ Düring 2011, 192; Brami 2014b, 172.

³¹⁷ Düring 2011, 192; Brami 2014b, 172.

³¹⁸ Çilingiroğlu 2009, 363.

³¹⁹ Düring 2011, 192.

³²⁰ Roodenberg 2011, 955.

³²¹ Düring 2011, 192.

³²² Roodenberg 2011, 955.

³²³ Thissen 1999, 30.

³²⁴ Thissen 1999, 31.

³²⁵ Düring 2011, 193.

³²⁶ Çilingiroğlu 2009, 362; Düring 2011, 193.

the entrance. Within each house facilities such as ovens, grinding stones, and basins are found.³²⁷ In front of the entrance, there were verandas with thermal structures and clusters of plastered baskets.³²⁸ Ilipinar VA was destroyed also by a severe fire³²⁹ and the settlement was probably abandoned until³³⁰ the final phase of the prehistoric village (VB).³³¹

Middle Chalcolithic Phase VB is dated to 5500-5450 cal BC³³² and has 2 sub-phases. Remains of semi-subterranean houses probably for seasonal habitation were revealed with well-preserved evidence of inner architectural elements, grinding stones, ovens and ceramics (Fig. 43).³³³ Such a parallel decline has been observed in both Aktopraklik B and Aşagi Pinar.³³⁴ After the burning of phase VB, the site was abandoned for over two millennia.³³⁵

At the time the Ilipinar settlement was established the life in the region was already fully agricultural, with sheep and goat dominating.³³⁶ In Phase IX breeding of pigs increased.³³⁷ However, significant shift in animal husbandry is observed in the phase VB when cattle appears to prevails.³³⁸

Despite the significant changes in the architecture of the settlement from Phase X to VA, there is a remarkable continuity of habitation for almost 500 years.³³⁹ This period of continuity, according to the excavators, ceased after Phase VA.³⁴⁰

³²⁷ Düring 2011,193.

³²⁸ Düring 2011,193.

³²⁹ Çilingiroğlu 2009, 362; Düring 2011,188.

³³⁰ Çilingiroğlu 2009, 362.

³³¹ Thissen 2008, 100; Çilingiroğlu 2009, 362; Düring 2011,188.

³³² Thissen 1999, 31; Çilingiroğlu 2009, 362.

³³³ Çilingiroğlu 2009, 362; Roodenberg 2011, 965.

³³⁴ Παππά 2008, 316; Özdoğan E. 2011, 221; Gerritsen, Özbal 2016, 206

³³⁵ Thissen 1999, 31; Bottema *et al.* 2001, 347.

³³⁶ Thissen 1999, 30; Yakar 2017, 5; Roodenberg, Roodenberg-Alpaslan 2008, 8.

³³⁷ Yakar 2017, 7.

³³⁸ Yakar 2017, 7.

³³⁹ Roodenberg 2011, 965.

³⁴⁰ Roodenberg 2011, 965.

2.3 Eastern Thrace

Eastern Thrace is the European part of Turkey, thought by many to be a bridge between the Balkans and Anatolia.³⁴¹ No major tell-site has yet been found in this area.³⁴² Epipalaeolithic sites have not been excavated in Turkish Thrace³⁴³ and according to Reingruber evidence for the presence of Mesolithic population is missing thus far.³⁴⁴ There are two settlements in East Thrace, Hoca Çeşme and Aşağı Pinar, both dated to the end of the 7th millennium BC (Tables 1, 4, 5, 7, 8).³⁴⁵ Only at Aşağı Pinar the excavations are still ongoing. The two settlements differ in their location and the architecture. Hoca Çeşme is located in a coastal region of the Aegean, while Aşağı Pinar in a continental area (Fig. 1, 2).³⁴⁶ The Neolithisation of Eastern Thrace has been related to the migration of the more dynamic 'Western Group' (see §1.3) which took place almost two hundred years later (6400 BC) than the earliest Neolithic settlements in the Eastern Marmara.³⁴⁷

Hoca Çeşme was oriented towards the Aegean Sea, and therefore it could be assessed as the northern Aegean site.³⁴⁸ According to the C14 dates of Hoca Çeşme, the evidence shows that its' earlier settlement is contemporary with the Early Neolithic settlements in Macedonia,³⁴⁹ but also with the Aegean Thrace as the new dates from Makri (6400-6010 BC) indicates.³⁵⁰ Aşağı Pinar, on the other hand, presents a mixture of Eastern and Balkan elements.³⁵¹

One of the main differences of the 'Western group' and the 'Eastern group' in Marmara region is the almost total absence of burials, as neither intramural nor extramural burials were uncovered in the sites of Hoca Çeşme and Aşağı Pinar that

³⁴¹ Erdogu 2001, 14-15; Reingruber *et al.* 2017, 3.

³⁴² Reingruder 2016, 99.

³⁴³ Erdogu 2001, 239; Çilingiroğlu 2009, 386.

³⁴⁴ Reingruber 2016, 97-98.

³⁴⁵ Özdoğan E. 2015, 42; Karul 2017, 16.

³⁴⁶ Lichter 2005, 59.

³⁴⁷ Thissen 2000, 193; Lichter 2005, 60, 70; Özdoğan M. 2013, 195; Özdoğan M. 2015, 143.

³⁴⁸ Özdoğan E. 2016, 269; Reingruder 2016, 98.

³⁴⁹ Ammerman *et al.* 2008, 140.

³⁵⁰ Χαλκιώτη 2013, 343.

³⁵¹ Özdoğan E. 2011, 214.

belong to the Western group .³⁵² The only finds that were uncovered were just a few scattered human bones.³⁵³

2.3.1 Hoca Çeşme

Hoca Çeşme is a small mound located in the area of the delta of the Meriç – Maritsa-Evros River, approximately 5 km inland from the Aegean coast (Fig. 44-47).³⁵⁴ The site was closer to the bay of the Maritsa estuary during the Neolithic.³⁵⁵ A freshwater spring is located at the foot of the hill. The site was excavated in 1990-1993 under the direction of Mehmet Özdoğan. An area of 700 square meters was revealed, representing roughly a third of the site.³⁵⁶ Seven stratigraphic layers were divided into four successive cultural phases (IV, III, II and I).³⁵⁷ There seems to be a continuity of habitation in the period between phases IV and II. The last phase I was divided into five sub-phases a-e (Tab. 1, 5, 6, 8, 9).³⁵⁸

Phase IV (6400-6100 BC) is a single architectural layer positioned directly on the bedrock and is ascribed to the first settlers of the mound. This layer covers an excavation area of 180 square meters. The architecture of this earliest village consists of massive round huts with a wooden construction and the floors paved with stones cut into the bedrock, or by depression filled with gravel after having leveled the surface of the rock (Fig. 44). These structures differ completely from the pit-houses of the Fikirtepe-Culture.³⁵⁹ They were about 2 m apart from each other.³⁶⁰ The main architectural feature was a hut, approximately 5 m wide. The floor of the houses was dug about 10 cm into the bedrock. Along the perimeter of the huts postholes were found, 30 cm apart, partly cut into the rock and partly secured by placing stones around the posts. In the center of one of the pit-houses a large circular pit, approximately one meter deep is found. That pit was later filled in with rubble up to the floor level of the house. No fireplace were recorded that could be related to this

³⁵² Özdoğan M. 2013, 196.

³⁵³ Özdoğan M. 2013, 196; Brami 2014b, 149.

³⁵⁴ Stefanova 1998, 93; Özdoğan M. 2013, 179; Χαλκιώτη 2013, 343.

³⁵⁵ Reingruder 2016, 98.

³⁵⁶ Karul, Bertram 2005, 118; Özdoğan M. 2013, 179.

³⁵⁷ Özdoğan, M. 1997, 24.

³⁵⁸ Stefanova 1998, 93; Karul, Bertram 2005, 118; Özdoğan E. 2015, 42, 47.

³⁵⁹ Παππά 2008, 316.

³⁶⁰ Karul, Bertram 2005, 118; Çilingiroğlu 2009, 390.

building. Partial remains of other round structures have also been encountered, some of which had been renewed several times, indicating that similar type of buildings was rather uniform throughout the settlement.³⁶¹ Few storage pits were also referred among the finds.³⁶²

The settlement was surrounded by a massive stone wall/ palisade approximately 1 m high and 1.5 m thick. Some 20 m of the wall were exposed although another 40 m could still be traced over a restricted distance. The wall was built directly on top of the bedrock that had previously been thoroughly leveled (Fig. 45, 46). Parallel to the wall, a line of postholes indicates an inner wooden palisade that possibly extended over the stone wall as an upper structure.³⁶³ According to M. Özdoğan, the site of Hoca Çesme with the unique type of stone round buildings and the so-called impresso pottery indicates cultural interaction with Cyprus.³⁶⁴ He claimed that Hoca Çesme is an Anatolian colony in Turkish Thrace³⁶⁵ and argued that the agricultural way of life was established in the area of Turkish Thrace by force but no signs of violence were found in support of this hypothesis.³⁶⁶ In terms of height, the wall is too low to support that it served as a defensive wall.³⁶⁷ Others relate the wall to the position of the settlement on an important trade route meaning that the wall surrounding the settlement may have simply served as a protection for the commodities traded.³⁶⁸ This wall seems to have continued to the subsequent levels III and II.³⁶⁹

Hoca Çesme III phase (6100-6000 BC) represents two architectural layers and can be seen as a continuation of the earlier Phase IV. Plastered floors were revealed within round houses and post-holes around them. Large round building, about 10 m in diameter dating to this Phase was found, with floor made of pebbles and clay. Later on, it was plastered and painted initially yellow and then in red (Fig. 47).³⁷⁰

³⁶¹ Çilingiroğlu 2009, 390.

³⁶² Çilingiroğlu 2009, 390.

³⁶³ Özdoğan M. 2013, 180.

³⁶⁴ Özdoğan M. 2007, 22; Özdoğan M. 2011a, 421.

³⁶⁵ Erdogu 2001, 223.

³⁶⁶ Erdogu 2001, 223.

³⁶⁷ Düring 2011, 178.

³⁶⁸ Erdogu 2001, 223.

³⁶⁹ Stefanova 1998, 93; Düring 2011, 178.

³⁷⁰ Özdoğan, M. 1997, 17; Stefanova 1998, 93; Karul, Bertram 2005, 118; Çilingiroğlu 2009, 391.

In Phase II (6000-5700 BC) rectangular buildings built with wattle and daub technique and plastered walls replaced the round buildings of the previous phases.³⁷¹ From phase I only a small number of pits was attested,³⁷² some of which were significantly deep, have much disturbed the archaeological deposits of the earlier horizons.³⁷³ Zooarchaeological remains document the presence mainly of ovicaprines and also of cattle. Marine mollusks were a significant part of the diet.³⁷⁴

2.3.2 Aşağı Pınar

Aşağı Pınar is located in the center of Eastern Thrace, within the modern town of Kırklareli, on a terrace of a small stream. Istranca Mountains, rich in forest, lays to the north and the step of inner Thrace stretch to the south (Fig. 48-56).³⁷⁵ The settlement has been excavated since 1993 by the Istanbul University (Mehmet Ozdogan) and the German Archaeological Institute (Hermann Parzinger).³⁷⁶ The site reveals a more or less continuous cultural sequence from 6400 BC to 4600 BC, which is divided into nine cultural layers dating from the Early to the Late Neolithic period, according to the Balkan chronological denomination (Tab. 1, 5, 6, 8, 9).³⁷⁷ Remains of earlier settlement were found only on the northernmost part of the excavated area, on a small mound near the spring. In later phases the settlement shifted its location towards the west and south, and expanded to cover the full extent of the area.³⁷⁸

Layer 7 (5900-5700 BC), is divided in two layers (early and late). The main characteristic of the settlement of the late-layer phase 7 is the arrangement of the houses in row, continued in the next layer 6, which are very similar to the row houses from Ilipinar VI and Aktopraklik B.³⁷⁹ Row houses, built in a way that resembles a multi-roomed structure of rectangular houses adjacent to each other, were all constructed in wattle and daub, with wooden posts.³⁸⁰ In the early-layer 7, all the buildings must have

³⁷¹ Çilingiroğlu 2009, 392; Düring 2011, 178; Özdoğan E. 2016, 269.

³⁷² Çilingiroğlu 2009, 392.

³⁷³ Karul, Bertram 2005, 118; Özdoğan M. 2013, 179.

³⁷⁴ Çilingiroğlu 2009, 392.

³⁷⁵ Özdoğan M. 2013, 183; Eres, Özdoğan 2012, 2; Reingruder 2016, 99.

³⁷⁶ Özdoğan E. 2011, 213; Eres, Özdoğan 2012, 2.

³⁷⁷ Özdoğan E. 2011, 213; Eres, Özdoğan 2012, 1-2; Clare, Weninger 2014, 21.

³⁷⁸ Özdoğan M. 2013, 183; Özdoğan M. 2011b, 83.

³⁷⁹ Özdoğan M. 2013, 184.

³⁸⁰ Özdoğan M. 2013, 184; Yurtdaş *et al.* 2017.

been circular pit-huts (Fig. 48, 49).³⁸¹ However, the excavators are not certain whether the rectangular and circular structures might have coexisted.³⁸² The floors of Layer 7 buildings are plastered, some of them red in colour. Several houses had ovens on a rectangular platform. The settlement in this phase had a ditch which was extending east-west, with a complex network of additional pits that sometimes merged with each other and channels (Fig. 50).³⁸³ According to the excavators, it was in use for more than 200 years and renovated many times. Initially, it was dug into the virgin soil with plaster sides.³⁸⁴ The function of the ditch is not clear as it was neither for draining water nor for defensive reasons. The excavators concluded that it was roofed or somehow protected from water and suggest that its function was related to ritual practices on the basis of finds of rare and fine quality.³⁸⁵ A number of C14 dates from various fills in the ditch places it firmly to the first quarter of the 6th millennium BC.³⁸⁶ The ditch was no longer in use during Layer 6.³⁸⁷

The houses of layer 6 (5700-5600 BC)³⁸⁸ are situated almost in the same location as the previous ones, aligned in an east-west orientation, following the curvilinear pattern of the late-layer 7 buildings.³⁸⁹ The settlement was set out according to a pre-designed plan and prior to the construction the terrain must have been leveled by scraping the remains of the uppermost level of Layer 7 (Fig. 51, 53).³⁹⁰ The houses were built adjacent to each other using shared walls. The houses were built adjacent to each other using shared walls. Their dimensions vary significantly, the largest being 65 m² and the smallest 30 m², while only two of them were 15 m².³⁹¹ The walls, some of them preserved up to 50 – 60 cm in height, were constructed with wooden posts set close to each other and plastered by thick layers of mud.³⁹² The

³⁸¹ Özdoğan M. 2013, 185-186.

³⁸² Özdoğan M. 2013, 186; Yurtdaş *et al.* 2017.

³⁸³ Özdoğan E. 2011, 221; Özdoğan M. 2011b, 84-87; Özdoğan M. 2013, 184.

³⁸⁴ Özdoğan M. 2013, 185.

³⁸⁵ Özdoğan M. 2013, 185.

³⁸⁶ Özdoğan M. 2013, 186.

³⁸⁷ Özdoğan E. 2011, 221.

³⁸⁸ Özdoğan M. 2013, 189.

³⁸⁹ Özdoğan E. 2011, 214.

³⁹⁰ Özdoğan E. 2011, 214.

³⁹¹ Özdoğan E. 2011, 214; Eres, Özdoğan 2012, 153-154; Özdoğan M. 2013, 188.

³⁹² Özdoğan E. 2011, 215.

inner walls were made of smaller posts and twigs.³⁹³ The floors are of calcareous fill plastered by clay. Most of the floors and walls have multiple layers of plaster.³⁹⁴ The excavators refer that the larger houses must have either an attic or a storey with floor made of densely placed horizontal beams coated with thick layer of clay which had traces of mat imprints.³⁹⁵ No communication door between the houses was found.³⁹⁶ The majority of the houses have clay benches, fireplaces, round or rectangular ovens on rectangular platforms and, at least in one house a tandoor type of oven. Some oval work platforms about 30 X 50 cm and about 20 – 30 cm high were found near the ovens.³⁹⁷ Almost every house had clusters of storage bins (silos).³⁹⁸ Most of the silos and some of the pots were found to contain large amounts of carbonized grain.³⁹⁹ Evidence of open courtyards with installations for daily use were not found.⁴⁰⁰ This lead the excavators to conclude that the lower part of the house was used only for storage while the upper part was living space where daily activities were taking place.⁴⁰¹

Following an almost 200 year period of settlement flourish, Layer 6 shows some social changes. (Fig. 51). The increase of storage within the houses lead the excavators to suggest either that there was a disturbance in the community or the living conditions had worsened. At the end of the Layer 6 period, the settlement was destroyed by fire.⁴⁰² This has been interpreted as deliberate practice of burning the houses, a phenomenon known in this period in the central Balkans where it was understood as sign of the beginning of a new age. Not only the houses of the layer 6, but also of layers 4, 3 and 2 were ended with a conflagration. This phenomenon is observed in the settlements in Bulgaria and western Anatolia.⁴⁰³

In transition Layer 5/6 (5600-5450 BC) main architectural features are round or oval pit-dwellings and palisade walls with buttress-like indentations. Similar changes

³⁹³ Özdoğan E. 2011, 215-216; Eres, Özdoğan 2012, 152-153.

³⁹⁴ Özdoğan E. 2011, 214.

³⁹⁵ Özdoğan E. 2011, 214-216; Eres, Özdoğan 2012, 152-153; Özdoğan M. 2013, 188.

³⁹⁶ Özdoğan M. 2013, 188.

³⁹⁷ Özdoğan E. 2011, 217.

³⁹⁸ Özdoğan E. 2011, 217.

³⁹⁹ Özdoğan E. 2011, 217.

⁴⁰⁰ Özdoğan M. 2013, 188.

⁴⁰¹ Özdoğan E. 2011, 219.

⁴⁰² Özdoğan E. 2011, 220; Özdoğan M. 2013, 197, 188.

⁴⁰³ Özdoğan E. 2011, 220; Özdoğan M. 2013, 197; Brami 2014a, 166.

are observed in the settlements of Aktopraklik and Ilipinar where rectangular buildings were also replaced by round free-standing huts.⁴⁰⁴

The final layers 5-2 of Aşağı Pınar was a period of time where the originally Anatolian cultural components were eradicated and substituted by local ones, according to the excavators.⁴⁰⁵ The settlement in the Layer 5 was enlarged and shifted to the southern part of the mound. Rectangular planned houses reappear. Thirteen unburned buildings were revealed dated in 5350 c. BC. They are freestanding, placed close to each other, and consist of one or two rooms.⁴⁰⁶ Almost all of them have the same orientation and more or less the same dimensions (5 x 6.5 m), indicating that they were built according to certain plan and not spontaneously.⁴⁰⁷ Although the walls were poorly preserved it appears that they were very thin, constructed in wattle and daub. No post-holes were found to support the walls and they were very thin to carry any roof. However, large postholes were found outside the buildings, running parallel to their walls about 1.5 m away. The excavators concluded that these posts supported the roof creating at the same time a kind of a porch.⁴⁰⁸

The Layer 4 (5250-5080 BC) is represented by eight rectangular, freestanding dwellings with one or two rooms (Fig. 54, 55).⁴⁰⁹ Their dimensions and orientation were not certain. Their wall also differs structure from the previous layers with middle-sized posts bound by twigs and filled in with daub. Inner posts were used to support the roof of the large dwellings. Small rectangular spaces used as granaries, were found in the corners of the rooms or attached to the outer side.⁴¹⁰ Some of the buildings had second floors.⁴¹¹ The houses were destroyed by severe fire.

In Layer 3 (5080-4900 BC) small adjustments of the architectural practices is observed, as the dwellings became longer and some of them had three rooms. The houses didn't have common orientation, which lead the excavators to conclude that the settlement was not pre-planned. A wooden palisade supported by stones has been

⁴⁰⁴ Παππά 2008, 316; Özdoğan E. 2011, 221; Gerritsen, Özbal 2016, 206.

⁴⁰⁵ Özdoğan M. 2013, 198.

⁴⁰⁶ Özdoğan E. 2011, 222; Eres, Özdoğan 2012, 153.

⁴⁰⁷ Eres, Özdoğan 2012, 152.

⁴⁰⁸ Eres, Özdoğan 2012, 153.

⁴⁰⁹ Eres, Özdoğan 2012, 153.

⁴¹⁰ Eres, Özdoğan 2012, 153-154.

⁴¹¹ Özdoğan E. 2011, 221.

revealed in the northeastern part of the Layer 3 settlement, which was probably in use in the next layer too.⁴¹² The houses were destroyed by severe fire.

Layer 2 (4900-4700 BC) was also destroyed by fire. All buildings were rectangular, freestanding and parallel to each other. Each structure had three rooms separated by thin walls in wattle-and-daub. Postholes were not identified. The excavators refer that one of the narrow ends of the buildings was apsidal (Fig. 56).⁴¹³

2.3.3 Toptepe

Toptepe is coastal site, located directly on a promontory, about 60 km west of Istanbul and 4.5 km east of Ereglisi, ancient Perinthos (Fig. 57 - Tab. 5, 6). It was almost totally destroyed without documentation in 1989.⁴¹⁴ The rescue excavation was conducted in the area of 15x20 m. The stratigraphy of the site remains unclear, but it appears that the settlement belongs to the tell-type of sites. The excavators divided the 15 layers of habitation in four phases.⁴¹⁵ According to the excavators Toptepe is a local culture of Middle Chalcolithic Period (5200 BC)⁴¹⁶ (Tables 5, 6, 8, 9) without certain parallel either in the Balkans or in Anatolia.⁴¹⁷

The only architectural remains are found in phase 3 (layers 5-7). Layer 5 has revealed the remains of a burned rectangular house (28 m²) with two spaces, the main room (23 m²) and a small annex to the south, constructed with mud-bricks and posts (Fig. 57). The building was well preserved except the western wall which was lost because of the destructions. The floor was plastered with clay and polished. There is evidence that the walls were decorated.⁴¹⁸ An oval domed oven was attested in the western part of the room and a deep pit next to it plastered with clay contained ash. Scattered animal bones and a significant quantity of charred grains were found around the oven. A well-plastered platform was found adjusted to the northern wall. Among

⁴¹² Özdoğan E. 2011, 221.

⁴¹³ Eres, Özdoğan 2012, 154.

⁴¹⁴ Özdoğan *et al.* 1991, 75; Özdoğan M. 2013, 178-179.

⁴¹⁵ Özdoğan *et al.* 1991, 76.

⁴¹⁶ Özdoğan *et al.* 1991, 82; Reingruber 2016, 99; Yurtdaş *et al.* 2017.

⁴¹⁷ Erdogu 2001, 32.

⁴¹⁸ Özdoğan *et al.* 1991, 78.

the finds are two anthropomorphic vessels.⁴¹⁹ In the eastern part of the room behind of a small wall, pots and a grinding stone were collected. All the finds indicate the domestic use of the space except of the anthropomorphic vessels to which the excavators ascribed ritual use. The buildings seem to be built over a large deposit of shells found in the 8th layer of the earlier phase 4,⁴²⁰ suggesting that mollusks were extensively consumed.⁴²¹

⁴¹⁹ Özdoğan M. 2013, 178-179.

⁴²⁰ Özdoğan *et al.* 1991, 77, 79.

⁴²¹ Özdoğan *et al.* 1991, 78; Özdoğan M. 2013, 178-179.

Chapter 3: Parallel cases in Greece

In northern Greece, pit dwellings of the Early Neolithic settlements (6500-5800 BC according to Greek chronology) have been related to the need of first farmers to quickly create a shelter in a specific place (Tab. 2, 6).⁴²² The earliest of these have been recently found at Paliambela⁴²³ and Revenia⁴²⁴ (Adaktylou et al. ?, Urem-Kotsou et al. 2015) in central Macedonia, and at Filotsairi in western Macedonia (Karamitrou-Mentesidi et al. 2015).⁴²⁵

The existence of underground houses especially from the Early Neolithic period was virtually unknown in Greece until the late 1980s.⁴²⁶ Pits were easily misunderstood as to their functionality, and were considered as places of various function, but were usually interpreted as rubbish pits. The data brought to light with the new excavation changed the picture regarding the appearance of pit-houses in northern Greece (Fig. 58, 59).

Apart from the very early settlements, pit-houses are encountered also in the later phases of the Neolithic in Macedonia, when rectangular above-ground buildings predominate. For example, in the settlement at Giannitsa pit-houses occurred in the Early Neolithic phase, but were replaced in the Middle Neolithic with rectangular above-ground, while in Apsalos-Grammi only pit-houses were found in the settlement dating to the Middle Neolithic. At Paliambela-Kolindros pit-houses of the very early phase of the Neolithic were soon replaced by rectangular above-ground and remained the only type of buildings in the settlement throughout the Middle and Late Neolithic, while in closely located Makriyalos pit-houses were the only type of buildings throughout the Late Neolithic.⁴²⁷

Nevertheless, there are differences between the regions of Macedonia. In its western part tell-type of settlements and rectangular above-ground prevail, while in central Macedonia flat-extended settlements prevail and pit-houses occur also in later phases of the Neolithic together with the rectangular above-ground. In eastern

⁴²² Χοντρογιάννη-Μετόκη 2009, 443.

⁴²³ Μανιάτης κ.α. 2015; Παπαδάκου κ.α. 2015.

⁴²⁴ Ούρεμ-Κώτσου κ.α. 2015.

⁴²⁵ Karamitrou-Mentesidi *et al.* 2015, 51.

⁴²⁶ Παππά 2008, 12.

⁴²⁷ Ούρεμ-Κώτσου, Κώτσος *in press*, 16.

Macedonia, where tell-type of settlements are more common, rectangular above-ground buildings prevail. However, at Promachon-Topolnica dating to the Late Neolithic pit-houses were used.⁴²⁸

The co-occurrence of both types of houses throughout the Neolithic period, especially in flat extended settlements, distinguishes Macedonia from North-western Turkey.

In the Aegean Thrace little is known about the neolithic settlements and perhaps many of them remains unknown. The environmental changes have greatly affected the coastline of Northern Greece, especially of Thrace, with sea water covering large areas, while rivers brought alluvial deposits, which altogether has affected the visibility of archaeological sites.⁴²⁹ This could be the reason for the absence of Early Neolithic period in the coastal zone of Aegean Thrace.⁴³⁰ The only systematically excavated settlement is that of Makri, which appears to be contemporary with Hoca Çeşme.⁴³¹

To illustrate the variety of settlement types and the architecture a representative settlements will be present below.

3.1 Western Thrace: Makri

Makri is situated in the coastal area of Thrace near Alexandroupolis (Fig.60-62).⁴³² The settlement that belongs to tell-type of site was established around 6200 according to radiocarbon dates and was inhabited throughout the 6th millennium BC (Tab. 10).⁴³³ The settlement is divided into two phases, Makri I and II, which are separated by a well-defined destruction layer. During the early phase (Makri I) it was a small, short-lived camp limited on the top of the mound. Although it is not well-documented because it is only partly excavated,⁴³⁴ the early phase is characterized by

⁴²⁸ Vajsov 2007, 82-83; Papadopoulos, Neratzis 2014, 34; Koukouli-Chryssanthaki 2014, 257.

⁴²⁹ Ασλάνης 1992, 67; Ammerman *et al.* 2008, 141; Efstratiou 2016, 112-113.

⁴³⁰ Ασλάνης 1992, 67.

⁴³¹ Χαλκιώτη 2013, 343.

⁴³² Karkanis, Efstratiou 2009, 956.

⁴³³ Efstratiou 2010, 47.

⁴³⁴ Efstratiou *et al.* 1998, 17.

six successive layers⁴³⁵ and must have had post-framed above-ground houses. The short lifetime of this first settlement was indicated by the thin clay floors. The settlement was destroyed by fire, as revealed by the thick layer of destruction that covers a significant part of the site.⁴³⁶ The architectural remains consist mainly of dissolved mud-brick walls, post-holes, and carbonized material.⁴³⁷ The analysis of sediment taken from this early deposit indicates short period of abandonment before it was inhabited again in Makri II phase.⁴³⁸

The late Makri II is the main cultural period of the site and includes four habitation phases.⁴³⁹ By the beginning of the fifth millennium BC it had grown into a large village of complex architectural arrangements, covering an area possibly of ca. 1 ha and producing habitation deposits up to 4 m thick.⁴⁴⁰ The settlement seems to have been organized in three main sectors: an impressive “complex area” with a special function on the top of the mound, a residential area on the slopes, and the more extensive habitation area in the periphery (Fig. 62).⁴⁴¹ The houses were rectangular above-ground, rebuilt repeatedly, their plastered floors renewed several times, while many features and finds were uncovered in them (Fig. 60, 61).

The complex area in the center of the settlement is characterized by arrangement of structures and objects, and the abundance of a variety of finds. A large post-framed structure was unearthed in this area with fine plastered floor and several large half-sunken bins used for storage. According to finds the complex area was interpreted by the excavators as a common storage area.⁴⁴²

The residential area represents a much more orderly layout.⁴⁴³ The buildings were constructed with frames of posts or mud-bricks. Stone was rarely used for foundations. The combination of more than one technique including wattle-and-daub and piše, or mud-brick was regularly attested.⁴⁴⁴ Floors were well preserved and

⁴³⁵ Efstratiou *et al.* 1998, 16.

⁴³⁶ Τζεβελεκίδη 2002, 109; Χαλκιώτη 2013, 342-349; Efstratiou, Urem-Kotsou 2006, 10.

⁴³⁷ Efstratiou *et al.* 1998, 16.

⁴³⁸ Efstratiou *et al.* 1998, 25.

⁴³⁹ Efstratiou *et al.* 1998, 15, 25.

⁴⁴⁰ Efstratiou *et al.* 1998, 13.

⁴⁴¹ Efstratiou *et al.* 1998, 15, 25; Souvatzi 2008,162; Tsartsidou *et al.* 2009,2344.

⁴⁴² Efstratiou *et al.* 1998, 26; Tsartsidou *et al.* 2009, 2344.

⁴⁴³ Tsartsidou *et al.* 2009, 2344; Χαλκιώτη 2013, 346.

⁴⁴⁴ Souvatzi 2008, 162.

fireplaces, ovens, platforms and storage were found inside the houses along with a large number of finds such as vessels, grinding and other stone tools.⁴⁴⁵

Two neolithic burials were found below a plaster floor. The deceased was deposited in the left side in contracted position.⁴⁴⁶

3.2 Eastern Macedonia: Promachon-Topolnica

Promachon-Topolnica is located at the Greece-Bulgaria border (Fig. 63).⁴⁴⁷ It reveals different settlement organization and architecture from other settlements known in this region. The settlement spread on the adjacent hilltops, located in both Greek and Bulgarian sides, covering an area of 5 ha.⁴⁴⁸ The stratigraphy of Promachon-Topolnica is particularly complicated. Four phases are distinguished with different types of houses built partially on top of the earlier ones (Tab. 10).⁴⁴⁹

Phase I (5400–5300 BC) and II (5300–5070 BC) (Tab. 10) are represented by pit-houses (8-10m across), dug for 0.60-0.70 m into the virgin soil.⁴⁵⁰ Their bottom was formed by several joined small pits. The houses were built in wattle and daub and had floors sometimes made of large wooden posts.⁴⁵¹ On the floor hearths and ovens were found with traces of renewal.⁴⁵² To this phase belongs a large, circular subterranean building, 12 m wide, dug into the bedrock, (Fig. 63).⁴⁵³ It appears that it was frequently used for ceremonies and was dedicated for public use.⁴⁵⁴ Many vessels, tools, jewellery and figurines were unearthed as well as bucrania, most likely from the wall decoration. The big amount of animal bones gives the impression of the existence of a communal feast in this area.⁴⁵⁵

⁴⁴⁵ Souvatzi 2008, 162-163; Tsartsidou *et al.* 2009, 2344.

⁴⁴⁶ Efstratiou *et al.* 1998, 17.

⁴⁴⁷ Κουκούλη- Χρυσανθάκη, Todorova, κ.ά. 1996, 760; Vajsov 2007, 81-83.

⁴⁴⁸ Souvatzi 2008, 164; Papadopoulos, Neratzis 2014, 33.

⁴⁴⁹ Souvatzi 2008, 164.

⁴⁵⁰ Souvatzi 2008, 164; Papadopoulos, Neratzis 2014, 33.

⁴⁵¹ Κουκούλη- Χρυσανθάκη κ.ά. 2004, 106; Papadopoulos, Neratzis 2014, 33.

⁴⁵² Χοντρογιάννη-Μετόκη 2009, 423; Papadopoulos, Neratzis 2014, 33.

⁴⁵³ Κουκούλη- Χρυσανθάκη κ.ά. 2004, 95-96; Vajsov 2007, 81; Papadopoulos, Neratzis 2014, 33.

⁴⁵⁴ Vajsov 2007, 82-83; Papadopoulos, Neratzis 2014, 33.

⁴⁵⁵ Papadopoulos, Neratzis 2014, 33.

Phase II lasted for a fairly long period as suggested by dwellings and the public building that were often renovated and frequently rebuilt.⁴⁵⁶ In the Bulgarian sector several such semi-subterranean dwellings have been excavated with no discernible layout. Usually the floor level is discovered to be at 0.60–0.70 m lower than the natural ground, while they are approximately 8–10 m wide. Thermal structures found in pit-houses bear evidence of frequent repairs and renovation.⁴⁵⁷ In the Greek sector, one of the few pit-structures show a kind of extension.⁴⁵⁸ Phase II ended by conflagration as a thick layer (20-40 cm) of white ash suggests.⁴⁵⁹

Phase III (5070–4700 BC) is divided into two sub-phases (Tab. 10). The area was leveled before the post-framed, above-ground houses of Phase IIIA were constructed.⁴⁶⁰ In one of them, which measured 8X5 m, an oven was unearthed with vessels and quern, along with four female figurines 0.40-0.50m height.⁴⁶¹ The "cult area" of previous phases was moved to the east, where large clay compositions of massive anthropomorphic figures were found. During Phase IIIB the settlement expand covering a large part of the plateau. It is during that time that a defensive palisade was built in the eastern section of the settlement.⁴⁶² The site was abandoned about 4700 BC.

To phase III belong clay crucibles uncovered in a pit whose interior was burnt and filled with ashes, which testify that the metal melting was practiced in the settlement. Promachon-Topolnica provided one of the earliest evidence of the copper metallurgy in Europe.⁴⁶³

In the last habitation phase IV (4460–4250 BC) the settlement seems to have been by a small group of people and was distinguished by the pottery.⁴⁶⁴

⁴⁵⁶ Vajsov 2007, 82-83.

⁴⁵⁷ Papadopoulos, Neratzis 2014, 33.

⁴⁵⁸ Papadopoulos, Neratzis 2014, 33.

⁴⁵⁹ Vajsov 2007, 82-83; Papadopoulos, Neratzis 2014, 33.

⁴⁶⁰ Vajsov 2007, 82-83; Papadopoulos, Neratzis 2014, 34; Koukouli-Chryssanthaki 2014, 257.

⁴⁶¹ Papadopoulos, Neratzis 2014, 34;

⁴⁶² Vajsov 2007, 82-83; Koukouli-Chryssanthaki 2014, 257.

⁴⁶³ Κουκούλη- Χρυσανθάκη, Ασλάνης κ.ά. 2004, 106; Koukouli-Chryssanthaki 2014, 258.

⁴⁶⁴ Koukouli-Chryssanthaki 2014, 258.

3.3 Central Macedonia: Stavroupoli

The settlement is located within the modern town of Thessaloniki and belongs to the flat-extended type of sites.⁴⁶⁵ The site was inhabited during the Middle, early Late and perhaps Final Neolithic (Tab. 10).⁴⁶⁶ Three main phases have been distinguished, which differ in the type of houses (Fig, 64, 65).⁴⁶⁷ Stavroupoli I phase⁴⁶⁸ is divided into phase Ia and Ib. Stavroupoli II phase provides much fewer data regarding the architecture, which indicates that stone was used for the construction of buildings. From its early stage the site was surrounded by a ditch in shape V, 2m deep and 12m wide at some points. The second ditch which was 12m long and 3 m deep according to the excavators was reinforced by a stone wall.⁴⁶⁹

The first settlement of phase Ia was a small village, but becomes larger in the next phase (Ib) and the houses have changed in terms of both type and building techniques.⁴⁷⁰ The settlements of phase Ia, were composed of pit-huts, measuring 5x4 m and a maximum depth of 0.80 m, scattered in an area of roughly 150 x 200 m. The pits are circular or oval with thin walls and slightly concave floors. Hearths and ovens were located mainly outside but close to the house.⁴⁷¹ They were constructed of flimsy materials such as branches and straw which were not covered with clay. Smaller pits found close to the houses are interpreted as auxiliary spaces used as working places, workshops or for storage.⁴⁷²

In the subsequent phase (Ib), pit-houses were replaced by rectangular above-ground houses of unknown size, built in wattle and daub. Mud-bricks were also sporadically used. Some of the houses, according to the dimensions of floor surface may have been approximately 8x6 m in size.⁴⁷³ Usually in the middle of the clay floors a

⁴⁶⁵ Souvatzi 2008, 167.

⁴⁶⁶ Grammenos 2006, 116; Souvatzi 2008, 167.

⁴⁶⁷ Grammenos 2006, 113.

⁴⁶⁸ Χοντρογιάννη-Μετόκη 2009, 427-428.

⁴⁶⁹ Elezi 2014, 28-29.

⁴⁷⁰ Κώτσος 2013.

⁴⁷¹ Souvatzi 2008, 167; Κώτσος 2013.

⁴⁷² Κώτσος 2013.

⁴⁷³ Elezi 2014, 28.

cylindrical oven was placed⁴⁷⁴ but hearths and ovens were located also outside the houses.⁴⁷⁵ Around the building paved open areas were used for daily activities.⁴⁷⁶

In Stavroupoli II phase little evidence are preserved regarding the architecture. The houses were rectangular, above-ground with stone foundations.

3.4 Thermi

Thermi is another flat-extended settlement situated in near proximity to modern Thermi, nearby Thessaloniki. The settlement covered an area over 12 ha. Three main building phases were detected. Radiocarbon dates (5300–5000 cal BC) confirm the habitation during the Late Neolithic (Tab. 10), but pottery typology suggests that the settlement was inhabited during the Middle Neolithic as well.⁴⁷⁷ At Thermi post-framed houses and mud-brick houses with stone foundations, and possibly pit-dwellings, co-exist.⁴⁷⁸

Pit-dwellings were approximately 4m wide. Some of them have floors paved with stones (Fig. 66). Facilities like hearths and ovens were poorly preserved but in all cases, they were located outside.⁴⁷⁹ An open area about 60 m², paved with cobbles was used for the everyday activities like food and crop processing (Fig. 67). Pit-houses were replaced in the later phase of the settlement by post-framed, rectangular above-ground houses with clay floors. The houses appear to have courtyards paved with cobbles.⁴⁸⁰

Pits of different use were excavated.⁴⁸¹ Some of them were workshops as the presence of 11000 pieces of chipped-stone industry suggest.⁴⁸² Many of the pits were used for rubbish disposal.⁴⁸³

A partially excavated ditch from the last habitation period indicates that the settlement was at least in this period surrounded by a ditch.⁴⁸⁴

⁴⁷⁴ Souvatzi 2008, 167;

⁴⁷⁵ Κώτσος, 2013; Elezi 2014, 28.

⁴⁷⁶ Elezi 2014, 28.

⁴⁷⁷ Pappa 2007, 263-264.

⁴⁷⁸ Souvatzi 2008, 167.

⁴⁷⁹ Pappa 2007, 264.

⁴⁸⁰ Andreou *et al.* 1996, 583.

⁴⁸¹ Andreou *et al.* 1996, 583.

⁴⁸² Pappa 2007, 264.

⁴⁸³ Pappa 2007, 264. Παππά 2008, 99.

3.5 Makriyalos

Makriyalos is located in Pieria (Fig. 68-70) and belongs to the flat-extended type of sites. Two main phases of occupation, Makriyalos I and Makriyalos II, have been easily distinguished as they were established on opposite sides of the hill and mainly do not overlap.⁴⁸⁵ Makriyalos I dates to the early and Makriyalos II to the late phase of the Late Neolithic (Tab. 10).

During the phase I two parallel ditches (Alpha and Beta) that encircled the settlement were found, while a part of the third (Gamma) was found within the settlement (Fig. 68).⁴⁸⁶ The inner ditch Alpha is constructed with a chain of large, deep pits that were continuously renewed. The ditch was reinforced in certain areas by mud bricks or stone walls built on its outer edge. The fill of ditch Alpha consists of various layers representing successive periods of construction and use, and was fill with plenty of materials including burials and scattered human bones. The second, external ditch (Beta), located about 10 m from ditch Alpha, was much simpler in construction with a V-shaped profile and was poor in finds. The third ditch Gamma was very similar in construction to ditch Alpha and rich in finds (Fig. 69).

The ditch system served obviously as the boundary of the habitation area, but its' size and the considerable labor that was invested in its construction and maintenance reflects its importance for the organization of the settlement. The supplementary walls built on the edge of the ditch enhance the effectiveness of the system. The ditches were used also as a refuse area, as a burial place and perhaps as a cistern for the storage of water. All these functions are partially supported by the findings, but it is difficult to determine whether the whole system operated in simultaneous and uniform use.⁴⁸⁷

Inside the enclosed area clusters of pits separated by large open spaces were found. Some of the pits, up to 5 m in diameter, were semi-subterranean houses (Fig. 70). The upper structure of the houses was destroyed, but post holes around some of

⁴⁸⁴ Pappa 2007, 264.

⁴⁸⁵ Pappa, Besios 1999b, 108 -112.

⁴⁸⁶ Pappa, Besios 1999b, 112.

⁴⁸⁷ Pappa, Besios 1999b, 112.

the pits belonged to the outer walls constructed in wattle and daub.⁴⁸⁸ Other pits found close to the pit-huts were identified as storage pits, refuse pits and possible working areas. The empty space among the cluster of pit houses was probably cultivated areas inside the settlements boundary.

In Makriyalos phase II the habitation covered smaller area, but were more densely packed. Most of the structures are round pit-houses, but later in the same phase, ground buildings with apsidal ends were also found. There is evidence that the phase II settlement had ditches, but they lie mostly outside the excavated area.⁴⁸⁹ Remains of stone-paved yards are preserved, while hearths and ovens were situated outside the houses in specially formed shallow pits. Small clusters of three or four hearths or ovens suggest a communal cooking area shared by groups of houses.⁴⁹⁰

3.6 Liti I and Liti III

The settlement of Liti I is located at the northwest part of the modern village of Liti. It is a flat extended site dated to the Middle Neolithic (Tab. 10).⁴⁹¹ Parts of two ditches were unearthed (Fig. 71), which were constructed with two different techniques, the one by chains of pits and the other in a continuous V-shaped profile. In both of them a large quantity of pottery and other finds were found.⁴⁹² In the settlement only round pit-dwellings were attested (Fig. 72, 73). Smaller pits used for rubbish disposal were also found.⁴⁹³

Little III is located 3,5 km east of Liti I and, according to ceramic finds belongs to the early Middle Neolithic. A very limited area has been excavated revealing one pit-dwelling, with hearth on the floor, which indicates that this settlement too have subterranean houses. Two smaller storage pits found close to the pit-house were the only additional architectural remains uncovered.⁴⁹⁴

⁴⁸⁸ Pappa, Besios 1999a, 183-184.

⁴⁸⁹ Pappa, Besios 1999b, 112.

⁴⁹⁰ Pappa, Besios 1999b, 113.

⁴⁹¹ Παππά, Τζαναβάρη 2013, 207.

⁴⁹² Παππά, Τζαναβάρη 2013, 208,

⁴⁹³ Παππά, Τζαναβάρη 2013, 210.

⁴⁹⁴ Kotsos, Urem-Kotsou 2016, 118-120.

3.7 Mikri Volvi

Mikri Volvi is located on the southern slopes of Mt Vertiskos, 2.4 km from the modern village, and approximately 2 km from the lake Megali Volvi. According to pottery typology it is dated to the late EN or early MN period.⁴⁹⁵ The settlement appears to have two habitation phases. To the earlier phase must belong two pit-dwellings. One of them was 6X4 m large, while the other was smaller (3X3.5 m). In one of them a thermal structure was found on the floor.⁴⁹⁶

Three poorly preserved above-ground houses, built in wattle-and-daub, must belong to the second phase (Tab. 10). Their floors were made of beaten clay. In two of them a hearth was recovered. The houses were destroyed by fire. Since very few finds were uncovered in their interior, is the excavators assumed that the houses were emptied before the conflagration.⁴⁹⁷

A large number of round or elliptical pits, about 1m wide and from 30 to 80 cm deep, were found outside the habitation area. Due to their very regular shape and the fact that some of them had plastered walls, they are interpreted as storage pits.⁴⁹⁸ One pit- burial was revealed in the flexed position.⁴⁹⁹

3.8 Nea Nikomedeia

Nea Nikomedeia is located on the southern plain of Giannitsa, 10.5 km Northeast of Veroia. The settlement covers an area of 220 x 110 m and belongs to the tell-type of sites, with two meters high deposits of habitation debris dating to the Early (6400–6200 BC)⁵⁰⁰ and Late Neolithic periods (Tab. 10). It was excavated in 1961, 1963 and 1964.⁵⁰¹ The site was originally situated on the shores of the Thermaic Gulf.⁵⁰²

Twenty-four dwellings, all rectangular above-ground, dating to the Early Neolithic were uncovered. Three habitation phases were distinguished (Fig. 74). The

⁴⁹⁵ Kotsos, Urem-Kotsou 2016, 127.

⁴⁹⁶ Kotsos, Urem-Kotsou 2016, 126.

⁴⁹⁷ Kotsos, Urem-Kotsou 2016, 126.

⁴⁹⁸ Kotsos, Urem-Kotsou 2016, 126.

⁴⁹⁹ Kotsos, Urem-Kotsou 2016, 126-127.

⁵⁰⁰ Çilingiroğlu 2009, 440, Urem-Kotsou, Kotsos 2018, 239.

⁵⁰¹ Souvatzi 2008, 64; Çilingiroğlu 2009, 439.

⁵⁰² Bintliff 1976, 241-242; Foundation of the Hellenic world accessed from: <http://www.fhw.gr/chronos/01/en/nl/an/nikomedeiafr.html> 18-1-18.

orientation of the structures was E-W in all phases. The buildings were free standing, located close to each other.⁵⁰³ Phase 1 is distinguished by square, post-framed, free standing structures, approximately 8 m wide. Phase 2 had rectangular houses separated by narrow corridors. The walls were built post-framed with thin branches and reeds plastered with mud on both sides. Central posts supported the roofs. Beaten clay or clay combined with pebbles was used for the floors.⁵⁰⁴ Inner division of space is attested in the most of the dwellings. Ovens, raised benches, and storage bins (silos) were usually located in the narrow rooms or in the corner areas.⁵⁰⁵ The houses must have had courtyards with timber fences used for daily activities as an extension of domestic space for work, cooking or storage.⁵⁰⁶ Large Square building, 12X12 m in size, stands out from the rest. It was interpreted as a shrine due to its dimensions and the rare objects found inside.⁵⁰⁷ The building was destroyed by fire and rebuilt on the same spot. The settlement during the Early Neolithic was enclosed by a ditch. Pits of various shapes and sizes, used for storage, burial or rubbish disposal were found across the site. Storage pits were clay-lined and relatively poor in finds, while rubbish pits were filled with animal bones, ash, charcoal, and broken vessels.⁵⁰⁸

Twenty-one individual burials were revealed within the limits of the Early Neolithic settlement. The deceased, all in flexed position, were placed in shallow pits with the north-south orientation of bodies (heads facing to the south), and were not accompanied with offerings.⁵⁰⁹ All were found outside the houses.⁵¹⁰ In addition, two triple burials were revealed, one of a female with two children, and the other with three children.⁵¹¹

⁵⁰³ Souvatzi 2008, 75; Ούρεμ-Κώτσου, Κώτσος in press, 5.

⁵⁰⁴ Souvatzi 2008, 65; Çilingiroğlu 2009, 439.

⁵⁰⁵ Souvatzi 2008, 69.

⁵⁰⁶ Souvatzi 2008, 69.

⁵⁰⁷ Souvatzi 2008, 70-71.

⁵⁰⁸ Souvatzi 2008, 69.

⁵⁰⁹ Souvatzi 2008, 73-74.

⁵¹⁰ Souvatzi 2008, 73.

⁵¹¹ Souvatzi 2008, 74.

Conclusions

In the regions of North western Turkey and northern Greece that are focus of this study, early farmers appeared roughly contemporaneously as the radiocarbon dates from the Neolithic settlements indicate (Fig. 77).⁵¹² On the basis of C14 dates from Dikili Tash⁵¹³ and Makri,⁵¹⁴ early farmers have settled in Eastern Macedonia and the Aegean Thrace perhaps somewhat later. The evidence for Early Neolithic settlements and houses in these two regions is still missing. In other regions of Macedonia the available evidence indicates that the very early settlements were small in size and had pit-huts. This must have been also the case at least in some of the settlements in Northwest Turkey, judging from the sites such as Barcin Höyük, Menteşe, Fikirtepe, Pednik, Aktopraklik C, and in Eastern Thrace (Hoca Çeşme), all dated to the (6500-6400 cal BC). In the latter two regions, however, pit-houses were soon replaced by rectangular above-ground, while in Macedonia, especially in its central part, pit-houses, although characteristic for the very early phases of the Neolithic, occur throughout the period and co-exist with the rectangular above-ground.

It has been suggested that pit-houses were structures that served as seasonal shelters or places to be used for short period of time. Archaeological record from Macedonia suggests that pit-houses may have served as a more permanent place of habitation. The settlements in the regions examined in this study show that there were no linear pattern closely followed, but there are some trends.

According to scholars the changes in the form of houses are indicative to cultural and social changes as well.⁵¹⁵ For example, the continuation of the same type of housing relates to social stability.⁵¹⁶ This is particularly visible at tell-type of settlements, which had by the rule rectangular above ground houses. In the Marmara region, for example, the settlements were inhabited for more than 500 years showing stability in the architecture, the organization of the settlement area and of the space

⁵¹² Maniatis 2014, 211.

⁵¹³ Lespez et al. 2013

⁵¹⁴ Ammerman *et al.* 2008, 148.

⁵¹⁵ Παππά 2008, 314.

⁵¹⁶ Perlès 2001, 173.

inside and outside the houses. It has been suggested that the rectangular house is closer to the notion to the neolithic house-household. The existence of open courtyards has been taken as an indication of a more communal character of the social organization of the communities.⁵¹⁷

Neolithic settlements in Northwest Turkey and in Northern Greece share some common characteristics such as the prevalence of rectangular above ground buildings particularly in the later phases of the Neolithic, the existence of ditches and the use of courtyards for various daily activities.

Regarding the settlement types, in all the regions included in this study flat-extended and tell-type of sites occur, but the former are more common in central Macedonia, while in Northwestern Turkey and other regions of northern Greece tells prevail. Flat-extended settlements in Northwestern Turkey seems to occur mainly in the earlier phase of the Neolithic. In this area some settlements such as Barcin Höyük, Aktopraklik, Ilipinar and Aşağı Pınar show a very characteristic intra-site organization with the settlement layout and architecture that followed strict rules indicating well-organised, pre-planned village pattern of adjacent houses arranged in row. Such intra-site settlement organization has not been encountered in the sites of northern Greece including Aegean Thrace.

The importance of settlement for their inhabitants in all the regions examined could be seen also in the practice of intra-mural burying of deceased, either bellow the houses' floor, in courtyards or in communal space within the settlement. It is not without significance, perhaps, that in Northwestern Turkey burials are by far more common than in the settlements of northern Greece including Aegean Thrace.

The area of Northwestern Turkey shows also some specific characteristics at the transition from the Neolithic to Chalcolithic period, at the beginning of the 6th millennium BC, especially the settlements of the Fikirtepe Group.⁵¹⁸ A number of settlements in the plain and in coastal sites were abandoned (Burcin and Mentese in the plain area, Fikirtepe and Pendik in the Coastal area). On the contrary, Aktopraklik

⁵¹⁷ Pappa 2007, 270.

⁵¹⁸ Özdoğan E. 2016, 277.

evolved to a characteristic settlement of the plain area with rectangular above ground houses, while Ilipinar was established as new settlement probably from newcomers.⁵¹⁹

To conclude, future excavations of the neolithic settlements, especially in western (Aegean) and eastern Thrace that are still poorly known, alongside with publications of the analysis of finds that have already come to light, are expected to provide important evidence for the Neolithic period, for the establishment of farming in the area and for various aspects of farmers life.

⁵¹⁹ Erdogun 2001, 223.

Abbreviations

AUT: ΑΠΘ Aristotle University of Thessaloniki

BAR: British Archaeological Reports

BCE: Before the Common Era

BP: Before Present

cal.: Calibrated

DOI: Digital Object Identifier

EBA: Early Bronze Age

EC: Early Chalcolithic

Ed./ eds: Editor/ editors

EN: Early Neolithic

Fig.: Figure

IAM: Istanbul Archaeology Museum

Km: Kilometer

LN: Late Neolithic

m: Meter

MN: Middle Neolithic

NINO: Nederlands Instituut voor het Nabije Oosten

Tab.: Table

TAY: Türkiye Arkeolojik Yerleşmeleri

ΑΕΜΘ: Το Αρχαιολογικό έργο στη Μακεδονία και Θράκη

ΤΑΠΑ: Ταμείο Αρχαιολογικών Πόρων & Απαλλοτριώσεων

ΥΠΠΟ: Υπουργείο Πολιτισμού

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Figures



Fig. 1 Thrace and the Marmara Region with sites mentioned in the text. White symbols: (presumed) Mesolithic sites; black symbols: Neolithic sites (background for the map from URL: <http://maps-for-free.com/>). (Reingruber 2016, 94).



Fig.2 Thrace and the Marmara Region with sites mentioned in the text (Schwarzberg, Özdoğan 2012, 56.)

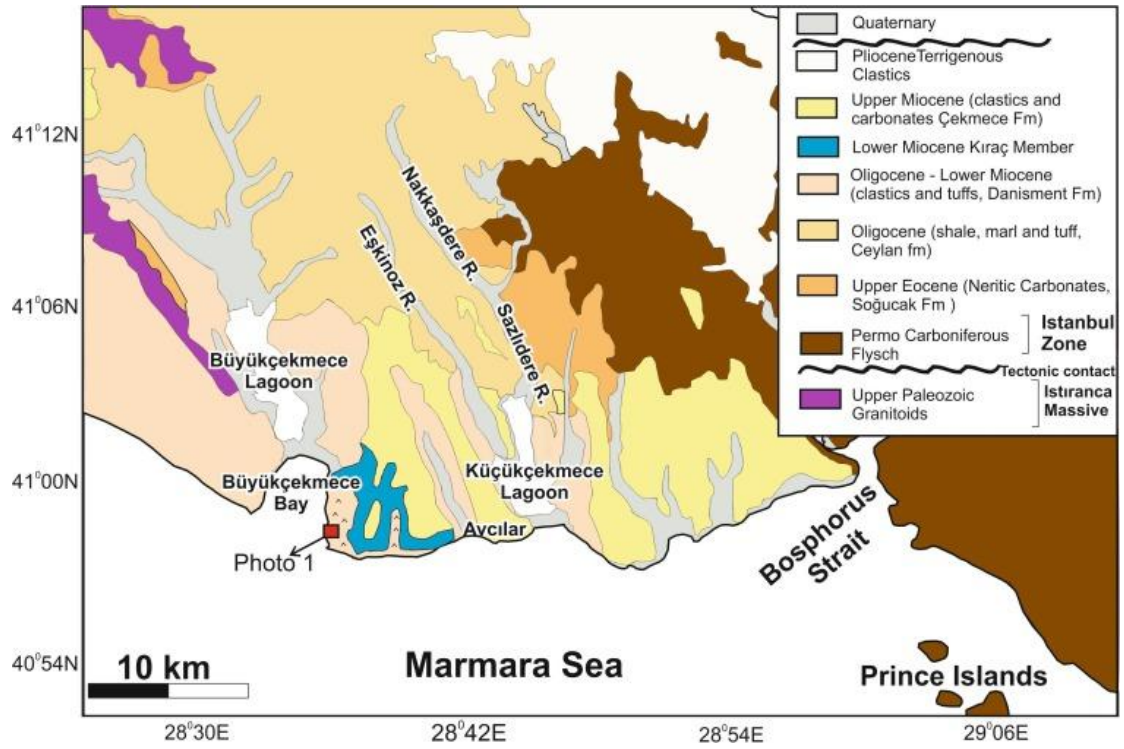


Fig. 3. Küçük Çekmece lagoon (Alp *et al.* 2018, 41).

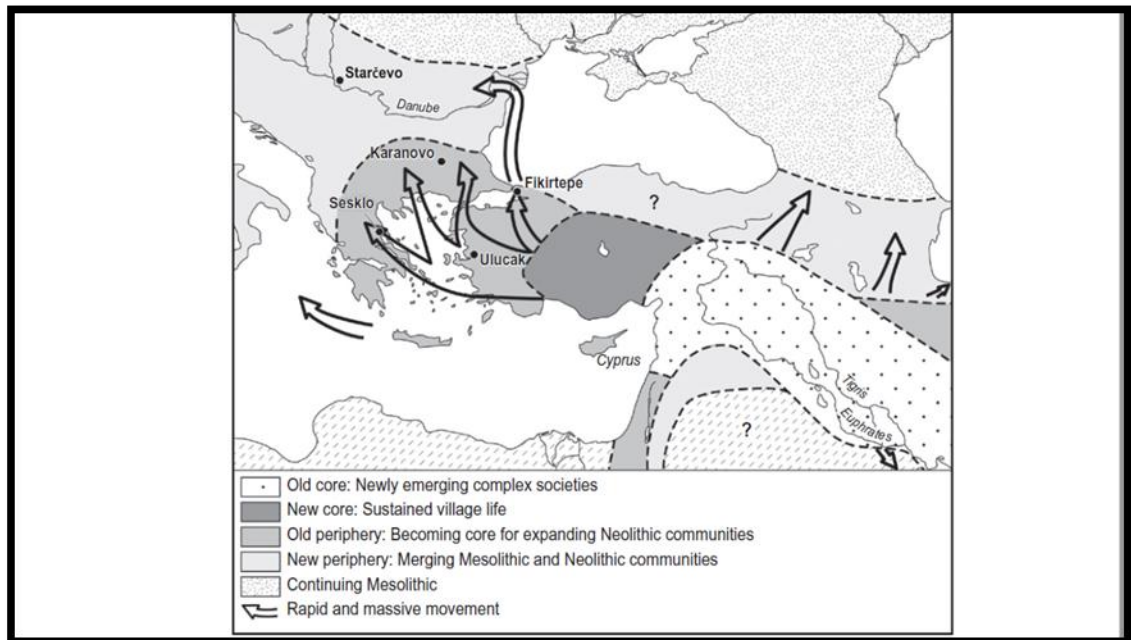


Fig. 4 The expansion of Neolithic cultures out of Anatolia towards the Caucasus and the Balkans, 7300–5700 bce. Developments during the 7th millennium bce, at the start of the Pottery Neolithic phase in Anatolia and the Levant, (Özdoğan M. 2015, 142).

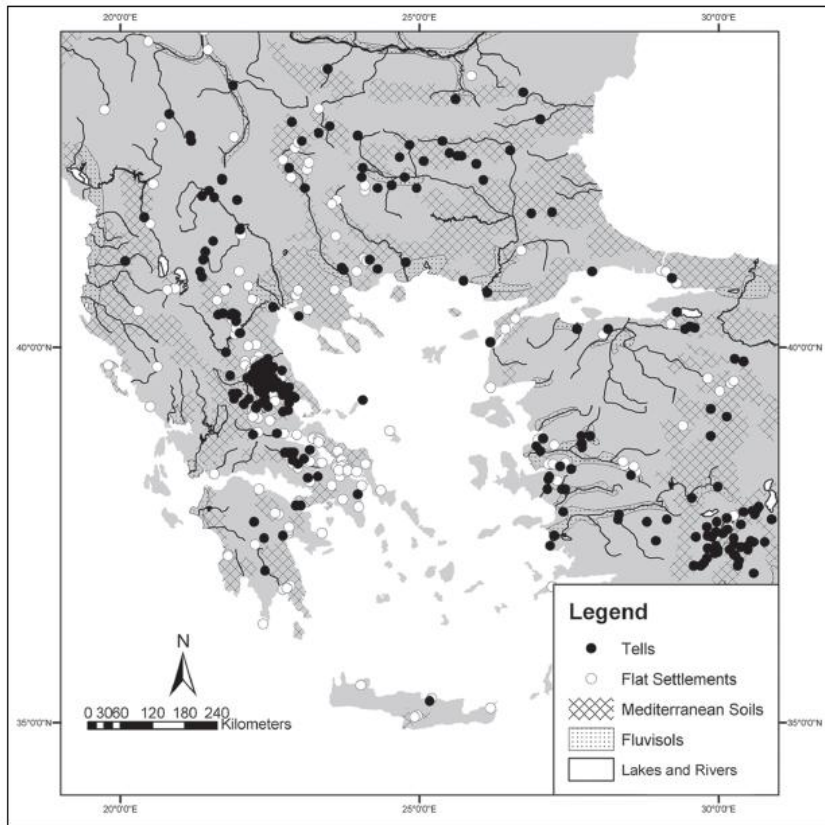


Fig. 5 Tell settlements and soil types, (Rosenstock, 2006, 116.)

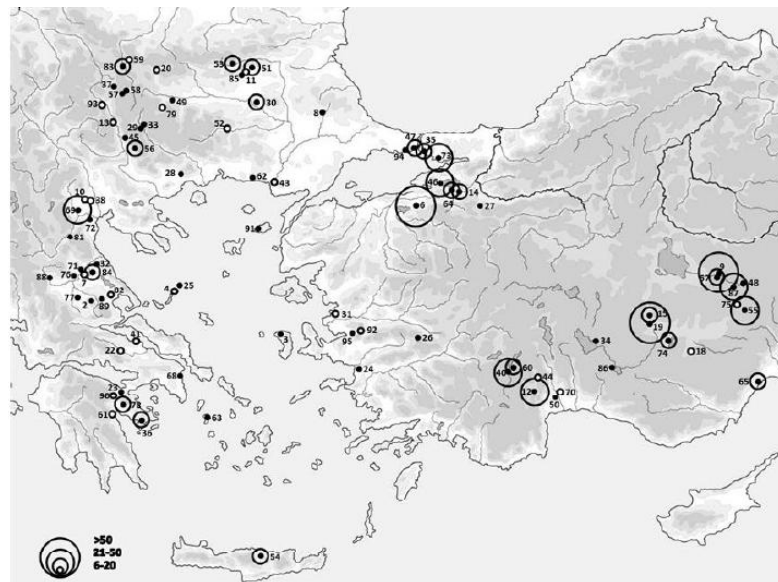


Fig. 6 Quantitative distribution of Neolithic/Early Chalcolithic 'burials' in Anatolia and Southeast Europe during the interval 8,500-5,500 BC cal (Brami 2014b, 129).

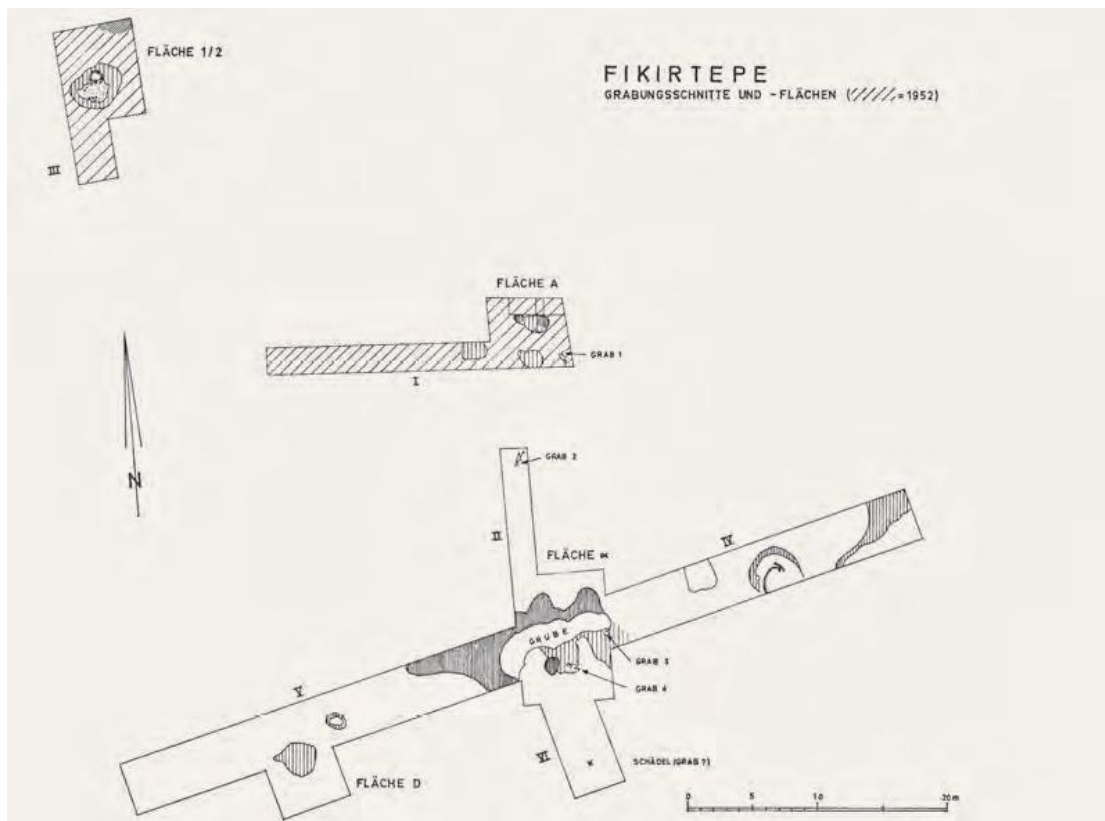


Fig.7 Fikirtepe, the layout of the Bittel-Cambel trenches. (Özdoğan M. 2013, 209.)



Fig. 8 Fikirtepe, skeleton no. 3 recovered below hut 6 in trench IV, (Özdoğan M. 2013, 210).



Fig. 9 Pendik 1981, section of one of the partially excavated huts, (Özdoğan M. 2013, 216).



Fig. 10 Pendik 1981, the burial under the floor of the hut, (Özdoğan M. 2013, 216.)



Fig. 11 Pendik 1981, remains of a partially excavated hut in the section, (Özdoğan M. 2013, 217.)



Fig. 12 Pednik: (Özdoğan M. 41) accessed from:
https://www.academia.edu/32093863/Pendik_Neden_O_nemli_.pdf

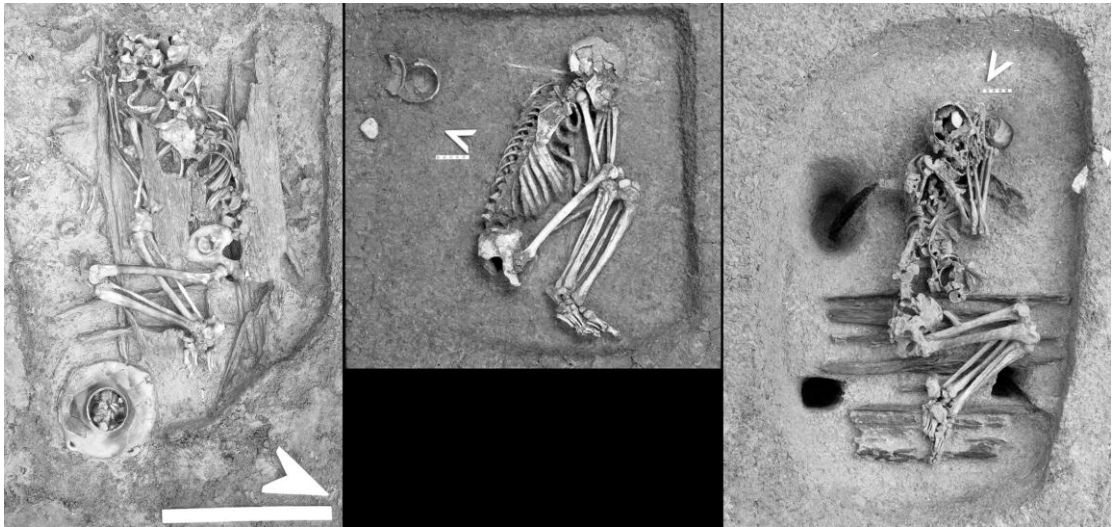


Fig. 13 Yenikapı: A Neolithic burials from Yenikapı (Özdoğan M. 2014, 44).



Fig. 14 Aktopraklık C Area lower period structures. (Karul, Avcı 2011, 10.)



Fig.15 Upper period structure, created by cutting into the bedrock (Karul, Avcı 2011,11.)

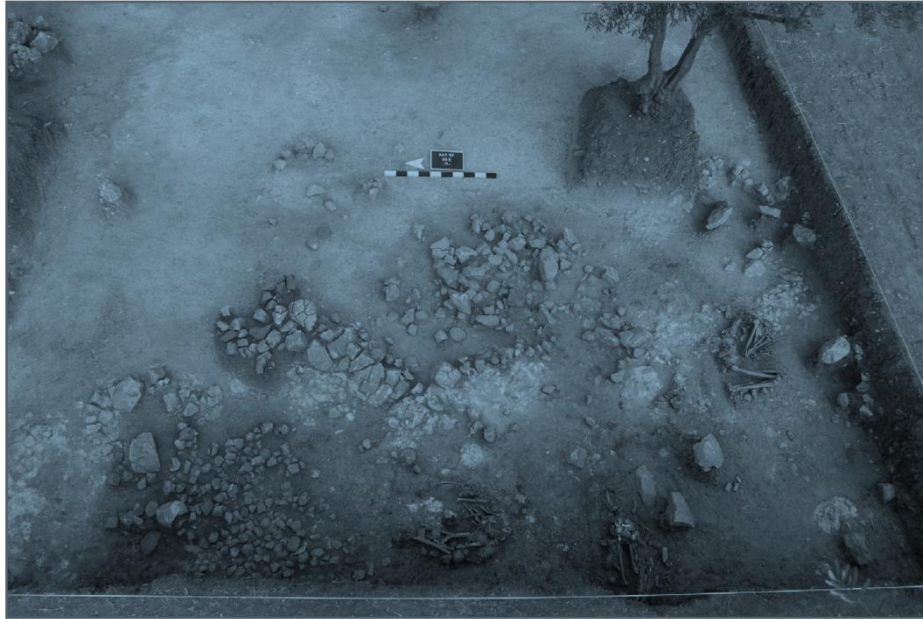


Fig.16 Aktopraklik C, the first extramural cemetery belonging to Chalcolithic (Karul 2010, 5).



Fig. 17 Illustration of wattle-daub architecture from the Marmara Seacoast (Karul 2011b, 60).



Fig. 18 Aerial view of the Aktopraklık B excavation area (Baysal 2016, 52).



Fig. 19 Aktopraklık B excavation area (Karul, Avcı 2010, 38).



Fig. 20 Site B: a building of the earlier architectural layer (Karul, Avcı 2013, 63).



Fig. 21 Site B: plan of the aligned rectangular buildings and open courtyard with various installations (drawing by F.K. Moetz). (Karul, Avcı 2013, 62.)



Fig. 22 Aktopraklik B: is located in the center of the first Chalcolithic Period with a courtyard belonging to each building in front of it and with an arrangement where there is a kiln (Karul 2012, 47.)

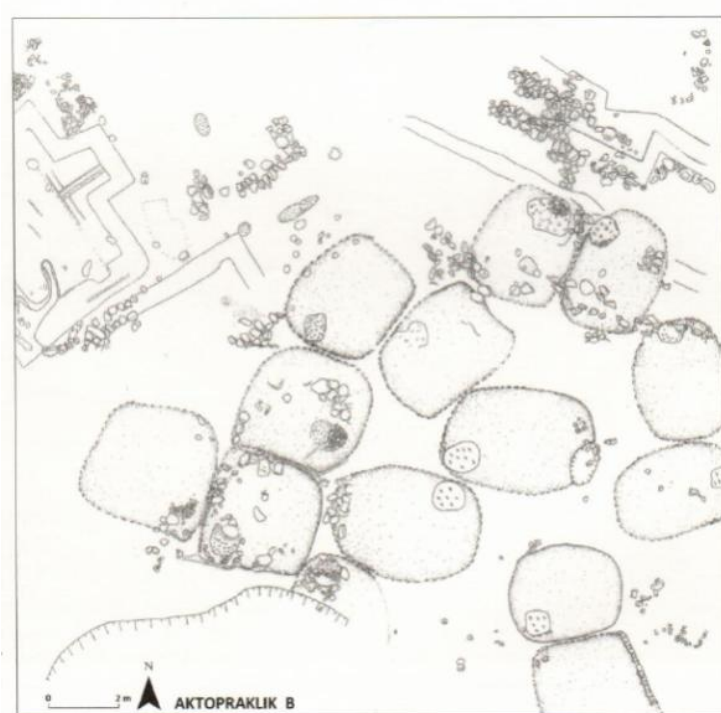


Fig. 23 Aktopraklik B: site plan of the upper layer of dense cluster of huts (Karul, Avci 2013, 59).



Fig. 24 Aktopraklık B: a seasonal settlement.(Karul 2010, 6).



Fig. 25 Basal Menteşe: woman's burial with ceramic box below house floor (Roodenberg, Roodenberg 2008b, fig.5.)

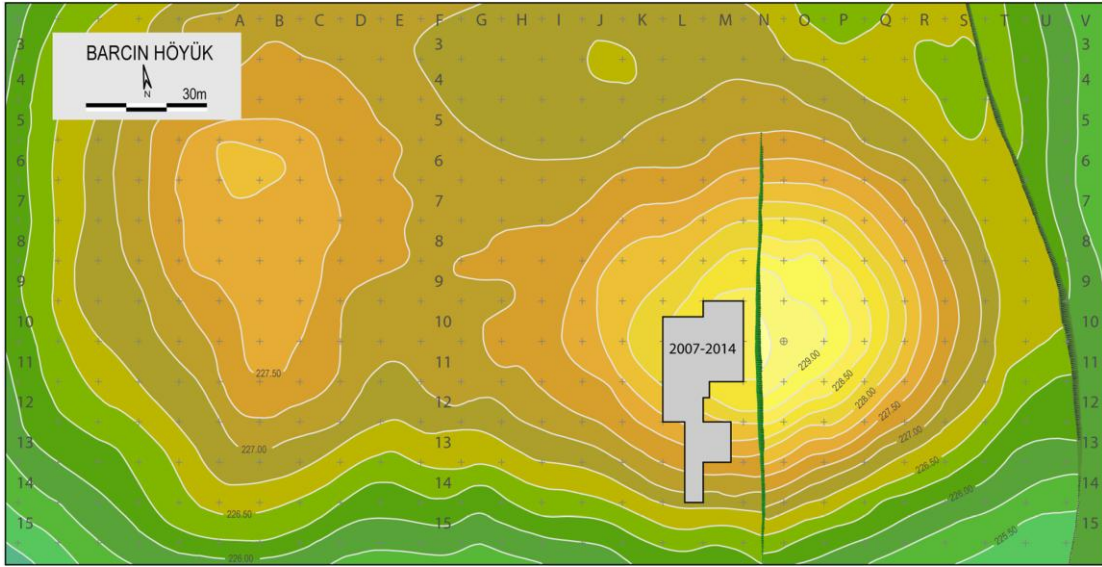


Fig 26a Barcın Höyük elevation plan with the location of the area excavated between 2007 and 2014 (Gerritsen, Özbal 2016, 200).

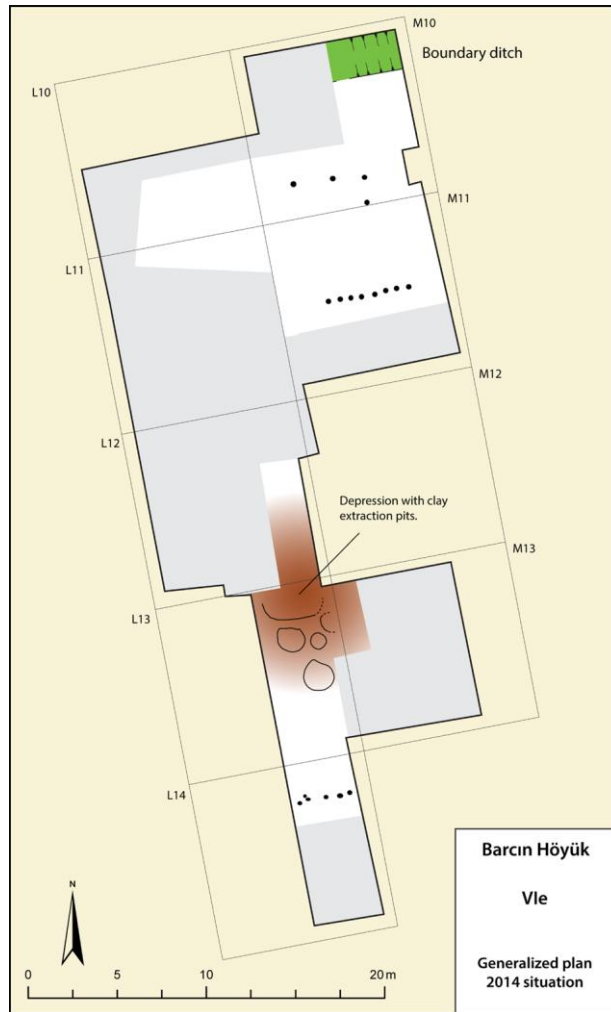


Fig. 26b Generalized plan of the Phase VIe settlement (Gerritsen, Özbal 2016, 201).

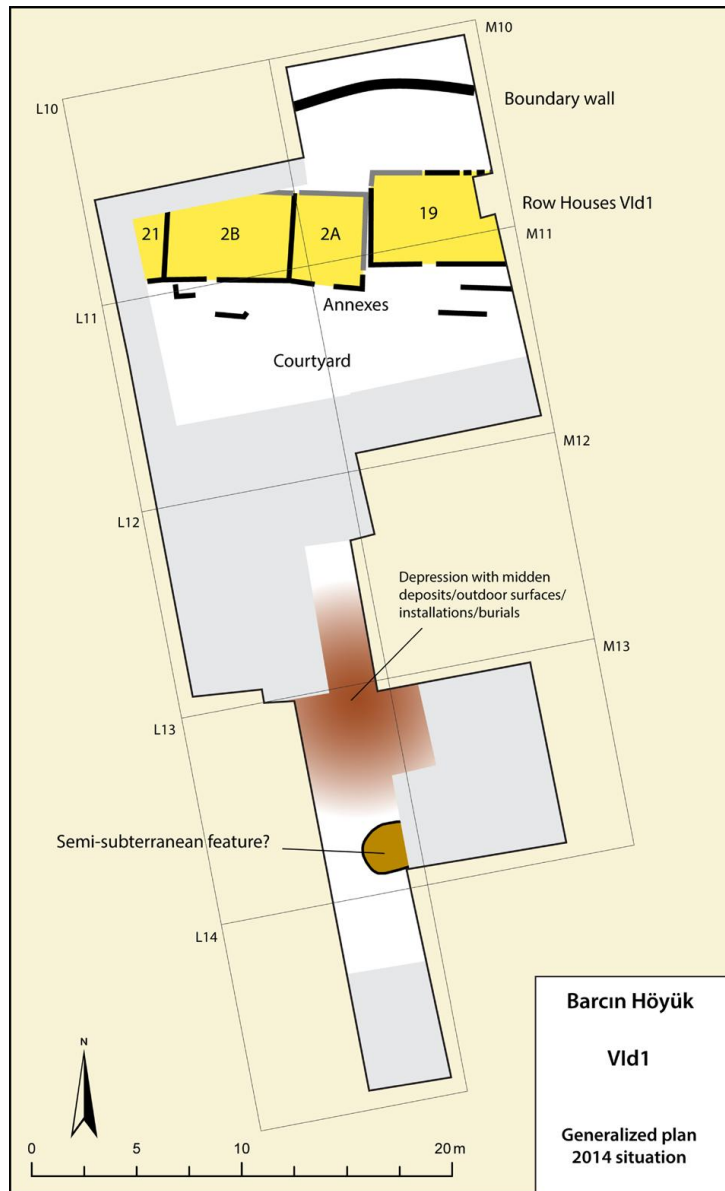


Fig. 27 Generalized plan of the Vld1 settlement (Gerritsen, Özbal 2016,202).



Fig. 28 Barcın Höyük: a semi-subterranean rounded structure (Gerritsen, Özbal 2016, 204).



Fig. 29 Barcın Höyük: Remains of houses of VIc and VIId date. Their wall stubs can be recognized by the rows of small holes—holes that originally held wooden posts that formed the walls and carried the roofs (Gerritsen, Özbal 2015, 12.)



Fig. 30 Barcın Höyük : Structures 21, 2a, 2b and 19 seen from the west. The photo was taken after the removal of the indoor surfaces and features of structures 2a, 2b and 19. (Gerritsen, Özbal 2016, 202.)



Fig. 31 The red floor of structure 19 seen from the northwest. With the exception of a small strip in the far left of the photo, the northern part of the floor is largely destroyed by later wall foundation trenches (Gerritsen, Özbal 2016, 203.)

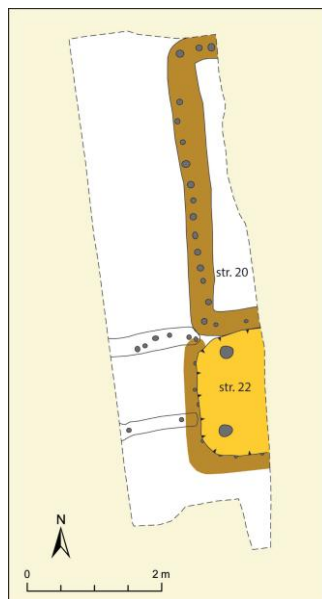


Fig. 32 Plan of late Vid1 features in Trench L12, showing structure 20 and the adjacent semi-subterranean structure 22 (Gerritsen, Özbal 2016, 204.)

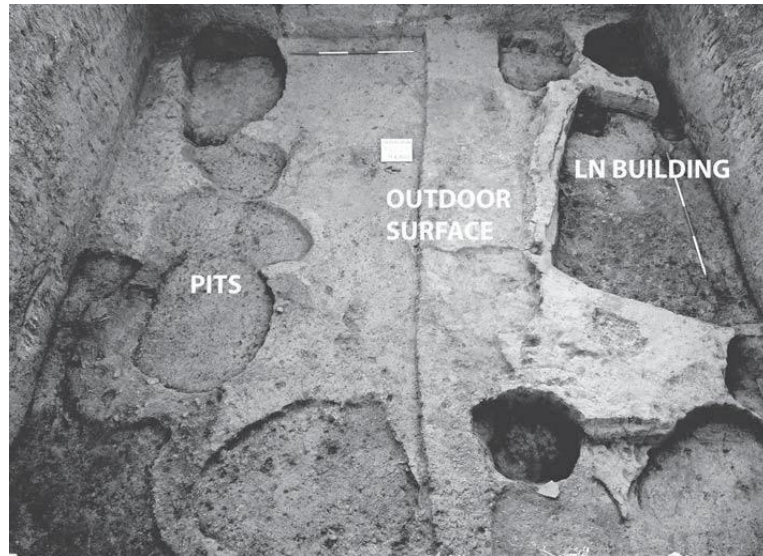


Fig. 33 Barcin Hoyuk: Overview of trench L11 at the end of excavations, with the partial Late Neolithic building to the right (South), associated exterior surfaces in the center, and intrusive pits. (Gerritsen, Özbal 2009, 464).



Fig. 34 Barcin Hoyuk: Barcun; adult skeleton in extreme 'hocker' position (Brami 2014b, 147).



Fig. 35 Ilipinar : Example of initial settlement dwellings: contours of dwellings marked by rows of postholes. (Roodenberg, Roodenberg-Alpaslan 1999,1).

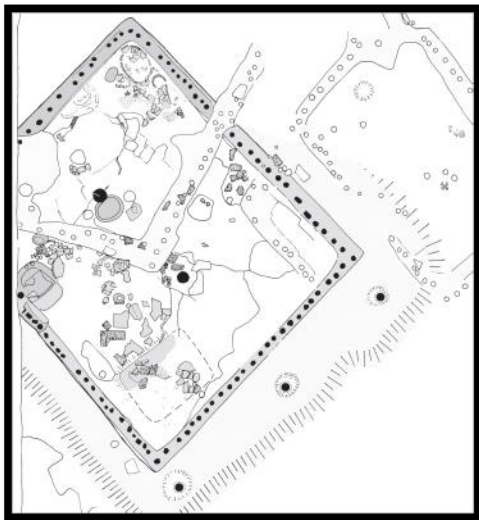


Fig. 36 Ilipinar : The burnt house of level 10 at Ilipinar (Düring 2011, 187.)



Fig. 37 Man buried on wooden planks Ilipinar. (Roodenberg, Roodenberg-Alpaslan, 2008 Fig.7).

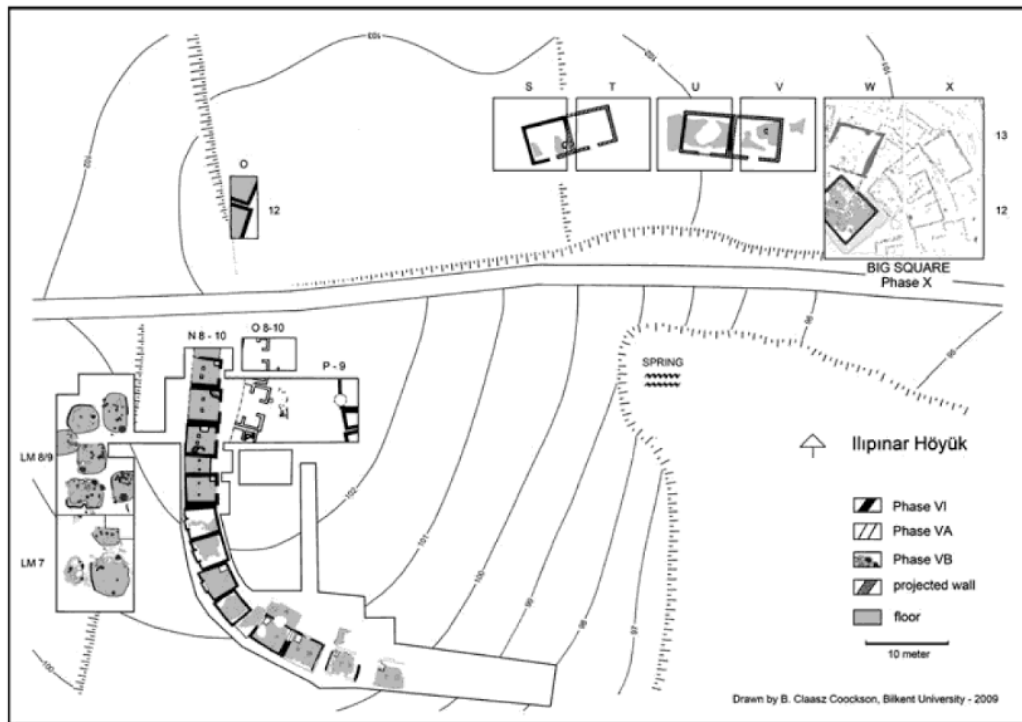


Fig. 38 Overview of the building plans from the different early village phases. The Big Square the top level of Phase X. (Roodenberg 2011, 953).



Fig. 39 Plan of the architectural remains (postholes, wooden floors and foundations) in phase VIII (Thissen 2001, 304).

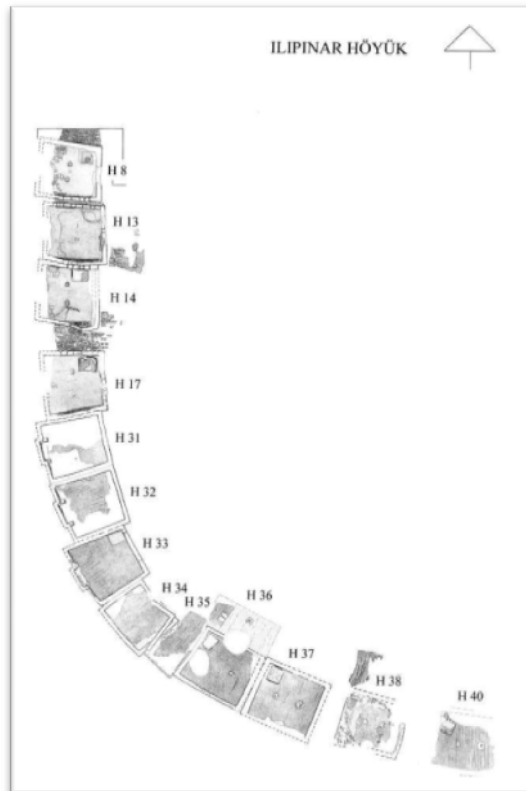


Fig.40 The boundary buildings: an alignment of two-storey buildings that probably surrounded the village during phase VI. Fourteen of these buildings were entirely excavated. ((Roodenberg, Roodenberg-Alpaslan, 1999, 2).

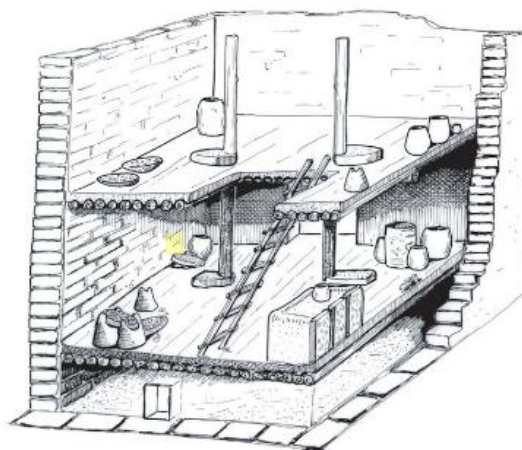


Fig. 41 Ilipinar VI: Schematic reconstruction of boundary building H32. All elements were present except of the ladder (Illustration by Cookson). (Roodenberg, Roodenberg-Alpaslan, 2008, Fig.2).



Fig. 42 Plan of house 1 and its courtyard in 09 phase VA (Roodenberg, Gérard 1996, 43).

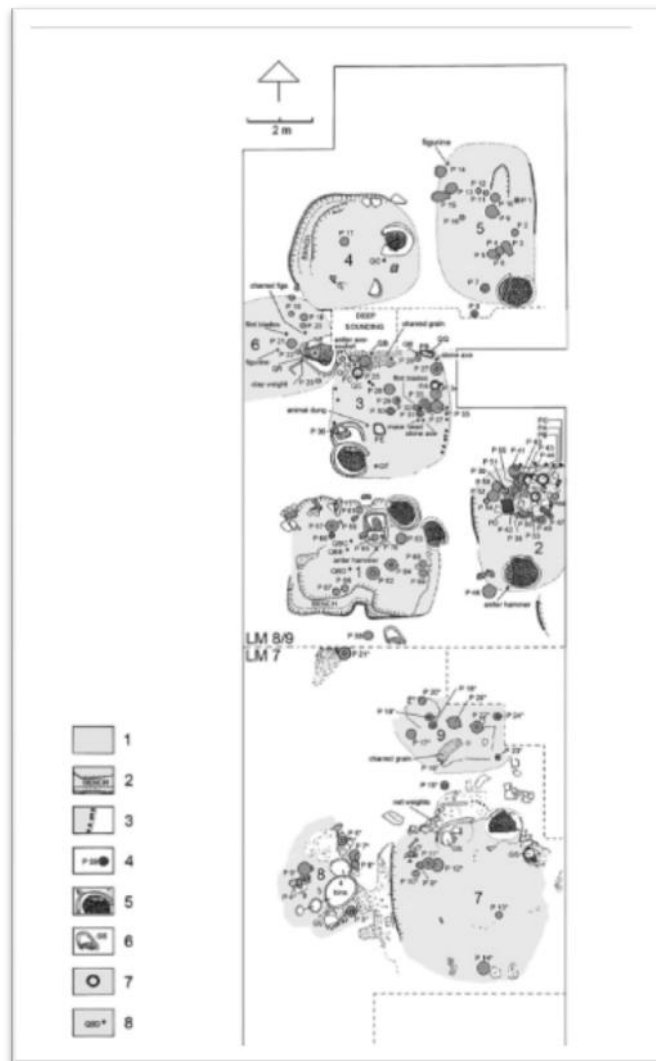


Fig. 43 Plan of huts and courtyards built on the west flank of the mount Phase VB (Roodenberg 2011, 958).



Fig. 44 Hoca Çeşme central area, general view of the exposed surface of the bedrock with the architectural remains of Phase IV (Ozdogan M. 2013, 231).

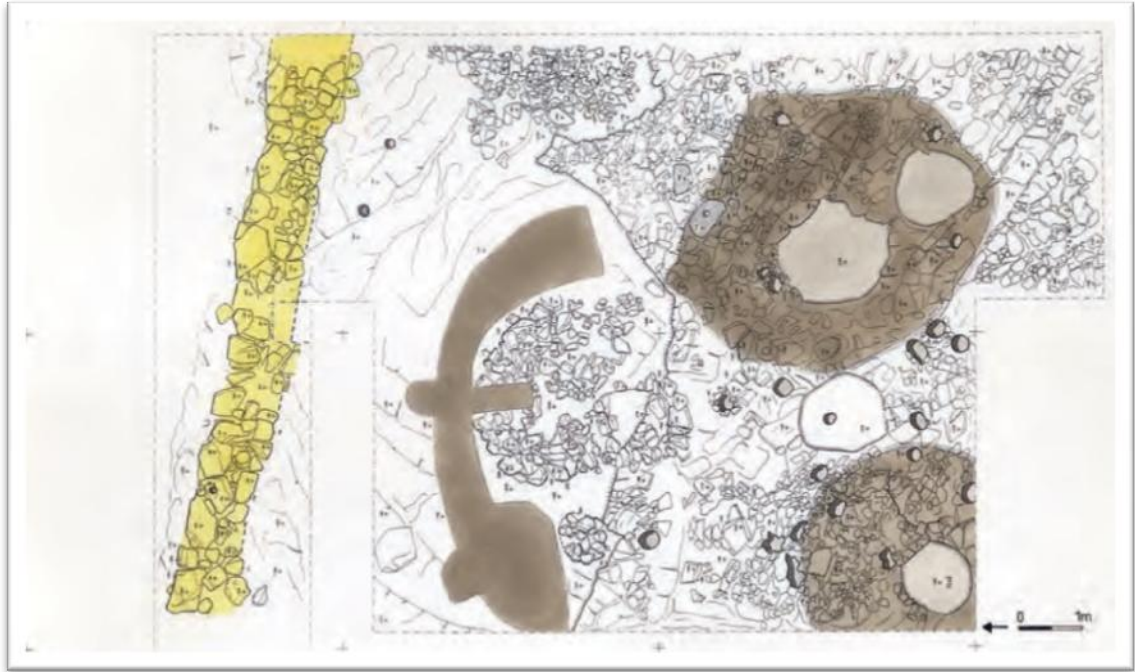


Fig. 45 Hoca Çeşme, plan of main architectural features including the enclosure wall in Phase IV; yellow marking the enclosure wall, gray the round structures cut into the bedrock. (Ozdogan 2013, 231).



Fig. 46 Hoca Çeşme, the enclosure wall in Phase IV (Ozdogan M. 2013, 232).

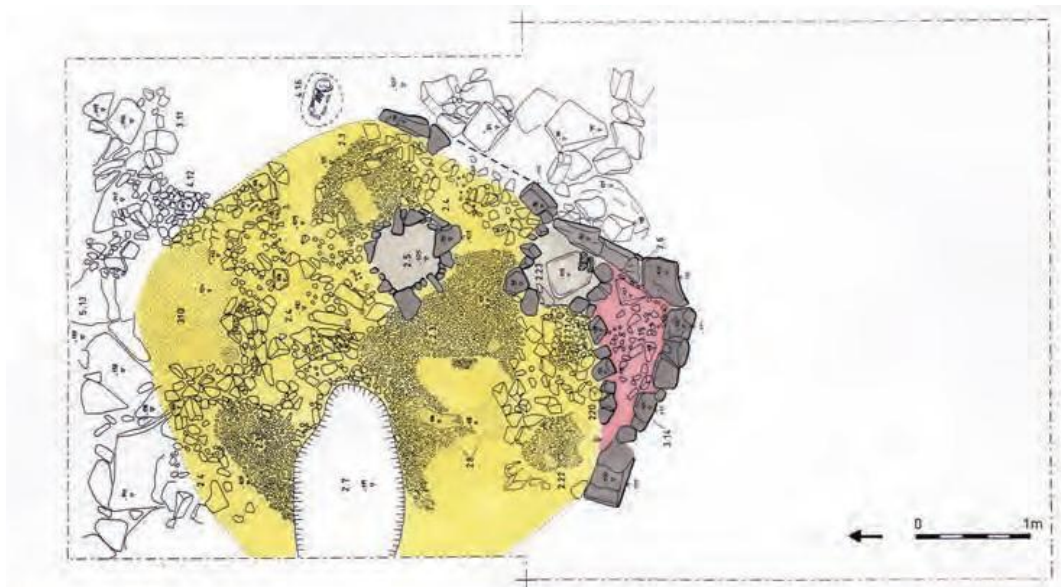


Fig. 47 Hoca Çeşme, plan of the round building with painted floors, Phase III; the contours of the structure are marked in gray and its latest flooring in yellow. The preserved part of the early flooring with red coating is also marked (Ozdogan M. 2013, 238).



Fig.48 Aşağı Pınar, top view and section of ovoid structure with semi-sunken floors renewed several times, Layer 8 or 7 Early (Özdoğan M. 2013, 247).

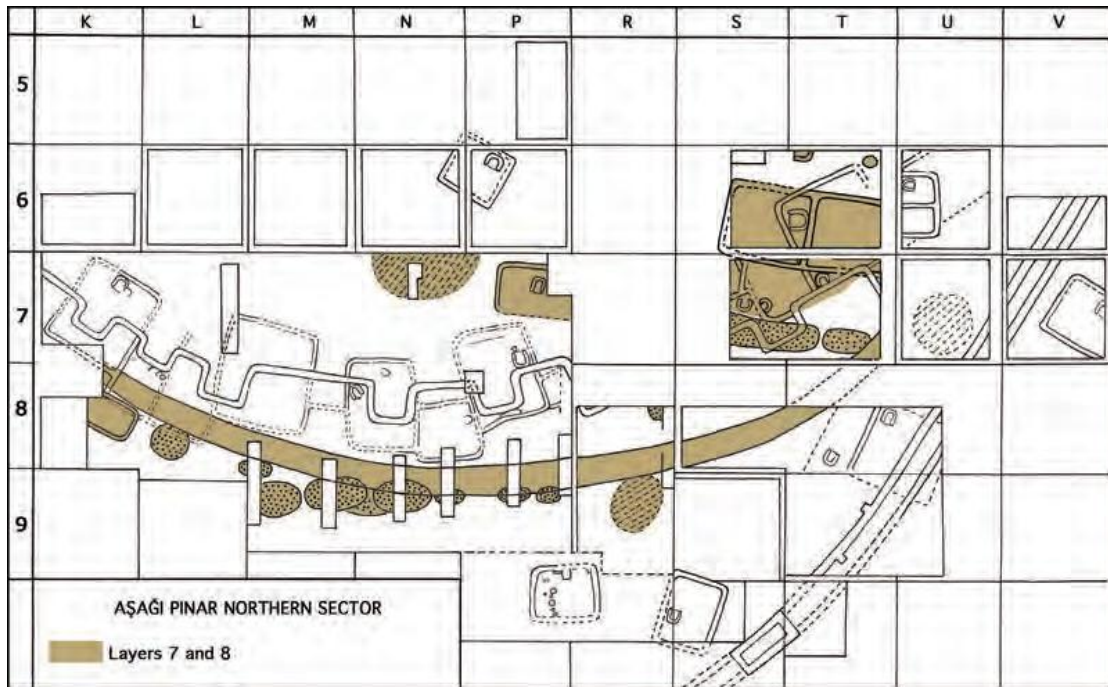


Fig. 49 Aşağı Pınar, northern section with remains attributable to Layers 7 and 8 marked (Özdoğan M. 2013, 247).



Fig. 50 Aşağı Pınar, various profiles along the ditch displaying the diversity of its fill (Özdoğan, M. 2013, 246).

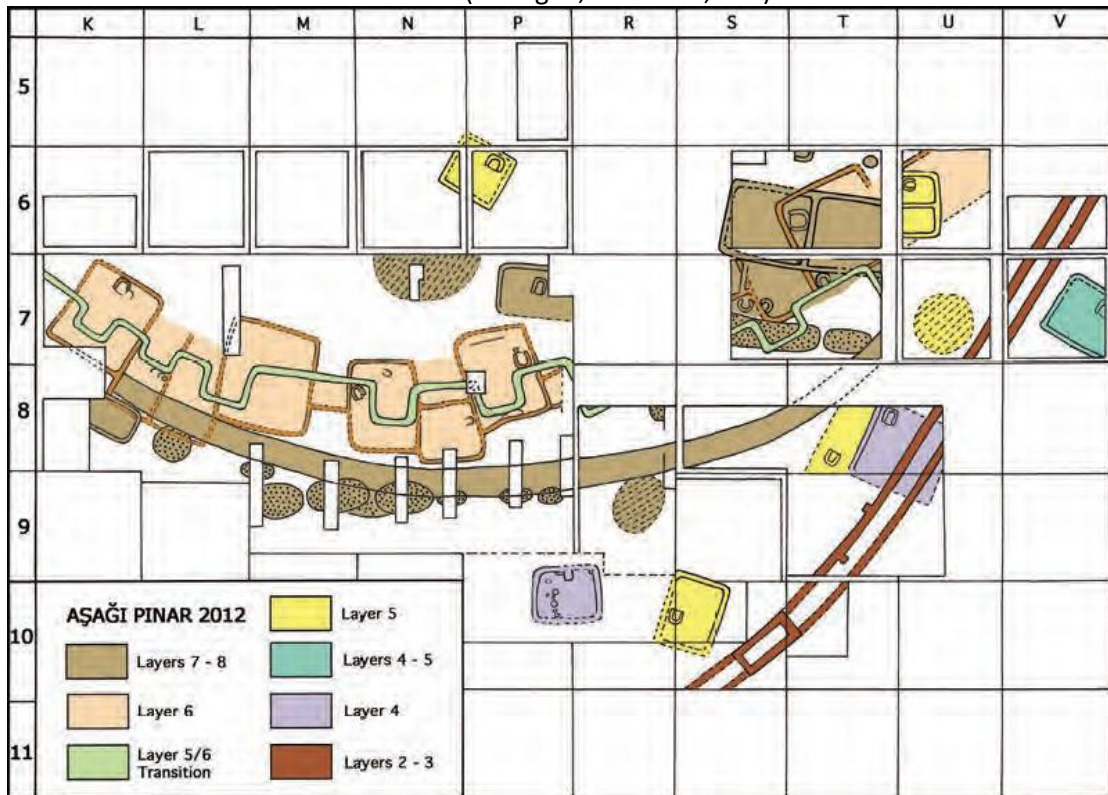


Fig. 51 Aşağı Pınar, plan of the northern section (Özdoğan M. 2013, 245).



Fig. 52 Rooms 6 – 8 in Layer 6, from the south (Özdoğan E. 215).



Fig. 53 Rooms 1 – 2 in Layer 6, from the north (Özdoğan E. 215).



Fig. 54 A typical structure of layer 4 (Eres, Özdoğan 2012, 2).

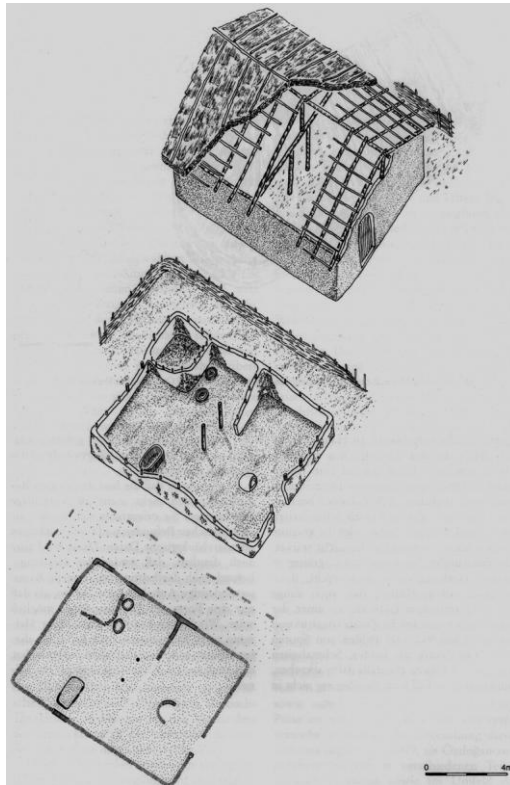


Fig. 55 The proposed reconstitution drawing of layer 4 (Eres, Özdoğan 2012, 6).

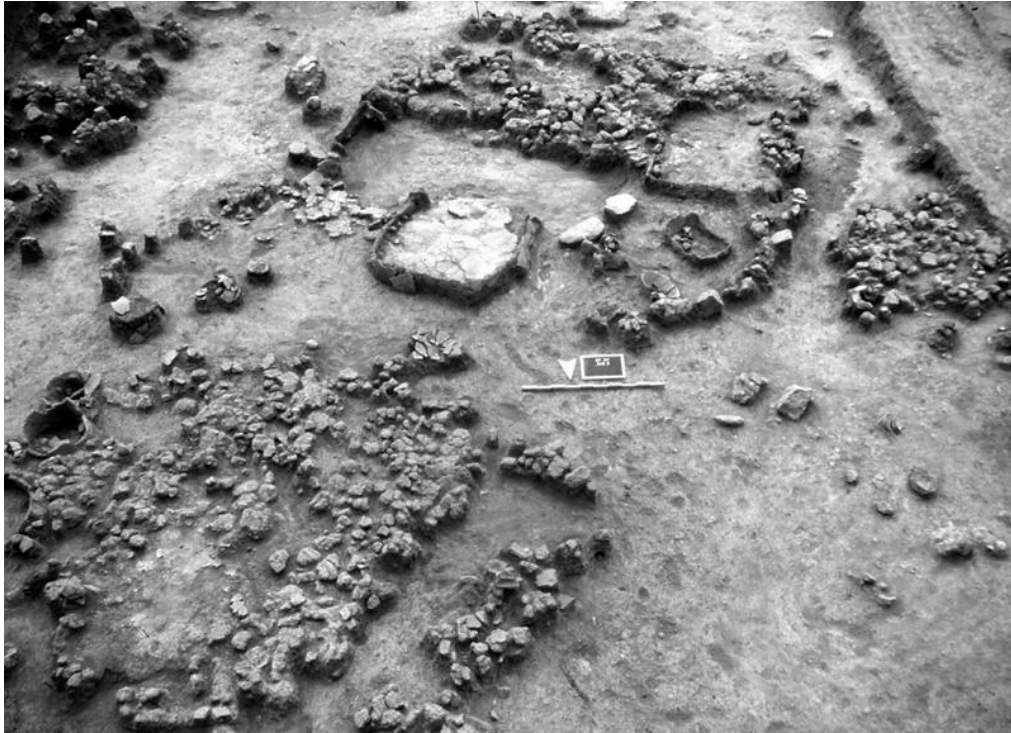


Fig. 56 A typical structure of layer 2 (Eres, Özdoğan 2012, 3).



Fig. 57 Töptepe, the building with large oven, grinding stone, the anthropomorphic vessel, and other finds still in situ, Layer V (Özdoğan M. 2013 ,227).

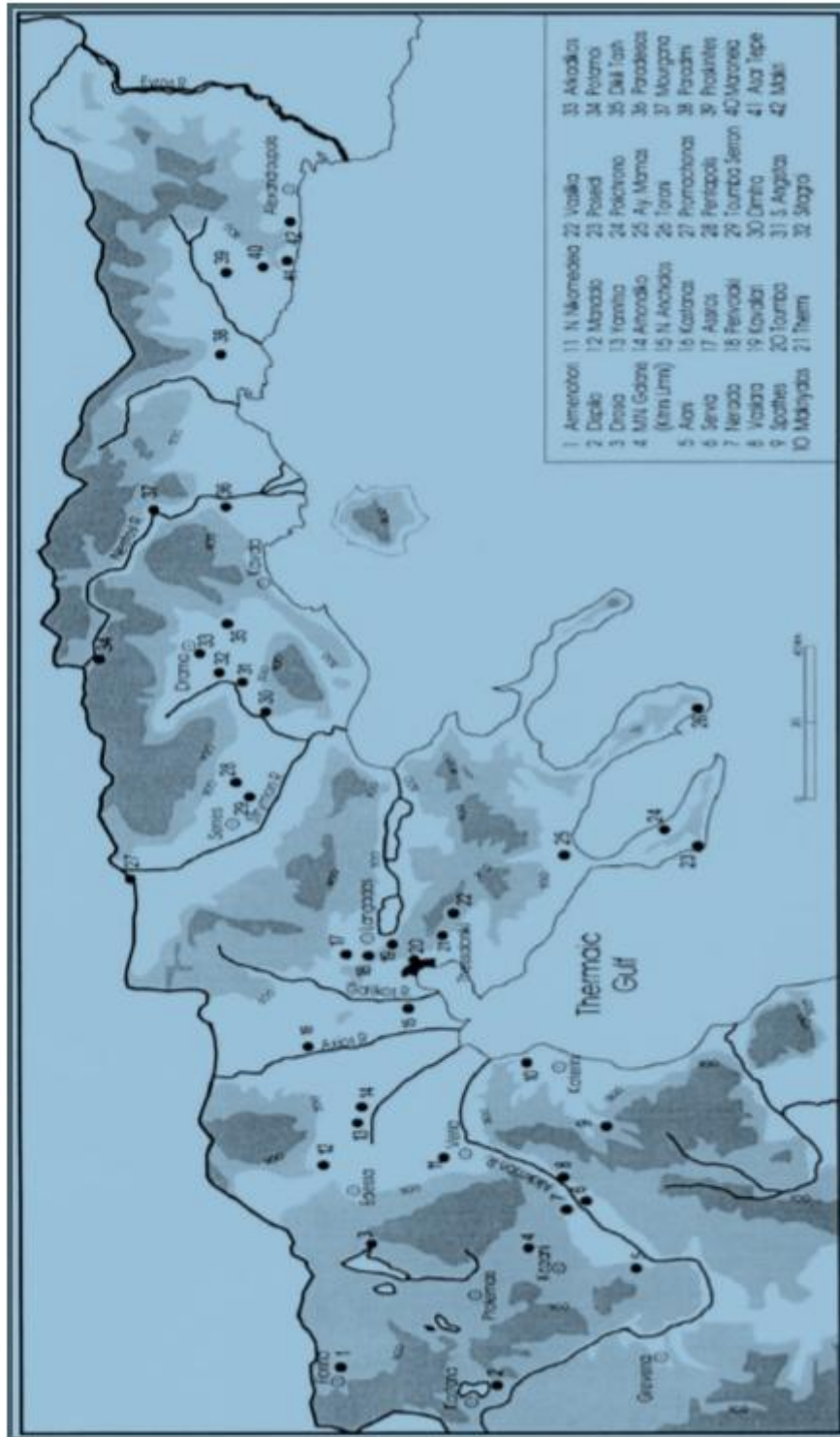


Fig. 58 Map: Neolithic settlements of Northern Greece. (Andreou *et al.* 1996, 563).



Fig. 59 Map of Northern Greece; Neolithic and Early Bronze Age sites (Nikolaidou 2013, 55).



Fig.60 Makri I and II chronological horizons with clearly defined occupation deposits. (Efstratiou 2010, 46.)



Fig. 61 Makri: Remains of post-framed houses, clay and plaster-lined structures, storage and refuse pits (Makri II) (Efstratiou 2010, 47).



Fig. 62 Makri II: a view of the “complex area, at the center of the settlement with clay structures preserved in excellent condition immediately below the earth surface (Efstratiou et al. 1998, 14).



Fig. 63 Promachon/Topolnica: The subterranean building of celebrations in the Greek sector. (Παπαδόπουλος χ.χ. 21).



Fig. 64 Stauroupoli: Lay-out of the excavation of Dagli 14, showing the remains of the house in the central squares (Grammenos 2006, 125).



Fig. 65 Stauropeoli: the subterranean part of a pit-house was created by joined pits (Ούρεμ-Κώτσου, Κώτσος, in press, 27).



Fig. 66 Thermi: stone pavement. (Papa 2007, 266).



Fig. 67 Thermi: pit 10, paved with stones (Papa 2007, 266).



Fig. 68 Makriyalos I. Ditch Alpha, Phase of pits. (Papa 2007, 260).



Fig. 69 Makriyalos I. Ditch Gamma (Papa 2007, 262).

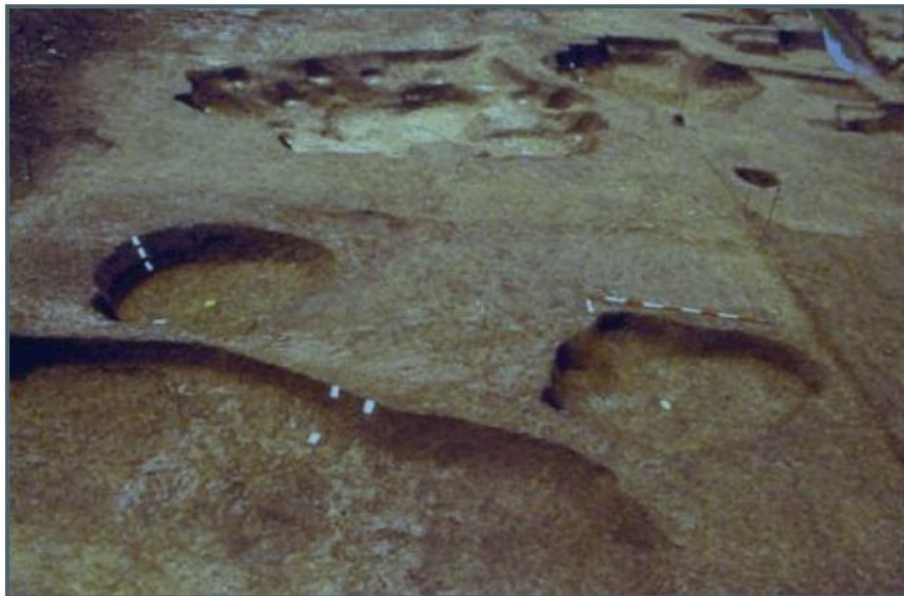


Fig. 70 Makriyalos I: group of semi-subterranean dwellings (Papa 2007, 262).



Fig. 71 Liti I : pit- house (Παππά, Τζαναβάρη 2013, 210).



Fig.72 Liti I: ditch (Παππά, Τζαναβάρη 2013, 209).



Fig. 73 The excavation at Liti (Papa 2007, 268).

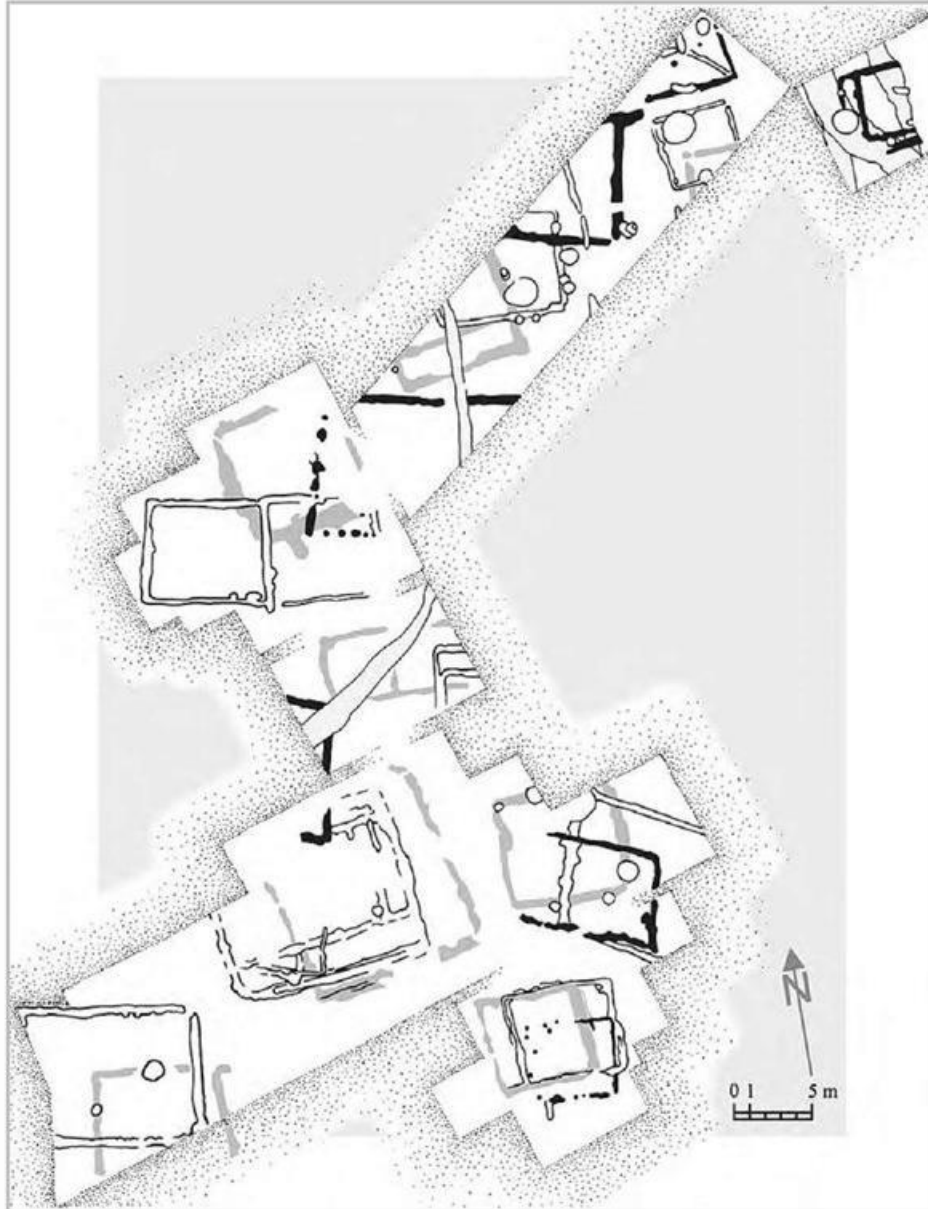


Fig. 74 Plan of ancient Nea Nikomeidia showing the building phases of the structural groups.
https://www.google.gr/search?q=nea+nikomedeia+neolithic&sa=N&biw=1536&bih=759&tbm=isch&source=iu&ictx=1&fir=u4cj2neJyTE5M%253A%252CSh7oEuMM3RydHM%252C_&usg=__arPWdhS15hkETJ9F8nKMCMzRaBw%3D&ved=0ahUKEwiAppzlz9_YAhXCfywKHYS2Ckk4ChD1AQg9MAU#imgrc=fA8MXBJ5_OifwM:

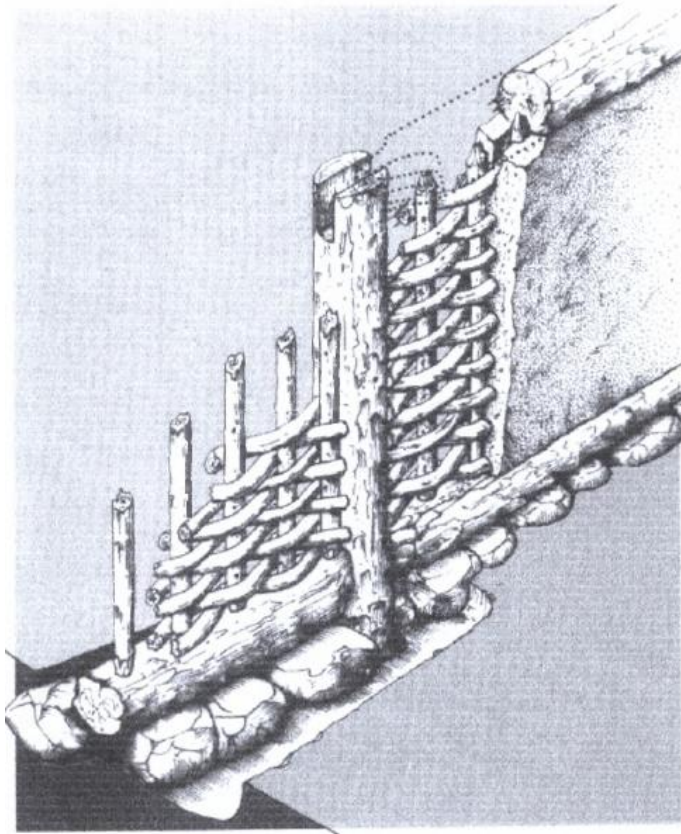


Fig. 75 The wattle and daub technique, (Pertes 2001: Fig. 9.4).

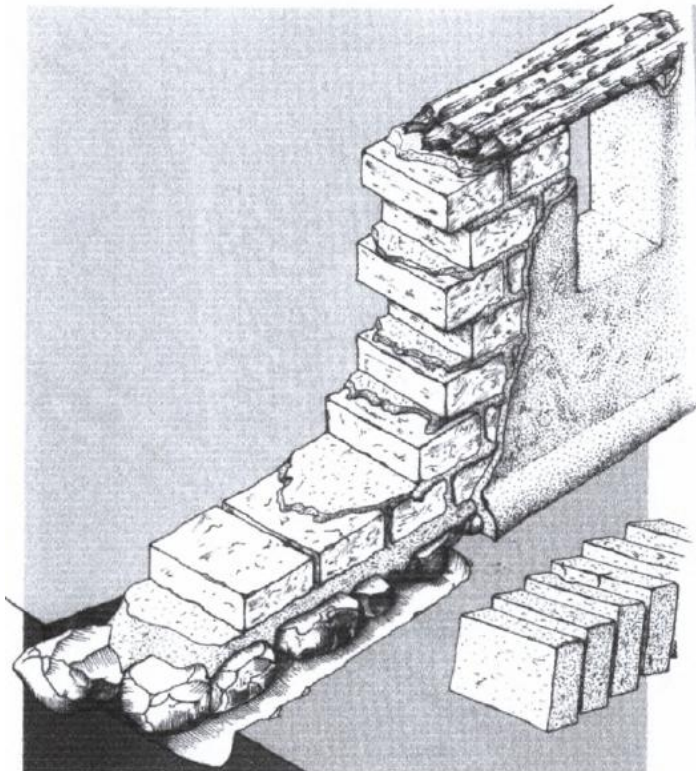


Fig. 76 Mud-brick wal, (Pertes 2001: Fig. 9.5).

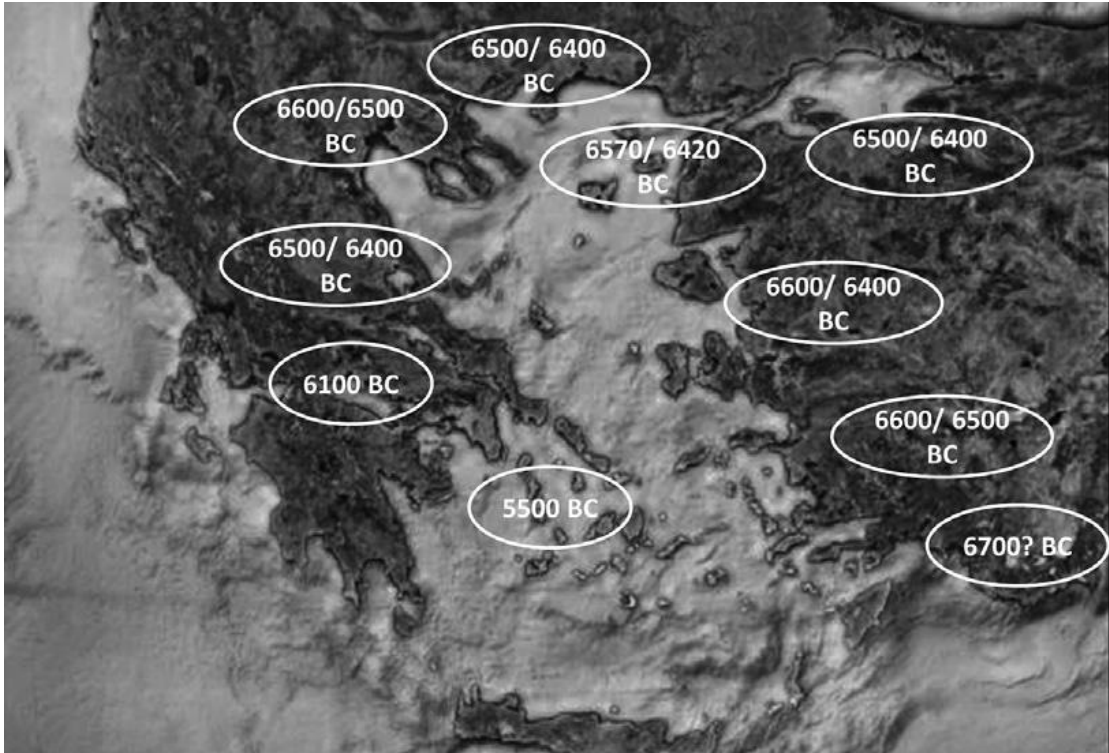


Fig. 77 Map according the radiocarbon dating in East Mediterranean (Μανιάτης 2014, 211).

Tables

Table 1: The Neolithic-Early Chalcolithic chronology of Western Turkey (Özdoğan E. 2015, 49).

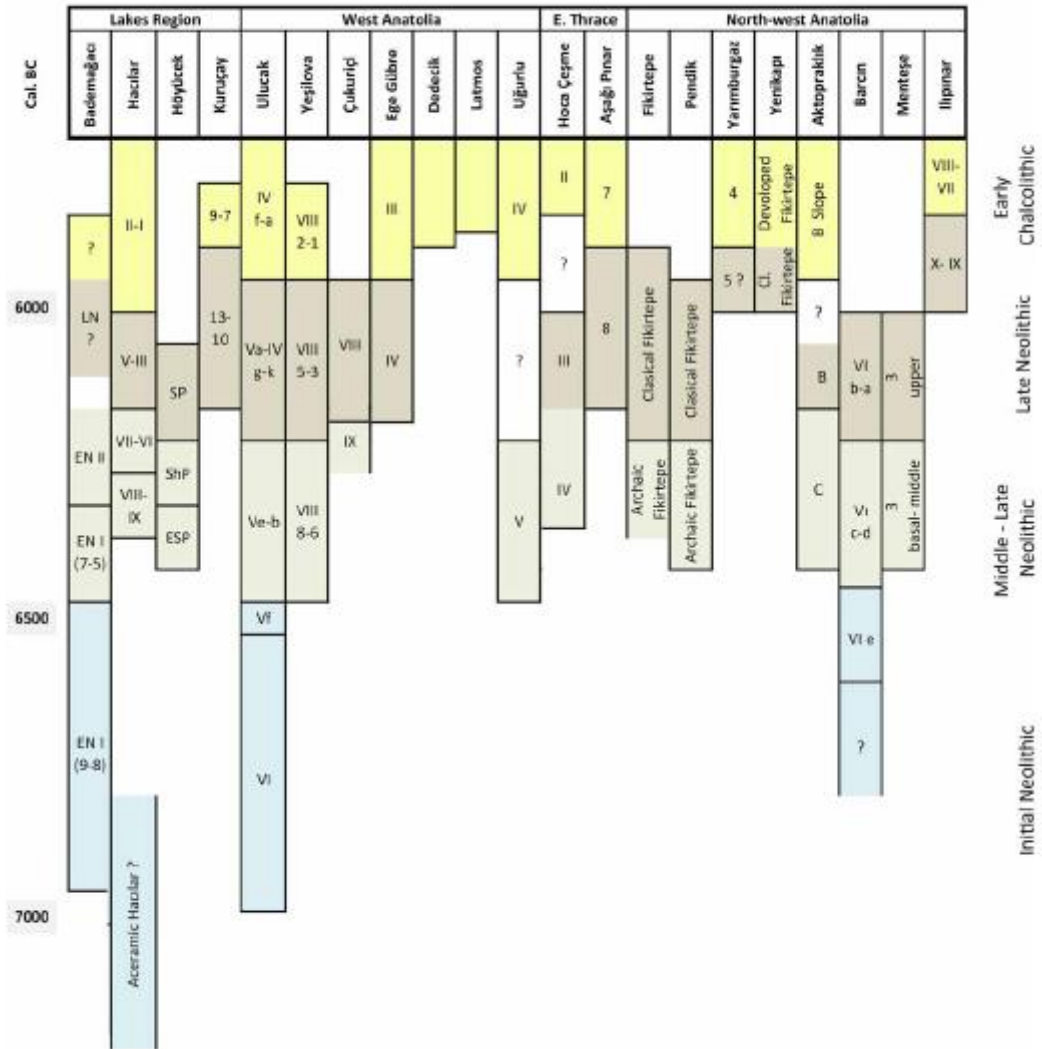


Table 2: Chronological chart of the terminology used in Anatolia, SE-Europe and the Carpathian Basin (Krauß 2011, 3).

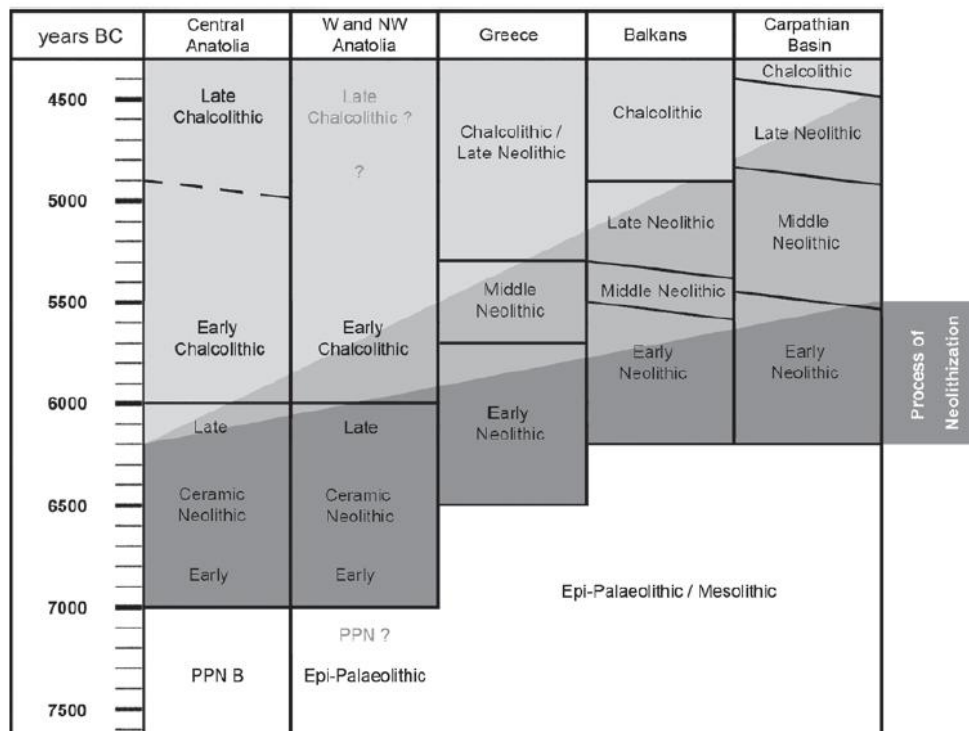


Table 3 The building details of the Neolithic site located in the Marmara region. (Rosch 2017, 6).

<u>Fikirtepe</u>	wattle and daub	irregular ovoid	3-6m diameter
<u>Pendik</u>	wattle and daub	irregular ovoid	3-6m diameter
<u>Aktopraklık</u>			
<u>C</u>	wattle and daub	circular	3-6m diameter
<u>Ilpinar</u> (level 10-7)	mud with some posts	square or rectangular	6 m in length
			3.4-4.5 m
<u>(level 6)</u>	molded mudbrick	square	length
	mud with some posts, wattle and daub		
<u>Menteşe</u>	upper	rectangular	<6m length

Table 4: The Ilipinar sequence (Thissen 1999,31).

<i>phase</i>	<i>number of building levels</i>	<i>building method</i>	<i>cal BC range</i>
burnt VB	1	mud brick	5500-5450
burnt VA	3	mud brick	5600-5525
burnt VI	2	mud brick/ <i>pisé</i>	5675-5625
VII	2	cob-on-post/ wattle-and-daub	5725-5675
VIII	4	cob-on-post/ <i>pisé</i>	5800-5725
IX	3	cob-on-post/ <i>pisé</i>	5875-5800
burnt X	3	cob-on-post/ <i>pisé</i>	6000-5875
virgin soil			

Table 5 Radiocarbon dated sites from both the Mesolithic and Neolithic Age (Reingruber 2016, 99).

calBC	Southern Marmara Region	Thracian-Marmara coast	Thracian-Aegean coast	Inland Thrace	Middle Danube area
5100					Vinča B
5200		Toptepe	<i>Lafrouda</i>	Aşağı Pınar 4-3	
5300				Aşağı Pınar 5	Vinča A
5400					
5500			Makri C		
		Late Neolithic	Aegean LN I	Thracian LN	Vinča (MN)
5600	Ilipinar V		Makri B	Aşağı Pınar 6	
5700	Ilipinar VI	Yarumburgaz 3?	Hoca Çeşme II	Aşağı Pınar 7	Starčevo
5800	Ilipinar VII	Yarumburgaz 4?	Makri A	Yabalkovo	
5900	Ilipinar VIII		Krovili	Karanovo	Lepenski Vir
5900	Ilipinar IX		Hoca Çeşme III	Nova Nadezhda	III (Neol.)
6000	Ilipinar X	Yenikapı?	Aegean MN	Thracian EN	Starčevo (EN)
	Fikirtepe culture	Early Neolithic			
6100	Barcin VIa		Hoca Çeşme IV		
6200	Barcin VIb				
6300	Barcin VIc				
6400	Barcin VI d				Lepenski Vir
6500	Barcin VIe	Yarumburgaz 7?			I-II
6600	Barcin VIe				(Mesolithic)
	Anatolian Neol.	Mesolithic	Aegean EN		Lepenski Vir

Table 6 Radiocarbon dated sites from places of Eastern Thrace (Yurtdaş et al. 2017).

WESTERN THRACE				
Chronology	C 14	Hoca Çeşme	Aşağı Pınar	Toptepe
Middle Chalcolithic	5000		2	5
	5100		3	
	5200		4	
	5300	5		
	5400			
	Early- Middle Chalcolithic Transition	5500	I a-c	5/6 Transition
		5600		6
Early Chalcolithic	5700	II		7
	5800			8
	5900			
	6000			
Late Neolithic	6100	III		8
	6200	IV		
	6300			
	6400			

Table 7 Archaeological Phases and Chronology for Northern Greece : Neolithic and Bronze Age (Andreou *et al.* 1996, 538.)

Archaeological Phases	Years B.C. Calendrical
Early Neolithic	6700/6500–5800/5600
Middle Neolithic	5800/5600–5400/5300
Late Neolithic	5400/5300–4700/4500
Final Neolithic	4700/4500–3300/3100
Early Bronze Age	3300/3100–2300/2200
(Middle Bronze Age)	} Later Bronze Age {
Late Bronze Age	
	1700/1500–1100

Table 8: Features of the settlements mentioned in the text (author's adaptation).

Marmara Region: features of the Neolithic settlements mentioned in the text.								
	Dates	Settlement type	Building form	Rooms	Layout (RH:Row-houses /FS:freestanding)	Foundations	Burned houses	Site boundary
Aktopraklık C	6400-6000 BC	Flat	pit-houses/round	1	FS	Sunken		
Aktopraklık B	5700-5600 BC	Flat	rectilinear	1	FS/RH	Sunken		ditch
Barcın	6600-6000 BC	Tell	rectilinear	1	FS	Wall ditch	V	ditch
Fikirtepe	6400-5900 BC	Flat	pit-houses/round	1	FS	Sunken	V	
Hoça Çeşme	6450-5650 BC	Tell	pit-houses/round/rectilinear	1	FS	Sunken		stone wall/palisade
Ilıpınar	6000-5450 BC	Tell	rectilinear	1	RH	Wall ditch	V	ditch?/embankment
Yenikapı	6000-5530 BC	Flat	pit-houses/round/rectilinear	1	ARH	Stone		Ditch
Menteşe	6400-5900 BC	Tell	rectilinear	1	FS		V	
Pendik	6500-6000 BC	Flat	pit-houses/round	1	FS	Sunken		Ditch
Aşağı Pınar	6200(?) - 4900 BC	Tell	pit-houses/round/rectilinear	1 (5350 onwards 1-3)	RH	Sunken	V	Ditch

Table 9 Features of the settlements mentioned in the text (author's adaptation).

Features of the Neolithic settlements in Marmara Region								
site	14c cal BC	settlement type	house type	building material	thermal facilities location	enclosures	burials	decline period of pit-huts
Fikirtepe	6400-5900 BC	flat extended	sub-terrenian	wattle and daub +post around the pits	mainly outside		underfloor burials/courtyards	
Pednik	6500-6000 BC	flat extended	sub-terrenian/ground	wattle and daub	mainly outside	ditch	underfloor burials/courtyards	
Yenikapi	6000-5530 BC		sub-terrenian/ground Rowhouses	wattle-and-daub	mainly outside	ditch	inhumation/ cremation	
Aktopraklik C	EN -6400- 6000 BC	flat extended	sub-terrenian/	wattle and daub / stone bases	mainly outside	ditch	underfloor burials	
Aktopraklik B	LN- ECH 5700-5600 BC	flat extended ?	rect/lar/2nd fl.? /rowhouses	wattle and daub, mudbrick	inside & outside	ditch/2 walls	cemetery in C area/ human skull	
Aktopraklik	5500-5400 BC	flat extended	pit-houses	wattle and daub	inside & outside			decline 5500- 5400 BC pit-houses
Barcin	6600-6000 BC	tell	pits/ ground	Timbe/ Post wall	inside & outside	ditch	courtyards/abandoned houses	
Medese	6400-5900 BC	tell	rectangular	mud slab +mudbrick			wooden planks	
Ilipinar X-VII	6000-5675 BC	tell	rectangular/2nd floor/ rect/lar/2nd fl.?	posts+wattle and	inside & outside	ditch?	in the courtyards	
Ilipinar VI	5675-5625 BC	tell	rect/lar/2nd fl.? /rowhouses	mudbrick	inside & outside	ditch?/embankmen t+row houses		
Ilipinar VA	5600-5525 BC	tell	rect/lar/ free houses	mudbrick	inside & outside			
Ilipinar VB	5500-5450 BC	tell	pits-houses		mainly outside			decline 5500-5450 BC pit-houses
Hosa Cesme	6450-5650 BC	tell	round pit houses	base of stone+ wooden constuction		stone wall/ palisade	a few scattered bones	
Asagi Pinar 8	6200(?) -5900 BC	tell	round	daub/wooden Posts	inside	ditch	a few scattered bones	
Asagi Pinar 7	5900-5700 BC	tell	round/ rectangular/row houses	wattle and daub/wooden Posts	inside	ditch	a few scattered bones	
Asagi Pinar 6	5700-5600 BC	tell	rectangular/2nd fl/row houses	wattle and daub/wooden Posts	inside		a few scattered bones	
Asagi Pinar 5/6	5550-5400 BC	tell	pit-houses				a few scattered bones	decline 5550-5400 BC pit-houses
Asagi Pinar 5	5350-5250 BC	tell	13 free rect/lar Houses					
Asagi Pinar 4	5250-5080 BC	tell	rectangular					
Asagi Pinar 3	5080-4900 BC	tell	rectangular					
Asagi pinar 2	4900-4700 BC	tell	rectangular					

Table 10: Table of Settlements in Greece mentioned in the text (author's adaptation)
 (* lack of C14 / the site according its pottery dates).

Settlements of Central, Eastern Macedonia and Aegean Thrace: Dates & type of structures		
Paliameia Kolindros	6600-6000 BC	pit-houses
Paliameia Kolindros	5900-5500 BC	rectilinear
Nea Nikomedeia	6400-6200 BC	rectilinear
Makri	6200-5200 BC	rectilinear
Lete I	Late EN / MN *	pit-houses
Lete III	Late EN / MN *	pit-houses
Mikri Volvi	Late EN / MN *	pit-houses/ rectilinear
Stavroupoli Thessaloniki	5890-5531 BC	pit-houses
Thermi B	5300-5000 BC	pit-houses
Makriyalos	5670-4770 BC	pit-houses
Promachonas-Topolnica I	5400-5300 BC	pit-houses
Promachonas-Topolnica II	5300-5070 BC	pit-houses
Promachonas-Topolnica III	5070-4700 BC	rectilinear
Limenaria	MN	Rectilinear
Kastri	LN/FN	rectilinear
Dikili Tash	5500-4000 BC	rectilinear
Sitagroi	5500-3500 BC	rectilinear
Kryoneri	4800/4700-3900/3800 BC	rectilinear
Paradeisos	LN and EBA	rectilinear
Vassilika	LN	rectilinear